

Interface Definition

RISH ML14XX Multiload Monitor



DIGITAL MULTIFUNCTION INSTRUMENT

Installation & Operating Instructions

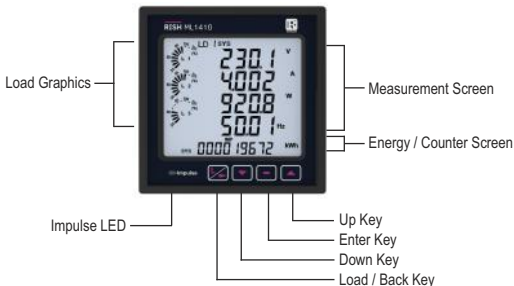
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1. Introduction

The Meter is a panel mounted 96 x 96 DIN Quadratic Digital Panel Meter. It has 12 single phase load or 4 three phase load option. It measures important electrical parameters of multiple loads simultaneously in a single unit, eliminating the need and cost of multiple panel meters. It provides quick, easy and error free current connections with plug and play connectors. It measures real time electrical parameters like Active / Reactive / Apparent energy and power, current, THD, demand, max demand for each load. The instrument has 4 configurable relay outputs, which can be used for Limit / Pulse / Residual Current / 3Phase Load Health Monitoring / Tariff / RTC / Timer tripping or alarms. This instrument communicates with either MODBUS or Ethernet connection.

It can be configured & Programmed at site for the following : PT Primary, PT Secondary, CT Primary, Channel modes as any combination of 3 Phase 3Wire, 3 Phase 4Wire, 1 Phase 2W system, RCM (Residual Current Monitoring) and NC (No load Connected).

The front panel has four push buttons using which the user can scroll through different screens and configure the instrument. The front panel also has impulse red led, flashing at rate proportional to measured energy.



Operation via standard RS485 is also possible. Through this optional interface all the above mentioned parameters can be configured and programmed. For modbus service, it is essential that device address, baud rate and parity should be configured properly.

This document specifies only the interface between a Master device and Meter for electrical variable through MODBUS over RS485.

2. Communication Parameter Selection Screen

While using USB port communication the Configuration must be :

Device address: 001

Baud rate : 57600

Parity : None

Stop bit: 1

2.1 Address Setting



This screen applies to the RS 485 output only. This screen allows the user to set RS 485 address for the meter.

The allowable range of addresses is 1 to 247.

Press "▲" key to advance to "RS 485 Baud Rate" screen (see Section 2.2) or press the "▼" key to advance to the "Quit Communication Parameters" screen (see Section 2.4).

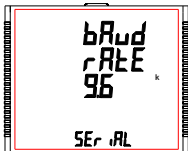


Press "—" to enter into edit mode, prompt for first digit. (Flashing digit indicates cursor position).

Press the "▲" and "▼" keys to scroll the value of the first digit. Press the "—" key to advance to next digit.

Similarly, enter second and third digits of address. After entering third digit, pressing "—" key confirms the selection and shows "Address Setting" screen (see Section 2.1).

2.2 RS 485 Baud Rate



This screen allows the user to set Baud Rate of RS 485 port. The values displayed on screen are in kbaud.

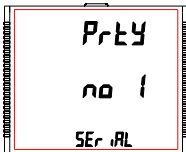
Pressing "▲" key accepts the present value and advance to the "RS 485 Parity Selection" screen (see Section 2.3) and pressing the "▼" key accepts the present value and advance to the "Address Setting" screen (see Section 2.1).

Pressing the "—" key advances to the "Baud Rate Edit" mode and "▲" & "▼" keys scrolls the value through **4.8, 9.6, 19.2, 38.4 and 57.6** kbaud.

Pressing the "—" key sets the value and advances to "RS 485 Baud Rate" screen (see Section 2.2).

2.3 RS 485 Parity

This screen allows the user to set Parity & number of stop bits of RS 485 port.



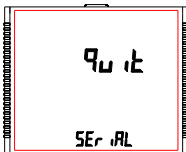
Pressing "▲" key accepts the present value and advances to "Quit Communication Parameters" screen (see Section 2.4). Similarly, pressing "▼" key accepts the present value and advances to "RS 485 Baud Rate" screen (see Section 2.2).

Pressing the "—" key advances to the "Parity & Stop bit Edit" mode & keys "▲" and "▼" scrolls the value through:

no 1 : no parity with one stop bit **no 2** : no parity with two stop bit
Even : even parity with one stop bit **odd** : odd parity with one stop bit

Pressing "—" key sets the value and advances to "RS 485 Parity Selection" screen (see Section 2.3).

2.4 Quit Communication Parameters



This screen allows user to exit from system "Communication Parameter Selection" setup.

Pressing the "▲" key advances to "Communication Parameter Selection" screen (see Section 2.1).

Similarly, pressing the "▼" key advances to "RS 485 Parity" screen (see Section 2.3).

Pressing the "—" key advances to "Communication Parameter Selection" screen (see Section 2).

3. RS 485 (ModBus) Output :

THE MULTIFUNCTION INSTRUMENT supports MODBUS (RS485) RTU protocol (2-wire) .

Connection should be made using twisted pair shielded cable. All "A" and "B" connections are daisy chained together. The screens should also be connected to the "Gnd" terminal. To avoid the possibility of loop currents, an Earth connection should be made at one point on the network. Loop (ring) topology does not require any termination load. Line topology may or may not require terminating loads depending on the type and length of cable used. The impedance of the termination load should match the impedance of the cable and be at both ends of the line. The cable should be terminated at each end with a 120 ohm (1/4 Watt min.) resistor.

RS 485 network supports maximum length of 1.2km. Including the Master, a maximum of 32 instruments can be connected in RS485 network. The permissible address range for The Meter is between 1 and 247 for 32 instruments. Broadcast Mode (address 0) is not allowed.

The maximum latency time of a Meter is 300 ms i.e. this is the amount of time that can pass before the first response character is output.

After sending any query through software (of the Master), it must allow 300 ms of time to elapse before assuming that the Meter is not going to respond. If slave does not respond within 300 ms, Master can ignore the previous query and can issue fresh query to the slave.

Each byte in RTU mode has following format:

	8-bit binary, hexadecimal 0-9, A-F 2 hexadecimal characters contained in each 8-bit field of the message
Format of Data Bytes	4 bytes (32 bits) per parameter. Floating point format (to IEEE 754) Most significant byte first (Alternative least significant byte first)
Error Checking Bytes	2 byte Cyclical Redundancy Check (CRC)
Byte format	1 start bit, 8 data bits, least significant bit sent first 1 bit for even/odd parity 1 stop bit if parity is used; 1 or 2 bits if no parity

Communication Baud Rate is user selectable from the front panel between 4800,9600,19200,38400,57600 bps.

Function code :

03	Read Holding Registers	Read content of read /write location (4X)
04	Read input Registers	Read content of read only location (3X)
16	Presets Multiple Registers	Set the content of read / write locations (4X)

Exception Cases : An exception code will be generated when Meter receives ModBus query with valid parity & error check but which contains some other error (e.g. Attempt to set floating point variable to an invalid value) The response generated will be "Function code" ORED with HEX (80H). The exception codes are listed below

01	Illegal function	The function code is not supported by Meter
02	Illegal Data Address	Attempt to access an invalid address or an attempt to read or write part of a floating point value
03	Illegal DataValue	Attempt to set a floating point variable to an invalid value

3.1 Accessing 3X and 4X register for reading measured values:

Two consecutive 16 bit registers represent one parameter. Refer **TABLE 1** for the addresses of 3X and 4X registers used for parameters measured by the instrument. Each parameter is held in the 3X as well as 4X registers. Modbus Code 04 and 03 are used to access all parameters in 3X and 4X registers respectively.

Example :

To read parameter,		
Voltage L2 from 3X:	Start address= 00 02	Number of registers = 02
Watt Channel 2 from 4X:	Start address= 00 26	Number of registers = 02

Note : Number of registers = Number of parameters x 2

Each query for reading the data must be restricted to 120 parameters or less. Exceeding the 120 parameter limit will cause a Modbus exception code to be returned.

Query for 3X read:

01 (Hex)	04 (Hex)	00 (Hex)	02(Hex)	00 (Hex)	02(Hex)	30 (Hex)	0A (Hex)
Device Address	Function Code	Start Address High	Start Address Low	Number of Registers Hi	Number of Registers Lo	CRC Low	CRC High

3X Response: Voltage L2 (219.254V)

01 (Hex)	04 (Hex)	04 (Hex)	43 (Hex)	5B (Hex)	41 (Hex)	21 (Hex)	6F (Hex)	9B (Hex)
Device Address	Function Code	Byte Count	Data Register1 High Byte	Data Register1 Low Byte	Data Register2 High Byte	Data Register2 Low Byte	CRC Low	CRC High

Byte Count : Total number of data bytes received.

Query for 4X read:

01 (Hex)	03 (Hex)	00 (Hex)	26(Hex)	00 (Hex)	02(Hex)	E0 (Hex)	C9 (Hex)
Device Address	Function Code	Start Address High	Start Address Low	Number of Registers Hi	Number of Registers Lo	CRC Low	CRC High

4X Response: W Channel 2 (2000 W)

01 (Hex)	03 (Hex)	04 (Hex)	44 (Hex)	FA (Hex)	00 (Hex)	00 (Hex)	CE (Hex)	F2 (Hex)
Device Address	Function Code	Byte Count	Data Register1 High Byte	Data Register1 Low Byte	Data Register2 High Byte	Data Register2 Low Byte	CRC Low	CRC High

Byte count : No. of Bytes Demanded by user in query.

Start Address High : Most significant 8 bits of starting address of the parameter requested.

Start Address low : Least significant 8 bits of starting address of the parameter requested.

Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

Data register 1 High Byte : Most significant 8 bits of Data register 1 of the parameter requested.

Data register 1 Low Byte : Least significant 8 bits of Data register 1 of the parameter requested.

Data register 2 High Byte : Most significant 8 bits of Data register 2 of the parameter requested.

Data register 2 Low Byte : Least significant 8 bits of Data register 2 of the parameter requested.

(Note : Two consecutive 16 bit register represent one parameter.)

TABLE 1 : 3 X and 4 X register addresses for measured parameters

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30001	40001	1	Voltage L1	00	00
30003	40003	2	Voltage L2	00	02
30005	40005	3	Voltage L3	00	04
30007	40007	4	Voltage L12	00	06
30009	40009	5	Voltage L23	00	08
30011	40011	6	Voltage L31	00	0A
30013	40013	7	Current Channel 1	00	0C
30015	40015	8	Current Channel 2	00	0E
30017	40017	9	Current Channel 3	00	10
30019	40019	10	Current Channel 4	00	12
30021	40021	11	Current Channel 5	00	14
30023	40023	12	Current Channel 6	00	16
30025	40025	13	Current Channel 7	00	18
30027	40027	14	Current Channel 8	00	1A
30029	40029	15	Current Channel 9	00	1C
30031	40031	16	Current Channel 10	00	1E
30033	40033	17	Current Channel 11	00	20
30035	40035	18	Current Channel 12	00	22
30037	40037	19	W Channel 1	00	24
30039	40039	20	W Channel 2	00	26
30041	40041	21	W Channel 3	00	28
30043	40043	22	W Channel 4	00	2A
30045	40045	23	W Channel 5	00	2C
30047	40047	24	W Channel 6	00	2E
30049	40049	25	W Channel 7	00	30
30051	40051	26	W Channel 8	00	32
30053	40053	27	W Channel 9	00	34
30055	40055	28	W Channel 10	00	36
30057	40057	29	W Channel 11	00	38
30059	40059	30	W Channel 12	00	3A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30061	40061	31	VA Channel 1	00	3C
30063	40063	32	VA Channel 2	00	3E
30065	40065	33	VA Channel 3	00	40
30067	40067	34	VA Channel 4	00	42
30069	40069	35	VA Channel 5	00	44
30071	40071	36	VA Channel 6	00	46
30073	40073	37	VA Channel 7	00	48
30075	40075	38	VA Channel 8	00	4A
30077	40077	39	VA Channel 9	00	4C
30079	40079	40	VA Channel 10	00	4E
30081	40081	41	VA Channel 11	00	50
30083	40083	42	VA Channel 12	00	52
30085	40085	43	VAr Channel 1	00	54
30087	40087	44	VAr Channel 2	00	56
30089	40089	45	VAr Channel 3	00	58
30091	40091	46	VAr Channel 4	00	5A
30093	40093	47	VAr Channel 5	00	5C
30095	40095	48	VAr Channel 6	00	5E
30097	40097	49	VAr Channel 7	00	60
30099	40099	50	VAr Channel 8	00	62
30101	40101	51	VAr Channel 9	00	64
30103	40103	52	VAr Channel 10	00	66
30105	40105	53	VAr Channel 11	00	68
30107	40107	54	VAr Channel 12	00	6A
30109	40109	55	PF Channel 1	00	6C
30111	40111	56	PF Channel 2	00	6E
30113	40113	57	PF Channel 3	00	70
30115	40115	58	PF Channel 4	00	72
30117	40117	59	PF Channel 5	00	74
30119	40119	60	PF Channel 6	00	76

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30121	40121	61	PF Channel 7	00	78
30123	40123	62	PF Channel 8	00	7A
30125	40125	63	PF Channel 9	00	7C
30127	40127	64	PF Channel 10	00	7E
30129	40129	65	PF Channel 11	00	80
30131	40131	66	PF Channel 12	00	82
30133	40133	67	Angle Channel 1	00	84
30135	40135	68	Angle Channel 2	00	86
30137	40137	69	Angle Channel 3	00	88
30139	40139	70	Angle Channel 4	00	8A
30141	40141	71	Angle Channel 5	00	8C
30143	40143	72	Angle Channel 6	00	8E
30145	40145	73	Angle Channel 7	00	90
30147	40147	74	Angle Channel 8	00	92
30149	40149	75	Angle Channel 9	00	94
30151	40151	76	Angle Channel 10	00	96
30153	40153	77	Angle Channel 11	00	98
30155	40155	78	Angle Channel 12	00	9A
30157	40157	79	Wh Import Channel 1	00	9C
30159	40159	80	Wh Import Channel 2	00	9E
30161	40161	81	Wh Import Channel 3	00	A0
30163	40163	82	Wh Import Channel 4	00	A2
30165	40165	83	Wh Import Channel 5	00	A4
30167	40167	84	Wh Import Channel 6	00	A6
30169	40169	85	Wh Import Channel 7	00	A8
30171	40171	86	Wh Import Channel 8	00	AA
30173	40173	87	Wh Import Channel 9	00	AC
30175	40175	88	Wh Import Channel 10	00	AE
30177	40177	89	Wh Import Channel 11	00	B0
30179	40179	90	Wh Import Channel 12	00	B2

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30181	40181	91	Wh Export Channel 1	00	B4
30183	40183	92	Wh Export Channel 2	00	B6
30185	40185	93	Wh Export Channel 3	00	B8
30187	40187	94	Wh Export Channel 4	00	BA
30189	40189	95	Wh Export Channel 5	00	BC
30191	40191	96	Wh Export Channel 6	00	BE
30193	40193	97	Wh Export Channel 7	00	C0
30195	40195	98	Wh Export Channel 8	00	C2
30197	40197	99	Wh Export Channel 9	00	C4
30199	40199	100	Wh Export Channel 10	00	C6
30201	40201	101	Wh Export Channel 11	00	C8
30203	40203	102	Wh Export Channel 12	00	CA
30205	40205	103	VARh Capacitive Channel 1	00	CC
30207	40207	104	VARh Capacitive Channel 2	00	CE
30209	40209	105	VARh Capacitive Channel 3	00	D0
30211	40211	106	VARh Capacitive Channel 4	00	D2
30213	40213	107	VARh Capacitive Channel 5	00	D4
30215	40215	108	VARh Capacitive Channel 6	00	D6
30217	40217	109	VARh Capacitive Channel 7	00	D8
30219	40219	110	VARh Capacitive Channel 8	00	DA
30221	40221	111	VARh Capacitive Channel 9	00	DC
30223	40223	112	VARh Capacitive Channel 10	00	DE
30225	40225	113	VARh Capacitive Channel 11	00	E0
30227	40227	114	VARh Capacitive Channel 12	00	E2
30229	40229	115	VARh Inductive Channel 1	00	E4
30231	40231	116	VARh Inductive Channel 2	00	E6
30233	40233	117	VARh Inductive Channel 3	00	E8
30235	40235	118	VARh Inductive Channel 4	00	EA
30237	40237	119	VARh Inductive Channel 5	00	EC
30239	40239	120	VARh Inductive Channel 6	00	EE

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30241	40241	121	VArh Inductive Channel 7	00	F0
30243	40243	122	VArh Inductive Channel 8	00	F2
30245	40245	123	VArh Inductive Channel 9	00	F4
30247	40247	124	VArh Inductive Channel 10	00	F6
30249	40249	125	VArh Inductive Channel 11	00	F8
30251	40251	126	VArh Inductive Channel 12	00	FA
30253	40253	127	VAh Channel 1	00	FC
30255	40255	128	VAh Channel 2	00	FE
30257	40257	129	VAh Channel 3	01	00
30259	40259	130	VAh Channel 4	01	02
30261	40261	131	VAh Channel 5	01	04
30263	40263	132	VAh Channel 6	01	06
30265	40265	133	VAh Channel 7	01	08
30267	40267	134	VAh Channel 8	01	0A
30269	40269	135	VAh Channel 9	01	0C
30271	40271	136	VAh Channel 10	01	0E
30273	40273	137	VAh Channel 11	01	10
30275	40275	138	VAh Channel 12	01	12
30277	40277	139	Wh Import overflow count Channel 1	01	14
30279	40279	140	Wh Import overflow count Channel 2	01	16
30281	40281	141	Wh Import overflow count Channel 3	01	18
30283	40283	142	Wh Import overflow count Channel 4	01	1A
30285	40285	143	Wh Import overflow count Channel 5	01	1C
30287	40287	144	Wh Import overflow count Channel 6	01	1E
30289	40289	145	Wh Import overflow count Channel 7	01	20
30291	40291	146	Wh Import overflow count Channel 8	01	22
30293	40293	147	Wh Import overflow count Channel 9	01	24
30295	40295	148	Wh Import overflow count Channel 10	01	26
30297	40297	149	Wh Import overflow count Channel 11	01	28
30299	40299	150	Wh Import overflow count Channel 12	01	2A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30301	40301	151	Wh Export overflow count Channel 1	01	2C
30303	40303	152	Wh Export overflow count Channel 2	01	2E
30305	40305	153	Wh Export overflow count Channel 3	01	30
30307	40307	154	Wh Export overflow count Channel 4	01	32
30309	40309	155	Wh Export overflow count Channel 5	01	34
30311	40311	156	Wh Export overflow count Channel 6	01	36
30313	40313	157	Wh Export overflow count Channel 7	01	38
30315	40315	158	Wh Export overflow count Channel 8	01	3A
30317	40317	159	Wh Export overflow count Channel 9	01	3C
30319	40319	160	Wh Export overflow count Channel 10	01	3E
30321	40321	161	Wh Export overflow count Channel 11	01	40
30323	40323	162	Wh Export overflow count Channel 12	01	42
30325	40325	163	VARh Capacitive overflow count Channel 1	01	44
30327	40327	164	VARh Capacitive overflow count Channel 2	01	46
30329	40329	165	VARh Capacitive overflow count Channel 3	01	48
30331	40331	166	VARh Capacitive overflow count Channel 4	01	4A
30333	40333	167	VARh Capacitive overflow count Channel 5	01	4C
30335	40335	168	VARh Capacitive overflow count Channel 6	01	4E
30337	40337	169	VARh Capacitive overflow count Channel 7	01	50
30339	40339	170	VARh Capacitive overflow count Channel 8	01	52
30341	40341	171	VARh Capacitive overflow count Channel 9	01	54
30343	40343	172	VARh Capacitive overflow count Channel 10	01	56
30345	40345	173	VARh Capacitive overflow count Channel 11	01	58
30347	40347	174	VARh Capacitive overflow count Channel 12	01	5A
30349	40349	175	VARh Inductive overflow count Channel 1	01	5C
30351	40351	176	VARh Inductive overflow count Channel 2	01	5E
30353	40353	177	VARh Inductive overflow count Channel 3	01	60
30355	40355	178	VARh Inductive overflow count Channel 4	01	62
30357	40357	179	VARh Inductive overflow count Channel 5	01	64
30359	40359	180	VARh Inductive overflow count Channel 6	01	66

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30361	40361	181	VARh Inductive overflow count Channel 7	01	68
30363	40363	182	VARh Inductive overflow count Channel 8	01	6A
30365	40365	183	VARh Inductive overflow count Channel 9	01	6C
30367	40367	184	VARh Inductive overflow count Channel 10	01	6E
30369	40369	185	VARh Inductive overflow count Channel 11	01	70
30371	40371	186	VARh Inductive overflow count Channel 12	01	72
30373	40373	187	VAh overflow count Channel 1	01	74
30375	40375	188	VAh overflow count Channel 2	01	76
30377	40377	189	VAh overflow count Channel 3	01	78
30379	40379	190	VAh overflow count Channel 4	01	7A
30381	40381	191	VAh overflow count Channel 5	01	7C
30383	40383	192	VAh overflow count Channel 6	01	7E
30385	40385	193	VAh overflow count Channel 7	01	80
30387	40387	194	VAh overflow count Channel 8	01	82
30389	40389	195	VAh overflow count Channel 9	01	84
30391	40391	196	VAh overflow count Channel 10	01	86
30393	40393	197	VAh overflow count Channel 11	01	88
30395	40395	198	VAh overflow count Channel 12	01	8A
30397	40397	199	kW Import demand Channel 1	01	8C
30399	40399	200	kW Import demand Channel 2	01	8E
30401	40401	201	kW Import demand Channel 3	01	90
30403	40403	202	kW Import demand Channel 4	01	92
30405	40405	203	kW Import demand Channel 5	01	94
30407	40407	204	kW Import demand Channel 6	01	96
30409	40409	205	kW Import demand Channel 7	01	98
30411	40411	206	kW Import demand Channel 8	01	9A
30413	40413	207	kW Import demand Channel 9	01	9C
30415	40415	208	kW Import demand Channel 10	01	9E
30417	40417	209	kW Import demand Channel 11	01	A0
30419	40419	210	kW Import demand Channel 12	01	A2

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30421	40421	211	kW Export demand Channel 1	01	A4
30423	40423	212	kW Export demand Channel 2	01	A6
30425	40425	213	kW Export demand Channel 3	01	A8
30427	40427	214	kW Export demand Channel 4	01	AA
30429	40429	215	kW Export demand Channel 5	01	AC
30431	40431	216	kW Export demand Channel 6	01	AE
30433	40433	217	kW Export demand Channel 7	01	B0
30435	40435	218	kW Export demand Channel 8	01	B2
30437	40437	219	kW Export demand Channel 9	01	B4
30439	40439	220	kW Export demand Channel 10	01	B6
30441	40441	221	kW Export demand Channel 11	01	B8
30443	40443	222	kW Export demand Channel 12	01	BA
30445	40445	223	kVAr Capacitive demand Channel 1	01	BC
30447	40447	224	kVAr Capacitive demand Channel 2	01	BE
30449	40449	225	kVAr Capacitive demand Channel 3	01	C0
30451	40451	226	kVAr Capacitive demand Channel 4	01	C2
30453	40453	227	kVAr Capacitive demand Channel 5	01	C4
30455	40455	228	kVAr Capacitive demand Channel 6	01	C6
30457	40457	229	kVAr Capacitive demand Channel 7	01	C8
30459	40459	230	kVAr Capacitive demand Channel 8	01	CA
30461	40461	231	kVAr Capacitive demand Channel 9	01	CC
30463	40463	232	kVAr Capacitive demand Channel 10	01	CE
30465	40465	233	kVAr Capacitive demand Channel 11	01	D0
30467	40467	234	kVAr Capacitive demand Channel 12	01	D2
30469	40469	235	kVAr Inductive demand Channel 1	01	D4
30471	40471	236	kVAr Inductive demand Channel 2	01	D6
30473	40473	237	kVAr Inductive demand Channel 3	01	D8
30475	40475	238	kVAr Inductive demand Channel 4	01	DA
30477	40477	239	kVAr Inductive demand Channel 5	01	DC
30479	40479	240	kVAr Inductive demand Channel 6	01	DE

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30481	40481	241	kVAr Inductive demand Channel 7	01	E0
30483	40483	242	kVAr Inductive demand Channel 8	01	E2
30485	40485	243	kVAr Inductive demand Channel 9	01	E4
30487	40487	244	kVAr Inductive demand Channel 10	01	E6
30489	40489	245	kVAr Inductive demand Channel 11	01	E8
30491	40491	246	kVAr Inductive demand Channel 12	01	EA
30493	40493	247	kVA demand Channel 1	01	EC
30495	40495	248	kVA demand Channel 2	01	EE
30497	40497	249	kVA demand Channel 3	01	F0
30499	40499	250	kVA demand Channel 4	01	F2
30501	40501	251	kVA demand Channel 5	01	F4
30503	40503	252	kVA demand Channel 6	01	F6
30505	40505	253	kVA demand Channel 7	01	F8
30507	40507	254	kVA demand Channel 8	01	FA
30509	40509	255	kVA demand Channel 9	01	FC
30511	40511	256	kVA demand Channel 10	01	FE
30513	40513	257	kVA demand Channel 11	02	00
30515	40515	258	kVA demand Channel 12	02	02
30517	40517	259	Current demand Channel 1	02	04
30519	40519	260	Current demand Channel 2	02	06
30521	40521	261	Current demand Channel 3	02	08
30523	40523	262	Current demand Channel 4	02	0A
30525	40525	263	Current demand Channel 5	02	0C
30527	40527	264	Current demand Channel 6	02	0E
30529	40529	265	Current demand Channel 7	02	10
30531	40531	266	Current demand Channel 8	02	12
30533	40533	267	Current demand Channel 9	02	14
30535	40535	268	Current demand Channel 10	02	16
30537	40537	269	Current demand Channel 11	02	18
30539	40539	270	Current demand Channel 12	02	1A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30541	40541	271	kW Import Max demand Channel 1	02	1C
30543	40543	272	kW Import Max demand Channel 2	02	1E
30545	40545	273	kW Import Max demand Channel 3	02	20
30547	40547	274	kW Import Max demand Channel 4	02	22
30549	40549	275	kW Import Max demand Channel 5	02	24
30551	40551	276	kW Import Max demand Channel 6	02	26
30553	40553	277	kW Import Max demand Channel 7	02	28
30555	40555	278	kW Import Max demand Channel 8	02	2A
30557	40557	279	kW Import Max demand Channel 9	02	2C
30559	40559	280	kW Import Max demand Channel 10	02	2E
30561	40561	281	kW Import Max demand Channel 11	02	30
30563	40563	282	kW Import Max demand Channel 12	02	32
30565	40565	283	kW Export Max demand Channel 1	02	34
30567	40567	284	kW Export Max demand Channel 2	02	36
30569	40569	285	kW Export Max demand Channel 3	02	38
30571	40571	286	kW Export Max demand Channel 4	02	3A
30573	40573	287	kW Export Max demand Channel 5	02	3C
30575	40575	288	kW Export Max demand Channel 6	02	3E
30577	40577	289	kW Export Max demand Channel 7	02	40
30579	40579	290	kW Export Max demand Channel 8	02	42
30581	40581	291	kW Export Max demand Channel 9	02	44
30583	40583	292	kW Export Max demand Channel 10	02	46
30585	40585	293	kW Export Max demand Channel 11	02	48
30587	40587	294	kW Export Max demand Channel 12	02	4A
30589	40589	295	kVAr Capacitive Max demand Channel 1	02	4C
30591	40591	296	kVAr Capacitive Max demand Channel 2	02	4E
30593	40593	297	kVAr Capacitive Max demand Channel 3	02	50
30595	40595	298	kVAr Capacitive Max demand Channel 4	02	52
30597	40597	299	kVAr Capacitive Max demand Channel 5	02	54
30599	40599	300	kVAr Capacitive Max demand Channel 6	02	56

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30601	40601	301	kVAr Capacitive Max demand Channel 7	02	58
30603	40603	302	kVAr Capacitive Max demand Channel 8	02	5A
30605	40605	303	kVAr Capacitive Max demand Channel 9	02	5C
30607	40607	304	kVAr Capacitive Max demand Channel 10	02	5E
30609	40609	305	kVAr Capacitive Max demand Channel 11	02	60
30611	40611	306	kVAr Capacitive Max demand Channel 12	02	62
30613	40613	307	kVAr Inductive Max demand Channel 1	02	64
30615	40615	308	kVAr Inductive Max demand Channel 2	02	66
30617	40617	309	kVAr Inductive Max demand Channel 3	02	68
30619	40619	310	kVAr Inductive Max demand Channel 4	02	6A
30621	40621	311	kVAr Inductive Max demand Channel 5	02	6C
30623	40623	312	kVAr Inductive Max demand Channel 6	02	6E
30625	40625	313	kVAr Inductive Max demand Channel 7	02	70
30627	40627	314	kVAr Inductive Max demand Channel 8	02	72
30629	40629	315	kVAr Inductive Max demand Channel 9	02	74
30631	40631	316	kVAr Inductive Max demand Channel 10	02	76
30633	40633	317	kVAr Inductive Max demand Channel 11	02	78
30635	40635	318	kVAr Inductive Max demand Channel 12	02	7A
30637	40637	319	kVA Max demand Channel 1	02	7C
30639	40639	320	kVA Max demand Channel 2	02	7E
30641	40641	321	kVA Max demand Channel 3	02	80
30643	40643	322	kVA Max demand Channel 4	02	82
30645	40645	323	kVA Max demand Channel 5	02	84
30647	40647	324	kVA Max demand Channel 6	02	86
30649	40649	325	kVA Max demand Channel 7	02	88
30651	40651	326	kVA Max demand Channel 8	02	8A
30653	40653	327	kVA Max demand Channel 9	02	8C
30655	40655	328	kVA Max demand Channel 10	02	8E
30657	40657	329	kVA Max demand Channel 11	02	90
30659	40659	330	kVA Max demand Channel 12	02	92

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30661	40661	331	Current Max demand Channel 1	02	94
30663	40663	332	Current Max demand Channel 2	02	96
30665	40665	333	Current Max demand Channel 3	02	98
30667	40667	334	Current Max demand Channel 4	02	9A
30669	40669	335	Current Max demand Channel 5	02	9C
30671	40671	336	Current Max demand Channel 6	02	9E
30673	40673	337	Current Max demand Channel 7	02	A0
30675	40675	338	Current Max demand Channel 8	02	A2
30677	40677	339	Current Max demand Channel 9	02	A4
30679	40679	340	Current Max demand Channel 10	02	A6
30681	40681	341	Current Max demand Channel 11	02	A8
30683	40683	342	Current Max demand Channel 12	02	AA
30685	40685	343	Wh Import on update rate Channel 1*	02	AC
30687	40687	344	Wh Import on update rate Channel 2*	02	AE
30689	40689	345	Wh Import on update rate Channel 3*	02	B0
30691	40691	346	Wh Import on update rate Channel 4*	02	B2
30693	40693	347	Wh Import on update rate Channel 5*	02	B4
30695	40695	348	Wh Import on update rate Channel 6*	02	B6
30697	40697	349	Wh Import on update rate Channel 7*	02	B8
30699	40699	350	Wh Import on update rate Channel 8*	02	BA
30701	40701	351	Wh Import on update rate Channel 9*	02	BC
30703	40703	352	Wh Import on update rate Channel 10*	02	BE
30705	40705	353	Wh Import on update rate Channel 11*	02	C0
30707	40707	354	Wh Import on update rate Channel 12*	02	C2

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30709	40709	355	Wh Export on update rate Channel 1*	02	C4
30711	40711	356	Wh Export on update rate Channel 2*	02	C6
30713	40713	357	Wh Export on update rate Channel 3*	02	C8
30715	40715	358	Wh Export on update rate Channel 4*	02	CA
30717	40717	359	Wh Export on update rate Channel 5*	02	CC
30719	40719	360	Wh Export on update rate Channel 6*	02	CE
30721	40721	361	Wh Export on update rate Channel 7*	02	D0
30723	40723	362	Wh Export on update rate Channel 8*	02	D2
30725	40725	363	Wh Export on update rate Channel 9*	02	D4
30727	40727	364	Wh Export on update rate Channel 10*	02	D6
30729	40729	365	Wh Export on update rate Channel 11*	02	D8
30731	40731	366	Wh Export on update rate Channel 12*	02	DA
30733	40733	367	VARh Capacitive on update rate Channel 1*	02	DC
30735	40735	368	VARh Capacitive on update rate Channel 2*	02	DE
30737	40737	369	VARh Capacitive on update rate Channel 3*	02	E0
30739	40739	370	VARh Capacitive on update rate Channel 4*	02	E2
30741	40741	371	VARh Capacitive on update rate Channel 5*	02	E4
30743	40743	372	VARh Capacitive on update rate Channel 6*	02	E6
30745	40745	373	VARh Capacitive on update rate Channel 7*	02	E8
30747	40747	374	VARh Capacitive on update rate Channel 8*	02	EA
30749	40749	375	VARh Capacitive on update rate Channel 9*	02	EC
30751	40751	376	VARh Capacitive on update rate Channel 10*	02	EE
30753	40753	377	VARh Capacitive on update rate Channel 11*	02	F0
30755	40755	378	VARh Capacitive on update rate Channel 12*	02	F2
30757	40757	379	VARh Inductive on update rate Channel 1*	02	F4
30759	40759	380	VARh Inductive on update rate Channel 2*	02	F6
30761	40761	381	VARh Inductive on update rate Channel 3*	02	F8

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30763	40763	382	Varh Inductive on update rate Channel 4*	02	FA
30765	40765	383	VARh Inductive on update rate Channel 5*	02	FC
30767	40767	384	VARh Inductive on update rate Channel 6*	02	FE
30769	40769	385	VARh Inductive on update rate Channel 7*	03	00
30771	40771	386	VARh Inductive on update rate Channel 8*	03	02
30773	40773	387	VARh Inductive on update rate Channel 9*	03	04
30775	40775	388	VARh Inductive on update rate Channel 10*	03	06
30777	40777	389	VARh Inductive on update rate Channel 11*	03	08
30779	40779	390	VARh Inductive on update rate Channel 12*	03	0A
30781	40781	391	VAh on update rate Channel 1*	03	0C
30783	40783	392	VAh on update rate Channel 2*	03	0E
30785	40785	393	VAh on update rate Channel 3*	03	10
30787	40787	394	VAh on update rate Channel 4*	03	12
30789	40789	395	VAh on update rate Channel 5*	03	14
30791	40791	396	VAh on update rate Channel 6*	03	16
30793	40793	397	VAh on update rate Channel 7*	03	18
30795	40795	398	VAh on update rate Channel 8*	03	1A
30797	40797	399	VAh on update rate Channel 9*	03	1C
30799	40799	400	VAh on update rate Channel 10*	03	1E
30801	40801	401	VAh on update rate Channel 11*	03	20
30803	40803	402	VAh on update rate Channel 12*	03	22
30805	40805	403	Wh Import overflow count on update rate Channel 1*	03	24
30807	40807	404	Wh Import overflow count on update rate Channel 2*	03	26
30809	40809	405	Wh Import overflow count on update rate Channel 3*	03	28
30811	40811	406	Wh Import overflow count on update rate Channel 4*	03	2A
30813	40813	407	Wh Import overflow count on update rate Channel 5*	03	2C
30815	40815	408	Wh Import overflow count on update rate Channel 6*	03	2E
30817	40817	409	Wh Import overflow count on update rate Channel 7*	03	30
30819	40819	410	Wh Import overflow count on update rate Channel 8*	03	32
30821	40821	411	Wh Import overflow count on update rate Channel 9*	03	34

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30823	40823	412	Wh Import overflow count on update rate Channel 10*	03	36
30825	40825	413	Wh Import overflow count on update rate Channel 11*	03	38
30827	40827	414	Wh Import overflow count on update rate Channel 12*	03	3A
30829	40829	415	Wh Export overflow count on update rate Channel 1*	03	3C
30831	40831	416	Wh Export overflow count on update rate Channel 2*	03	3E
30833	40833	417	Wh Export overflow count on update rate Channel 3*	03	40
30835	40835	418	Wh Export overflow count on update rate Channel 4*	03	42
30837	40837	419	Wh Export overflow count on update rate Channel 5*	03	44
30839	40839	420	Wh Export overflow count on update rate Channel 6*	03	46
30841	40841	421	Wh Export overflow count on update rate Channel 7*	03	48
30843	40843	422	Wh Export overflow count on update rate Channel 8*	03	4A
30845	40845	423	Wh Export overflow count on update rate Channel 9*	03	4C
30847	40847	424	Wh Export overflow count on update rate Channel 10*	03	4E
30849	40849	425	Wh Export overflow count on update rate Channel 11*	03	50
30851	40851	426	Wh Export overflow count on update rate Channel 12	03	52
30853	40853	427	VARh Capacitive overflow count on update rate Channel 1*	03	54
30855	40855	428	VARh Capacitive overflow count on update rate Channel 2*	03	56
30857	40857	429	VARh Capacitive overflow count on update rate Channel 3*	03	58
30859	40859	430	VARh Capacitive overflow count on update rate Channel 4*	03	5A
30861	40861	431	VARh Capacitive overflow count on update rate Channel 5*	03	5C
30863	40863	432	VARh Capacitive overflow count on update rate Channel 6*	03	5E
30865	40865	433	VARh Capacitive overflow count on update rate Channel 7*	03	60
30867	40867	434	VARh Capacitive overflow count on update rate Channel 8*	03	62
30869	40869	435	VARh Capacitive overflow count on update rate Channel 9*	03	64
30871	40871	436	VARh Capacitive overflow count on update rate Channel 10*	03	66
30873	40873	437	VARh Capacitive overflow count on update rate Channel 11*	03	68
30875	40875	438	VARh Capacitive overflow count on update rate Channel 12*	03	6A
30877	40877	439	VARh Inductive overflow count on update rate Channel 1*	03	6C
30879	40879	440	VARh Inductive overflow count on update rate Channel 2*	03	6E
30881	40881	441	VARh Inductive overflow count on update rate Channel 3*	03	70

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30883	40883	442	Varh Inductive overflow count on update rate Channel 4*	03	72
30885	40885	443	VARh Inductive overflow count on update rate Channel 5*	03	74
30887	430887	444	VARh Inductive overflow count on update rate Channel 6*	03	76
30889	40889	445	VARh Inductive overflow count on update rate Channel 7*	03	78
30891	40891	446	VARh Inductive overflow count on update rate Channel 8*	03	7A
30893	40893	447	VARh Inductive overflow count on update rate Channel 9*	03	7C
30895	40895	448	VARh Inductive overflow count on update rate Channel 10*	03	7E
30897	40897	449	VARh Inductive overflow count on update rate Channel 11*	03	80
30899	40899	450	VARh Inductive overflow count on update rate Channel 12*	03	82
30901	40901	451	VAh overflow count on update rate Channel 1*	03	84
30903	40903	452	VAh overflow count on update rate Channel 2*	03	86
30905	40905	453	VAh overflow count on update rate Channel 3*	03	88
30907	40907	454	VAh overflow count on update rate Channel 4*	03	8A
30909	40909	455	VAh overflow count on update rate Channel 5*	03	8C
30911	40911	456	VAh overflow count on update rate Channel 6*	03	8E
30913	40913	457	VAh overflow count on update rate Channel 7*	03	90
30915	40915	458	VAh overflow count on update rate Channel 8*	03	92
30917	40917	459	VAh overflow count on update rate Channel 9*	03	94
30919	40919	460	VAh overflow count on update rate Channel 10*	03	96
30921	40921	461	VAh overflow count on update rate Channel 11*	03	98
30923	40923	462	VAh overflow count on update rate Channel 12*	03	9A
30925	40925	463	Max Voltage L1	03	9C
30927	40927	464	Max Voltage L2	03	9E
30929	40929	465	Max Voltage L3	03	A0
30931	40931	466	Min Voltage L1	03	A2
30933	40933	467	Min Voltage L2	03	A4
30935	40935	468	Min Voltage L3	03	A6
30937	40937	469	Max Voltage L12	03	A8
30939	40939	470	Max Voltage L23	03	AA
30941	40941	471	Max Voltage L31	03	AC

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
30943	40943	472	Min Voltage L12	03	AE
30945	40945	473	Min Voltage L23	03	B0
30947	40947	474	Min Voltage L31	03	B2
30949	40949	475	Max Current Channel 1	03	B4
30951	40951	476	Max Current Channel 2	03	B6
30953	40953	477	Max Current Channel 3	03	B8
30955	40955	478	Max Current Channel 4	03	BA
30957	40957	479	Max Current Channel 5	03	BC
30959	40959	480	Max Current Channel 6	03	BE
30961	40961	481	Max Current Channel 7	03	C0
30963	40963	482	Max Current Channel 8	03	C2
30965	40965	483	Max Current Channel 9	03	C4
30967	40967	484	Max Current Channel 10	03	C6
30969	40969	485	Max Current Channel 11	03	C8
30971	40971	486	Max Current Channel 12	03	CA
30973	40973	487	Min Current Channel 1	03	CC
30975	40975	488	Min Current Channel 2	03	CE
30977	40977	489	Min Current Channel 3	03	D0
30979	40979	490	Min Current Channel 4	03	D2
30981	40981	491	Min Current Channel 5	03	D4
30983	40983	492	Min Current Channel 6	03	D6
30985	40985	493	Min Current Channel 7	03	D8
30987	40987	494	Min Current Channel 8	03	DA
30989	40989	495	Min Current Channel 9	03	DC
30991	40991	496	Min Current Channel 10	03	DE
30993	40993	497	Min Current Channel 11	03	E0
30995	40995	498	Min Current Channel 12	03	E2
30997	40997	499	Run hour Channel 1	03	E4
30999	40999	500	Run hour Channel 2	03	E6
31001	41001	501	Run hour Channel 3	03	E8

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31003	41003	502	Run hour Channel 4	03	EA
31005	41005	503	Run hour Channel 5	03	EC
31007	41007	504	Run hour Channel 6	03	EE
31009	41009	505	Run hour Channel 7	03	F0
31011	41011	506	Run hour Channel 8	03	F2
31013	41013	507	Run hour Channel 9	03	F4
31015	41015	508	Run hour Channel 10	03	F6
31017	41017	509	Run hour Channel 11	03	F8
31019	41019	510	Run hour Channel 12	03	FA
31021	41021	511	Voltage L1 THD	03	FC
31023	41023	512	Voltage L2 THD	03	FE
31025	41025	513	Voltage L3 THD	04	00
31027	41027	514	Voltage L12 THD	04	02
31029	41029	515	Voltage L23 THD	04	04
31031	41031	516	Voltage L31 THD	04	06
31033	41033	517	Current THD Channel 1	04	08
31035	41035	518	Current THD Channel 2	04	0A
31037	41037	519	Current THD Channel 3	04	0C
31039	41039	520	Current THD Channel 4	04	0E
31041	41041	521	Current THD Channel 5	04	10
31043	41043	522	Current THD Channel 6	04	12
31045	41045	523	Current THD Channel 7	04	14
31047	41047	524	Current THD Channel 8	04	16
31049	41049	525	Current THD Channel 9	04	18
31051	41051	526	Current THD Channel 10	04	1A
31053	41053	527	Current THD Channel 11	04	1C
31055	41055	528	Current THD Channel 12	04	1E
31057	41057	529	System Voltage LN Avg	04	20
31059	41059	530	System Voltage LN Sum	04	22
31061	41061	531	System Voltage LL Avg	04	24

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31063	41063	532	System Voltage LL Sum	04	26
31065	41065	533	Current Avg System 1	04	28
31067	41067	534	Current Avg System 2	04	2A
31069	41069	535	Current Avg System 3	04	2C
31071	41071	536	Current Avg System 4	04	2E
31073	41073	537	Current Sum System 1	04	30
31075	41075	538	Current Sum System 2	04	32
31077	41077	539	Current Sum System 3	04	34
31079	41079	540	Current Sum System 4	04	36
31081	41081	541	Watt Avg System 1	04	38
31083	41083	542	Watt Avg System 2	04	3A
31085	41085	543	Watt Avg System 3	04	3C
31087	41087	544	Watt Avg System 4	04	3E
31089	41089	545	Watt Sum System 1	04	40
31091	41091	546	Watt Sum System 2	04	42
31093	41093	547	Watt Sum System 3	04	44
31095	41095	548	Watt Sum System 4	04	46
31097	41097	549	VA Avg System 1	04	48
31099	41099	550	VA Avg System 2	04	4A
31101	41101	551	VA Avg System 3	04	4C
31103	41103	552	VA Avg System 4	04	4E
31105	41105	553	VA Sum System 1	04	50
31107	41107	554	VA Sum System 2	04	52
31109	41109	555	VA Sum System 3	04	54
31111	41111	556	VA Sum System 4	04	56
31113	41113	557	VAr Avg System 1	04	58
31115	41115	558	VAr Avg System 2	04	5A
31117	41117	559	VAr Avg System 3	04	5C
31119	41119	560	VAr Avg System 4	04	5E
31121	41121	561	VAr Sum System 1	04	60

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31123	41123	562	VAr Sum System 2	04	62
31125	41125	563	VAr Sum System 3	04	64
31127	41127	564	VAr Sum System 4	04	66
31129	41129	565	PF Avg System 1	04	68
31131	41131	566	PF Avg System 2	04	6A
31133	41133	567	PF Avg System 3	04	6C
31135	41135	568	PF Avg System 4	04	6E
31137	41137	569	PF Sum System 1	04	70
31139	41139	570	PF Sum System 2	04	72
31141	41141	571	PF Sum System 3	04	74
31143	41143	572	PF Sum System 4	04	76
31145	41145	573	Phase Angle Avg System 1	04	78
31147	41147	574	Phase Angle Avg System 2	04	7A
31149	41149	575	Phase Angle Avg System 3	04	7C
31151	41151	576	Phase Angle Avg System 4	04	7E
31153	41153	577	Phase Angle Sum System 1	04	80
31155	41155	578	Phase Angle Sum System 2	04	82
31157	41157	579	Phase Angle Sum System 3	04	84
31159	41159	580	Phase Angle Sum System 4	04	86
31161	41161	581	Wh Import System 1	04	88
31163	41163	582	Wh Import System 2	04	8A
31165	41165	583	Wh Import System 3	04	8C
31167	41167	584	Wh Import System 4	04	8E
31169	41169	585	Wh Export System 1	04	90
31171	41171	586	Wh Export System 2	04	92
31173	41173	587	Wh Export System 3	04	94
31175	41175	588	Wh Export System 4	04	96
31177	41177	589	VArh Capacitive System 1	04	98
31179	41179	590	VArh Capacitive System 2	04	9A
31181	41181	591	VArh Capacitive System 3	04	9C

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31183	41183	592	VARh Capacitive System 4	04	9E
31185	41185	593	VARh Inductive System 1	04	A0
31187	41187	594	VARh Inductive System 2	04	A2
31189	41189	595	VARh Inductive System 3	04	A4
31191	41191	596	VARh Inductive System 4	04	A6
31193	41193	597	VAh System 1	04	A8
31195	41195	598	VAh System 2	04	AA
31197	41197	599	VAh System 3	04	AC
31199	41199	600	VAh System 4	04	AE
31201	41201	601	Wh Import overflow count System 1	04	B0
31203	41203	602	Wh Import overflow count System 2	04	B2
31205	41205	603	Wh Import overflow count System 3	04	B4
31207	41207	604	Wh Import overflow count System 4	04	B6
31209	41209	605	Wh Export overflow count System 1	04	B8
31211	41211	606	Wh Export overflow count System 2	04	BA
31213	41213	607	Wh Export overflow count System 3	04	BC
31215	41215	608	Wh Export overflow count System 4	04	BE
31217	41217	609	VARh Capacitive overflow count System 1	04	C0
31219	41219	610	VARh Capacitive overflow count System 2	04	C2
31221	41221	611	VARh Capacitive overflow count System 3	04	C4
31223	41223	612	VARh Capacitive overflow count System 4	04	C6
31225	41225	613	VARh Inductive overflow count System 1	04	C8
31227	41227	614	VARh Inductive overflow count System 2	04	CA
31229	41229	615	VARh Inductive overflow count System 3	04	CC
31231	41231	616	VARh Inductive overflow count System 4	04	CE
31233	41233	617	VAh overflow count System 1	04	D0
31235	41235	618	VAh overflow count System 2	04	D2
31237	41237	619	VAh overflow count System 3	04	D4
31239	41239	620	VAh overflow count System 4	04	D6
31241	41241	621	kW Import demand System 1	04	D8

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31243	41243	622	kW Import demand System 2	04	DA
31245	41245	623	kW Import demand System 3	04	DC
31247	41247	624	kW Import demand System 4	04	DE
31249	41249	625	kW Export demand System 1	04	E0
31251	41251	626	kW Export demand System 2	04	E2
31253	41253	627	kW Export demand System 3	04	E4
31255	41255	628	kW Export demand System 4	04	E6
31257	41257	629	kVAr Capacitive demand System 1	04	E8
31259	41259	630	kVAr Capacitive demand System 2	04	EA
31261	41261	631	kVAr Capacitive demand System 3	04	EC
31263	41263	632	kVAr Capacitive demand System 4	04	EE
31265	41265	633	kVAr Inductive demand System 1	04	F0
31267	41267	634	kVAr Inductive demand System 2	04	F2
31269	41269	635	kVAr Inductive demand System 3	04	F4
31271	41271	636	kVAr Inductive demand System 4	04	F6
31273	41273	637	KVA demand System 1	04	F8
31275	41275	638	KVA demand System 2	04	FA
31277	41277	639	KVA demand System 3	04	FC
31279	41279	640	KVA demand System 4	04	FE
31281	41281	641	Current demand System 1	05	00
31283	41283	642	Current demand System 2	05	02
31285	41285	643	Current demand System 3	05	04
31287	41287	644	Current demand System 4	05	06
31289	41289	645	kW Import Max demand System 1	05	08
31291	41291	646	kW Import Max demand System 2	05	0A
31293	41293	647	kW Import Max demand System 3	05	0C
31295	41295	648	kW Import Max demand System 4	05	0E
31297	41297	649	KW Export Max demand System 1	05	10
31299	41299	650	KW Export Max demand System 2	05	12
31301	41301	651	KW Export Max demand System 3	05	14

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31303	41303	652	KW Export Max demand System 4	05	16
31305	41305	653	kVAr Capacitive Max demand System 1	05	18
31307	41307	654	kVAr Capacitive Max demand System 2	05	1A
31309	41309	655	kVAr Capacitive Max demand System 3	05	1C
31311	41311	656	kVAr Capacitive Max demand System 4	05	1E
31313	41313	657	kVAr Inductive Max demand System 1	05	20
31315	41315	658	kVAr Inductive Max demand System 2	05	22
31317	41317	659	kVAr Inductive Max demand System 3	05	24
31319	41319	660	kVAr Inductive Max demand System 4	05	26
31321	41321	661	kVA Max demand System 1	05	28
31323	41323	662	kVA Max demand System 2	05	2A
31325	41325	663	kVA Max demand System 3	05	2C
31327	41327	664	kVA Max demand System 4	05	2E
31329	41329	665	Current Max demand System 1	05	30
31331	41331	666	Current Max demand System 2	05	32
31333	41333	667	Current Max demand System 3	05	34
31335	41335	668	Current Max demand System 4	05	36
31337	41337	669	Wh Import on update rate System 1*	05	38
31339	41339	670	Wh Import on update rate System 2*	05	3A
31341	41341	671	Wh Import on update rate System 3*	05	3C
31343	41343	672	Wh Import on update rate System 4*	05	3E
31345	41345	673	Wh Export on update rate System 1*	05	40
31347	41347	674	Wh Export on update rate System 2*	05	42
31349	41349	675	Wh Export on update rate System 3*	05	44
31351	41351	676	Wh Export on update rate System 4*	05	46
31353	41353	677	VARh Capacitive on update rate System 1*	05	48
31355	41355	678	VARh Capacitive on update rate System 2*	05	4A
31357	41357	679	VARh Capacitive on update rate System 3*	05	4C
31359	41359	680	VARh Capacitive on update rate System 4*	05	4E
31361	41361	681	VARh Inductive on update rate System 1*	05	50

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31363	41363	682	VArh Inductive on update rate System 2*	05	52
31365	41365	683	VArh Inductive on update rate System 3*	05	54
31367	41367	684	VArh Inductive on update rate System 4*	05	56
31369	41369	685	VAh on update rate System 1*	05	58
31371	41371	686	VAh on update rate System 2*	05	5A
31373	41373	687	VAh on update rate System 3*	05	5C
31375	41375	688	VAh on update rate System 4*	05	5E
31377	41377	689	Wh Import overflow count on update rate System 1*	05	60
31379	41379	690	Wh Import overflow count on update rate System 2*	05	62
31381	41381	691	Wh Import overflow count on update rate System 3*	05	64
31383	41383	692	Wh Import overflow count on update rate System 4*	05	66
31385	41385	693	Wh Export overflow count on update rate System 1*	05	68
31387	41387	694	Wh Export overflow count on update rate System 2*	05	6A
31389	41389	695	Wh Export overflow count on update rate System 3*	05	6C
31391	41391	696	Wh Export overflow count on update rate System 4*	05	6E
31393	41393	697	VArh Capacitive overflow count on update rate System 1*	05	70
31395	41395	698	VArh Capacitive overflow count on update rate System 2*	05	72
31397	41397	699	VArh Capacitive overflow count on update rate System 3*	05	74
31399	41399	700	VArh Capacitive overflow count on update rate System 4*	05	76
31401	41401	701	VArh Inductive overflow count on update rate System 1*	05	78
31403	41403	702	VArh Inductive overflow count on update rate System 2*	05	7A
31405	41405	703	VArh Inductive overflow count on update rate System 3*	05	7C
31407	41407	704	VArh Inductive overflow count on update rate System 4*	05	7E
31409	41409	705	VAh overflow count on update rate System 1*	05	80
31411	41411	706	VAh overflow count on update rate System 2*	05	82
31413	41413	707	VAh overflow count on update rate System 3*	05	84
31415	41415	708	VAh overflow count on update rate System 4*	05	86
31417	41417	709	System Max Voltage LN	05	88
31419	41419	710	System Min Voltage LN	05	8A
31421	41421	711	System Max Voltage LL	05	8C

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31423	41423	712	System Min Voltage LL	05	8E
31425	41425	713	Max Current System 1	05	90
31427	41427	714	Max Current System 2	05	92
31429	41429	715	Max Current System 3	05	94
31431	41431	716	Max Current System 4	05	96
31433	41433	717	Min Current System 1	05	98
31435	41435	718	Min Current System 2	05	9A
31437	41437	719	Min Current System 3	05	9C
31439	41439	720	Min Current System 4	05	9E
31441	41441	721	Run hour System 1	05	A0
31443	41443	722	Run hour System 2	05	A2
31445	41445	723	Run hour System 3	05	A4
31447	41447	724	Run hour System 4	05	A6
31449	41449	725	System VLN-THD	05	A8
31451	41451	726	System VLL-THD	05	AA
31453	41453	727	I-THD System 1	05	AC
31455	41455	728	I-THD System 2	05	AE
31457	41457	729	I-THD System 3	05	B0
31459	41459	730	I-THD System 4	05	B2
31461	41461	731	Neutral Current System 1	05	B4
31463	41463	732	Neutral Current System 2	05	B6
31465	41465	733	Neutral Current System 3	05	B8
31467	41467	734	Neutral Current System 4	05	BA
31469	41469	735	Frequency	05	BC
31471	41471	736	RPM	05	BE
31473	41473	737	Instrument ON Hour	05	C0
31475	41475	738	Instrument No of Interruption	05	C2
31477	41477	739	Total System Voltage LN avg	05	C4
31479	41479	740	Total System Voltage LL avg	05	C6
31481	41481	741	Total System Current sum	05	C8

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31483	41483	742	Total System Active Power sum	05	CA
31485	41485	743	Total System Reactive Power sum	05	CC
31487	41487	744	Total System Apparent Power sum	05	CE
31489	41489	745	Total System PF avg	05	D0
31491	41491	746	Total System PA avg	05	D2
31493	41493	747	Total System Wh Import sum	05	D4
31495	41495	748	Total System Wh Export sum	05	D6
31497	41497	749	Total System VARh Capacitive sum	05	D8
31499	41499	750	Total System VARh Inductive sum	05	DA
31501	41501	751	Total System VAh sum	05	DC
31503	41503	752	Total System Wh Import overflow count	05	DE
31505	41505	753	Total System Wh Export overflow count	05	E0
31507	41507	754	Total System VARh Capacitive overflow count	05	E2
31509	41509	755	Total System VARh Inductive overflow count	05	E4
31511	41511	756	Total System VAh overflow count	05	E6
31513	41513	757	Total System kW Import Demand sum	05	E8
31515	41515	758	Total System kW Export Demand sum	05	EA
31517	41517	759	Total System kVAr Capacitive Demand sum	05	EC
31519	41519	760	Total System kVAr Inductive Demand sum	05	EE
31521	41521	761	Total System kVA Demand sum	05	F0
31523	41523	762	Total System A Demand sum	05	F2
31525	41525	763	Total System kW Import Max Demand	05	F4
31527	41527	764	Total System kW Export Max Demand	05	F6
31529	41529	765	Total System kVAr Capacitive Max Demand	05	F8
31531	41531	766	Total System kVAr Inductive Max Demand	05	FA
31533	41533	767	Total System kVA Max Demand	05	FC
31535	41535	768	Total System Current Max Demand	06	FE
31537	41537	769	Total System CT Primary	06	00
31539	41539	770	Phase sequence indication	06	02
31541	41541	771	Phase Absent Indication (V & A) (Refer TABLE 4)	06	04

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31543	41543	772	IREV Indication (Refer TABLE 5)	06	06
31545	41545	773	Impulse Rate / Impulse Constant (Refer TABLE 6)	06	08
31547	41547	774	RTC - Error	06	0A
31549	41549	775	Flash/EEPROM - Error	06	0C
31551	41551	776	RTC Complete date	06	0E
31553	41553	777	RTC Complete time	06	10
31555	41555	778	Power Down RTC Second	06	12
31557	41557	779	Power Down RTC Minute	06	14
31559	41559	780	Power Down RTC Hour	06	16
31561	41561	781	Power Down RTC Day	06	18
31563	41563	782	Power Down RTC Date	06	1A
31565	41565	783	Power Down RTC Month	06	1C
31567	41567	784	Power Down RTC Year	06	1E
31569	41569	785	Relay 1 status	06	20
31571	41571	786	Relay 2 status	06	22
31573	41573	787	Relay 3 status	06	24
31575	41575	788	Relay 4 status	06	26
31577	41577	789	Relay 1 Timer On delay	06	28
31579	41579	790	Relay 2 Timer On delay	06	2A
31581	41581	791	Relay 3 Timer On delay	06	2C
31583	41583	792	Relay 4 Timer On delay	06	2E
31585	41585	793	Relay 1 Timer Off delay	06	30
31587	41587	794	Relay 2 Timer Off delay	06	32
31589	41589	795	Relay 3 Timer Off delay	06	34
31591	41591	796	Relay 4 Timer Off delay	06	36
31593	41593	797	Relay 1 Timer No. of Cycles	06	38
31595	41595	798	Relay 2 Timer No. of Cycles	06	3A
31597	41597	799	Relay 3 Timer No. of Cycles	06	3C
31599	41599	800	Relay 4 Timer No. of Cycles	06	3E
31601	41601	801	Voltage Unbalance VLN	06	40

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31603	41603	802	Voltage Unbalance VLL	06	42
31605	41605	803	Current Unbalance System 1	06	44
31607	41607	804	Current Unbalance System 2	06	46
31609	41609	805	Current Unbalance System 3	06	48
31611	41611	806	Current Unbalance System 4	06	4A
31613	41613	807	Health Status System 1 (Refer TABLE 7)	06	4C
31615	41615	808	Health Status System 2 (Refer TABLE 7)	06	4E
31617	41617	809	Health Status System 3 (Refer TABLE 7)	06	50
31619	41619	810	Health Status System 4 (Refer TABLE 7)	06	52
31621	41621	811	---	06	54
31623	41623	812	---	06	56
31625	41625	813	---	06	58
31627	41627	814	---	06	5A
31629	41629	815	---	06	5C
31631	41631	816	---	06	5E
31633	41633	817	---	06	60
31635	41635	818	---	06	62
31637	41637	819	---	06	64
31639	41639	820	Load Number Channel 1	06	66
31641	41641	821	Load Number Channel 2	06	68
31643	41643	822	Load Number Channel 3	06	6A
31645	41645	823	Load Number Channel 4	06	6C
31647	41647	824	Load Number Channel 5	06	6E
31649	41649	825	Load Number Channel 6	06	70
31651	41651	826	Load Number Channel 7	06	72
31653	41653	827	Load Number Channel 8	06	74
31655	41655	828	Load Number Channel 9	06	76
31657	41657	829	Load Number Channel 10	06	78
31659	41659	830	Load Number Channel 11	06	7A
31661	41661	831	Load Number Channel 12	06	7C

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31663	41663	832	---	06	7E
31665	41665	833	---	06	80
31667	41667	834	---	06	82
31669	41669	835	---	06	84
31671	41671	836	---	06	86
31673	41673	837	---	06	88
31675	41675	838	---	06	8A
31677	41677	839	---	06	8C
31679	41679	840	---	06	8E
31681	41681	841	Daily kW Import Max demand Channel 1	06	90
31683	41683	842	Daily kW Import Max demand Channel 2	06	92
31685	41685	843	Daily kW Import Max demand Channel 3	06	94
31687	41687	844	Daily kW Import Max demand Channel 4	06	96
31689	41689	845	Daily kW Import Max demand Channel 5	06	98
31691	41691	846	Daily kW Import Max demand Channel 6	06	9A
31693	41693	847	Daily kW Import Max demand Channel 7	06	9C
31695	41695	848	Daily kW Import Max demand Channel 8	06	9E
31697	41697	849	Daily kW Import Max demand Channel 9	06	A0
31699	41699	850	Daily kW Import Max demand Channel 10	06	A2
31701	41701	851	Daily kW Import Max demand Channel 11	06	A4
31703	41703	852	Daily kW Import Max demand Channel 12	06	A6
31705	41705	853	Daily kW Export Max demand Channel 1	06	A8
31707	41707	854	Daily kW Export Max demand Channel 2	06	AA
31709	41709	855	Daily kW Export Max demand Channel 3	06	AC
31711	41711	856	Daily kW Export Max demand Channel 4	06	AE
31713	41713	857	Daily kW Export Max demand Channel 5	06	B0
31715	41715	858	Daily kW Export Max demand Channel 6	06	B2
31717	41717	859	Daily kW Export Max demand Channel 7	06	B4
31719	41719	860	Daily kW Export Max demand Channel 8	06	B6
31721	41721	861	Daily kW Export Max demand Channel 9	06	B8

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31723	41723	862	Daily kW Export Max demand Channel 10	06	BA
31725	41725	863	Daily kW Export Max demand Channel 11	06	BC
31727	41727	864	Daily kW Export Max demand Channel 12	06	BE
31729	41729	865	Daily kVAr Capacitive Max demand Channel 1	06	C0
31731	41731	866	Daily kVAr Capacitive Max demand Channel 2	06	C2
31733	41733	867	Daily kVAr Capacitive Max demand Channel 3	06	C4
31735	41735	868	Daily kVAr Capacitive Max demand Channel 4	06	C6
31737	41737	869	Daily kVAr Capacitive Max demand Channel 5	06	C8
31739	41739	870	Daily kVAr Capacitive Max demand Channel 6	06	CA
31741	41741	871	Daily kVAr Capacitive Max demand Channel 7	06	CC
31743	41743	872	Daily kVAr Capacitive Max demand Channel 8	06	CE
31745	41745	873	Daily kVAr Capacitive Max demand Channel 9	06	D0
31747	41747	874	Daily kVAr Capacitive Max demand Channel 10	06	D2
31749	41749	875	Daily kVAr Capacitive Max demand Channel 11	06	D4
31751	41751	876	Daily kVAr Capacitive Max demand Channel 12	06	D6
31753	41753	877	Daily kVAr Inductive Max demand Channel 1	06	D8
31755	41755	878	Daily kVAr Inductive Max demand Channel 2	06	DA
31757	41757	879	Daily kVAr Inductive Max demand Channel 3	06	DC
31759	41759	880	Daily kVAr Inductive Max demand Channel 4	06	DE
31761	41761	881	Daily kVAr Inductive Max demand Channel 5	06	E0
31763	41763	882	Daily kVAr Inductive Max demand Channel 6	06	E2
31765	41765	883	Daily kVAr Inductive Max demand Channel 7	06	E4
31767	41767	884	Daily kVAr Inductive Max demand Channel 8	06	E6
31769	41769	885	Daily kVAr Inductive Max demand Channel 9	06	E8
31771	41771	886	Daily kVAr Inductive Max demand Channel 10	06	EA
31773	41773	887	Daily kVAr Inductive Max demand Channel 11	06	EC
31775	41775	888	Daily kVAr Inductive Max demand Channel 12	06	EE
31777	41777	889	Daily kVA Max demand Channel 1	06	F0
31779	41779	890	Daily kVA Max demand Channel 2	06	F2
31781	41781	891	Daily kVA Max demand Channel 3	06	F4

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31783	41783	892	Daily kVA Max demand Channel 4	06	F6
31785	41785	893	Daily kVA Max demand Channel 5	06	F8
31787	41787	894	Daily kVA Max demand Channel 6	06	FA
31789	41789	895	Daily kVA Max demand Channel 7	06	FC
31791	41791	896	Daily kVA Max demand Channel 8	06	FE
31793	41793	897	Daily kVA Max demand Channel 9	07	00
31795	41795	898	Daily kVA Max demand Channel 10	07	02
31797	41797	899	Daily kVA Max demand Channel 11	07	04
31799	41799	900	Daily kVA Max demand Channel 12	07	06
31801	41801	901	Daily Current Max demand Channel 1	07	08
31803	41803	902	Daily Current Max demand Channel 2	07	0A
31805	41805	903	Daily Current Max demand Channel 3	07	0C
31807	41807	904	Daily Current Max demand Channel 4	07	0E
31809	41809	905	Daily Current Max demand Channel 5	07	10
31811	41811	906	Daily Current Max demand Channel 6	07	12
31813	41813	907	Daily Current Max demand Channel 7	07	14
31815	41815	908	Daily Current Max demand Channel 8	07	16
31817	41817	909	Daily Current Max demand Channel 9	07	18
31819	41819	910	Daily Current Max demand Channel 10	07	1A
31821	41821	911	Daily Current Max demand Channel 11	07	1C
31823	41823	912	Daily Current Max demand Channel 12	07	1E
31825	41825	913	Daily kW Import Max demand System 1	07	20
31827	41827	914	Daily kW Import Max demand System 2	07	22
31829	41829	915	Daily kW Import Max demand System 3	07	24
31831	41831	916	Daily kW Import Max demand System 4	07	26
31833	41833	917	Daily kW Export Max demand System 1	07	28
31833	41835	918	Daily kW Export Max demand System 2	07	2A
31837	41837	919	Daily kW Export Max demand System 3	07	2C
31839	41839	920	Daily kW Export Max demand System 4	07	2E
31841	41841	921	Daily kVAr Capacitive Max demand System 1	07	30

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31843	41843	922	Daily kVA Capacitive Max demand System 2	07	32
31845	41845	923	Daily kVA Capacitive Max demand System 3	07	34
31847	41847	924	Daily kVA Capacitive Max demand System 4	07	36
31849	41849	925	Daily kVA Inductive Max demand System 1	07	38
31851	41851	926	Daily kVA Inductive Max demand System 2	07	3A
31853	41853	927	Daily kVA Inductive Max demand System 3	07	3C
31855	41855	928	Daily kVA Inductive Max demand System 4	07	3E
31857	41857	929	Daily kVA Max demand System 1	07	40
31859	41859	930	Daily kVA Max demand System 2	07	42
31861	41861	931	Daily kVA Max demand System 3	07	44
31863	41863	932	Daily kVA Max demand System 4	07	46
31865	41865	933	Daily Current Max demand System 1	07	48
31867	41867	934	Daily Current Max demand System 2	07	4A
31869	41869	935	Daily Current Max demand System 3	07	4C
31871	41871	936	Daily Current Max demand System 4	07	4E

***Note 1 :** The values are updated depending on the update rate which is settable by user.
For example, if user sets Energy update rate as 15min, then the values on these registers (marked with *) will get updated in every 15min.

Note 2 : System 1 Parameter represents Three Phase system present at Channel 1, 2, 3. Similarly System 2 Parameter represents Three Phase system present at Channel 4, 5, 6 and so on.

Note 3 : If a Channel is not a part of Three Phase System, then the corresponding System Parameter will show value 0.

Note 4 : Relay Output 1/2 Status shows whether relay is Energized or De-energized.
1 : Relay Energized 0 : Relay De-energized

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31921	41921	961	Voltage L1 Harmonic-1	07	80
31923	41923	962	Voltage L1 Harmonic-2	07	82
31925	41925	963	Voltage L1 Harmonic-3	07	84
31927	41927	964	Voltage L1 Harmonic-4	07	86
31929	41929	965	Voltage L1 Harmonic-5	07	88
31931	41931	966	Voltage L1 Harmonic-6	07	8A
31933	41933	967	Voltage L1 Harmonic-7	07	8C
31935	41935	968	Voltage L1 Harmonic-8	07	8E
31937	41937	969	Voltage L1 Harmonic-9	07	90
31939	41939	970	Voltage L1 Harmonic-10	07	92
31941	41941	971	Voltage L1 Harmonic-11	07	94
31943	41943	972	Voltage L1 Harmonic-12	07	96
31945	41945	973	Voltage L1 Harmonic-13	07	98
31947	41947	974	Voltage L1 Harmonic-14	07	9A
31949	41949	975	Voltage L1 Harmonic-15	07	9C
31951	41951	976	Voltage L1 Harmonic-16	07	9E
31953	41953	977	Voltage L1 Harmonic-17	07	A0
31955	41955	978	Voltage L1 Harmonic-18	07	A2
31957	41957	979	Voltage L1 Harmonic-19	07	A4
31959	41959	980	Voltage L1 Harmonic-20	07	A6
31961	41961	981	Voltage L1 Harmonic-21	07	A8
31963	41963	982	Voltage L1 Harmonic-22	07	AA
31965	41965	983	Voltage L1 Harmonic-23	07	AC
31967	41967	984	Voltage L1 Harmonic-24	07	AE
31969	41969	985	Voltage L1 Harmonic-25	07	B0
31971	41971	986	Voltage L1 Harmonic-26	07	B2
31973	41973	987	Voltage L1 Harmonic-27	07	B4
31975	41975	988	Voltage L1 Harmonic-28	07	B6
31977	41977	989	Voltage L1 Harmonic-29	07	B8
31979	41979	990	Voltage L1 Harmonic-30	07	BA

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
31981	41981	991	Voltage L1 Harmonic-31	07	BC
31983	41983	992	- - -	07	BE
31985	41985	993	Voltage L2 Harmonic-1	07	C0
31987	41987	994	Voltage L2 Harmonic-2	07	C2
31989	41989	995	Voltage L2 Harmonic-3	07	C4
31991	41991	996	Voltage L2 Harmonic-4	07	C6
31993	41993	997	Voltage L2 Harmonic-5	07	C8
31995	41995	998	Voltage L2 Harmonic-6	07	CA
31997	41997	999	Voltage L2 Harmonic-7	07	CC
31999	41999	1000	Voltage L2 Harmonic-8	07	CE
32001	42001	1001	Voltage L2 Harmonic-9	07	D0
32003	42003	1002	Voltage L2 Harmonic-10	07	D2
32005	42005	1003	Voltage L2 Harmonic-11	07	D4
32007	42007	1004	Voltage L2 Harmonic-12	07	D6
32009	42009	1005	Voltage L2 Harmonic-13	07	D8
32011	42011	1006	Voltage L2 Harmonic-14	07	DA
32013	42013	1007	Voltage L2 Harmonic-15	07	DC
32015	42015	1008	Voltage L2 Harmonic-16	07	DE
32017	42017	1009	Voltage L2 Harmonic-17	07	E0
32019	42019	1010	Voltage L2 Harmonic-18	07	E2
32021	42021	1011	Voltage L2 Harmonic-19	07	E4
32023	42023	1012	Voltage L2 Harmonic-20	07	E6
32025	42025	1013	Voltage L2 Harmonic-21	07	E8
32027	42027	1014	Voltage L2 Harmonic-22	07	EA
32029	42029	1015	Voltage L2 Harmonic-23	07	EC
32031	42031	1016	Voltage L2 Harmonic-24	07	EE
32033	42033	1017	Voltage L2 Harmonic-25	07	F0
32035	42035	1018	Voltage L2 Harmonic-26	07	F2
32037	42037	1019	Voltage L2 Harmonic-27	07	F4
32039	42039	1020	Voltage L2 Harmonic-28	07	F6

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32041	42041	1021	Voltage L2 Harmonic-29	07	F8
32043	42043	1022	Voltage L2 Harmonic-30	07	FA
32045	42045	1023	Voltage L2 Harmonic-31	07	FC
32047	42047	1024	- - -	07	FE
32049	42049	1025	Voltage L3 Harmonic-1	08	00
32051	42051	1026	Voltage L3 Harmonic-2	08	02
32053	42053	1027	Voltage L3 Harmonic-3	08	04
32055	42055	1028	Voltage L3 Harmonic-4	08	06
32057	42057	1029	Voltage L3 Harmonic-5	08	08
32059	42059	1030	Voltage L3 Harmonic-6	08	0A
32061	42061	1031	Voltage L3 Harmonic-7	08	0C
32063	42063	1032	Voltage L3 Harmonic-8	08	0E
32065	42065	1033	Voltage L3 Harmonic-9	08	10
32067	42067	1034	Voltage L3 Harmonic-10	08	12
32069	42069	1035	Voltage L3 Harmonic-11	08	14
32071	42071	1036	Voltage L3 Harmonic-12	08	16
32073	42073	1037	Voltage L3 Harmonic-13	08	18
32075	42075	1038	Voltage L3 Harmonic-14	08	1A
32077	42077	1039	Voltage L3 Harmonic-15	08	1C
32079	42079	1040	Voltage L3 Harmonic-16	08	1E
32081	42081	1041	Voltage L3 Harmonic-17	08	20
32083	42083	1042	Voltage L3 Harmonic-18	08	22
32085	42085	1043	Voltage L3 Harmonic-19	08	24
32087	42087	1044	Voltage L3 Harmonic-20	08	26
32089	42089	1045	Voltage L3 Harmonic-21	08	28
32091	42091	1046	Voltage L3 Harmonic-22	08	2A
32093	42093	1047	Voltage L3 Harmonic-23	08	2C
32095	42095	1048	Voltage L3 Harmonic-24	08	2E
32097	42097	1049	Voltage L3 Harmonic-25	08	30
32099	42099	1050	Voltage L3 Harmonic-26	08	32

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32101	42101	1051	Voltage L3 Harmonic-27	08	34
32103	42103	1052	Voltage L3 Harmonic-28	08	36
32105	42105	1053	Voltage L3 Harmonic-29	08	38
32107	42107	1054	Voltage L3 Harmonic-30	08	3A
32109	42109	1055	Voltage L3 Harmonic-31	08	3C
32111	42111	1056	- - -	08	3E
32113	42113	1057	Voltage L12 Harmonic-1	08	40
32115	42115	1058	Voltage L12 Harmonic-2	08	42
32117	42117	1059	Voltage L12 Harmonic-3	08	44
32119	42119	1060	Voltage L12 Harmonic-4	08	46
32121	42121	1061	Voltage L12 Harmonic-5	08	48
32123	42123	1062	Voltage L12 Harmonic-6	08	4A
32125	42125	1063	Voltage L12 Harmonic-7	08	4C
32127	42127	1064	Voltage L12 Harmonic-8	08	4E
32129	42129	1065	Voltage L12 Harmonic-9	08	50
32131	42131	1066	Voltage L12 Harmonic-10	08	52
32133	42133	1067	Voltage L12 Harmonic-11	08	54
32135	42135	1068	Voltage L12 Harmonic-12	08	56
32137	42137	1069	Voltage L12 Harmonic-13	08	58
32139	42139	1070	Voltage L12 Harmonic-14	08	5A
32141	42141	1071	Voltage L12 Harmonic-15	08	5C
32143	42143	1072	Voltage L12 Harmonic-16	08	5E
32145	42145	1073	Voltage L12 Harmonic-17	08	60
32147	42147	1074	Voltage L12 Harmonic-18	08	62
32149	42149	1075	Voltage L12 Harmonic-19	08	64
32151	42151	1076	Voltage L12 Harmonic-20	08	66
32153	42153	1077	Voltage L12 Harmonic-21	08	68
32155	42155	1078	Voltage L12 Harmonic-22	08	6A
32157	42157	1079	Voltage L12 Harmonic-23	08	6C
32159	42159	1080	Voltage L12 Harmonic-24	08	6E

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32161	42161	1081	Voltage L12 Harmonic-25	08	70
32163	42163	1082	Voltage L12 Harmonic-26	08	72
32165	42165	1083	Voltage L12 Harmonic-27	08	74
32167	42167	1084	Voltage L12 Harmonic-28	08	76
32169	42169	1085	Voltage L12 Harmonic-29	08	78
32171	42171	1086	Voltage L12 Harmonic-30	08	7A
32173	42173	1087	Voltage L12 Harmonic-31	08	7C
32175	42175	1088	- - -	08	7E
32177	42177	1089	Voltage L23 Harmonic-1	08	80
32179	42179	1090	Voltage L23 Harmonic-2	08	82
32181	42181	1091	Voltage L23 Harmonic-3	08	84
32183	42183	1092	Voltage L23 Harmonic-4	08	86
32185	42185	1093	Voltage L23 Harmonic-5	08	88
32187	42187	1094	Voltage L23 Harmonic-6	08	8A
32189	42189	1095	Voltage L23 Harmonic-7	08	8C
32191	42191	1096	Voltage L23 Harmonic-8	08	8E
32193	42193	1097	Voltage L23 Harmonic-9	08	90
32195	42195	1098	Voltage L23 Harmonic-10	08	92
32197	42197	1099	Voltage L23 Harmonic-11	08	94
32199	42199	1100	Voltage L23 Harmonic-12	08	96
32201	42201	1101	Voltage L23 Harmonic-13	08	98
32203	42203	1102	Voltage L23 Harmonic-14	08	9A
32205	42205	1103	Voltage L23 Harmonic-15	08	9C
32207	42207	1104	Voltage L23 Harmonic-16	08	9E
32209	42209	1105	Voltage L23 Harmonic-17	08	A0
32211	42211	1106	Voltage L23 Harmonic-18	08	A2
32213	42213	1107	Voltage L23 Harmonic-19	08	A4
32215	42215	1108	Voltage L23 Harmonic-20	08	A6
32217	42217	1109	Voltage L23 Harmonic-21	08	A8
32219	42219	1110	Voltage L23 Harmonic-22	08	AA

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32221	42221	1111	Voltage L23 Harmonic-23	08	AC
32223	42223	1112	Voltage L23 Harmonic-24	08	AE
32225	42225	1113	Voltage L23 Harmonic-25	08	B0
32227	42227	1114	Voltage L23 Harmonic-26	08	B2
32229	42229	1115	Voltage L23 Harmonic-27	08	B4
32231	42231	1116	Voltage L23 Harmonic-28	08	B6
32233	42233	1117	Voltage L23 Harmonic-29	08	B8
32235	42235	1118	Voltage L23 Harmonic-30	08	BA
32237	42237	1119	Voltage L23 Harmonic-31	08	BC
32239	42239	1120	- - -	08	BE
32241	42241	1121	Voltage L31 Harmonic-1	08	C0
32243	42243	1122	Voltage L31 Harmonic-2	08	C2
32245	42245	1123	Voltage L31 Harmonic-3	08	C4
32247	42247	1124	Voltage L31 Harmonic-4	08	C6
32249	42249	1125	Voltage L31 Harmonic-5	08	C8
32251	42251	1126	Voltage L31 Harmonic-6	08	CA
32253	42253	1127	Voltage L31 Harmonic-7	08	CC
32255	42255	1128	Voltage L31 Harmonic-8	08	CE
32257	42257	1129	Voltage L31 Harmonic-9	08	D0
32259	42259	1130	Voltage L31 Harmonic-10	08	D2
32261	42261	1131	Voltage L31 Harmonic-11	08	D4
32263	42263	1132	Voltage L31 Harmonic-12	08	D6
32265	42265	1133	Voltage L31 Harmonic-13	08	D8
32267	42267	1134	Voltage L31 Harmonic-14	08	DA
32269	42269	1135	Voltage L31 Harmonic-15	08	DC
32271	42271	1136	Voltage L31 Harmonic-16	08	DE
32273	42273	1137	Voltage L31 Harmonic-17	08	E0
32275	42275	1138	Voltage L31 Harmonic-18	08	E2
32277	42277	1139	Voltage L31 Harmonic-19	08	E4
32279	42279	1140	Voltage L31 Harmonic-20	08	E6

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32281	42281	1141	Voltage L31 Harmonic-21	08	E8
32283	42283	1142	Voltage L31 Harmonic-22	08	EA
32285	42285	1143	Voltage L31 Harmonic-23	08	EC
32287	42287	1144	Voltage L31 Harmonic-24	08	EE
32289	42289	1145	Voltage L31 Harmonic-25	08	F0
32291	42291	1146	Voltage L31 Harmonic-26	08	F2
32293	42293	1147	Voltage L31 Harmonic-27	08	F4
32295	42295	1148	Voltage L31 Harmonic-28	08	F6
32297	42297	1149	Voltage L31 Harmonic-29	08	F8
32299	42299	1150	Voltage L31 Harmonic-30	08	FA
32301	42301	1151	Voltage L31 Harmonic-31	08	FC
32303	42303	1152	- - -	08	FE
32305	42305	1153	Current Channel 1 Harmonic-1	09	00
32307	42307	1154	Current Channel 1 Harmonic-2	09	02
32309	42309	1155	Current Channel 1 Harmonic-3	09	04
32311	42311	1156	Current Channel 1 Harmonic-4	09	06
32313	42313	1157	Current Channel 1 Harmonic-5	09	08
32315	42315	1158	Current Channel 1 Harmonic-6	09	0A
32317	42317	1159	Current Channel 1 Harmonic-7	09	0C
32319	42319	1160	Current Channel 1 Harmonic-8	09	0E
32321	42321	1161	Current Channel 1 Harmonic-9	09	10
32323	42323	1162	Current Channel 1 Harmonic-10	09	12
32325	42325	1163	Current Channel 1 Harmonic-11	09	14
32327	42327	1164	Current Channel 1 Harmonic-12	09	16
32329	42329	1165	Current Channel 1 Harmonic-13	09	18
32331	42331	1166	Current Channel 1 Harmonic-14	09	1A
32333	42333	1167	Current Channel 1 Harmonic-15	09	1C
32335	42335	1168	Current Channel 1 Harmonic-16	09	1E
32337	42337	1169	Current Channel 1 Harmonic-17	09	20
32339	42339	1170	Current Channel 1 Harmonic-18	09	22

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32341	42341	1171	Current Channel 1 Harmonic-19	09	24
32343	42343	1172	Current Channel 1 Harmonic-20	09	26
32345	42345	1173	Current Channel 1 Harmonic-21	09	28
32347	42347	1174	Current Channel 1 Harmonic-22	09	2A
32349	42349	1175	Current Channel 1 Harmonic-23	09	2C
32351	42351	1176	Current Channel 1 Harmonic-24	09	2E
32353	42353	1177	Current Channel 1 Harmonic-25	09	30
32355	42355	1178	Current Channel 1 Harmonic-26	09	32
32357	42357	1179	Current Channel 1 Harmonic-27	09	34
32359	42359	1180	Current Channel 1 Harmonic-28	09	36
32361	42361	1181	Current Channel 1 Harmonic-29	09	38
32363	42363	1182	Current Channel 1 Harmonic-30	09	3A
32365	42365	1183	Current Channel 1 Harmonic-31	09	3C
32367	42367	1184	- - -	09	3E
32369	42369	1185	Current Channel 2 Harmonic-1	09	40
32371	42371	1186	Current Channel 2 Harmonic-2	09	42
32373	42373	1187	Current Channel 2 Harmonic-3	09	44
32375	42375	1188	Current Channel 2 Harmonic-4	09	46
32377	42377	1189	Current Channel 2 Harmonic-5	09	48
32379	42379	1190	Current Channel 2 Harmonic-6	09	4A
32381	42381	1191	Current Channel 2 Harmonic-7	09	4C
32383	42383	1192	Current Channel 2 Harmonic-8	09	4E
32385	42385	1193	Current Channel 2 Harmonic-9	09	50
32387	42387	1194	Current Channel 2 Harmonic-10	09	52
32389	42389	1195	Current Channel 2 Harmonic-11	09	54
32391	42391	1196	Current Channel 2 Harmonic-12	09	56
32393	42393	1197	Current Channel 2 Harmonic-13	09	58
32395	42395	1198	Current Channel 2 Harmonic-14	09	5A
32397	42397	1199	Current Channel 2 Harmonic-15	09	5C
32399	42399	1200	Current Channel 2 Harmonic-16	09	5E

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32401	42401	1201	Current Channel 2 Harmonic-17	09	60
32403	42403	1202	Current Channel 2 Harmonic-18	09	62
32405	42405	1203	Current Channel 2 Harmonic-19	09	64
32407	42407	1204	Current Channel 2 Harmonic-20	09	66
32409	42409	1205	Current Channel 2 Harmonic-21	09	68
32411	42411	1206	Current Channel 2 Harmonic-22	09	6A
32413	42413	1207	Current Channel 2 Harmonic-23	09	6C
32415	42415	1208	Current Channel 2 Harmonic-24	09	6E
32417	42417	1209	Current Channel 2 Harmonic-25	09	70
32419	42419	1210	Current Channel 2 Harmonic-26	09	72
32421	42421	1211	Current Channel 2 Harmonic-27	09	74
32423	42423	1212	Current Channel 2 Harmonic-28	09	76
32425	42425	1213	Current Channel 2 Harmonic-29	09	78
32427	42427	1214	Current Channel 2 Harmonic-30	09	7A
32429	42429	1215	Current Channel 2 Harmonic-31	09	7C
32431	42431	1216	- - -	09	7E
32433	42433	1217	Current Channel 3 Harmonic-1	09	80
32435	42435	1218	Current Channel 3 Harmonic-2	09	82
32437	42437	1219	Current Channel 3 Harmonic-3	09	84
32439	42439	1220	Current Channel 3 Harmonic-4	09	86
32441	42441	1221	Current Channel 3 Harmonic-5	09	88
32443	42443	1222	Current Channel 3 Harmonic-6	09	8A
32445	42445	1223	Current Channel 3 Harmonic-7	09	8C
32447	42447	1224	Current Channel 3 Harmonic-8	09	8E
32449	42449	1225	Current Channel 3 Harmonic-9	09	90
32451	42451	1226	Current Channel 3 Harmonic-10	09	92
32453	42453	1227	Current Channel 3 Harmonic-11	09	94
32455	42455	1228	Current Channel 3 Harmonic-12	09	96
32457	42457	1229	Current Channel 3 Harmonic-13	09	98
32459	42459	1230	Current Channel 3 Harmonic-14	09	9A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32461	42461	1231	Current Channel 3 Harmonic-15	09	9C
32463	42463	1232	Current Channel 3 Harmonic-16	09	9E
32465	42465	1233	Current Channel 3 Harmonic-17	09	A0
32467	42467	1234	Current Channel 3 Harmonic-18	09	A2
32469	42469	1235	Current Channel 3 Harmonic-19	09	A4
32471	42471	1236	Current Channel 3 Harmonic-20	09	A6
32473	42473	1237	Current Channel 3 Harmonic-21	09	A8
32475	42475	1238	Current Channel 3 Harmonic-22	09	AA
32477	42477	1239	Current Channel 3 Harmonic-23	09	AC
32479	42479	1240	Current Channel 3 Harmonic-24	09	AE
32481	42481	1241	Current Channel 3 Harmonic-25	09	B0
32483	42483	1242	Current Channel 3 Harmonic-26	09	B2
32485	42485	1243	Current Channel 3 Harmonic-27	09	B4
32487	42487	1244	Current Channel 3 Harmonic-28	09	B6
32489	42489	1245	Current Channel 3 Harmonic-29	09	B8
32491	42491	1246	Current Channel 3 Harmonic-30	09	BA
32493	42493	1247	Current Channel 3 Harmonic-31	09	BC
32495	42495	1248	- - -	09	BE
32497	42497	1249	Current Channel 4 Harmonic-1	09	C0
32499	42499	1250	Current Channel 4 Harmonic-2	09	C2
32501	42501	1251	Current Channel 4 Harmonic-3	09	C4
32503	42503	1252	Current Channel 4 Harmonic-4	09	C6
32505	42505	1253	Current Channel 4 Harmonic-5	09	C8
32507	42507	1254	Current Channel 4 Harmonic-6	09	CA
32509	42509	1255	Current Channel 4 Harmonic-7	09	CC
32511	42511	1256	Current Channel 4 Harmonic-8	09	CE
32513	42513	1257	Current Channel 4 Harmonic-9	09	D0
32515	42515	1258	Current Channel 4 Harmonic-10	09	D2
32517	42517	1259	Current Channel 4 Harmonic-11	09	D4
32519	42519	1260	Current Channel 4 Harmonic-12	09	D6

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32521	42521	1261	Current Channel 4 Harmonic-13	09	D8
32523	42523	1262	Current Channel 4 Harmonic-14	09	DA
32525	42525	1263	Current Channel 4 Harmonic-15	09	DC
32527	42527	1264	Current Channel 4 Harmonic-16	09	DE
32529	42529	1265	Current Channel 4 Harmonic-17	09	E0
32531	42531	1266	Current Channel 4 Harmonic-18	09	E2
32533	42533	1267	Current Channel 4 Harmonic-19	09	E4
32535	42535	1268	Current Channel 4 Harmonic-20	09	E6
32537	42537	1269	Current Channel 4 Harmonic-21	09	E8
32539	42539	1270	Current Channel 4 Harmonic-22	09	EA
32541	42541	1271	Current Channel 4 Harmonic-23	09	EC
32543	42543	1272	Current Channel 4 Harmonic-24	09	EE
32545	42545	1273	Current Channel 4 Harmonic-25	09	F0
32547	42547	1274	Current Channel 4 Harmonic-26	09	F2
32549	42549	1275	Current Channel 4 Harmonic-27	09	F4
32551	42551	1276	Current Channel 4 Harmonic-28	09	F6
32553	42553	1277	Current Channel 4 Harmonic-29	09	F8
32555	42555	1278	Current Channel 4 Harmonic-30	09	FA
32557	42557	1279	Current Channel 4 Harmonic-31	09	FC
32559	42559	1280	- - -	09	FE
32561	42561	1281	Current Channel 5 Harmonic-1	0A	00
32563	42563	1282	Current Channel 5 Harmonic-2	0A	02
32565	42565	1283	Current Channel 5 Harmonic-3	0A	04
32567	42567	1284	Current Channel 5 Harmonic-4	0A	06
32569	42569	1285	Current Channel 5 Harmonic-5	0A	08
32571	42571	1286	Current Channel 5 Harmonic-6	0A	0A
32573	42573	1287	Current Channel 5 Harmonic-7	0A	0C
32575	42575	1288	Current Channel 5 Harmonic-8	0A	0E
32577	42577	1289	Current Channel 5 Harmonic-9	0A	10
32579	42579	1290	Current Channel 5 Harmonic-10	0A	12

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32581	42581	1291	Current Channel 5 Harmonic-11	0A	14
32583	42583	1292	Current Channel 5 Harmonic-12	0A	16
32585	42585	1293	Current Channel 5 Harmonic-13	0A	18
32587	42587	1294	Current Channel 5 Harmonic-14	0A	1A
32589	42589	1295	Current Channel 5 Harmonic-15	0A	1C
32591	42591	1296	Current Channel 5 Harmonic-16	0A	1E
32593	42593	1297	Current Channel 5 Harmonic-17	0A	20
32595	42595	1298	Current Channel 5 Harmonic-18	0A	22
32597	42597	1299	Current Channel 5 Harmonic-19	0A	24
32599	42599	1300	Current Channel 5 Harmonic-20	0A	26
32601	42601	1301	Current Channel 5 Harmonic-21	0A	28
32603	42603	1302	Current Channel 5 Harmonic-22	0A	2A
32605	42605	1303	Current Channel 5 Harmonic-23	0A	2C
32607	42607	1304	Current Channel 5 Harmonic-24	0A	2E
32609	42609	1305	Current Channel 5 Harmonic-25	0A	30
32611	42611	1306	Current Channel 5 Harmonic-26	0A	32
32613	42613	1307	Current Channel 5 Harmonic-27	0A	34
32615	42615	1308	Current Channel 5 Harmonic-28	0A	36
32617	42617	1309	Current Channel 5 Harmonic-29	0A	38
32619	42619	1310	Current Channel 5 Harmonic-30	0A	3A
32621	42621	1311	Current Channel 5 Harmonic-31	0A	3C
32623	42623	1312	- - -	0A	3E
32625	42625	1313	Current Channel 6 Harmonic-1	0A	40
32627	42627	1314	Current Channel 6 Harmonic-2	0A	42
32629	42629	1315	Current Channel 6 Harmonic-3	0A	44
32631	42631	1316	Current Channel 6 Harmonic-4	0A	46
32633	42633	1317	Current Channel 6 Harmonic-5	0A	48
32635	42635	1318	Current Channel 6 Harmonic-6	0A	4A
32637	42637	1319	Current Channel 6 Harmonic-7	0A	4C
32639	42639	1320	Current Channel 6 Harmonic-8	0A	4E

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32641	42641	1321	Current Channel 6 Harmonic-9	0A	50
32643	42643	1322	Current Channel 6 Harmonic-10	0A	52
32645	42645	1323	Current Channel 6 Harmonic-11	0A	54
32647	42647	1324	Current Channel 6 Harmonic-12	0A	56
32649	42649	1325	Current Channel 6 Harmonic-13	0A	58
32651	42651	1326	Current Channel 6 Harmonic-14	0A	5A
32653	42653	1227	Current Channel 6 Harmonic-15	0A	5C
32655	42655	1328	Current Channel 6 Harmonic-16	0A	5E
32657	42657	1329	Current Channel 6 Harmonic-17	0A	60
32659	42659	1330	Current Channel 6 Harmonic-18	0A	62
32661	42661	1331	Current Channel 6 Harmonic-19	0A	64
32663	42663	1332	Current Channel 6 Harmonic-20	0A	66
32665	42665	1333	Current Channel 6 Harmonic-21	0A	68
32667	42667	1334	Current Channel 6 Harmonic-22	0A	6A
32669	42669	1335	Current Channel 6 Harmonic-23	0A	6C
32671	42671	1336	Current Channel 6 Harmonic-24	0A	6E
32673	42673	1337	Current Channel 6 Harmonic-25	0A	70
32675	42675	1338	Current Channel 6 Harmonic-26	0A	72
32677	42677	1339	Current Channel 6 Harmonic-27	0A	74
32679	42679	1340	Current Channel 6 Harmonic-28	0A	76
32681	42681	1341	Current Channel 6 Harmonic-29	0A	78
32683	42683	1342	Current Channel 6 Harmonic-30	0A	7A
32685	42685	1343	Current Channel 6 Harmonic-31	0A	7C
32687	42687	1344	---	0A	7E
32689	42689	1345	Current Channel 7 Harmonic-1	0A	80
32691	42691	1346	Current Channel 7 Harmonic-2	0A	82
32693	42693	1347	Current Channel 7 Harmonic-3	0A	84
32695	42695	1348	Current Channel 7 Harmonic-4	0A	86
32697	42697	1349	Current Channel 7 Harmonic-5	0A	88
32699	42699	1350	Current Channel 7 Harmonic-6	0A	8A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32701	42701	1351	Current Channel 7 Harmonic-7	0A	8C
32703	42703	1352	Current Channel 7 Harmonic-8	0A	8E
32705	42705	1353	Current Channel 7 Harmonic-9	0A	90
32707	42707	1354	Current Channel 7 Harmonic-10	0A	92
32709	42709	1355	Current Channel 7 Harmonic-11	0A	94
32711	42711	1356	Current Channel 7 Harmonic-12	0A	96
32713	42713	1357	Current Channel 7 Harmonic-13	0A	98
32715	42715	1358	Current Channel 7 Harmonic-14	0A	9A
32717	42717	1359	Current Channel 7 Harmonic-15	0A	9C
32719	42719	1360	Current Channel 7 Harmonic-16	0A	9E
32721	42721	1361	Current Channel 7 Harmonic-17	0A	A0
32723	42723	1362	Current Channel 7 Harmonic-18	0A	A2
32725	42725	1363	Current Channel 7 Harmonic-19	0A	A4
32727	42727	1364	Current Channel 7 Harmonic-20	0A	A6
32729	42729	1365	Current Channel 7 Harmonic-21	0A	A8
32731	42731	1366	Current Channel 7 Harmonic-22	0A	AA
32733	42733	1367	Current Channel 7 Harmonic-23	0A	AC
32735	42735	1368	Current Channel 7 Harmonic-24	0A	AE
32737	42737	1369	Current Channel 7 Harmonic-25	0A	B0
32739	42739	1370	Current Channel 7 Harmonic-26	0A	B2
32741	42741	1371	Current Channel 7 Harmonic-27	0A	B4
32743	42743	1372	Current Channel 7 Harmonic-28	0A	B6
32745	42745	1373	Current Channel 7 Harmonic-29	0A	B8
32747	42747	1374	Current Channel 7 Harmonic-30	0A	BA
32749	42749	1375	Current Channel 7 Harmonic-31	0A	BC
32751	42751	1376	- - -	0A	BE
32753	42753	1377	Current Channel 8 Harmonic-1	0A	C0
32755	42755	1378	Current Channel 8 Harmonic-2	0A	C2
32757	42757	1379	Current Channel 8 Harmonic-3	0A	C4
32759	42759	1380	Current Channel 8 Harmonic-4	0A	C6

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32761	42761	1381	Current Channel 8 Harmonic-5	0A	C8
32763	42763	1382	Current Channel 8 Harmonic-6	0A	CA
32765	42765	1383	Current Channel 8 Harmonic-7	0A	CC
32767	42767	1384	Current Channel 8 Harmonic-8	0A	CE
32769	42769	1385	Current Channel 8 Harmonic-9	0A	D0
32771	42771	1386	Current Channel 8 Harmonic-10	0A	D2
32773	42773	1387	Current Channel 8 Harmonic-11	0A	D4
32775	42775	1388	Current Channel 8 Harmonic-12	0A	D6
32777	42777	1389	Current Channel 8 Harmonic-13	0A	D8
32779	42779	1390	Current Channel 8 Harmonic-14	0A	DA
32781	42781	1391	Current Channel 8 Harmonic-15	0A	DC
32783	42783	1392	Current Channel 8 Harmonic-16	0A	DE
32785	42785	1393	Current Channel 8 Harmonic-17	0A	E0
32787	42787	1394	Current Channel 8 Harmonic-18	0A	E2
32789	42789	1395	Current Channel 8 Harmonic-19	0A	E4
32791	42791	1396	Current Channel 8 Harmonic-20	0A	E6
32793	42793	1397	Current Channel 8 Harmonic-21	0A	E8
32795	42795	1398	Current Channel 8 Harmonic-22	0A	EA
32797	42797	1399	Current Channel 8 Harmonic-23	0A	EC
32799	42799	1400	Current Channel 8 Harmonic-24	0A	EE
32801	42801	1401	Current Channel 8 Harmonic-25	0A	F0
32803	42803	1402	Current Channel 8 Harmonic-26	0A	F2
32805	42805	1403	Current Channel 8 Harmonic-27	0A	F4
32807	42807	1404	Current Channel 8 Harmonic-28	0A	F6
32809	42809	1405	Current Channel 8 Harmonic-29	0A	F8
32811	42811	1406	Current Channel 8 Harmonic-30	0A	FA
32813	42813	1407	Current Channel 8 Harmonic-31	0A	FC
32815	42815	1408	- - -	0A	FE
32817	42817	1409	Current Channel 9 Harmonic-1	0B	00
32819	42819	1410	Current Channel 9 Harmonic-2	0B	02

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32821	42821	1411	Current Channel 9 Harmonic-3	0B	04
32823	42823	1412	Current Channel 9 Harmonic-4	0B	06
32825	42825	1413	Current Channel 9 Harmonic-5	0B	08
32827	42827	1414	Current Channel 9 Harmonic-6	0B	0A
32829	42829	1415	Current Channel 9 Harmonic-7	0B	0C
32831	42831	1416	Current Channel 9 Harmonic-8	0B	0E
32833	42833	1417	Current Channel 9 Harmonic-9	0B	10
32835	42835	1418	Current Channel 9 Harmonic-10	0B	12
32837	42837	1419	Current Channel 9 Harmonic-11	0B	14
32839	42839	1420	Current Channel 9 Harmonic-12	0B	16
32841	42841	1421	Current Channel 9 Harmonic-13	0B	18
32843	42843	1422	Current Channel 9 Harmonic-14	0B	1A
32845	42845	1423	Current Channel 9 Harmonic-15	0B	1C
32847	42847	1424	Current Channel 9 Harmonic-16	0B	1E
32849	42849	1425	Current Channel 9 Harmonic-17	0B	20
32851	42851	1426	Current Channel 9 Harmonic-18	0B	22
32853	42853	1427	Current Channel 9 Harmonic-19	0B	24
32855	42855	1428	Current Channel 9 Harmonic-20	0B	26
32857	42857	1429	Current Channel 9 Harmonic-21	0B	2A
32859	42859	1430	Current Channel 9 Harmonic-22	0B	2B
32861	42861	1431	Current Channel 9 Harmonic-23	0B	2C
32863	42863	1432	Current Channel 9 Harmonic-24	0B	2E
32865	42865	1433	Current Channel 9 Harmonic-25	0B	30
32867	42867	1434	Current Channel 9 Harmonic-26	0B	32
32869	42869	1435	Current Channel 9 Harmonic-27	0B	34
32871	42871	1436	Current Channel 9 Harmonic-28	0B	36
32873	42873	1437	Current Channel 9 Harmonic-29	0B	38
32875	42875	1438	Current Channel 9 Harmonic-30	0B	3A
32877	42877	1439	Current Channel 9 Harmonic-31	0B	3C
32879	42879	1440	- - -	0B	3E

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32881	42881	1441	Current Channel 10 Harmonic-1	0B	40
32883	42883	1442	Current Channel 10 Harmonic-2	0B	42
32885	42885	1443	Current Channel 10 Harmonic-3	0B	44
32887	42887	1444	Current Channel 10 Harmonic-4	0B	46
32889	42889	1445	Current Channel 10 Harmonic-5	0B	48
32891	42891	1446	Current Channel 10 Harmonic-6	0B	4A
32893	42893	1447	Current Channel 10 Harmonic-7	0B	4C
32895	42895	1448	Current Channel 10 Harmonic-8	0B	4E
32897	42897	1449	Current Channel 10 Harmonic-9	0B	50
32899	42899	1450	Current Channel 10 Harmonic-10	0B	52
32901	42901	1451	Current Channel 10 Harmonic-11	0B	54
32903	42903	1452	Current Channel 10 Harmonic-12	0B	56
32905	42905	1453	Current Channel 10 Harmonic-13	0B	58
32907	42907	1454	Current Channel 10 Harmonic-14	0B	5A
32909	42909	1455	Current Channel 10 Harmonic-15	0B	5C
32911	42911	1456	Current Channel 10 Harmonic-16	0B	5E
32913	42913	1457	Current Channel 10 Harmonic-17	0B	60
32915	42915	1458	Current Channel 10 Harmonic-18	0B	62
32917	42917	1459	Current Channel 10 Harmonic-19	0B	64
32919	42919	1460	Current Channel 10 Harmonic-20	0B	66
32921	42921	1461	Current Channel 10 Harmonic-21	0B	68
32923	42923	1462	Current Channel 10 Harmonic-22	0B	6A
32925	42925	1463	Current Channel 10 Harmonic-23	0B	6C
32927	42927	1464	Current Channel 10 Harmonic-24	0B	6E
32929	42929	1465	Current Channel 10 Harmonic-25	0B	70
32931	42931	1466	Current Channel 10 Harmonic-26	0B	72
32933	42933	1467	Current Channel 10 Harmonic-27	0B	74
32935	42935	1468	Current Channel 10 Harmonic-28	0B	76
32937	42937	1469	Current Channel 10 Harmonic-29	0B	78
32939	42939	1470	Current Channel 10 Harmonic-30	0B	7A

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
32941	42941	1471	Current Channel 10 Harmonic-31	0B	7C
32943	42943	1472	- - -	0B	7E
32945	42945	1473	Current Channel 11 Harmonic-1	0B	80
32947	42947	1474	Current Channel 11 Harmonic-2	0B	82
32949	42949	1475	Current Channel 11 Harmonic-3	0B	84
32951	42951	1476	Current Channel 11 Harmonic-4	0B	86
32953	42953	1477	Current Channel 11 Harmonic-5	0B	88
32955	42955	1478	Current Channel 11 Harmonic-6	0B	8A
32957	42957	1479	Current Channel 11 Harmonic-7	0B	8C
32959	42959	1480	Current Channel 11 Harmonic-8	0B	8E
32961	42961	1481	Current Channel 11 Harmonic-9	0B	90
32963	42963	1482	Current Channel 11 Harmonic-10	0B	92
32965	42965	1483	Current Channel 11 Harmonic-11	0B	94
32967	42967	1484	Current Channel 11 Harmonic-12	0B	96
32969	42969	1485	Current Channel 11 Harmonic-13	0B	98
32971	42971	1486	Current Channel 11 Harmonic-14	0B	9A
32973	42973	1487	Current Channel 11 Harmonic-15	0B	9C
32975	42975	1488	Current Channel 11 Harmonic-16	0B	9E
32977	42977	1489	Current Channel 11 Harmonic-17	0B	A0
32979	42979	1490	Current Channel 11 Harmonic-18	0B	A2
32981	42981	1491	Current Channel 11 Harmonic-19	0B	A4
32983	42983	1492	Current Channel 11 Harmonic-20	0B	A6
32985	42985	1493	Current Channel 11 Harmonic-21	0B	A8
32987	42987	1494	Current Channel 11 Harmonic-22	0B	AA
32989	42989	1495	Current Channel 11 Harmonic-23	0B	AC
32991	42991	1496	Current Channel 11 Harmonic-24	0B	AE
32993	42993	1497	Current Channel 11 Harmonic-25	0B	B0
32995	42995	1498	Current Channel 11 Harmonic-26	0B	B2
32997	42997	1499	Current Channel 11 Harmonic-27	0B	B4
32999	42999	1500	Current Channel 11 Harmonic-28	0B	B6

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33001	43001	1501	Current Channel 11 Harmonic-29	0B	B8
33003	43003	1502	Current Channel 11 Harmonic-30	0B	BA
33005	43005	1503	Current Channel 11 Harmonic-31	0B	BC
33007	43007	1504	- - -	0B	BE
33009	43009	1505	Current Channel 12 Harmonic-1	0B	C0
33011	43011	1506	Current Channel 12 Harmonic-2	0B	C2
33013	43013	1507	Current Channel 12 Harmonic-3	0B	C4
33015	43015	1508	Current Channel 12 Harmonic-4	0B	C6
33017	43017	1509	Current Channel 12 Harmonic-5	0B	C8
33019	43019	1510	Current Channel 12 Harmonic-6	0B	CA
33021	43021	1511	Current Channel 12 Harmonic-7	0B	CC
33023	43023	1512	Current Channel 12 Harmonic-8	0B	CE
33025	43025	1513	Current Channel 12 Harmonic-9	0B	D0
33027	43027	1514	Current Channel 12 Harmonic-10	0B	D2
33029	43029	1515	Current Channel 12 Harmonic-11	0B	D4
33031	43031	1516	Current Channel 12 Harmonic-12	0B	D6
33033	43033	1517	Current Channel 12 Harmonic-13	0B	D8
33035	43035	1518	Current Channel 12 Harmonic-14	0B	DA
33037	43037	1519	Current Channel 12 Harmonic-15	0B	DC
33039	43039	1520	Current Channel 12 Harmonic-16	0B	DE
33041	43041	1521	Current Channel 12 Harmonic-17	0B	E0
33043	43043	1522	Current Channel 12 Harmonic-18	0B	E2
33045	43045	1523	Current Channel 12 Harmonic-19	0B	E4
33047	43047	1524	Current Channel 12 Harmonic-20	0B	E6
33049	43049	1525	Current Channel 12 Harmonic-21	0B	E8
33051	43051	1526	Current Channel 12 Harmonic-22	0B	EA
33053	43053	1527	Current Channel 12 Harmonic-23	0B	EC
33055	43055	1528	Current Channel 12 Harmonic-24	0B	EE
33057	43057	1529	Current Channel 12 Harmonic-25	0B	F0
33059	43059	1530	Current Channel 12 Harmonic-26	0B	F2

TABLE 1 : Continued...

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33061	43061	1531	Current Channel 12 Harmonic-27	0B	F4
33063	43063	1532	Current Channel 12 Harmonic-28	0B	F6
33065	43065	1533	Current Channel 12 Harmonic-29	0B	F8
33067	43067	1534	Current Channel 12 Harmonic-30	0B	FA
33069	43069	1535	Current Channel 12 Harmonic-31	0B	FC
33071	43071	1536	- - -	0B	FE

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33101	44101	1	Wh Import Channel 1	0C	1C
33103	44103	2	Wh Import Channel 2	0C	1E
33105	44105	3	Wh Import Channel 3	0C	20
33107	44107	4	Wh Import Channel 4	0C	22
33109	44109	5	Wh Import Channel 5	0C	24
33111	44111	6	Wh Import Channel 6	0C	26
33113	44113	7	Wh Import Channel 7	0C	28
33115	44115	8	Wh Import Channel 8	0C	2A
33117	44117	9	Wh Import Channel 9	0C	2C
33119	44119	10	Wh Import Channel 10	0C	2E
33121	44121	11	Wh Import Channel 11	0C	30
33123	44123	12	Wh Import Channel 12	0C	32
33125	44125	13	Wh Export Channel 1	0C	34
33127	44127	14	Wh Export Channel 2	0C	36
33129	44129	15	Wh Export Channel 3	0C	38
33131	44131	16	Wh Export Channel 4	0C	3A
33133	44133	17	Wh Export Channel 5	0C	3C
33135	44135	18	Wh Export Channel 6	0C	3E
33137	44137	19	Wh Export Channel 7	0C	40
33139	44139	20	Wh Export Channel 8	0C	42
33141	44141	21	Wh Export Channel 9	0C	44
33143	44143	22	Wh Export Channel 10	0C	46
33145	44145	23	Wh Export Channel 11	0C	48
33147	44147	24	Wh Export Channel 12	0C	4A
33149	44149	25	VARh Capacitive Channel 1	0C	4C
33151	44151	26	VARh Capacitive Channel 2	0C	4E
33153	44153	27	VARh Capacitive Channel 3	0C	50
33155	44155	28	VARh Capacitive Channel 4	0C	52
33157	44157	29	VARh Capacitive Channel 5	0C	54
33159	44159	30	VARh Capacitive Channel 6	0C	56

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33161	44161	31	VARh Capacitive Channel 7	0C	58
33163	44163	32	VARh Capacitive Channel 8	0C	5A
33165	44165	33	VARh Capacitive Channel 9	0C	5C
33167	44167	34	VARh Capacitive Channel 10	0C	5E
33169	44169	35	VARh Capacitive Channel 11	0C	60
33171	44171	36	VARh Capacitive Channel 12	0C	62
33173	44173	37	VARh Inductive Channel 1	0C	64
33175	44175	38	VARh Inductive Channel 2	0C	66
33177	44177	39	VARh Inductive Channel 3	0C	68
33179	44179	40	VARh Inductive Channel 4	0C	6A
33181	44181	41	VARh Inductive Channel 5	0C	6C
33183	44183	42	VARh Inductive Channel 6	0C	6E
33185	44185	43	VARh Inductive Channel 7	0C	70
33187	44187	44	VARh Inductive Channel 8	0C	72
33189	44189	45	VARh Inductive Channel 9	0C	74
33191	44191	46	VARh Inductive Channel 10	0C	76
33193	44193	47	VARh Inductive Channel 11	0C	78
33195	44195	48	VARh Inductive Channel 12	0C	7A
33197	44197	49	VAh Channel 1	0C	7C
33199	44199	50	VAh Channel 2	0C	7E
33201	44201	51	VAh Channel 3	0C	80
33203	44203	52	VAh Channel 4	0C	82
33205	44205	53	VAh Channel 5	0C	84
33207	44207	54	VAh Channel 6	0C	86
33209	44209	55	VAh Channel 7	0C	88
33211	44211	56	VAh Channel 8	0C	8A
33213	44213	57	VAh Channel 9	0C	8C
33215	44215	58	VAh Channel 10	0C	8E
33217	44217	59	VAh Channel 11	0C	90
33219	44219	60	VAh Channel 12	0C	92

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33221	44221	61	Wh Import Overflow count Channel 1	0C	94
33223	44223	62	Wh Import Overflow count Channel 2	0C	96
33225	44225	63	Wh Import Overflow count Channel 3	0C	98
33227	44227	64	Wh Import Overflow count Channel 4	0C	9A
33229	44229	65	Wh Import Overflow count Channel 5	0C	9C
33231	44231	66	Wh Import Overflow count Channel 6	0C	9E
33233	44233	67	Wh Import Overflow count Channel 7	0C	A0
33235	44235	68	Wh Import Overflow count Channel 8	0C	A2
33237	44237	69	Wh Import Overflow count Channel 9	0C	A4
33239	44239	70	Wh Import Overflow count Channel 10	0C	A6
33241	44241	71	Wh Import Overflow count Channel 11	0C	A8
33243	44243	72	Wh Import Overflow count Channel 12	0C	AA
33245	44245	73	Wh Export Overflow count Channel 1	0C	AC
33247	44247	74	Wh Export Overflow count Channel 2	0C	AE
33249	44249	75	Wh Export Overflow count Channel 3	0C	B0
33251	44251	76	Wh Export Overflow count Channel 4	0C	B2
33253	44253	77	Wh Export Overflow count Channel 5	0C	B4
33255	44255	78	Wh Export Overflow count Channel 6	0C	B6
33257	44257	79	Wh Export Overflow count Channel 7	0C	B8
33259	44259	80	Wh Export Overflow count Channel 8	0C	BA
33261	44261	81	Wh Export Overflow count Channel 9	0C	BC
33263	44263	82	Wh Export Overflow count Channel 10	0C	BE
33265	44265	83	Wh Export Overflow count Channel 11	0C	C0
33267	44267	84	Wh Export Overflow count Channel 12	0C	C2
33269	44269	85	VARh Capacitive Overflow count Channel 1	0C	C4
33271	44271	86	VARh Capacitive Overflow count Channel 2	0C	C6
33273	44273	87	VARh Capacitive Overflow count Channel 3	0C	C8
33275	44275	88	VARh Capacitive Overflow count Channel 4	0C	CA
33277	44277	89	VARh Capacitive Overflow count Channel 5	0C	CC
33279	44279	90	VARh Capacitive Overflow count Channel 6	0C	CE

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33281	44281	91	VARh Capacitive Overflow count Channel 7	0C	D0
33283	44283	92	VARh Capacitive Overflow count Channel 8	0C	D2
33285	44285	93	VARh Capacitive Overflow count Channel 9	0C	D4
33287	44287	94	VARh Capacitive Overflow count Channel 10	0C	D6
33289	44289	95	VARh Capacitive Overflow count Channel 11	0C	D8
33291	44291	96	VARh Capacitive Overflow count Channel 12	0C	DA
33293	44293	97	VARh Inductive Overflow count Channel 1	0C	DC
33295	44295	98	VARh Inductive Overflow count Channel 2	0C	DE
33297	44297	99	VARh Inductive Overflow count Channel 3	0C	E0
33299	44299	100	VARh Inductive Overflow count Channel 4	0C	E2
33301	44301	101	VARh Inductive Overflow count Channel 5	0C	E4
33303	44303	102	VARh Inductive Overflow count Channel 6	0C	E6
33305	44305	103	VARh Inductive Overflow count Channel 7	0C	E8
33307	44307	104	VARh Inductive Overflow count Channel 8	0C	EA
33309	44309	105	VARh Inductive Overflow count Channel 9	0C	EC
33311	44311	106	VARh Inductive Overflow count Channel 10	0C	EE
33313	44313	107	VARh Inductive Overflow count Channel 11	0C	F0
33315	44315	108	VARh Inductive Overflow count Channel 12	0C	F2
33317	44317	109	VAh Overflow count Channel 1	0C	F4
33319	44319	110	VAh Overflow count Channel 2	0C	F6
33321	44321	111	VAh Overflow count Channel 3	0C	F8
33323	44323	112	VAh Overflow count Channel 4	0C	FA
33325	44325	113	VAh Overflow count Channel 5	0C	FC
33327	44327	114	VAh Overflow count Channel 6	0C	FE
33329	44329	115	VAh Overflow count Channel 7	0D	00
33331	44331	116	VAh Overflow count Channel 8	0D	02
33333	44333	117	VAh Overflow count Channel 9	0D	04
33335	44335	118	VAh Overflow count Channel 10	0D	06
33337	44337	119	VAh Overflow count Channel 11	0D	08
33339	44339	120	VAh Overflow count Channel 12	0D	0A

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33341	44341	121	Wh Import on update rate Channel 1*	0D	0C
33343	44343	122	Wh Import on update rate Channel 2*	0D	0E
33345	44345	123	Wh Import on update rate Channel 3*	0D	10
33347	44347	124	Wh Import on update rate Channel 4*	0D	12
33349	44349	125	Wh Import on update rate Channel 5*	0D	14
33351	44351	126	Wh Import on update rate Channel 6*	0D	16
33353	44353	127	Wh Import on update rate Channel 7*	0D	18
33355	44355	128	Wh Import on update rate Channel 8*	0D	1A
33357	44357	129	Wh Import on update rate Channel 9*	0D	1C
33359	44359	130	Wh Import on update rate Channel 10*	0D	1E
33361	44361	131	Wh Import on update rate Channel 11*	0D	20
33363	44363	132	Wh Import on update rate Channel 12*	0D	22
33365	44365	133	Wh Export on update rate Channel 1*	0D	24
33367	44367	134	Wh Export on update rate Channel 2*	0D	26
33369	44369	135	Wh Export on update rate Channel 3*	0D	28
33371	44371	136	Wh Export on update rate Channel 4*	0D	2A
33373	44373	137	Wh Export on update rate Channel 5*	0D	2C
33375	44375	138	Wh Export on update rate Channel 6*	0D	2E
33377	44377	139	Wh Export on update rate Channel 7*	0D	30
33379	44379	140	Wh Export on update rate Channel 8*	0D	32
33381	44381	141	Wh Export on update rate Channel 9*	0D	34
33383	44383	142	Wh Export on update rate Channel 10*	0D	36
33385	44385	143	Wh Export on update rate Channel 11*	0D	38
33387	44387	144	Wh Export on update rate Channel 12*	0D	3A
33389	44389	145	VARh Capacitive on update rate Channel 1*	0D	3C
33391	44391	146	VARh Capacitive on update rate Channel 2*	0D	3E
33393	44393	147	VARh Capacitive on update rate Channel 3*	0D	40
33395	44395	148	VARh Capacitive on update rate Channel 4*	0D	42
33397	44397	149	VARh Capacitive on update rate Channel 5*	0D	44
33399	44399	150	VARh Capacitive on update rate Channel 6*	0D	46

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33401	44401	151	Varh Capacitive on update rate Channel 7*	0D	48
33403	44403	152	VARh Capacitive on update rate Channel 8*	0D	4A
33405	44405	153	VARh Capacitive on update rate Channel 9*	0D	4C
33407	44407	154	VARh Capacitive on update rate Channel 10*	0D	4E
33409	44409	155	VARh Capacitive on update rate Channel 11*	0D	50
33411	44411	156	VARh Capacitive on update rate Channel 12*	0D	52
33413	44413	157	VARh Inductive on update rate Channel 1*	0D	54
33415	44415	158	VARh Inductive on update rate Channel 2*	0D	56
33417	44417	159	VARh Inductive on update rate Channel 3*	0D	58
33419	44419	160	VARh Inductive on update rate Channel 4*	0D	5A
33421	44421	161	VARh Inductive on update rate Channel 5*	0D	5C
33423	44423	162	VARh Inductive on update rate Channel 6*	0D	5E
33425	44425	163	VARh Inductive on update rate Channel 7*	0D	60
33427	44427	164	VARh Inductive on update rate Channel 8*	0D	62
33429	44429	165	VARh Inductive on update rate Channel 9*	0D	64
33431	44431	166	VARh Inductive on update rate Channel 10*	0D	66
33433	44433	167	VARh Inductive on update rate Channel 11*	0D	68
33435	44435	168	VARh Inductive on update rate Channel 12*	0D	6A
33437	44437	169	VAh on update rate Channel 1*	0D	6C
33439	44439	170	VAh on update rate Channel 2*	0D	6E
33441	44441	171	VAh on update rate Channel 3*	0D	70
33443	44443	172	VAh on update rate Channel 4*	0D	72
33445	44445	173	VAh on update rate Channel 5*	0D	74
33447	44447	174	VAh on update rate Channel 6*	0D	76
33449	44449	175	VAh on update rate Channel 7*	0D	78
33451	44451	176	VAh on update rate Channel 8*	0D	7A
33453	44453	177	VAh on update rate Channel 9*	0D	7C
33455	44455	178	VAh on update rate Channel 10*	0D	7E
33457	44457	179	VAh on update rate Channel 11*	0D	80
33459	44459	180	VAh on update rate Channel 12*	0D	82

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33461	44461	181	Wh Import overflow count on update rate Channel 1*	0D	84
33463	44463	182	Wh Import overflow count on update rate Channel 2*	0D	86
33465	44465	183	Wh Import overflow count on update rate Channel 3*	0D	88
33467	44467	184	Wh Import overflow count on update rate Channel 4*	0D	8A
33469	44469	185	Wh Import overflow count on update rate Channel 5*	0D	8C
33471	44471	186	Wh Import overflow count on update rate Channel 6*	0D	8E
33473	44473	187	Wh Import overflow count on update rate Channel 7*	0D	90
33475	44475	188	Wh Import overflow count on update rate Channel 8*	0D	92
33477	44477	189	Wh Import overflow count on update rate Channel 9*	0D	94
33479	44479	190	Wh Import overflow count on update rate Channel 10*	0D	96
33481	44481	191	Wh Import overflow count on update rate Channel 11*	0D	98
33483	44483	192	Wh Import overflow count on update rate Channel 12*	0D	9A
33485	44485	193	Wh Export overflow count on update rate Channel 1*	0D	9C
33487	44487	194	Wh Export overflow count on update rate Channel 2*	0D	9E
33489	44489	195	Wh Export overflow count on update rate Channel 3*	0D	A0
33491	44491	196	Wh Export overflow count on update rate Channel 4*	0D	A2
33493	44493	197	Wh Export overflow count on update rate Channel 5*	0D	A4
33495	44495	198	Wh Export overflow count on update rate Channel 6*	0D	A6
33497	44497	199	Wh Export overflow count on update rate Channel 7*	0D	A8
33499	44499	200	Wh Export overflow count on update rate Channel 8*	0D	AA
33501	44501	201	Wh Export overflow count on update rate Channel 9*	0D	AC
33503	44503	202	Wh Export overflow count on update rate Channel 10*	0D	AE
33505	44505	203	Wh Export overflow count on update rate Channel 11*	0D	B0
33507	44507	204	Wh Export overflow count on update rate Channel 12*	0D	B2
33509	44509	205	VARh Capacitive overflow count on update rate Channel 1*	0D	B4
33511	44511	206	VARh Capacitive overflow count on update rate Channel 2*	0D	B6
33513	44513	207	VARh Capacitive overflow count on update rate Channel 3*	0D	B8
33515	44515	208	VARh Capacitive overflow count on update rate Channel 4*	0D	BA
33517	44517	209	VARh Capacitive overflow count on update rate Channel 5*	0D	BC
33519	44519	210	VARh Capacitive overflow count on update rate Channel 6*	0D	BE

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33521	44521	211	Varh Capacitive overflow count on update rate Channel 7*	0D	C0
33523	44523	212	Varh Capacitive overflow count on update rate Channel 8*	0D	C2
33525	44525	213	Varh Capacitive overflow count on update rate Channel 9*	0D	C4
33527	44527	214	Varh Capacitive overflow count on update rate Channel 10*	0D	C6
33529	44529	215	Varh Capacitive overflow count on update rate Channel 11*	0D	C8
33531	44531	216	Varh Capacitive overflow count on update rate Channel 12*	0D	CA
33533	44533	217	Varh Inductive overflow count on update rate Channel 1*	0D	CC
33535	44535	218	Varh Inductive overflow count on update rate Channel 2*	0D	CE
33537	44537	219	Varh Inductive overflow count on update rate Channel 3*	0D	D0
33539	44539	220	Varh Inductive overflow count on update rate Channel 4*	0D	D2
33541	44541	221	Varh Inductive overflow count on update rate Channel 5*	0D	D4
33543	44543	222	Varh Inductive overflow count on update rate Channel 6*	0D	D6
33545	44545	223	Varh Inductive overflow count on update rate Channel 7*	0D	D8
33547	44547	224	Varh Inductive overflow count on update rate Channel 8*	0D	DA
33549	44549	225	Varh Inductive overflow count on update rate Channel 9*	0D	DC
33551	44551	226	Varh Inductive overflow count on update rate Channel 10*	0D	DE
33553	44553	227	Varh Inductive overflow count on update rate Channel 11*	0D	E0
33555	44555	228	Varh Inductive overflow count on update rate Channel 12*	0D	E2
33557	44557	229	VAh overflow count on update rate Channel 1*	0D	E4
33559	44559	230	VAh overflow count on update rate Channel 2*	0D	E6
33561	44561	231	VAh overflow count on update rate Channel 3*	0D	E8
33563	44563	232	VAh overflow count on update rate Channel 4*	0D	EA
33565	44565	233	VAh overflow count on update rate Channel 5*	0D	EC
33567	44567	234	VAh overflow count on update rate Channel 6*	0D	EE
33569	44569	235	VAh overflow count on update rate Channel 7*	0D	F0
33571	44571	236	VAh overflow count on update rate Channel 8*	0D	F2
33573	44573	237	VAh overflow count on update rate Channel 9*	0D	F4
33575	44575	238	VAh overflow count on update rate Channel 10*	0D	F6
33577	44577	239	VAh overflow count on update rate Channel 11*	0D	F8
33579	44579	240	VAh overflow count on update rate Channel 12*	0D	FA

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33581	44581	241	Run hour Channel 1	0D	FC
33583	44583	242	Run hour Channel 2	0D	FE
33585	44585	243	Run hour Channel 3	0E	00
33587	44587	244	Run hour Channel 4	0E	02
33589	44589	245	Run hour Channel 5	0E	04
33591	44591	246	Run hour Channel 6	0E	06
33593	44593	247	Run hour Channel 7	0E	08
33595	44595	248	Run hour Channel 8	0E	0A
33597	44597	249	Run hour Channel 9	0E	0C
33599	44599	250	Run hour Channel 10	0E	0E
33601	44601	251	Run hour Channel 11	0E	10
33603	44603	252	Run hour Channel 12	0E	12
33605	44605	253	Wh Import System 1	0E	14
33607	44607	254	Wh Import System 2	0E	16
33609	44609	255	Wh Import System 3	0E	18
33611	44611	256	Wh Import System 4	0E	1A
33613	44613	257	Wh Export System 1	0E	1C
33615	44615	258	Wh Export System 2	0E	1E
33617	44617	259	Wh Export System 3	0E	20
33619	44619	260	Wh Export System 4	0E	22
33621	44621	261	VArh Capacitive System 1	0E	24
33623	44623	262	VArh Capacitive System 2	0E	26
33625	44625	263	VArh Capacitive System 3	0E	28
33627	44627	264	VArh Capacitive System 4	0E	2A
33629	44629	265	VArh Inductive System 1	0E	2C
33631	44631	266	VArh Inductive System 2	0E	2E
33633	44633	267	VArh Inductive System 3	0E	30
33635	44635	268	VArh Inductive System 4	0E	32
33637	44637	269	VAh System 1	0E	34
33639	44639	270	VAh System 2	0E	36

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33641	44641	271	VAh System 3	0E	38
33643	44643	272	VAh System 4	0E	3A
33645	44645	273	Wh Import overflow count System 1	0E	3C
33647	44647	274	Wh Import overflow count System 2	0E	3E
33649	44649	275	Wh Import overflow count System 3	0E	40
33651	44651	276	Wh Import overflow count System 4	0E	42
33653	44653	277	Wh Export overflow count System 1	0E	44
33655	44655	278	Wh Export overflow count System 2	0E	46
33657	44657	279	Wh Export overflow count System 3	0E	48
33659	44659	280	Wh Export overflow count System 4	0E	4A
33661	44661	281	VArh Capacitive overflow count System 1	0E	4C
33663	44663	282	VArh Capacitive overflow count System 2	0E	4E
33665	44665	283	VArh Capacitive overflow count System 3	0E	50
33667	44667	284	VArh Capacitive overflow count System 4	0E	52
33669	44669	285	VArh Inductive overflow count System 1	0E	54
33671	44671	286	VArh Inductive overflow count System 2	0E	56
33673	44673	287	VArh Inductive overflow count System 3	0E	58
33675	44675	288	VArh Inductive overflow count System 4	0E	5A
33677	44677	289	VAh overflow count System 1	0E	5C
33679	44679	290	VAh overflow count System 2	0E	5E
33681	44681	291	VAh overflow count System 3	0E	60
33683	44683	292	VAh overflow count System 4	0E	62
33685	44685	293	Wh Import on update rate System 1*	0E	64
33687	44687	294	Wh Import on update rate System 2*	0E	66
33689	44689	295	Wh Import on update rate System 3*	0E	68
33691	44691	296	Wh Import on update rate System 4*	0E	6A
33693	44693	297	Wh Export on update rate System 1*	0E	6C
33695	44695	298	Wh Export on update rate System 2*	0E	6E
33697	44697	299	Wh Export on update rate System 3*	0E	70
33699	44699	300	Wh Export on update rate System 4*	0E	72

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33701	44701	301	VARh Capacitive on update rate System 1*	0E	74
33703	44703	302	VARh Capacitive on update rate System 2*	0E	76
33705	44705	303	VARh Capacitive on update rate System 3*	0E	78
33707	44707	304	VARh Capacitive on update rate System 4*	0E	7A
33709	44709	305	VARh Inductive on update rate System 1*	0E	7C
33711	44711	306	VARh Inductive on update rate System 2*	0E	7E
33713	44713	307	VARh Inductive on update rate System 3*	0E	80
33715	44715	308	VARh Inductive on update rate System 4*	0E	82
33717	44717	309	VAh on update rate System 1*	0E	84
33719	44719	310	VAh on update rate System 2*	0E	86
33721	44721	311	VAh on update rate System 3*	0E	88
33723	44723	312	VAh on update rate System 4*	0E	8A
33725	44725	313	Wh Import overflow count on update rate System 1*	0E	8C
33727	44727	314	Wh Import overflow count on update rate System 2*	0E	8E
33729	44729	315	Wh Import overflow count on update rate System 3*	0E	90
33731	44731	316	Wh Import overflow count on update rate System 4*	0E	92
33733	44733	317	Wh Export overflow count on update rate System 1*	0E	94
33735	44735	318	Wh Export overflow count on update rate System 2*	0E	96
33737	44737	319	Wh Export overflow count on update rate System 3*	0E	98
33739	44739	320	Wh Export overflow count on update rate System 4*	0E	9A
33741	44741	321	VARh Capacitive overflow count on update rate System 1*	0E	9C
33743	44743	322	VARh Capacitive overflow count on update rate System 2*	0E	9E
33745	44745	323	VARh Capacitive overflow count on update rate System 3*	0E	A0
33747	44747	324	VARh Capacitive overflow count on update rate System 4*	0E	A2
33749	44749	325	VARh Inductive overflow count on update rate System 1*	0E	A4
33751	44751	326	VARh Inductive overflow count on update rate System 2*	0E	A6
33753	44753	327	VARh Inductive overflow count on update rate System 3*	0E	A8
33755	44755	328	VARh Inductive overflow count on update rate System 4*	0E	AA
33757	44757	329	VAh overflow count on update rate System 1*	0E	AC
33759	44759	330	VAh overflow count on update rate System 2*	0E	AE

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33761	44761	331	Vah overflow count on update rate System 3*	0E	B0
33763	44763	332	VAh overflow count on update rate System 4*	0E	B2
33765	44765	333	Run hour System 1	0E	B4
33767	44767	334	Run hour System 2	0E	B6
33769	44769	335	Run hour System 3	0E	B8
33771	44771	336	Run hour System 4	0E	BA
33773	44773	337	Instrument ON Hour	0E	BC
33775	44775	338	Instrument No of Interruption	0E	BE
33777	44777	339	Total System Wh Import sum	0E	C0
33779	44779	340	Total System Wh Export sum	0E	C2
33781	44781	341	Total System VARh Capacitive sum	0E	C4
33783	44783	342	Total System VARh Inductive sum	0E	C6
33785	44785	343	Total System VAh sum	0E	C8
33787	44787	344	Total System Wh Import overflow count	0E	CA
33789	44789	345	Total System Wh Export overflow count	0E	CC
33791	44791	346	Total System VARh Capacitive overflow count	0E	CE
33793	44793	347	Total System VARh Inductive overflow count	0E	D0
33795	44795	348	Total System VAh overflow count	0E	D2
33797	44797	349	Daily Wh Import Channel 1	0E	D4
33799	44799	350	Daily Wh Import Channel 2	0E	D6
33801	44801	351	Daily Wh Import Channel 3	0E	D8
33803	44803	352	Daily Wh Import Channel 4	0E	DA
33805	44805	353	Daily Wh Import Channel 5	0E	DC
33807	44807	354	Daily Wh Import Channel 6	0E	DE
33809	44809	355	Daily Wh Import Channel 7	0E	E0
33811	44811	356	Daily Wh Import Channel 8	0E	E2
33813	44813	357	Daily Wh Import Channel 9	0E	E4
33815	44815	358	Daily Wh Import Channel 10	0E	E6
33817	44817	359	Daily Wh Import Channel 11	0E	E8
33819	44819	360	Daily Wh Import Channel 12	0E	EA

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33821	44821	361	Daily Wh Export Channel 1	0E	EC
33823	44823	362	Daily Wh Export Channel 2	0E	EE
33825	44825	363	Daily Wh Export Channel 3	0E	F0
33827	44827	364	Daily Wh Export Channel 4	0E	F2
33829	44829	365	Daily Wh Export Channel 5	0E	F4
33831	44831	366	Daily Wh Export Channel 6	0E	F6
33833	44833	367	Daily Wh Export Channel 7	0E	F8
33835	44835	368	Daily Wh Export Channel 8	0E	FA
33837	44837	369	Daily Wh Export Channel 9	0E	FC
33839	44839	370	Daily Wh Export Channel 10	0E	FE
33841	44841	371	Daily Wh Export Channel 11	0F	00
33843	44843	372	Daily Wh Export Channel 12	0F	02
33845	44845	373	Daily VArh Capacitive Channel 1	0F	04
33847	44847	374	Daily VArh Capacitive Channel 2	0F	06
33849	44849	375	Daily VArh Capacitive Channel 3	0F	08
33851	44851	376	Daily VArh Capacitive Channel 4	0F	0A
33853	44853	377	Daily VArh Capacitive Channel 5	0F	0C
33855	44855	378	Daily VArh Capacitive Channel 6	0F	0E
33857	44857	379	Daily VArh Capacitive Channel 7	0F	10
33859	44859	380	Daily VArh Capacitive Channel 8	0F	12
33861	44861	381	Daily VArh Capacitive Channel 9	0F	14
33863	44863	382	Daily VArh Capacitive Channel 10	0F	16
33865	44865	383	Daily VArh Capacitive Channel 11	0F	18
33867	44867	384	Daily VArh Capacitive Channel 12	0F	1A
33869	44869	385	Daily VArh Inductive Channel 1	0F	1C
33871	44871	386	Daily VArh Inductive Channel 2	0F	1E
33873	44873	387	Daily VArh Inductive Channel 3	0F	20
33875	44875	388	Daily VArh Inductive Channel 4	0F	22
33877	44877	389	Daily VArh Inductive Channel 5	0F	24
33879	44879	390	Daily VArh Inductive Channel 6	0F	26

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33881	44881	391	Daily VArh Inductive Channel 7	0F	28
33883	44883	392	Daily VArh Inductive Channel 8	0F	2A
33885	44885	393	Daily VArh Inductive Channel 9	0F	2C
33887	44887	394	Daily VArh Inductive Channel 10	0F	2E
33889	44889	395	Daily VArh Inductive Channel 11	0F	30
33891	44891	396	Daily VArh Inductive Channel 12	0F	32
33893	44893	397	Daily VAh Channel 1	0F	34
33895	44895	398	Daily VAh Channel 2	0F	36
33897	44897	399	Daily VAh Channel 3	0F	38
33899	44899	400	Daily VAh Channel 4	0F	3A
33901	44901	401	Daily VAh Channel 5	0F	3C
33903	44903	402	Daily VAh Channel 6	0F	3E
33905	44905	403	Daily VAh Channel 7	0F	40
33907	44907	404	Daily VAh Channel 8	0F	42
33909	44909	405	Daily VAh Channel 9	0F	44
33911	44911	406	Daily VAh Channel 10	0F	46
33913	44913	407	Daily VAh Channel 11	0F	48
33915	44915	408	Daily VAh Channel 12	0F	4A
33917	44917	409	Daily Wh Import System 1	0F	4C
33919	44919	410	Daily Wh Import System 2	0F	4E
33921	44921	411	Daily Wh Import System 3	0F	50
33923	44923	412	Daily Wh Import System 4	0F	52
33925	44925	413	Daily Wh Export System 1	0F	54
33927	44927	414	Daily Wh Export System 2	0F	56
33929	44929	415	Daily Wh Export System 3	0F	58
33931	44931	416	Daily Wh Export System 4	0F	5A
33933	44933	417	Daily VArh Capacitive System 1	0F	5C
33935	44935	418	Daily VArh Capacitive System 2	0F	5E
33937	44937	419	Daily VArh Capacitive System 3	0F	60
33939	44939	420	Daily VArh Capacitive System 4	0F	62

TABLE 2 : 3X and 4X register addresses for 32-bit Integer Energy

Address (3X)	Address (4X)	Parameter Number	Parameter	Hex Address	
				High Byte	Low Byte
33941	44941	421	Daily VArh Inductive System 1	0F	64
33943	44943	422	Daily VArh Inductive System 2	0F	66
33945	44945	423	Daily VArh Inductive System 3	0F	68
33947	44947	424	Daily VArh Inductive System 4	0F	6A
33949	44949	425	Daily VAh System 1	0F	6C
33951	44951	426	Daily VAh System 2	0F	6E
33953	44953	427	Daily VAh System 3	0F	70
33955	44955	428	Daily VAh System 4	0F	72

***Note 1 :** The values are updated depending on update rate which is settable by user.
For example, if user sets update rate 15 min, then the values on these registers (marked with*) will get updated in every 15 min.

Note 2 : System 1 Parameter represents Three Phase system present at Channel 1, 2, 3. Similarly System 2 Parameter represents Three Phase system present at Channel 4, 5, 6 and so on.

Note 3 : If a Channel is not a part of Three Phase System, then the corresponding System Parameter will show value 0.

3.2 Accessing 4 X register for Reading & Writing Settings:

Each setting is held in the 4X registers. Modbus code 03 is used to read the current setting & code 16 is used to write/change the setting. Refer **TABLE 3** for 4X Register addresses.

Example: Reading Channel 1 Mode

Channel 1 Mode : Start address = 177E (Hex)

Number of registers = 02

Note: Number of registers = Number of Parameters x 2

Query :

Device Address	01 (Hex)
Function Code	03 (Hex)
Start Address High	17 (Hex)
Start Address Low	7E (Hex)
Number of Registers Hi	00 (Hex)
Number of Registers Lo	02 (Hex)
CRC Low	A1 (Hex)
CRC High	A7 (Hex)

Start Address High : Most significant 8 bits of starting address of the parameter requested.

Start Address low : Least significant 8 bits of starting address of the parameter requested.

Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

(Note : Two consecutive 16 bit register represent one parameter.)

Response: Channel 1 Mode

Device Address	01 (Hex)
Function Code	03 (Hex)
Byte Count	04 (Hex)
Data Register1 High Byte	40 (Hex)
Data Register1Low Byte	80 (Hex)
Data Register2 High Byte	00 (Hex)
Data Register2 Low Byte	00 (Hex)
CRC Low	EE (Hex)
CRC High	1B (Hex)

Byte Count : Total number of data bytes received.

Data register 1 High Byte : Most significant 8 bits of Data register 1 of the parameter requested.

Data register 1 Low Byte : Least significant 8 bits of Data register 1 of the parameter requested.

Data register 2 High Byte : Most significant 8 bits of Data register 2 of the parameter requested.

Data register 2 Low Byte : Least significant 8 bits of Data register 2 of the parameter requested.

(Note : Two consecutive 16 bit register represent one parameter.)

Example : Writing Channel 1 Mode

Channel 1 Mode : Start address = 177E (Hex)

Number of registers = 02

Query : (Change Channel 1 Mode to 1Phase 2Wire = 1)

Device Address	01 (Hex)
Function Code	10 (Hex)
Starting Address Hi	17 (Hex)
Starting Address Lo	7E (Hex)
Number of Registers Hi	00 (Hex)
Number of Registers Lo	02 (Hex)
Byte Count	04 (Hex)
Data Register-1 High Byte	3F (Hex)
Data Register-1 Low Byte	80 (Hex)
Data Register-2 High Byte	00 (Hex)
Data Register-2 Low Byte	00 (Hex)
CRC Low	93 (Hex)
CRC High	0B (Hex)

Byte Count : Total number of data bytes received.

Data register 1 High Byte : Most significant 8 bits of Data register 1 of the parameter requested.

Data register 1 Low Byte : Least significant 8 bits of Data register 1 of the parameter requested.

Data register 2 High Byte : Most significant 8 bits of Data register 2 of the parameter requested.

Data register 2 Low Byte : Least significant 8 bits of Data register 2 of the parameter requested.

(Note : Two consecutive 16 bit register represent one parameter.)

Response:

Device Address	01 (Hex)
Function Code	10 (Hex)
Start Address High	17 (Hex)
Start Address Low	7E (Hex)
Number of Registers Hi	00 (Hex)
Number of Registers Lo	02 (Hex)
CRC Low	24 (Hex)
CRC High	64 (Hex)

Start Address High : Most significant 8 bits of starting address of the parameter requested.

Start Address low : Least significant 8 bits of starting address of the parameter requested.

Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

(Note : Two consecutive 16 bit register represent one parameter.)

3.3 Accessing 4 X register for Long Energy Reading & Writing

For setting Energy start count in long energy format following query format should be used for writing energy start count. First send query (at address 17D6) to unlock the parameter.

Note: For parameter to be unlocked, refer TABLE 11 for energy parameter selection.

Query : (Query for Unlock to enter Active Import Energy Channel 1)

Device Address	01(Hex)
Function Code	10(Hex)
Starting Address Hi	17(Hex)
Starting Address Lo	D6(Hex)
Number of Registers Hi	00(Hex)
Number of Registers Lo	02(Hex)
Byte Count	04(Hex)
Data Register-1 High Byte	3F(Hex)
Data Register-1 Low Byte	80(Hex)
Data Register-2 High Byte	00(Hex)
Data Register-2 Low Byte	00(Hex)
CRC Low	98(Hex)
CRC High	D5(Hex)

Byte Count : Total number of data bytes transmitted.

Data register 1 High Byte : Most significant 8 bits of Data register 1 of the parameter requested.

Data register 1 Low Byte : Least significant 8 bits of Data register 1 of the parameter requested.

Data register 2 High Byte : Most significant 8 bits of Data register 2 of the parameter requested.

Data register 2 Low Byte : Least significant 8 bits of Data register 2 of the parameter requested.

(Note : Two consecutive 16 bit register represent one parameter.)

Response:

Device Address	01(Hex)
Function Code	10(Hex)
Start Address High	17(Hex)
Start Address Low	1C(Hex)
Number of Registers Hi	00(Hex)
Number of Registers Lo	02(Hex)
CRC Low	A5(Hex)
CRC High	84(Hex)

Start Address High : Most significant 8 bits of starting address of the parameter requested.

Start Address low : Least significant 8 bits of starting address of the parameter requested.

Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

Once the unlock query is sent, next send query for writing Energy start count.

For Example: Query for writing energy start count of 999999999 for Active Import Energy Channel 1.

Note: Refer TABLE 2 for energy parameter selection.

Query:(Query to enter Active Import Energy Channel 1)

Device Address	01(Hex)
Function Code	10(Hex)
Starting Address Hi	0C(Hex)
Starting Address Lo	1C(Hex)
Number of Registers Hi	00(Hex)
Number of Registers Lo	02(Hex)
Byte Count	04(Hex)
Data Register-1 High Byte	3B(Hex)
Data Register-1 Low Byte	9A(Hex)
Data Register-2 High Byte	C9(Hex)
Data Register-2 Low Byte	FF(Hex)
CRC Low	9C(Hex)
CRC High	ED(Hex)

Byte Count : Total number of data bytes received.

Data register 1 High Byte : Most significant 8 bits of Data register 1 of the parameter requested.

Data register 1 Low Byte : Least significant 8 bits of Data register 1 of the parameter requested.

Data register 2 High Byte : Most significant 8 bits of Data register 2 of the parameter requested.

Data register 2 Low Byte : Least significant 8 bits of Data register 2 of the parameter requested.

(Note : Two consecutive 16 bit register represent one parameter.)

Value(3B,9A,C9,FF) represents 999999999.

Response:

Device Address	01(Hex)
Function Code	10(Hex)
Start Address High	0C(Hex)
Start Address Low	1C(Hex)
Number of Registers Hi	00(Hex)
Number of Registers Lo	02(Hex)
CRC Low	83(Hex)
CRC High	5E(Hex)

Start Address High : Most significant 8 bits of starting address of the parameter requested.

Start Address low : Least significant 8 bits of starting address of the parameter requested.

Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

(Note : Two consecutive 16 bit register represent one parameter.)

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46003	1	Reset parameters	R/Wp	17	72	0
46005	2	Demand integration time	R/Wp	17	74	8
46007	3	RS485 setup code	R/Wp	17	76	4
46009	4	Node address	R/Wp	17	78	1
46011	5	Register Order / Word Order	R/Wp	17	7A	0
46013	6	No. of poles	R/Wp	17	7C	2
46015	7	Channel 1 Mode	R/Wp	17	7E	4
46017	8	Channel 2 Mode	R/Wp	17	80	
46019	9	Channel 3 Mode	R/Wp	17	82	
46021	10	Channel 4 Mode	R/Wp	17	84	
46023	11	Channel 5 Mode	R/Wp	17	86	
46025	12	Channel 6 Mode	R/Wp	17	88	
46027	13	Channel 7 Mode	R/Wp	17	8A	
46029	14	Channel 8 Mode	R/Wp	17	8C	
46031	15	Channel 9 Mode	R/Wp	17	8E	
46033	16	Channel 10 Mode	R/Wp	17	90	
46035	17	Channel 11 Mode	R/Wp	17	92	
46037	18	Channel 12 Mode	R/Wp	17	94	
46039	19	Related Voltage Channel 1	R/Wp	17	96	0
46041	20	Related Voltage Channel 2	R/Wp	17	98	1
46043	21	Related Voltage Channel 3	R/Wp	17	9A	2
46045	22	Related Voltage Channel 4	R/Wp	17	9C	0
46047	23	Related Voltage Channel 5	R/Wp	17	9E	1
46049	24	Related Voltage Channel 6	R/Wp	17	A0	2
46051	25	Related Voltage Channel 7	R/Wp	17	A2	0
46053	26	Related Voltage Channel 8	R/Wp	17	A4	1
46055	27	Related Voltage Channel 9	R/Wp	17	A6	2
46057	28	Related Voltage Channel 10	R/Wp	17	A8	0
46059	29	Related Voltage Channel 11	R/Wp	17	AA	1
46061	30	Related Voltage Channel 12	R/Wp	17	AC	2

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46063	31	PT Primary	R/Wp	17	AE	415
46065	32	PT Secondary	R/Wp	17	B0	415
46067	33	CT Primary Channel 1	R/Wp	17	B2	60
46069	34	CT Primary Channel 2	R/Wp	17	B4	
46071	35	CT Primary Channel 3	R/Wp	17	B6	
46073	36	CT Primary Channel 4	R/Wp	17	B8	
46075	37	CT Primary Channel 5	R/Wp	17	BA	
46077	38	CT Primary Channel 6	R/Wp	17	BC	
46079	39	CT Primary Channel 7	R/Wp	17	BE	
46081	40	CT Primary Channel 8	R/Wp	17	C0	
46083	41	CT Primary Channel 9	R/Wp	17	C2	
46085	42	CT Primary Channel 10	R/Wp	17	C4	
46087	43	CT Primary Channel 11	R/Wp	17	C6	
46089	44	CT Primary Channel 12	R/Wp	17	C8	
46091	45	Energy Resolution / unit	R/Wp	17	CA	2
46093	46	Energy digit reset count	R/Wp	17	CC	8
46095	47	Energy Update rate on MODBUS	R/Wp	17	CE	15
46097	48	System Frequency selection	R/Wp	17	D0	50
46099	49	Impulse on Energy Selection	R/Wp	17	D2	1
46101	50	CT Secondary	R	17	D4	-
46103	51	EnergyPara Select	R/Wp	17	D6	0
46105	52	Enter Energy Start Count	R/Wp	17	D8	0
46107	53	Relay 1 Timer Start stop	R/Wp	17	DA	0
46109	54	Relay 2 Timer Start stop	R/Wp	17	DC	0
46111	55	Relay 3 Timer Start stop	R/Wp	17	DE	0
46113	56	Relay 4 Timer Start stop	R/Wp	17	E0	0
46115	57	Pulse width	R/Wp	17	E2	100
46117	58	Pulse divisor	R/Wp	17	E4	1
46119	59	Relay 1 output select	R/Wp	17	E6	0
46121	60	Relay 1 Parameter select	R/Wp	17	E8	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46123	61	Relay 1 Limit Trip point	R/Wp	17	EA	10
46125	62	Relay 1 Limit Hysteresis	R/Wp	17	EC	0.5
46127	63	Relay 1 delay (On)	R/Wp	17	EE	1
46129	64	Relay 1 delay (Off)	R/Wp	17	F0	1
46131	65	Relay 1 Configuration select	R/Wp	17	F2	0
46133	66	Relay 2 output select	R/Wp	17	F4	0
46135	67	Relay 2 Parameter select	R/Wp	17	F6	0
46137	68	Relay 2 Limit Trip point	R/Wp	17	F8	10
46139	69	Relay 2 Limit Hysteresis	R/Wp	17	FA	0.5
46141	70	Relay 2 delay (On)	R/Wp	17	FC	1
46143	71	Relay 2 delay (Off)	R/Wp	18	FE	1
46145	72	Relay 2 Configuration select	R/Wp	18	00	0
46147	73	Relay 3 output select	R/Wp	18	02	0
46149	74	Relay 3 Parameter select	R/Wp	18	04	0
46151	75	Relay 3 Limit Trip point	R/Wp	18	06	10
46153	76	Relay 3 Limit Hysteresis	R/Wp	18	08	0.5
46155	77	Relay 3 delay (On)	R/Wp	18	0A	1
46157	78	Relay 3 delay (Off)	R/Wp	18	0C	1
46159	79	Relay 3 Configuration select	R/Wp	18	0E	0
46161	80	Relay 4 output select	R/Wp	18	10	-
46163	81	Relay 4 Parameter select	R/Wp	18	12	-
46165	82	Relay 4 Limit Trip point	R/Wp	18	14	-
46167	83	Relay 4 Limit Hysteresis	R/Wp	18	16	-
46169	84	Relay 4 delay (On)	R/Wp	18	18	-
46171	85	Relay 4 delay (Off)	R/Wp	18	1A	-
46173	86	Relay 4 Configuration select	R/Wp	18	1C	-
46175	87	Auto scroll	R/Wp	18	1E	0
46177	88	Noise Current cutoff	R/Wp	18	20	0
46179	89	Password	R/Wp	18	22	0000
46181	90	Factory Reset Mode	R/Wp	18	24	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46183	91	RTC Complete Date	R/Wp	18	26	-
46185	92	RTC Complete Time	R/Wp	18	28	-
46187	93	---	R/Wp	18	2A	-
46195	97	Meter Version number	R	18	32	-
46199	99	Serial number_1	R	18	36	-
46201	100	Serial number_2	R	18	38	-
46203	101	Model No	R	18	3A	-
46205	102	Backlit ON/OFF	R/Wp	18	3C	1
46207	103	Contrast	R/Wp	18	3E	3
46209	104	Number of User Screens	R/Wp	18	40	0
46211	105	User screen 1	R/Wp	18	42	1301
46213	106	User screen 2	R/Wp	18	44	1302
46215	107	User screen 3	R/Wp	18	46	1303
46217	108	User screen 4	R/Wp	18	48	1304
46219	109	User screen 5	R/Wp	18	4A	1305
46221	110	User screen 6	R/Wp	18	4C	1306
46223	111	User screen 7	R/Wp	18	4E	1307
46225	112	User screen 8	R/Wp	18	50	1308
46227	113	User screen 9	R/Wp	18	52	1309
46229	114	User screen 10	R/Wp	18	54	1310
46231	115	User screen 11	R/Wp	18	56	1311
46233	116	User screen 12	R/Wp	18	58	1312
46235	117	User screen 13	R/Wp	18	5A	1313
46237	118	User screen 14	R/Wp	18	5C	1314
46239	119	User screen 15	R/Wp	18	5E	1301
46241	120	User screen 16	R/Wp	18	60	1302
46243	121	User screen 17	R/Wp	18	62	1303
46245	122	User screen 18	R/Wp	18	64	1304
46247	123	User screen 19	R/Wp	18	66	1305
46249	124	User screen 20	R/Wp	18	68	1306

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46251	125	User screen 21	R/Wp	18	6A	1307
46253	126	User screen 22	R/Wp	18	6C	1308
46255	127	User screen 23	R/Wp	18	6E	1309
46257	128	User screen 24	R/Wp	18	70	1310
46259	129	User screen 25	R/Wp	18	72	1311
46261	130	User screen 26	R/Wp	18	74	1312
46263	131	User screen 27	R/Wp	18	76	1313
46265	132	User screen 28	R/Wp	18	78	1314
46267	133	User screen 29	R/Wp	18	7A	1301
46269	134	User screen 30	R/Wp	18	7C	1302
46271	135	User screen 31	R/Wp	18	7E	1303
46273	136	User screen 32	R/Wp	18	80	1304
46275	137	User screen 33	R/Wp	18	82	1305
46277	138	User screen 34	R/Wp	18	84	1306
46279	139	User screen 35	R/Wp	18	86	1307
46281	140	User screen 36	R/Wp	18	88	1308
46283	141	User screen 37	R/Wp	18	8A	1309
46285	142	User screen 38	R/Wp	18	8C	1310
46287	143	User screen 39	R/Wp	18	8E	1311
46289	144	User screen 40	R/Wp	18	90	1312
46291	145	Event-based Datalog Select	R/Wp	18	92	0
46293	146	Time-based Datalog Select	R/Wp	18	94	0
46295	147	Time-based Datalog Interval Selection	R/Wp	18	96	1
46297	148	Time-based Datalog Parameter Count	R/Wp	18	98	1
46299	149	Datalog Parameter 1	R/Wp	18	9A	0
46301	150	Datalog Parameter 2	R/Wp	18	9C	0
46303	151	Datalog Parameter 3	R/Wp	18	9E	0
46305	152	Datalog Parameter 4	R/Wp	18	A0	0
46307	153	Datalog Parameter 5	R/Wp	18	A2	0
46309	154	Datalog Parameter 6	R/Wp	18	A4	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46311	155	Datalog Parameter 7	R/Wp	18	A6	0
46313	156	Datalog Parameter 8	R/Wp	18	A8	0
46315	157	Datalog Parameter 9	R/Wp	18	AA	0
46317	158	Datalog Parameter 10	R/Wp	18	AC	0
46319	159	Datalog Parameter 11	R/Wp	18	AE	0
46321	160	Datalog Parameter 12	R/Wp	18	B0	0
46323	161	Datalog Parameter 13	R/Wp	18	B2	0
46325	162	Datalog Parameter 14	R/Wp	18	B4	0
46327	163	Datalog Parameter 15	R/Wp	18	B6	0
46329	164	Datalog Parameter 16	R/Wp	18	B8	0
46331	165	Datalog Parameter 17	R/Wp	18	BA	0
46333	166	Datalog Parameter 18	R/Wp	18	BC	0
46335	167	Datalog Parameter 19	R/Wp	18	BE	0
46337	168	Datalog Parameter 20	R/Wp	18	C0	0
46339	169	Datalog Parameter 21	R/Wp	18	C2	0
46341	170	Datalog Parameter 22	R/Wp	18	C4	0
46343	171	Datalog Parameter 23	R/Wp	18	C6	0
46345	172	Datalog Parameter 24	R/Wp	18	C8	0
46347	173	Datalog Parameter 25	R/Wp	18	CA	0
46349	174	Datalog Parameter 26	R/Wp	18	CC	0
46351	175	Datalog Parameter 27	R/Wp	18	CE	0
46353	176	Datalog Parameter 28	R/Wp	18	D0	0
46355	177	Datalog Parameter 29	R/Wp	18	D2	0
46357	178	Datalog Parameter 30	R/Wp	18	D4	0
46359	179	Datalog Parameter 31	R/Wp	18	D6	0
46361	180	Datalog Parameter 32	R/Wp	18	D8	0
46363	181	Datalog Parameter 33	R/Wp	18	DA	0
46365	182	Datalog Parameter 34	R/Wp	18	DC	0
46367	183	Datalog Parameter 35	R/Wp	18	DE	0
46369	184	Datalog Parameter 36	R/Wp	18	E0	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46371	185	Datalog Parameter 37	R/Wp	18	E2	0
46373	186	Datalog Parameter 38	R/Wp	18	E4	0
46375	187	Datalog Parameter 39	R/Wp	18	E6	0
46377	188	Datalog Parameter 40	R/Wp	18	E8	0
46379	189	Datalog Parameter 41	R/Wp	18	EA	0
46381	190	Datalog Parameter 42	R/Wp	18	EC	0
46383	191	Datalog Parameter 43	R/Wp	18	EE	0
46385	192	Datalog Parameter 44	R/Wp	18	F0	0
46387	193	Datalog Parameter 45	R/Wp	18	F2	0
46389	194	Datalog Parameter 46	R/Wp	18	F4	0
46391	195	Datalog Parameter 47	R/Wp	18	F6	0
46393	196	Datalog Parameter 48	R/Wp	18	F8	0
46395	197	Datalog Parameter 49	R/Wp	18	FA	0
46397	198	Datalog Parameter 50	R/Wp	18	FC	0
46399	199	Datalog Parameter 51	R/Wp	19	FE	0
46401	200	Datalog Parameter 52	R/Wp	19	00	0
46403	201	Datalog Parameter 53	R/Wp	19	02	0
46405	202	Datalog Parameter 54	R/Wp	19	04	0
46407	203	Datalog Parameter 55	R/Wp	19	06	0
46409	204	Datalog Parameter 56	R/Wp	19	08	0
46411	205	Datalog Parameter 57	R/Wp	19	0A	0
46413	206	Datalog Parameter 58	R/Wp	19	0C	0
46415	207	Datalog Parameter 59	R/Wp	19	0E	0
46417	208	Datalog Parameter 60	R/Wp	19	10	0
46419	209	Datalog Parameter 61	R/Wp	19	12	0
46421	210	Datalog Parameter 62	R/Wp	19	14	0
46423	211	Datalog Parameter 63	R/Wp	19	16	0
46425	212	Datalog Parameter 64	R/Wp	19	18	0
46427	213	Datalog Parameter 65	R/Wp	19	1A	0
46429	214	Datalog Parameter 66	R/Wp	19	1C	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46431	215	Datalog Parameter 67	R/Wp	19	1E	0
46433	216	Datalog Parameter 68	R/Wp	19	20	0
46435	217	Datalog Parameter 69	R/Wp	19	22	0
46437	218	Datalog Parameter 70	R/Wp	19	24	0
46439	219	Datalog Parameter 71	R/Wp	19	26	0
46441	220	Datalog Parameter 72	R/Wp	19	28	0
46443	221	Datalog Parameter 73	R/Wp	19	2A	0
46445	222	Datalog Parameter 74	R/Wp	19	2C	0
46447	223	Datalog Parameter 75	R/Wp	19	2E	0
46449	224	Datalog Parameter 76	R/Wp	19	30	0
46451	225	Datalog Parameter 77	R/Wp	19	32	0
46453	226	Datalog Parameter 78	R/Wp	19	34	0
46455	227	Datalog Parameter 79	R/Wp	19	36	0
46457	228	Datalog Parameter 80	R/Wp	19	38	0
46459	229	Datalog Parameter 81	R/Wp	19	3A	0
46461	230	Datalog Parameter 82	R/Wp	19	3C	0
46463	231	Datalog Parameter 83	R/Wp	19	3E	0
46465	232	Datalog Parameter 84	R/Wp	19	40	0
46467	233	Datalog Parameter 85	R/Wp	19	42	0
46469	234	Datalog Parameter 86	R/Wp	19	44	0
46471	235	Datalog Parameter 87	R/Wp	19	46	0
46473	236	Datalog Parameter 88	R/Wp	19	48	0
46475	237	Datalog Parameter 89	R/Wp	19	4A	0
46477	238	Datalog Parameter 90	R/Wp	19	4C	0
46479	239	Datalog Parameter 91	R/Wp	19	4E	0
46481	240	Datalog Parameter 92	R/Wp	19	50	0
46483	241	Datalog Parameter 93	R/Wp	19	52	0
46485	242	Datalog Parameter 94	R/Wp	19	54	0
46487	243	Datalog Parameter 95	R/Wp	19	56	0
46489	244	Datalog Parameter 96	R/Wp	19	58	0

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46491	245	Datalog Parameter 97	R/Wp	19	5A	0
46493	246	Datalog Parameter 98	R/Wp	19	5C	0
46495	247	Datalog Parameter 99	R/Wp	19	5E	0
46497	248	Datalog Parameter 100	R/Wp	19	60	0
46499	249	Datalog Parameter 101	R/Wp	19	62	0
46501	250	Datalog Parameter 102	R/Wp	19	64	0
46503	251	Datalog Parameter 103	R/Wp	19	66	0
46505	252	Datalog Parameter 104	R/Wp	19	68	0
46507	253	Datalog Parameter 105	R/Wp	19	6A	0
46509	254	Datalog Parameter 106	R/Wp	19	6C	0
46511	255	Datalog Parameter 107	R/Wp	19	6E	0
46513	256	Datalog Parameter 108	R/Wp	19	70	0
46515	257	Datalog Parameter 109	R/Wp	19	72	0
46517	258	Datalog Parameter 110	R/Wp	19	74	0
46519	259	Datalog Parameter 111	R/Wp	19	76	0
46521	260	Datalog Parameter 112	R/Wp	19	78	0
46523	261	Datalog Parameter 113	R/Wp	19	7A	0
46525	262	Datalog Parameter 114	R/Wp	19	7C	0
46527	263	Datalog Parameter 115	R/Wp	19	7E	0
46529	264	Datalog Parameter 116	R/Wp	19	80	0
46531	265	Datalog Parameter 117	R/Wp	19	82	0
46533	266	Datalog Parameter 118	R/Wp	19	84	0
46535	267	Datalog Parameter 119	R/Wp	19	86	0
46537	268	Datalog Parameter 120	R/Wp	19	88	0
46539	269	Load Profile Datalog Select	R/Wp	19	8A	4096
46541	270	Start Date of Load Profile Datalog Channel 1	R	19	8C	-
46543	271	Start Date of Load Profile Datalog Channel 2	R	19	8E	-
46545	272	Start Date of Load Profile Datalog Channel 3	R	19	90	-
46547	273	Start Date of Load Profile Datalog Channel 4	R	19	92	-
46549	274	Start Date of Load Profile Datalog Channel 5	R	19	94	-

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46551	275	Start Date of Load Profile Datalog Channel 6	R	19	96	-
46553	276	Start Date of Load Profile Datalog Channel 7	R	19	98	-
46555	277	Start Date of Load Profile Datalog Channel 8	R	19	9A	-
46557	278	Start Date of Load Profile Datalog Channel 9	R	19	9C	-
46559	279	Start Date of Load Profile Datalog Channel 10	R	19	9E	-
46561	280	Start Date of Load Profile Datalog Channel 11	R	19	A0	-
46563	281	Start Date of Load Profile Datalog Channel 12	R	19	A2	-
46567	283	Health Monitor Voltage Unbalance limit	R/Wp	19	A6	20
46569	284	Health Monitor Current Unbalance limit	R/Wp	19	A8	20
46571	285	Health Monitor Under Freq Limit	R/Wp	19	AA	95
46573	286	Health Monitor Under Voltage Limit	R/Wp	19	AC	70
46575	287	Health Monitor Over Voltage Limit	R/Wp	19	AE	120
46577	288	Health Monitor System 1 Over Current Limit	R/Wp	19	B0	120
46579	289	Health Monitor System 2 Over Current Limit	R/Wp	19	B2	120
46581	290	Health Monitor System 3 Over Current Limit	R/Wp	19	B4	120
46583	291	Health Monitor System 4 Over Current Limit	R/Wp	19	B6	120
46585	292	---	R/Wp	19	B8	0
46587	293	---	R/Wp	19	BA	0
46589	294	---	R/Wp	19	BC	0
46591	295	---	R/Wp	19	BE	0
46593	296	---	R/Wp	19	C0	1
46595	297	---	R/Wp	19	C2	1
46597	298	---	R/Wp	19	C4	1
46599	299	---	R/Wp	19	C6	1
46601	300	---	R/Wp	19	C8	100
46603	301	---	R/Wp	19	CA	100
46605	302	---	R/Wp	19	CC	100
46607	303	---	R/Wp	19	CE	100
46609	304	---	R/Wp	19	D0	100
46611	305	---	R/Wp	19	D2	100

TABLE 3 : 4 X register addresses

Address (Register)	Parameter No.	Parameter	Read/ Write	Modbus Start Addr. Hex		Default Value
				High Byte	Low Byte	
46613	306	---	R/Wp	19	D4	100
46615	307	---	R/Wp	19	D6	100
46625	312	---	R/Wp	19	E0	-
46627	313	---	R/Wp	19	E2	-
46629	314	---	R/Wp	19	E4	-
46631	315	---	R/Wp	19	E6	-
46633	316	---	R/Wp	19	E8	-
46635	317	---	R/Wp	19	EA	-
46639	319	IP Address 1	R	19	EE	192.168
46641	320	IP Address 2	R	19	F0	11.11
46643	321	Subnet Mask 1	R	19	F2	255.255
46645	322	Subnet Mask 2	R	19	F4	255.0
46647	323	Default Gateway 1	R	19	F6	192.168
46649	324	Default Gateway 2	R	19	F8	1.1
46651	325	Server Port	R	19	FA	502

Note: Wp - Write protected , R - Read only , R/Wp - Read & Write protected

Explanation for 4 X register :

NOTE: Writing any invalid values (non-applicable values) to any of the following locations will result in modbus error.

Address	Parameter	Description
46003	Reset Parameters	This address is used to reset different parameters. Write specific value to this register to reset the corresponding parameter. Refer TABLE 8 and TABLE 8.1 for the value.
46005	Demand Integration Time	Demand period represents demand time (in minutes), i.e., the period over which current and power readings are to be integrated. The applicable values are 8,15,20 or 30. (Note: Changing DIT will reset all demand parameters)
46007	RS485 Set-up Code	This address is used to set the baud rate, Parity and Number of stop bits. Refer TABLE 9 for details.
46009	Node Address	This register address is used to set Device address between 1 and 247.
46011	Word Order	Word Order controls the order in which Multifunction Meter receives or sends floating - point numbers:- normal or reversed register order. In normal mode, the two registers that make up a floating point number are sent most significant bytes first. In reversed register mode, the two registers that make up a floating point number are sent least significant bytes first. To set the mode, write the value '2141.0' to this register-the instrument will detect the order used to send this value and set that order for all ModBus transaction involving floating point numbers.
46013	Number of Poles	This address is used to set the no. of poles of generator of which RPM is to be measured. The value must be between 2 to 40 and a multiple of 2.
46015 46017 46019 46021 46023 46025 46027 46029 46031 46033 46035 46037	Channel 1 mode Channel 2 mode Channel 3 mode Channel 4 mode Channel 5 mode Channel 6 mode Channel 7 mode Channel 8 mode Channel 9 mode Channel 10 mode Channel 11 mode Channel 12 mode	This address is used to set the Channel Mode. -To set 3P4W / 3P3W apply 4 / 3, respectively to below channels: 1) Channel 1 2) Channel 4 3) Channel 7 4) Channel 10 -To set 1P2W / OFF apply 1 / 0 to corresponding channel. -To set RCM apply 5 to corresponding channel. Note 1 : Changing channel mode results in the following : 1) 'User Assignable Screen Enable' and 'User Screens' set to default. 2) Corresponding Channel data gets reset. Note 2: The following parameters will reset to default only if the present parameter is not valid anymore : 1) Impulse Energy (resets to none) 2) Relay Output 3) Relay Parameter 4) Tariff Energy 5) Time Based Datalog Parameter

Address	Parameter	Description
46039 46041 46043 46045 46047 46049 46051 46053 46055 46057 46059 46061	Related Voltage CH1 Related Voltage CH2 Related Voltage CH3 Related Voltage CH4 Related Voltage CH5 Related Voltage CH6 Related Voltage CH7 Related Voltage CH8 Related Voltage CH9 Related Voltage CH10 Related Voltage CH11 Related Voltage CH12	This address is used to set Related voltage of Single phase system. 0 : L1 1 : L2 2 : L3 Note: Changing the Related voltage will reset all the channel data.
46063	PT Primary*	This address allows the user to set PT Primary value (in terms of VL-L). The settable range is 100 VL-L to 1200 kVL-L for all system types & also depends on the per phase 1800MVA Restriction of power combined with CT primary.
46065	PT secondary*	This address is used to read and write the PT secondary value. The settable range is 100-600VLL.
46067 46069 46071 46073 46075 46077 46079 46081 46083 46085 46087... 46089	CT Primary CH1 CT Primary CH2 CT Primary CH3 CT Primary CH4 CT Primary CH5 CT Primary CH6 CT Primary CH7 CT Primary CH8 CT Primary CH9 CT Primary CH10 CT Primary CH11 CT Primary CH12	This address allows the user to set CT Primary value. The settable range is 1 to 9999 (except RCM). It also depends on the per phase 1800 MVA Restriction of power combined with PT primary. Note : Changing CT Primary resets corresponding channel data and corresponding channel Min, Max current.
46091	Energy unit / Resolution	This address is used to set energy output in Wh, kWh & MWh. Write one of the following values to this address. 1 : Energy in Wh. 2 : Energy in KWh. 3 : Energy in MWh Note: Changing the Energy unit results in following : 1) Load Profile logging data gets reset. 2) Pulse Divisor may change accordingly.(Refer corresponding parameter for details.)

Address	Parameter	Description
46093	Energy Digit Reset Count	This address is used to set maximum energy count after which energy on modbus will roll over to zero. valid values are 7, 8 and 9. Note: Changing EDRC will reset all the energies.
46095	Energy Update Rate	This address is used to specify update rate of energy in corresponding 3X registers. The valid values for update rate are from 1 to 60 min.
46097	System Frequency Selection	This address is used to set the frequency of the input. Write 50 : For 50 Hz input 60 : For 60 Hz input
46099	Impulse on Energy Selection	This address is used to select the energy to which impulse is to be assigned. Writing any other value will return an error. To assign the value refer TABLE 10
46101	CT secondary	This address is read only and indicates the nominal value at CT secondary.
46103	Energy Parameter Selection	This address is used to select the parameter whose start count (initial value) is to be set. Refer TABLE 11 .
46105	Energy Start Count	This address is used to set the start count of the parameter selected in address 46103. The start count of the parameter should be in the range specified in TABLE 11 .
46107	Relay Timer 1 Start/ Stop	This address is used to start/stop the timer for Relay 1 in timer mode with following options: 0 : Stop 1 : Start
46109	Relay Timer 2 Start/ Stop	This address is used to start/stop the timer for Relay 2 in timer mode with following options: 0 : Stop 1 : Start
46011	Relay Timer 3 Start/ Stop	This address is used to start/stop the timer for Relay 3 in timer mode with following options: 0 : Stop 1 : Start
46113	Relay Timer 4 Start/ Stop	This address is used to start/stop the timer for Relay 4 in timer mode with following options: 0 : Stop 1 : Start
46115	Pulse Width of Relay	This address is used to set pulse width of the Pulse output. Write one of the following values to this address: 60 : 60 ms 100 : 100 ms 200 : 200 ms

Address	Parameter	Description
46117	Pulse Divisor	This address is used to set pulse divisor of the Pulse output. Write one of the following values to this address for Wh : 1 : Divisor 1 10 : Divisor 10 100 : Divisor 100 1000 : Divisor 1000 & In kWh or MWh divisor will be 1 default .
46119	Relay 1 output select	This address is used to select the Relay operation as Pulse / Limit / Timer / Tariff / RTC / Load Health. Write one of the following values to this address. 0 : None 1 : Pulse 2 : Limit 3 : Timer 4 : Load Health 5 : Tariff 6 : RTC
46121	Relay 1 Parameter select	This address is used to assign the Parameter to Relay. Pulse relay : Refer TABLE 12 Timer relay : Refer TABLE 13 RTC relay : Refer TABLE 14 Limit relay : Refer TABLE 15 Load Health Monitor : 1 for SYS1 (CH1,2,3) / 4 for SYS2 (CH4,5,6) and so on. Tariff : Read only.
46123	Relay 1 Limit Trip Point	This address is used to set the trip point in %. Any value between 10 to 100 for Lo- alarm & 10 to 120 for Hi-alarm can be written to this address. For energy parameters, the valid range is 10-9999999. (refer TABLE 15).
46125	Relay 1 Limit Hysteresis	This address is used to set the hysteresis between 0.5% to 50.0%.
46127	Relay 1 On (Energize) Delay/ On Time	This address is used to set the Energizing delay or On delay in seconds in range of 1 to 9999 for limit and timer Relay, respectively. For RTC Relay this range is 00.00 to 23.59.
46129	Relay 1 Off (De-Energize) Delay/ Off Time	This address is used to set the De-energizing delay or Off delay in seconds in range of 1 to 9999 for Limit and Timer Relay, respectively. For RTC Relay this range is 00.00 to 23.59.
46131	Relay 1 Configuration Select	This address is used to set the Configuration for Relay 1. Refer TABLE 16 .

Address	Parameter	Description
46133	Relay 2 output select	Same as Relay 1.
46135	Relay 2 Parameter select	
46137	Relay 2 Limit Trip Point	
46139	Relay 2 Limit Hysteresis	
46141	Relay 2 On (Energize) Delay/ On Time	
46143	Relay 2 Off (De-Energize) Delay/ Off Time	
46145	Relay 2 Configuration Select	
46147	Relay 3 output select	Same as Relay 1.
46149	Relay 3 Parameter select	
46151	Relay 3 Limit Trip Point	
46153	Relay 3 Limit Hysteresis	
46155	Relay 3 On (Energize) Delay/ On Time	
46157	Relay 3 Off (De-Energize) Delay/ Off Time	
46159	Relay 3 Configuration Select	

Address	Parameter	Description
46161	Relay 4 output select	Same as Relay 1.
46163	Relay 4 Parameter select	
46165	Relay 4 Limit Trip Point	
46167	Relay 4 Limit Hysteresis	
46169	Relay4 On (Energize) Delay/ On Time	
46171	Relay 4 Off (De-Energize) Delay/ Off Time	
46173	Relay 4 Configuration Select	
46175	Auto scroll	This address is used to activate or de-activate the auto scrolling of display screens. Write 0 : Deactivate 1 : Activate
46177	Noise Current Cutt-off	To select the amount of noise current to be eliminated (% of CT Primary). Valid values are: 0, 1, 2, 3, 4 and 5.
46179	Password	<p>This address is used to set & reset the password. Valid Range of Password can be set is 0000 - 9999 .</p> <ol style="list-style-type: none"> 1) If password lock is present & if this location is read it will return zero. 2) If Password lock is absent & if this location is read it will return one. 3) If password lock is present & to disable this lock first send valid password to this location then write "0000" to this location 4) If password lock is present & to modify 4X parameter first send valid password to this location so that 4X parameter will be accessible for modification. 5) If for in any of the above cases invalid password is sent then meter will return exception error 2.

Address	Parameter	Description
46181	Factory Reset	This address allows the user to reset the instrument to factory settings. Refer the Default Values in TABLE 3 for factory settings. Write 5555 at this address to reset the instrument.
46183	RTC Complete Date	This address is used to write full date in "ddmmyy" format from RTC. The year would be 20yy. Note: Changing the date will reset load profile data.
46185	RTC Complete Time	This address is used to write complete time in "hhmmss" format for RTC.
46189	Version Number	This address is read only and displays the firmware version of the meter.
46205	Backlit ON/OFF	This address is used to turn On or turn Off the backlit. 1: Backlit On 0: Backlit Off
46207	Contrast	This address is used to change the contrast of the display. The options available are 1 to 4 , in increasing order of contrast.
46209	User Assignable Screen Enable	This address is used to activate or deactivate the User Assignable Screen feature which enables the user to select the screens to be displayed over the screen. 0 : Deactivate 1 to 40 : Corresponding number of user assignable screens.
46211 to 46289	User Screens 1 to 40	These addresses are used to assign maximum 40 selectable screen numbers in corresponding sequence. Refer TABLE 17 for screen numbers.
46291	Event Based Datalog Select	This register is used to enable or disable event based datalogging. 0: Disabled 1: Enabled
46293	Time Based Datalog Select	This register is used to enable or disable time based datalogging. 0: Disabled 1: Enabled Note: Turning on the time based datalog will erase all the previous time log data.
46295	Time Based Datalog Interval Selection	This address is used to read and write the interval between consecutive time log entries in minutes. Valid value range is 1 to 60 .
46297	Logging Parameter Count	This value decides the number of parameters to be logged in time based datalogging. The value ranges from 1 to 120 .

Address	Parameter	Description
46299 to 46537	Datalog Parameter 1 to 120	These addresses are used to read and write the parameters to be logged in time based logging. For valid values, refer TABLE 21 .
46539	Load Profile Datalog Select	This address is used to start/stop Load Profile Datalogging. Refer TABLE 24 for the setting value. Note: Turning on the load profile datalog will erase all the previous load profile data.
46541 to 46563	Start Date of Load Profile Datalog	These 12 addresses are used to indicate the start date of load profile datalogging of each channel. These addresses are read only.
46567	Health monitor voltage unbalance limit	This address is used to set the limit of voltage unbalance. Valid range is 5% to 20%. This is applicable only when channel mode is three phase.
46569	Health monitor current unbalance limit	This address is used to set the limit of current unbalance. Valid range is 5% to 20%. This is applicable only when channel mode is three phase. To disable it, set 0.
46571	Health monitor under frequency limit	This address is used to set the under frequency limit. Valid range is 95% to 99% of system frequency. This is applicable only when channel mode is three phase. To disable it, set 0.
46573	Health monitor under voltage limit	This address is used to set the under voltage limit. Valid range is 70% to 90% of nominal. This is applicable only when channel mode is three phase. To disable it, set 0.
46575	Health monitor over voltage limit	This address is used to set the over voltage limit. Valid range is 110% to 120% of nominal. This is applicable only when channel mode is three phase. To disable it, set 0.
46577	Health monitor over current limit for Sys1 Channels	This address is used to set the over current limit. Valid range is 50% to 120% of nominal. This parameter represents the Three Phase system at channel 1,2 and 3. To disable it, set 0.
46579	Health monitor over current limit for Sys2 Channels	This address is used to set the over current limit. Valid range is 50% to 120% of nominal. This parameter represents the Three Phase system at channel 1,2 and 3. To disable it, set 0.
46581	Health monitor over current limit for Sys3 Channels	This address is used to set the over current limit. Valid range is 50% to 120% of nominal. This parameter represents the Three Phase system at channel 1,2 and 3. To disable it, set 0.

Address	Parameter	Description
46583	Health monitor over current limit for Sys4 Channels	This address is used to set the over current limit. Valid range is 50% to 120% of nominal. This parameter represents the Three Phase system at channel 1,2 and 3. To disable it, set 0.
46639	IP Address 1	This address is read only and represents the high 16 bits of IP address.
46641	IP Address 2	This address is read only and represents the low 16 bits of IP address.
46643	Subnet Mask 1	This address is read only and represents the high 16 bits of subnet mask address.
46645	Subnet Mask 2	This address is read only and represents the low 16 bits of subnet mask address.
46647	Default gateway 1	This address is read only and represents the high 16 bits of default gateway address.
46649	Default gateway 2	This address is read only and represents the low 16 bits of default gateway address.
46651	Server Port	This address is read only and represents server port.

***NOTE : Changing PT Primary or PT secondary values will reset energy, demand, Min Voltage, Max Voltage and load profile datalogging channel parameters.**

TABLE 4: Phase Absent Indication

bit15	bit14	bit13	bit12	bit11	bit10	bit9	bit8	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
XX	V1	V2	V3	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0

For e.g.:

- 1) If voltage V1 phase is absent then V1 phase bit will be 1.
- 2) If Current channel 1 phase is absent then, Current channel 1 bit will be 1.
- 3) Binary value for phase absence of Voltage V1 and Current channel 1 is 0100100000000000
- 4) Conversion of this binary value to decimal value is 18432.
- 5) This value will be shown in phase absent indication buffer at corresponding address.

TABLE 5: Current Reversal indication

bit15	bit14	bit13	bit12	bit11	bit10	bit9	bit8	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
XX	XX	XX	XX	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

For e.g.:

- 1) bit15, bit14, bit13 and bit12 will always be **0000**.
- 2) If channel 1 current is reverse then, channel 1 bit will be 1 and all other channel bit will be 0.
- 3) Binary value for current reversal of channel 1 is **0000100000000000**
- 4) Conversion of this binary value to decimal value is 2048.
- 5) This value will be shown in current reverse indication buffer at corresponding address.

TABLE 6: Impulse Rate / Impulse Constant Indication

Nominal Power	Impulse Constant
<=80	16000
<=160	8000
<=320	4000
<=640	2000
>640	1000

- 1) CT Sec = 1
- 2) For Channel Energy :
Nominal Power = PT Sec (LL) x CT Sec / 1.732
- 3) For System Energy :
Nominal Power = 3 x PT Sec (LL) x CT Sec / 1.732

TABLE 7: Health status

bit15	bit14	bit13	bit12	bit11	bit10	bit9	bit8	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
XX	XX	XX	XX	XX	XX	XX	XX	OC	OV	UV	UF	PF	PH-R	IUNB	VUNB
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

For e.g.:

- 1) Health Status is valid for Three Phase system only and Health Status System 1 indicates Status for Three Phase System at Channel 1,2, and 3. Similarly, Health Status System 2 indicates Status for Three Phase System At Channel 4,5,6 and so on.
- 2) bit15, bit14, bit13, bit12, bit11, bit10, bit9 and bit8 will always be **00000000**.
- 3) The fault parameter bit will be 1.
- 4) If only over current fault is present, then OC bit will 1.
- 5) Binary value of OC is **0000000010000000** and decimal value is 128.
- 6) This value will be shown in health status indication buffer at corresponding address.

OC : Over current

UF : Under frequency

IUNB : Current Unbalance

OV : Over voltage

PF : Phase failure

VUNB : Voltage Unbalance

UV : Under voltage

PH-R : Phase reversal

TABLE 8: Reset Parameters

Para No.	Parameter
0	None
1	All
2	On Hour
3	No of Interrupts
4	Max Voltage
5	Min Voltage
(0110XXXXXXXXXXXX)*	Max Current
(0111XXXXXXXXXXXX)*	Min Current
(1000XXXXXXXXXXXX)*	Energy
(1001XXXXXXXXXXXX)*	Demand
(1010XXXXXXXXXXXX)*	Run Hour
(1011XXXXXXXXXXXX)*	Channel Data
(1100XXXXXXXXXXXX)*	Load Profile Log
13	Time-based Log

***NOTE:** In reset parameter, the XXXXXXXXXXXX represents 12 channels in binary format, which should be used to reset the parameter of corresponding channel as explained in TABLE 8.1.

TABLE 8.1: Channel selection

CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12
1	0	0	0	0	0	0	0	0	0	0	0

For e.g.:

- 1) To reset Max Current of channel 1, set channel 1 bit as 1 and all other channel bits as 0.
- 2) Here resetting Max A whose binary form is 0110XXXXXXXXXXXX
- 3) Binary value for resetting Max A of channel 1 is 0110100000000000
- 4) Convert this binary value to decimal value i.e 26624.
- 5) Pass this value to reset parameter buffer at corresponding address, Max A of channel 1 will get reset.

Note: To reset a 3ph system, assign 1 to the bit representing 1st channel of the corresponding system.

TABLE 9 : RS 485 Set-up Code

Baud Rate	Parity	Stop Bit	Decimal value
4800	NONE	01	0
4800	NONE	02	1
4800	EVEN	01	2
4800	ODD	01	3
9600	NONE	01	4
9600	NONE	02	5
9600	EVEN	01	6
9600	ODD	01	7
19200	NONE	01	8
19200	NONE	02	9
19200	EVEN	01	10
19200	ODD	01	11
38400	NONE	01	12
38400	NONE	02	13
38400	EVEN	01	14
38400	ODD	01	15
57600	NONE	01	16
57600	NONE	02	17
57600	EVEN	01	18
57600	ODD	01	19

Note : Codes not listed in the table above may give rise to unpredictable results including loss of communication. Exercise caution when attempting to change mode via direct Modbus writes.

TABLE 10 : Impulse Energy Selection

Parameter Number	Parameter
0	None
1	Wh Channel 1
2	Wh Channel 2
3	Wh Channel 3
4	Wh Channel 4
5	Wh Channel 5
6	Wh Channel 6
7	Wh Channel 7
8	Wh Channel 8
9	Wh Channel 9
10	Wh Channel 10
11	Wh Channel 11
12	Wh Channel 12
13	VArh Channel 1
14	VArh Channel 2
15	VArh Channel 3
16	VArh Channel 4
17	VArh Channel 5
18	VArh Channel 6
19	VArh Channel 7
20	VArh Channel 8
21	VArh Channel 9
22	VArh Channel 10
23	VArh Channel 11
24	VArh Channel 12
25	VAh Channel 1
26	VAh Channel 2
27	VAh Channel 3
28	VAh Channel 4
29	VAh Channel 5

Parameter Number	Parameter
30	VAh Channel 6
31	VAh Channel 7
32	VAh Channel 8
33	VAh Channel 9
34	VAh Channel 10
35	VAh Channel 11
36	VAh Channel 12
37	Wh System 1
38	Wh System 2
39	Wh System 3
40	Wh System 4
41	VArh System 1
42	VArh System 2
43	VArh System 3
44	VArh System 4
45	VAh System 1
46	VAh System 2
47	VAh System 3
48	VAh System 4

Note 1 : System 1 parameter represents Three Phase system present at channel 1, 2, and 3. Similarly System 2 parameter represents Three Phase system present at channel 4, 5, 6 and so on.

Note 2 : If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

TABLE 11 : Energy Parameter Selection and Start Count

Parameter Number	Parameter	Range
1	Wh Import Channel 1	1 to 999999999
2	Wh Import Channel 2	1 to 999999999
3	Wh Import Channel 3	1 to 999999999
4	Wh Import Channel 4	1 to 999999999
5	Wh Import Channel 5	1 to 999999999
6	Wh Import Channel 6	1 to 999999999
7	Wh Import Channel 7	1 to 999999999
8	Wh Import Channel 8	1 to 999999999
9	Wh Import Channel 9	1 to 999999999
10	Wh Import Channel 10	1 to 999999999
11	Wh Import Channel 11	1 to 999999999
12	Wh Import Channel 12	1 to 999999999
13	Wh Export Channel 1	1 to 999999999
14	Wh Export Channel 2	1 to 999999999
15	Wh Export Channel 3	1 to 999999999
16	Wh Export Channel 4	1 to 999999999
17	Wh Export Channel 5	1 to 999999999
18	Wh Export Channel 6	1 to 999999999
19	Wh Export Channel 7	1 to 999999999
20	Wh Export Channel 8	1 to 999999999
21	Wh Export Channel 9	1 to 999999999
22	Wh Export Channel 10	1 to 999999999
23	Wh Export Channel 11	1 to 999999999
24	Wh Export Channel 12	1 to 999999999
25	VARh Capacitive Channel 1	1 to 999999999
26	VARh Capacitive Channel 2	1 to 999999999
27	VARh Capacitive Channel 3	1 to 999999999
28	VARh Capacitive Channel 4	1 to 999999999
29	VARh Capacitive Channel 5	1 to 999999999
30	VARh Capacitive Channel 6	1 to 999999999

TABLE 11 : Continue...

Parameter Number	Parameter	Range
31	VARh Capacitive Channel 7	1 to 999999999
32	VARh Capacitive Channel 8	1 to 999999999
33	VARh Capacitive Channel 9	1 to 999999999
34	VARh Capacitive Channel 10	1 to 999999999
35	VARh Capacitive Channel 11	1 to 999999999
36	VARh Capacitive Channel 12	1 to 999999999
37	VARh Inductive Channel 1	1 to 999999999
38	VARh Inductive Channel 2	1 to 999999999
39	VARh Inductive Channel 3	1 to 999999999
40	VARh Inductive Channel 4	1 to 999999999
41	VARh Inductive Channel 5	1 to 999999999
42	VARh Inductive Channel 6	1 to 999999999
43	VARh Inductive Channel 7	1 to 999999999
44	VARh Inductive Channel 8	1 to 999999999
45	VARh Inductive Channel 9	1 to 999999999
46	VARh Inductive Channel 10	1 to 999999999
47	VARh Inductive Channel 11	1 to 999999999
48	VARh Inductive Channel 12	1 to 999999999
49	VAh Channel 1	1 to 999999999
50	VAh Channel 2	1 to 999999999
51	VAh Channel 3	1 to 999999999
52	VAh Channel 4	1 to 999999999
53	VAh Channel 5	1 to 999999999
54	VAh Channel 6	1 to 999999999
55	VAh Channel 7	1 to 999999999
56	VAh Channel 8	1 to 999999999
57	VAh Channel 9	1 to 999999999
58	VAh Channel 10	1 to 999999999
59	VAh Channel 11	1 to 999999999
60	VAh Channel 12	1 to 999999999

TABLE 11 : Continue...

Parameter Number	Parameter	Range
61	Wh Import System 1	1 to 999999999
62	Wh Import System 2	1 to 999999999
63	Wh Import System 3	1 to 999999999
64	Wh Import System 4	1 to 999999999
65	Wh Export System 1	1 to 999999999
66	Wh Export System 2	1 to 999999999
67	Wh Export System 3	1 to 999999999
68	Wh Export System 4	1 to 999999999
69	VARh Capacitive System 1	1 to 999999999
70	VARh Capacitive System 2	1 to 999999999
71	VARh Capacitive System 3	1 to 999999999
72	VARh Capacitive System 4	1 to 999999999
73	VARh Inductive System 1	1 to 999999999
74	VARh Inductive System 2	1 to 999999999
75	VARh Inductive System 3	1 to 999999999
76	VARh Inductive System 4	1 to 999999999
77	VAh System 1	1 to 999999999
78	VAh System 2	1 to 999999999
79	VAh System 3	1 to 999999999
80	VAh System 4	1 to 999999999
81	Wh Import Overflow count Channel 1	1 to 999999
82	Wh Import Overflow count Channel 2	1 to 999999
83	Wh Import Overflow count Channel 3	1 to 999999
84	Wh Import Overflow count Channel 4	1 to 999999
85	Wh Import Overflow count Channel 5	1 to 999999
86	Wh Import Overflow count Channel 6	1 to 999999
87	Wh Import Overflow count Channel 7	1 to 999999
88	Wh Import Overflow count Channel 8	1 to 999999
89	Wh Import Overflow count Channel 9	1 to 999999
90	Wh Import Overflow count Channel 10	1 to 999999

TABLE 11 : Continue...

Parameter Number	Parameter	Range
91	Wh Import Overflow count Channel 1	1 to 999999
92	Wh Import Overflow count Channel 2	1 to 999999
93	Wh Export Overflow count Channel 1	1 to 999999
94	Wh Export Overflow count Channel 2	1 to 999999
95	Wh Export Overflow count Channel 3	1 to 999999
96	Wh Export Overflow count Channel 4	1 to 999999
97	Wh Export Overflow count Channel 5	1 to 999999
98	Wh Export Overflow count Channel 6	1 to 999999
99	Wh Export Overflow count Channel 7	1 to 999999
100	Wh Export Overflow count Channel 8	1 to 999999
101	Wh Export Overflow count Channel 9	1 to 999999
102	Wh Export Overflow count Channel 10	1 to 999999
103	Wh Export Overflow count Channel 11	1 to 999999
104	Wh Export Overflow count Channel 12	1 to 999999
105	VARh Capacitive Overflow count Channel 1	1 to 999999
106	VARh Capacitive Overflow count Channel 2	1 to 999999
107	VARh Capacitive Overflow count Channel 3	1 to 999999
108	VARh Capacitive Overflow count Channel 4	1 to 999999
109	VARh Capacitive Overflow count Channel 5	1 to 999999
110	VARh Capacitive Overflow count Channel 6	1 to 999999
111	VARh Capacitive overflow count Channel 7	1 to 999999
112	VARh Capacitive overflow count Channel 8	1 to 999999
113	VARh Capacitive overflow count Channel 9	1 to 999999
114	VARh Capacitive overflow count Channel 10	1 to 999999
115	VARh Capacitive overflow count Channel 11	1 to 999999
116	VARh Capacitive overflow count Channel 12	1 to 999999
117	VARh Inductive overflow count Channel 1	1 to 999999
118	VARh Inductive overflow count Channel 2	1 to 999999
119	VARh Inductive overflow count Channel 3	1 to 999999
120	VARh Inductive overflow count Channel 4	1 to 999999

TABLE 11 : Continue...

Parameter Number	Parameter	Range
121	Varh Inductive overflow count Channel 5	1 to 999999
122	VARh Inductive overflow count Channel 6	1 to 999999
123	VARh Inductive overflow count Channel 7	1 to 999999
124	VARh Inductive overflow count Channel 8	1 to 999999
125	VARh Inductive overflow count Channel 9	1 to 999999
126	VARh Inductive overflow count Channel 10	1 to 999999
127	VARh Inductive overflow count Channel 11	1 to 999999
128	VARh Inductive overflow count Channel 12	1 to 999999
129	VAh overflow count Channel 1	1 to 999999
130	VAh overflow count Channel 2	1 to 999999
131	VAh overflow count Channel 3	1 to 999999
132	VAh overflow count Channel 4	1 to 999999
133	VAh overflow count Channel 5	1 to 999999
134	VAh overflow count Channel 6	1 to 999999
135	VAh overflow count Channel 7	1 to 999999
136	VAh overflow count Channel 8	1 to 999999
137	VAh overflow count Channel 9	1 to 999999
138	VAh overflow count Channel 10	1 to 999999
139	VAh overflow count Channel 11	1 to 999999
140	VAh overflow count Channel 12	1 to 999999
141	Wh Import overflow count System 1	1 to 999999
142	Wh Import overflow count System 2	1 to 999999
143	Wh Import overflow count System 3	1 to 999999
144	Wh Import overflow count System 4	1 to 999999
145	Wh Export overflow count System 1	1 to 999999
146	Wh Export overflow count System 2	1 to 999999
147	Wh Export overflow count System 3	1 to 999999
148	Wh Export overflow count System 4	1 to 999999
149	VARh Capacitive overflow count System 1	1 to 999999
150	VARh Capacitive overflow count System 2	1 to 999999

TABLE 11 : Continue...

Parameter Number	Parameter	Range
151	Varh Capacitive overflow count System 3	1 to 999999
152	VARh Capacitive overflow count System 4	1 to 999999
153	VARh Inductive overflow count System 1	1 to 999999
154	VARh Inductive overflow count System 2	1 to 999999
155	VARh Inductive overflow count System 3	1 to 999999
156	VARh Inductive overflow count System 4	1 to 999999
157	VAh overflow count System 1	1 to 999999
158	VAh overflow count System 2	1 to 999999
159	VAh overflow count System 3	1 to 999999
160	VAh overflow count System 4	1 to 999999

Note 1 : System 1 parameter represents Three Phase system present at channel 1,2, and 3.

Similarly System 2 parameter represents Three Phase system present at channel 4,5,6 and so on.

Note 2 : If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

Note 3: Maximum Energy starting count depends on Energy digit reset count.

**TABLE 12 : Pulse / Tariff
Configuration Select**

Code	Configuration
0	None
1	Wh Import Channel 1
2	Wh Import Channel 2
3	Wh Import Channel 3
4	Wh Import Channel 4
5	Wh Import Channel 5
6	Wh Import Channel 6
7	Wh Import Channel 7
8	Wh Import Channel 8
9	Wh Import Channel 9
10	Wh Import Channel 10
11	Wh Import Channel 11
12	Wh Import Channel 12
13	Wh Export Channel 1
14	Wh Export Channel 2
15	Wh Export Channel 3
16	Wh Export Channel 4
17	Wh Export Channel 5
18	Wh Export Channel 6
19	Wh Export Channel 7
20	Wh Export Channel 8
21	Wh Export Channel 9
22	Wh Export Channel 10
23	Wh Export Channel 11
24	Wh Export Channel 12
25	VArh Capacitive Channel 1
26	VArh Capacitive Channel 2
27	VArh Capacitive Channel 3
28	VArh Capacitive Channel 4
29	VArh Capacitive Channel 5

TABLE 12 : Continue...

Code	Configuration
30	VArh Capacitive Channel 6
31	VArh Capacitive Channel 7
32	VArh Capacitive Channel 8
33	VArh Capacitive Channel 9
34	VArh Capacitive Channel 10
35	VArh Capacitive Channel 11
36	VArh Capacitive Channel 12
37	VArh Inductive Channel 1
38	VArh Inductive Channel 2
39	VArh Inductive Channel 3
40	VArh Inductive Channel 4
41	VArh Inductive Channel 5
42	VArh Inductive Channel 6
43	VArh Inductive Channel 7
44	VArh Inductive Channel 8
45	VArh Inductive Channel 9
46	VArh Inductive Channel 10
47	VArh Inductive Channel 11
48	VArh Inductive Channel 12
49	VAh Channel 1
50	VAh Channel 2
51	VAh Channel 3
52	VAh Channel 4
53	VAh Channel 5
54	VAh Channel 6
55	VAh Channel 7
56	VAh Channel 8
57	VAh Channel 9
58	VAh Channel 10
59	VAh Channel 11

TABLE 12 : Continue...

Code	Configuration
60	VAh Channel 12
61	Wh Import System 1
62	Wh Import System 2
63	Wh Import System 3
64	Wh Import System 4
65	Wh Export System 1
66	Wh Export System 2
67	Wh Export System 3
68	Wh Export System 4
69	VArh Capacitive System 1
70	VArh Capacitive System 2
71	VArh Capacitive System 3
72	VArh Capacitive System 4
73	VArh Inductive System 1
74	VArh Inductive System 2
75	VArh Inductive System 3
76	VArh Inductive System 4
77	VAh System 1
78	VAh System 2
79	VAh System 3
80	VAh System 4

Note 1 : System 1 parameter represents Three Phase system present at channel 1,2, and 3. Similarly System 2 parameter represents Three Phase system present at channel 4,5,6 and so on.

Note 2 : If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

TABLE 13: Number of Cycles for Timer Relay

Code	Description
0	Unlimited
1 to 9999	Fixed Cycles

TABLE 14: Weekly Repeat for RTC Relay

Code	Description
1XXXXXXX E{1,2,3,4,5,6,7}	Eg 11010000 means relay will operate only on Sun & Tue. 'E'bit indicate Enable/Disable
	1 = Sunday, 7 = Saturday

TABLE 15 : Parameters for Limit output

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
0	None	✓	✓	✓	-	-
1	Voltage L1	✓	✓	✓	10 - 120 %	Vnom (L-N)
2	Voltage L2	✓	✓	✓	10 - 120 %	Vnom (L-N)
3	Voltage L3	✓	✓	✓	10 - 120 %	Vnom (L-N)
4	Voltage L12	✓	✓	✓	10 - 120 %	Vnom (L-L)
5	Voltage L23	✓	✓	✓	10 - 120 %	Vnom (L-L)
6	Voltage L31	✓	✓	✓	10 - 120 %	Vnom (L-L)
7	Current Channel 1	✓	✓	✓	10 - 120 %	Inom
8	Current Channel 2	✓	✓	✓	10 - 120 %	Inom
9	Current Channel 3	✓	✓	✓	10 - 120 %	Inom
10	Current Channel 4	✓	✓	✓	10 - 120 %	Inom
11	Current Channel 5	✓	✓	✓	10 - 120 %	Inom
12	Current Channel 6	✓	✓	✓	10 - 120 %	Inom
13	Current Channel 7	✓	✓	✓	10 - 120 %	Inom
14	Current Channel 8	✓	✓	✓	10 - 120 %	Inom
15	Current Channel 9	✓	✓	✓	10 - 120 %	Inom
16	Current Channel 10	✓	✓	✓	10 - 120 %	Inom
17	Current Channel 11	✓	✓	✓	10 - 120 %	Inom
18	Current Channel 12	✓	✓	✓	10 - 120 %	Inom
19	W Channel 1	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
20	W Channel 2	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
21	W Channel 3	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
22	W Channel 4	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
23	W Channel 5	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
24	W Channel 6	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
25	W Channel 7	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
26	W Channel 8	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
27	W Channel 9	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
28	W Channel 10	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
29	W Channel 11	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
30	W Channel 12	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
31	VA Channel 1	✓	✗	✓	10 - 120 % -	Nom ⁽¹⁾
32	VA Channel 2	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
33	VA Channel 3	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
34	VA Channel 4	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
35	VA Channel 5	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
36	VA Channel 6	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
37	VA Channel 7	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
38	VA Channel 8	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
39	VA Channel 9	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
40	VA Channel 10	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
41	VA Channel 11	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
42	VA Channel 12	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
43	VAr Channel 1	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
44	VAr Channel 2	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
45	VAr Channel 3	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
46	VAr Channel 4	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
47	VAr Channel 5	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
48	VAr Channel 6	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
49	VAr Channel 7	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
50	VAr Channel 8	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
51	VAr Channel 9	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
52	VAr Channel 10	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
53	VAr Channel 11	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
54	VAr Channel 12	✓	✗	✓	10 - 120 %	Nom ⁽¹⁾
55	Power Factor Channel 1	✓	✗	✓	10 - 90 %	90°
56	Power Factor Channel 2	✓	✗	✓	10 - 90 %	90°
57	Power Factor Channel 3	✓	✗	✓	10 - 90 %	90°
58	Power Factor Channel 4	✓	✗	✓	10 - 90 %	90°
59	Power Factor Channel 5	✓	✗	✓	10 - 90 %	90°
60	Power Factor Channel 6	✓	✗	✓	10 - 90 %	90°
61	Power Factor Channel 7	✓	✗	✓	10 - 90 %	90°

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
62	Power Factor Channel 8	✓	✗	✓	10 - 90 %	90°
63	Power Factor Channel 9	✓	✗	✓	10 - 90 %	90°
64	Power Factor Channel 10	✓	✗	✓	10 - 90 %	90°
65	Power Factor Channel 11	✓	✗	✓	10 - 90 %	90°
66	Power Factor Channel 12	✓	✗	✓	10 - 90 %	90°
67	Phase Angle Channel 1	✓	✗	✓	10 - 90 %	360°
68	Phase Angle Channel 2	✓	✗	✓	10 - 90 %	360°
69	Phase Angle Channel 3	✓	✗	✓	10 - 90 %	360°
70	Phase Angle Channel 4	✓	✗	✓	10 - 90 %	360°
71	Phase Angle Channel 5	✓	✗	✓	10 - 90 %	360°
72	Phase Angle Channel 6	✓	✗	✓	10 - 90 %	360°
73	Phase Angle Channel 7	✓	✗	✓	10 - 90 %	360°
74	Phase Angle Channel 8	✓	✗	✓	10 - 90 %	360°
75	Phase Angle Channel 9	✓	✗	✓	10 - 90 %	360°
76	Phase Angle Channel 10	✓	✗	✓	10 - 90 %	360°
77	Phase Angle Channel 11	✓	✗	✓	10 - 90 %	360°
78	Phase Angle Channel 12	✓	✗	✓	10 - 90 %	360°
79	Wh Import Channel 1	✓	✗	✓	10-9999999	-
80	Wh Import Channel 2	✓	✗	✓	10-9999999	-
81	Wh Import Channel 3	✓	✗	✓	10-9999999	-
82	Wh Import Channel 4	✓	✗	✓	10-9999999	-
83	Wh Import Channel 5	✓	✗	✓	10-9999999	-
84	Wh Import Channel 6	✓	✗	✓	10-9999999	-
85	Wh Import Channel 7	✓	✗	✓	10-9999999	-
86	Wh Import Channel 8	✓	✗	✓	10-9999999	-
87	Wh Import Channel 9	✓	✗	✓	10-9999999	-
88	Wh Import Channel 10	✓	✗	✓	10-9999999	-
89	Wh Import Channel 11	✓	✗	✓	10-9999999	-
90	Wh Import Channel 12	✓	✗	✓	10-9999999	-
91	Wh Export Channel 1	✓	✗	✓	10-9999999	-
92	Wh Export Channel 2	✓	✗	✓	10-9999999	-

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
93	Wh Export Channel 3	✓	✗	✓	10-9999999	-
94	Wh Export Channel 4	✓	✗	✓	10-9999999	-
95	Wh Export Channel 5	✓	✗	✓	10-9999999	-
96	Wh Export Channel 6	✓	✗	✓	10-9999999	-
97	Wh Export Channel 7	✓	✗	✓	10-9999999	-
98	Wh Export Channel 8	✓	✗	✓	10-9999999	-
99	Wh Export Channel 9	✓	✗	✓	10-9999999	-
100	Wh Export Channel 10	✓	✗	✓	10-9999999	-
101	Wh Export Channel 11	✓	✗	✓	10-9999999	-
102	Wh Export Channel 12	✓	✗	✓	10-9999999	-
103	VARh Capacitive Channel 1	✓	✗	✓	10-9999999	-
104	VARh Capacitive Channel 2	✓	✗	✓	10-9999999	-
105	VARh Capacitive Channel 3	✓	✗	✓	10-9999999	-
106	VARh Capacitive Channel 4	✓	✗	✓	10-9999999	-
107	VARh Capacitive Channel 5	✓	✗	✓	10-9999999	-
108	VARh Capacitive Channel 6	✓	✗	✓	10-9999999	-
109	VARh Capacitive Channel 7	✓	✗	✓	10-9999999	-
110	VARh Capacitive Channel 8	✓	✗	✓	10-9999999	-
111	VARh Capacitive Channel 9	✓	✗	✓	10-9999999	-
112	VARh Capacitive Channel 10	✓	✗	✓	10-9999999	-
113	VARh Capacitive Channel 11	✓	✗	✓	10-9999999	-
114	VARh Capacitive Channel 12	✓	✗	✓	10-9999999	-
115	VARh Inductive Channel 1	✓	✗	✓	10-9999999	-
116	VARh Inductive Channel 2	✓	✗	✓	10-9999999	-
117	VARh Inductive Channel 3	✓	✗	✓	10-9999999	-
118	VARh Inductive Channel 4	✓	✗	✓	10-9999999	-
119	VARh Inductive Channel 5	✓	✗	✓	10-9999999	-
120	VARh Inductive Channel 6	✓	✗	✓	10-9999999	-
121	VARh Inductive Channel 7	✓	✗	✓	10-9999999	-
122	VARh Inductive Channel 8	✓	✗	✓	10-9999999	-
123	VARh Inductive Channel 9	✓	✗	✓	10-9999999	-

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
124	VArh Inductive Channel 10	✓	✗	✓	10-9999999	-
125	VArh Inductive Channel 11	✓	✗	✓	10-9999999	-
126	VArh Inductive Channel 12	✓	✗	✓	10-9999999	-
127	VAh Channel 1	✓	✗	✓	10-9999999	-
128	VAh Channel 2	✓	✗	✓	10-9999999	-
129	VAh Channel 3	✓	✗	✓	10-9999999	-
130	VAh Channel 4	✓	✗	✓	10-9999999	-
131	VAh Channel 5	✓	✗	✓	10-9999999	-
132	VAh Channel 6	✓	✗	✓	10-9999999	-
133	VAh Channel 7	✓	✗	✓	10-9999999	-
134	VAh Channel 8	✓	✗	✓	10-9999999	-
135	VAh Channel 9	✓	✗	✓	10-9999999	-
136	VAh Channel 10	✓	✗	✓	10-9999999	-
137	VAh Channel 11	✓	✗	✓	10-9999999	-
138	VAh Channel 12	✓	✗	✓	10-9999999	-
199	kW Import demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
200	kW Import demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
201	kW Import demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
202	kW Import demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
203	kW Import demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
204	kW Import demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
205	kW Import demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
206	kW Import demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
207	kW Import demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
208	kW Import demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
209	kW Import demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
210	kW Import demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
211	kW Export demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
212	kW Export demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
213	kW Export demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
214	kW Export demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
215	kW Export demand Channel 5	✓	✗	✓	10-9999999	Nom ⁽¹⁾
216	kW Export demand Channel 6	✓	✗	✓	10-9999999	Nom ⁽¹⁾
217	kW Export demand Channel 7	✓	✗	✓	10-9999999	Nom ⁽¹⁾
218	kW Export demand Channel 8	✓	✗	✓	10-9999999	Nom ⁽¹⁾
219	kW Export demand Channel 9	✓	✗	✓	10-9999999	Nom ⁽¹⁾
220	kW Export demand Channel 10	✓	✗	✓	10-9999999	Nom ⁽¹⁾
221	kW Export demand Channel 11	✓	✗	✓	10-9999999	Nom ⁽¹⁾
222	kW Export demand Channel 12	✓	✗	✓	10-9999999	Nom ⁽¹⁾
223	kVAr Capacitive demand Channel 1	✓	✗	✓	10-9999999	Nom ⁽¹⁾
224	kVAr Capacitive demand Channel 2	✓	✗	✓	10-9999999	Nom ⁽¹⁾
225	kVAr Capacitive demand Channel 3	✓	✗	✓	10-9999999	Nom ⁽¹⁾
226	kVAr Capacitive demand Channel 4	✓	✗	✓	10-9999999	Nom ⁽¹⁾
227	kVAr Capacitive demand Channel 5	✓	✗	✓	10-9999999	Nom ⁽¹⁾
228	kVAr Capacitive demand Channel 6	✓	✗	✓	10-9999999	Nom ⁽¹⁾
229	kVAr Capacitive demand Channel 7	✓	✗	✓	10-9999999	Nom ⁽¹⁾
230	kVAr Capacitive demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
231	kVAr Capacitive demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
232	kVAr Capacitive demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
233	kVAr Capacitive demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
234	kVAr Capacitive demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
235	kVAr Inductive demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
236	kVAr Inductive demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
237	kVAr Inductive demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
238	kVAr Inductive demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
239	kVAr Inductive demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
240	kVAr Inductive demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
241	kVAr Inductive demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
242	kVAr Inductive demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
243	kVAr Inductive demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
244	kVAr Inductive demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
245	kVAr Inductive demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
246	kVAr Inductive demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
247	kVA demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
248	kVA demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
249	kVA demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
250	kVA demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
251	kVA demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
252	kVA demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
253	kVA demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
254	kVA demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
255	kVA demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
256	kVA demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
257	kVA demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
258	kVA demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
259	Current demand Channel 1	✓	✗	✓	10-120%	Inom
260	Current demand Channel 2	✓	✗	✓	10-120%	Inom
261	Current demand Channel 3	✓	✗	✓	10-120%	Inom
262	Current demand Channel 4	✓	✗	✓	10-120%	Inom
263	Current demand Channel 5	✓	✗	✓	10-120%	Inom
264	Current demand Channel 6	✓	✗	✓	10-120%	Inom
265	Current demand Channel 7	✓	✗	✓	10-120%	Inom
266	Current demand Channel 8	✓	✗	✓	10-120%	Inom
267	Current demand Channel 9	✓	✗	✓	10-120%	Inom
268	Current demand Channel 10	✓	✗	✓	10-120%	Inom
269	Current demand Channel 11	✓	✗	✓	10-120%	Inom
270	Current demand Channel 12	✓	✗	✓	10-120%	Inom
271	kW Import Max demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
272	kW Import Max demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
273	kW Import Max demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
274	kW Import Max demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
275	kW Import Max demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
276	kW Import Max demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
277	kW Import Max demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
278	kW Import Max demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
279	kW Import Max demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
280	kW Import Max demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
281	kW Import Max demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
282	kW Import Max demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
283	kW Export Max demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
284	kW Export Max demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
285	kW Export Max demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
286	kW Export Max demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
287	kW Export Max demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
288	kW Export Max demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
289	kW Export Max demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
290	kW Export Max demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
291	kW Export Max demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
292	kW Export Max demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
293	kW Export Max demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
294	kW Export Max demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
295	kVAr Capacitive Max demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
296	kVAr Capacitive Max demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
297	kVAr Capacitive Max demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
298	kVAr Capacitive Max demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
299	kVAr Capacitive Max demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
300	kVAr Capacitive Max demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
301	kVAr Capacitive Max demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
302	kVAr Capacitive Max demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
303	kVAr Capacitive Max demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
304	kVAr Capacitive Max demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
305	kVAr Capacitive Max demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
306	kVAr Capacitive Max demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
307	kVAr Inductive Max demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
308	kVAr Inductive Max demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
309	kVAr Inductive Max demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
310	kVAr Inductive Max demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
311	kVAr Inductive Max demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
312	kVAr Inductive Max demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
313	kVAr Inductive Max demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
314	kVAr Inductive Max demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
315	kVAr Inductive Max demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
316	kVAr Inductive Max demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
317	kVAr Inductive Max demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
318	kVAr Inductive Max demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
319	kVA Max demand Channel 1	✓	✗	✓	10-120%	Nom ⁽¹⁾
320	kVA Max demand Channel 2	✓	✗	✓	10-120%	Nom ⁽¹⁾
321	kVA Max demand Channel 3	✓	✗	✓	10-120%	Nom ⁽¹⁾
322	kVA Max demand Channel 4	✓	✗	✓	10-120%	Nom ⁽¹⁾
323	kVA Max demand Channel 5	✓	✗	✓	10-120%	Nom ⁽¹⁾
324	kVA Max demand Channel 6	✓	✗	✓	10-120%	Nom ⁽¹⁾
325	kVA Max demand Channel 7	✓	✗	✓	10-120%	Nom ⁽¹⁾
326	kVA Max demand Channel 8	✓	✗	✓	10-120%	Nom ⁽¹⁾
327	kVA Max demand Channel 9	✓	✗	✓	10-120%	Nom ⁽¹⁾
328	kVA Max demand Channel 10	✓	✗	✓	10-120%	Nom ⁽¹⁾
329	kVA Max demand Channel 11	✓	✗	✓	10-120%	Nom ⁽¹⁾
330	kVA Max demand Channel 12	✓	✗	✓	10-120%	Nom ⁽¹⁾
331	Current Max demand Channel 1	✓	✗	✓	10-120%	Inom
332	Current Max demand Channel 2	✓	✗	✓	10-120%	Inom
333	Current Max demand Channel 3	✓	✗	✓	10-120%	Inom
334	Current Max demand Channel 4	✓	✗	✓	10-120%	Inom
335	Current Max demand Channel 5	✓	✗	✓	10-120%	Inom
336	Current Max demand Channel 6	✓	✗	✓	10-120%	Inom
337	Current Max demand Channel 7	✓	✗	✓	10-120%	Inom
338	Current Max demand Channel 8	✓	✗	✓	10-120%	Inom

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
339	Current Max demand Channel 9	✓	✗	✓	10-120%	Inom
340	Current Max demand Channel 10	✓	✗	✓	10-120%	Inom
341	Current Max demand Channel 11	✓	✗	✓	10-120%	Inom
342	Current Max demand Channel 12	✓	✗	✓	10-120%	Inom
529	System Voltage LN Avg	✓	✓	✓	10-120%	Vnom(L-N)
531	System Voltage LL Avg	✓	✓	✓	10-120%	Vnom(L-L)
533	Current Avg System 1	✓	✓	✗	10-120%	Inom
534	Current Avg System 2	✓	✓	✗	10-120%	Inom
535	Current Avg System 3	✓	✓	✗	10-120%	Inom
536	Current Avg System 4	✓	✓	✗	10-120%	Inom
545	Watt Sum System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
546	Watt Sum System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
547	Watt Sum System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
548	Watt Sum System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
553	VA Sum System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
554	VA Sum System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
555	VA Sum System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
556	VA Sum System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
561	VAr Sum System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
562	VAr Sum System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
563	VAr Sum System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
564	VAr Sum System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
565	Power Factor Avg System 1	✓	✓	✗	10-90%	90
566	Power Factor Avg System 2	✓	✓	✗	10-90%	90°
567	Power Factor Avg System 3	✓	✓	✗	10-90%	90°
568	Power Factor Avg System 4	✓	✓	✗	10-90%	90°
573	Phase Angle Avg System 1	✓	✓	✗	10-90%	360°
574	Phase Angle Avg System 2	✓	✓	✗	10-90%	360°
575	Phase Angle Avg System 3	✓	✓	✗	10-90%	360°
576	Phase Angle Avg System 4	✓	✓	✗	10-90%	360°
581	Wh Import System 1	✓	✓	✗	10-9999999	-

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
582	Wh Import System 2	✓	✓	✗	10-9999999	-
583	Wh Import System 3	✓	✓	✗	10-9999999	-
584	Wh Import System 4	✓	✓	✗	10-9999999	-
585	Wh Export System 1	✓	✓	✗	10-9999999	-
586	Wh Export System 2	✓	✓	✗	10-9999999	-
587	Wh Export System 3	✓	✓	✗	10-9999999	-
588	Wh Export System 4	✓	✓	✗	10-9999999	-
589	VARh Capacitive System 1	✓	✓	✗	10-9999999	-
590	VARh Capacitive System 2	✓	✓	✗	10-9999999	-
591	VARh Capacitive System 3	✓	✓	✗	10-9999999	-
592	VARh Capacitive System 4	✓	✓	✗	10-9999999	-
593	VARh Inductive System 1	✓	✓	✗	10-9999999	-
594	VARh Inductive System 2	✓	✓	✗	10-9999999	-
595	VARh Inductive System 3	✓	✓	✗	10-9999999	-
596	VARh Inductive System 4	✓	✓	✗	10-9999999	-
597	VAh System 1	✓	✓	✗	10-9999999	-
598	VAh System 2	✓	✓	✗	10-9999999	-
599	VAh System 3	✓	✓	✗	10-9999999	-
600	VAh System 4	✓	✓	✗	10-9999999	-
621	kW Import demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
622	kW Import demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
623	kW Import demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
624	kW Import demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
625	kW Export demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
626	kW Export demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
627	kW Export demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
628	kW Export demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
629	kVAr Capacitive demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
630	kVAr Capacitive demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
631	kVAr Capacitive demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
632	kVAr Capacitive demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
633	kVAr Inductive demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
634	kVAr Inductive demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
635	kVAr Inductive demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
636	kVAr Inductive demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
637	KVA demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
638	KVA demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
639	KVA demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
640	KVA demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
641	Current demand System 1	✓	✓	✗	10-120%	Inom
642	Current demand System 2	✓	✓	✗	10-120%	Inom
643	Current demand System 3	✓	✓	✗	10-120%	Inom
644	Current demand System 4	✓	✓	✗	10-120%	Inom
645	kW Import Max demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
646	kW Import Max demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
647	kW Import Max demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
648	kW Import Max demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
649	KW Export Max demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
650	KW Export Max demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
651	KW Export Max demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
652	KW Export Max demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
653	kVAr Capacitive Max demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
654	kVAr Capacitive Max demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
655	kVAr Capacitive Max demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
656	kVAr Capacitive Max demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
657	kVAr Inductive Max demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
658	kVAr Inductive Max demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
659	kVAr Inductive Max demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾
660	kVAr Inductive Max demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
661	kVA Max demand System 1	✓	✓	✗	10-120%	Nom ⁽¹⁾
662	kVA Max demand System 2	✓	✓	✗	10-120%	Nom ⁽¹⁾
663	kVA Max demand System 3	✓	✓	✗	10-120%	Nom ⁽¹⁾

TABLE 15 : Continue...

Parameter No.	Parameter	3P 4W	3P 3W	1P 2W	Trip Point Set Range	100% Value
664	kVA Max demand System 4	✓	✓	✗	10-120%	Nom ⁽¹⁾
665	Current Max demand System 1	✓	✓	✗	10-120%	Inom
666	Current Max demand System 2	✓	✓	✗	10-120%	Inom
667	Current Max demand System 3	✓	✓	✗	10-120%	Inom
668	Current Max demand System 4	✓	✓	✗	10-120%	Inom
731	Neutral Current System 1	✓	✗	✗	10-120%	Inom
732	Neutral Current System 2	✓	✗	✗	10-120%	Inom
733	Neutral Current System 3	✓	✗	✗	10-120%	Inom
734	Neutral Current System 4	✓	✗	✗	10-120%	Inom
735	Frequency	✓	✓	✓	10-90%	66 Hz ⁽²⁾
736	Relay Manually OFF	✓	✓	✓	1	-
737	Relay Manually ON	✓	✓	✓	1	-

Note 1: (1) Nominal value for power is calculated from nominal voltage and current values and this nominal value is to be considered with set CT/PT Primary values.

(2) For Frequency 0% corresponds to 45 Hz and 100% corresponds to 66 Hz.

Note 2: System 1 parameter represents Three Phase system present at channel 1,2, and 3.

Similarly System 2 parameter represents Three Phase system present at channel 4,5,6 and so on.

Note 3: If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

Note 4: If a channel is selected in RCM mode, then only parameter no. 0 to 18 and 735 to 737 of corresponding channel are valid.

TABLE 16 : Relay Configuration

For Limit Relay

Code	Configuration
0	Hi - alarm & energised Relay
1	Hi - alarm & De-energised Relay
2	Lo - alarm & Energised Relay
3	Lo - alarm & De-energised Relay

For Timer / RTC relay / Load Health Relay

Code	Configuration
0	Energize when triggered
1	De-energize when triggered

TABLE 17.1 : Measurement & Energy/Counter Screens for Load Menu

Screen No.	3P 4W Load	3P 3W Load	1P 2W Load
1	System(V, A, W, HZ)	System(V, A, W, HZ)	Channel(V, A, W, HZ)
2	Phase Volt(L1, L2, L3, AVG)	✘	✘
3	Line to Line Volt(L12, L23, L31)	Line to Line Volt(L12, L23, L31)	✘
4	Phase Current(L1, L2, L3, N)	Phase Current(L1, L2, L3)	✘
5	Phase L1(VA, VAr, W, PF)	✘	✘
6	Phase L2(VA, VAr, W, PF)	✘	✘
7	Phase L3(VA, VAr, W, PF)	✘	✘
8	Phase Angle(L1, L2, L3)	✘	✘
9	System W DMD(Imp,Exp)	System W DMD(Imp, Exp)	Channel W DMD(Imp, Exp)
10	System Var DMD(Cap,Ind)	System Var DMD(Cap, Ind)	Channel Var DMD(Cap, Ind)
11	System DMD(VA, A)	System DMD(VA, A)	Channel DMD(VA, A)
12	W Imp DMD(L1, L2, L3)	✘	✘
13	W Exp DMD(L1, L2, L3)	✘	✘
14	VAr Cap DMD(L1, L2, L3)	✘	✘
15	VAr Ind DMD(L1, L2, L3)	✘	✘
16	VA DMD(L1, L2, L3)	✘	✘
17	Current DMD(L1, L2, L3)	✘	✘
18	Max System W DMD(Imp,Exp)	Max System W DMD(Imp,Exp)	Max Channel W DMD(Imp,Exp)
19	Max System VAr DMD(Cap,Ind)	Max System VAr DMD(Cap,Ind)	Max Channel VAr DMD(Cap,Ind)
20	Max System DMD(VA, A)	Max System DMD(VA, A)	Max Channel DMD(VA, A)
21	Max W Imp DMD(L1, L2, L3)	✘	✘
22	Max W Exp DMD(L1, L2, L3)	✘	✘
23	Max VAr Cap DMD(L1, L2, L3)	✘	✘
24	Max VAr Ind DMD(L1, L2, L3)	✘	✘
25	Max VA DMD(L1, L2, L3)	✘	✘
26	Max Current DMD(L1, L2, L3)	✘	✘
27	RPM, Frequency	RPM, Frequency	RPM, Frequency
28	System(VA, VAr, W)	System(VA, VAr, W)	Channel(VA, VAr, W)
29	System(VA, Var, PA, PF)	System(VA, Var, PA, PF)	Channel(VA, Var, PA, PF)
30	Min system (V, A)	Min system (V, A)	Min Channel (V, A)

TABLE 17.1 : Continue...

Screen No.	3P 4W Load	3P 3W Load	1P 2W Load
31	Max system(V, A)	Max system(V, A)	Max Channel(V, A)
32	Min Volt(L1, L2, L3)	✘	✘
33	Max Volt(L1, L2, L3)	✘	✘
34	Min Volt(L12, L23, L31)	Min Volt(L12, L23, L31)	✘
35	Max Volt(L12, L23, L31)	Max Volt(L12, L23, L31)	✘
36	Min Current(L1, L2, L3)	Min Current(L1, L2, L3)	✘
37	Max Current(L1, L2, L3)	Max Current(L1, L2, L3)	✘
38	%THD Volt(L1, L2, L3)	%THD Volt(L1, L2, L3)	✘
39	%THD Current(L1, L2, L3)	%THD Current(L1, L2, L3)	✘
40	System %THD(V, A)	System %THD(V, A)	Channel %THD(V, A)
41	Current reverse	✘	Current reverse
42	Phase reversal	Phase reversal	✘
43	Phase absent screen	✘	✘
44	Individual harmonic(V%)	Individual harmonic(V%)	Individual harmonic(V%)
45	Individual harmonic(A%)	Individual harmonic(A%)	Individual harmonic(A%)

TABLE 17.2 : Measurement Screens (Menu-wise)

Screen No.	Total System Menu	Load Channel Info Sub-menu	RCM Menu
1	Total (V, A, W)	Channel 1 Load information	Residual Current
2	Total (VA, VAR, W)	Channel 2 Load information	Min Residual Current
3	Total (Angle)	Channel 3 Load information	Max Residual Current
4	Total (Power factor)	Channel 4 Load information	
5	Total (RPM)	Channel 5 Load information	
6	Total (Frequency)	Channel 6 Load information	
7	Total import W demand	Channel 7 Load information	
8	Total export W demand	Channel 8 Load information	
9	Total VAR demand (ind., cap.)	Channel 9 Load information	
10	Total demand (VA, A)	Channel 10 Load information	
11	Max Total import W demand	Channel 11 Load information	
12	Max Total export W demand	Channel 12 Load information	
13	Max Total VAR demand (ind.,cap.)		
14	Max Total demand (VA, A)		

TABLE 17.2 : Continue...

Screen No.	Tariff Menu	Main Menu*	Miscellaneous Menu
1	Relay 1 Balance Energy	Show Load Data	Date & Time
2	Relay 1 Balance Cost	Show Total Data	Timer 1 cycles/on/off delay
3	Relay 2 Balance Energy	Show RCM Data	Timer 2 cycles/on/off delay
4	Relay 2 Balance Cost	Show LD Health for all 3ph sys	Timer 3 cycles/on/off delay
5	Relay 3 Balance Energy	Show Tariff Data	Timer 4 cycles/on/off delay
6	Relay 3 Balance Cost	Show Miscellaneous Data	
7	Relay 4 Balance Energy		
8	Relay 4 Balance Cost		

***Note : From the Main Menu, only “Show Load Health for all 3ph sys” is available for selectable Userscreen.**

3.4 User Assignable Modbus Registers:

The Multifunction meter contains 100 user assignable registers in the address range of 0x1388 (35001) to 0x144E (35199) for 3X registers (see TABLE 18) and address range of 0x2710 (410001) to 0x2773 (410100) for 4X registers (see TABLE 19).

Any of the parameter addresses (3X register addresses and 4X register addresses TABLE 1) accessible in the instrument can be mapped to these 100 user assignable registers.

Parameters (3X and 4X registers addresses) that reside in different locations may be accessed by the single request by re-mapping them to adjacent address in the user assignable registers area.

The actual address of the parameters (3X and 4X registers addresses) which are to be accessed via address 0x1388 to 0x144E are specified in 4X Register 0x2710 to 0x2773 (see TABLE 19).

TABLE 18 : User Assignable 3X Data Registers

Address (3X)	Address (4X)	Assignable Register	Modbus Start Address (Hex)	
			High Byte	Low Byte
35001	45001	Assignable Reg 1	13	88
35003	45003	Assignable Reg 2	13	8A
35005	45005	Assignable Reg 3	13	8C
35007	45007	Assignable Reg 4	13	8E
35009	45009	Assignable Reg 5	13	90
35011	45011	Assignable Reg 6	13	92
35013	45013	Assignable Reg 7	13	94
35015	45015	Assignable Reg 8	13	96
35017	45017	Assignable Reg 9	13	98
35019	45019	Assignable Reg 10	13	9A
35021	45021	Assignable Reg 11	13	9C
35023	45023	Assignable Reg 12	13	9E
35025	45025	Assignable Reg 13	13	A0
35027	45027	Assignable Reg 14	13	A2
35029	45029	Assignable Reg 15	13	A4
35031	45031	Assignable Reg 16	13	A6
35033	45033	Assignable Reg 17	13	A8
35035	45035	Assignable Reg 18	13	AA
35037	45037	Assignable Reg 19	13	AC
35039	45039	Assignable Reg 20	13	AE
35041	45041	Assignable Reg 21	13	B0
35043	45043	Assignable Reg 22	13	B2
35045	45045	Assignable Reg 23	13	B4
35047	45047	Assignable Reg 24	13	B6
35049	45049	Assignable Reg 25	13	B8
35051	45051	Assignable Reg 26	13	BA
35053	45053	Assignable Reg 27	13	BC
35055	45055	Assignable Reg 28	13	BE
35057	45057	Assignable Reg 29	13	C0
35059	45059	Assignable Reg 30	13	C2
35061	45061	Assignable Reg 31	13	C4
35063	45063	Assignable Reg 32	13	C6
35065	45065	Assignable Reg 33	13	C8
35067	45067	Assignable Reg 34	13	CA

TABLE 18 : Continue...

Address (3X)	Address (4X)	Assignable Register	Modbus Start Address (Hex)	
			High Byte	Low Byte
35069	45069	Assignable Reg 35	13	CC
35071	45071	Assignable Reg 36	13	CE
35073	45073	Assignable Reg 37	13	D0
35075	45075	Assignable Reg 38	13	D2
35077	45077	Assignable Reg 39	13	D4
35079	45079	Assignable Reg 40	13	D6
35081	45081	Assignable Reg 41	13	D8
35083	45083	Assignable Reg 42	13	DA
35085	45085	Assignable Reg 43	13	DC
35087	45087	Assignable Reg 44	13	DE
35089	45089	Assignable Reg 45	13	E0
35091	45091	Assignable Reg 46	13	E2
35093	45093	Assignable Reg 47	13	E4
35095	45095	Assignable Reg 48	13	E6
35097	45097	Assignable Reg 49	13	E8
35099	45099	Assignable Reg 50	13	EA
35101	45101	Assignable Reg 51	13	EC
35103	45103	Assignable Reg 52	13	EE
35105	45105	Assignable Reg 53	13	F0
35107	45107	Assignable Reg 54	13	F2
35109	45109	Assignable Reg 55	13	F4
35111	45111	Assignable Reg 56	13	F6
35113	45113	Assignable Reg 57	13	F8
35115	45115	Assignable Reg 58	13	FA
35117	45117	Assignable Reg 59	13	FC
35119	45119	Assignable Reg 60	13	FE
35121	45121	Assignable Reg 61	14	00
35123	45123	Assignable Reg 62	14	02
35125	45125	Assignable Reg 63	14	04
35127	45127	Assignable Reg 64	14	06
35129	45129	Assignable Reg 65	14	08
35131	45131	Assignable Reg 66	14	0A
35133	45133	Assignable Reg 67	14	0C
35135	45135	Assignable Reg 68	14	0E

TABLE 18 : Continue...

Address (3X)	Address (4X)	Assignable Register	Modbus Start Address (Hex)	
			High Byte	Low Byte
35137	45137	Assignable Reg 69	14	10
35139	45139	Assignable Reg 70	14	12
35141	45141	Assignable Reg 71	14	14
35143	45143	Assignable Reg 72	14	16
35145	45145	Assignable Reg 73	14	18
35147	45147	Assignable Reg 74	14	1A
35149	45149	Assignable Reg 75	14	1C
35151	45151	Assignable Reg 76	14	1E
35153	45153	Assignable Reg 77	14	20
35155	45155	Assignable Reg 78	14	22
35157	45157	Assignable Reg 79	14	24
35159	45159	Assignable Reg 80	14	26
35161	45161	Assignable Reg 81	14	28
35163	45163	Assignable Reg 82	14	2A
35165	45165	Assignable Reg 83	14	2C
35167	45167	Assignable Reg 84	14	2E
35169	45169	Assignable Reg 85	14	30
35171	45171	Assignable Reg 86	14	32
35173	45173	Assignable Reg 87	14	34
35175	45175	Assignable Reg 88	14	36
35177	45177	Assignable Reg 89	14	38
35179	45179	Assignable Reg 90	14	3A
35181	45181	Assignable Reg 91	14	3C
35183	45183	Assignable Reg 92	14	3E
35185	45185	Assignable Reg 93	14	40
35187	45187	Assignable Reg 94	14	42
35189	45189	Assignable Reg 95	14	44
35191	45191	Assignable Reg 96	14	46
35193	45193	Assignable Reg 97	14	48
35195	45195	Assignable Reg 98	14	4A
35197	45197	Assignable Reg 99	14	4C
35199	45199	Assignable Reg 100	14	4E

TABLE 19 : User assignable mapping register (4X)

Address (4X)	Assignable Register	Modbus Start Address (Hex)	
		High Byte	Low Byte
410001	Map Addr for Assignable Reg 1	27	10
410002	Map Addr for Assignable Reg 2	27	11
410003	Map Addr for Assignable Reg 3	27	12
410004	Map Addr for Assignable Reg 4	27	13
410005	Map Addr for Assignable Reg 5	27	14
410006	Map Addr for Assignable Reg 6	27	15
410007	Map Addr for Assignable Reg 7	27	16
410008	Map Addr for Assignable Reg 8	27	17
410009	Map Addr for Assignable Reg 9	27	18
410010	Map Addr for Assignable Reg 10	27	19
410011	Map Addr for Assignable Reg 11	27	1A
410012	Map Addr for Assignable Reg 12	27	1B
410013	Map Addr for Assignable Reg 13	27	1C
410014	Map Addr for Assignable Reg 14	27	1D
410015	Map Addr for Assignable Reg 15	27	1E
410016	Map Addr for Assignable Reg 16	27	1F
410017	Map Addr for Assignable Reg 17	27	20
410018	Map Addr for Assignable Reg 18	27	21
410019	Map Addr for Assignable Reg 19	27	22
410020	Map Addr for Assignable Reg 20	27	23
410021	Map Addr for Assignable Reg 21	27	24
410022	Map Addr for Assignable Reg 22	27	25
410023	Map Addr for Assignable Reg 23	27	26
410024	Map Addr for Assignable Reg 24	27	27
410025	Map Addr for Assignable Reg 25	27	28
410026	Map Addr for Assignable Reg 26	27	29
410027	Map Addr for Assignable Reg 27	27	2A
410028	Map Addr for Assignable Reg 28	27	2B
410029	Map Addr for Assignable Reg 29	27	2C
410030	Map Addr for Assignable Reg 30	27	2D
410031	Map Addr for Assignable Reg 31	27	2E
410032	Map Addr for Assignable Reg 32	27	2F
410033	Map Addr for Assignable Reg 33	27	30
410035	Map Addr for Assignable Reg 34	27	31

TABLE 19 : Continued...

Address (4X)	Assignable Register	Modbus Start Address (Hex)	
		High Byte	Low Byte
410035	Map Addr for Assignable Reg 35	27	32
410036	Map Addr for Assignable Reg 36	27	33
410037	Map Addr for Assignable Reg 37	27	34
410038	Map Addr for Assignable Reg 38	27	35
410039	Map Addr for Assignable Reg 39	27	36
410040	Map Addr for Assignable Reg 40	27	37
410041	Map Addr for Assignable Reg 41	27	38
410042	Map Addr for Assignable Reg 42	27	39
410043	Map Addr for Assignable Reg 43	27	3A
410044	Map Addr for Assignable Reg 44	27	3B
410045	Map Addr for Assignable Reg 45	27	3C
410046	Map Addr for Assignable Reg 46	27	3D
410047	Map Addr for Assignable Reg 47	27	3E
410048	Map Addr for Assignable Reg 48	27	3F
410049	Map Addr for Assignable Reg 49	27	40
410050	Map Addr for Assignable Reg 50	27	41
410051	Map Addr for Assignable Reg 51	27	42
410052	Map Addr for Assignable Reg 52	27	43
410053	Map Addr for Assignable Reg 53	27	44
410054	Map Addr for Assignable Reg 54	27	45
410055	Map Addr for Assignable Reg 55	27	46
410056	Map Addr for Assignable Reg 56	27	47
410057	Map Addr for Assignable Reg 57	27	48
410058	Map Addr for Assignable Reg 58	27	49
410059	Map Addr for Assignable Reg 59	27	4A
410060	Map Addr for Assignable Reg 60	27	4B
410061	Map Addr for Assignable Reg 61	27	4C
410062	Map Addr for Assignable Reg 62	27	4D
410063	Map Addr for Assignable Reg 63	27	4E
410064	Map Addr for Assignable Reg 64	27	4F
410065	Map Addr for Assignable Reg 65	27	50
410066	Map Addr for Assignable Reg 66	27	51
410067	Map Addr for Assignable Reg 67	27	52
410068	Map Addr for Assignable Reg 68	27	53

TABLE 19 : Continued...

Address (4X)	Assignable Register	Modbus Start Address (Hex)	
		High Byte	Low Byte
410069	Map Addr for Assignable Reg 69	27	54
410070	Map Addr for Assignable Reg 70	27	55
410071	Map Addr for Assignable Reg 71	27	56
410072	Map Addr for Assignable Reg 72	27	57
410073	Map Addr for Assignable Reg 73	27	58
410074	Map Addr for Assignable Reg 74	27	59
410075	Map Addr for Assignable Reg 75	27	5A
410076	Map Addr for Assignable Reg 76	27	5B
410077	Map Addr for Assignable Reg 77	27	5C
410078	Map Addr for Assignable Reg 78	27	5D
410079	Map Addr for Assignable Reg 79	27	5E
410080	Map Addr for Assignable Reg 80	27	5F
410081	Map Addr for Assignable Reg 81	27	60
410082	Map Addr for Assignable Reg 82	27	61
410083	Map Addr for Assignable Reg 83	27	62
410084	Map Addr for Assignable Reg 84	27	63
410085	Map Addr for Assignable Reg 85	27	64
410086	Map Addr for Assignable Reg 86	27	65
410087	Map Addr for Assignable Reg 87	27	66
410088	Map Addr for Assignable Reg 88	27	67
410089	Map Addr for Assignable Reg 89	27	68
410090	Map Addr for Assignable Reg 90	27	69
410091	Map Addr for Assignable Reg 91	27	6A
410092	Map Addr for Assignable Reg 92	27	6B
410093	Map Addr for Assignable Reg 93	27	6C
410094	Map Addr for Assignable Reg 94	27	6D
410095	Map Addr for Assignable Reg 95	27	6E
410096	Map Addr for Assignable Reg 96	27	6F
410097	Map Addr for Assignable Reg 97	27	70
410098	Map Addr for Assignable Reg 98	27	71
410099	Map Addr for Assignable Reg 99	27	72
410100	Map Addr for Assignable Reg 100	27	73

Assigning parameter to User Assignable Registers:

To access the Voltage L2 (3X address 0x0002) and Power Factor Channel 1 (3X address 0x006C) through user assignable register assign these addresses to 4x register (**TABLE 19**) 0x2710 and 0x2711 respectively.

Assigning Query:

Device Address	01 (Hex)
Function Code	10 (Hex)
Starting Address Hi	27 (Hex)
Starting Address Lo	10 (Hex)
Number of Registers Hi	00 (Hex)*
Number of Registers Lo	02(Hex)*
Byte Count	04 (Hex)
Data Register-1High Byte	00 (Hex)
Data Register-1 Low Byte	02 (Hex)
Data Register-2 High Byte	00 (Hex)
Data Register-2 Low Byte	6C (Hex)
CRC Low	EC (Hex)
CRC High	BF (Hex)

} Voltage L2 *
(3X Address
0x0002)
} Power Factor
} Channel 1 *
(3X Address
0x006C)

Response :

Device Address	01 (Hex)
Function Code	10 (Hex)
Start Address High	27 (Hex)
Start Address Low	10 (Hex)
Number of Registers Hi	00 (Hex)
Number of Registers Lo	02 (Hex)
CRC Low	4A (Hex)
CRC High	B9 (Hex)

***Note :** Parameters should be assigned in multiple of two i.e. 2,4,6,8...

Reading Parameter data through User Assignable Registers:

In assigning query Voltage L2 & Power Factor Channel 1 parameters were assigned to 0x2710 & 0x2711 (TABLE 19) which will point to user assignable 3x registers 0x1388 and 0x138A (TABLE 18). So to read Voltage L2 and Power Factor Channel 1 data reading query should be as below.

Query:

Device Address	01 (Hex)
Function Code	04 (Hex)
Start Address High	04(Hex)
Start Address Low	00 (Hex)
Number of Registers Hi	00 (Hex)
Number of Registers Lo	04 (Hex)**
CRC Low	00 (Hex)
CRC High	66 (Hex)

Start Address High : Most significant 8 bits of starting address of Userassignable register.

Start Address low :Least significant 8 bits of starting address of User assignable register.

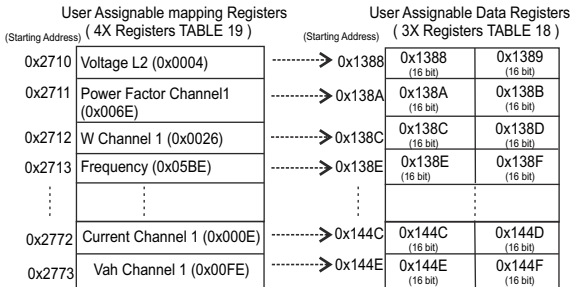
Number of register Hi : Most significant 8 bits of Number of registers requested.

Number of register Lo : Least significant 8 bits of Number of registers requested.

****Note : Two consecutive 16 bit register represent one parameter. Since two parameters are requested four registers are required**

Response : (Volt L2 = 219.30 /
Power Factor Channel1 = 1.0)

Device Address	01 (Hex)	Voltage L2 Data
Function Code	04 (Hex)	
Byte count	08 (Hex)	
Data Register-1High Byte	43 (Hex)	
Data Register-1 Low Byte	5B (Hex)	Power Factor Channel 1 Data
Data Register-2 High Byte	4C (Hex)	
Data Register-2 Low Byte	CD (Hex)	
Data Register-3 High Byte	3F (Hex)	
Data Register-3 Low Byte	80 (Hex)	
Data Register-4 High Byte	00 (Hex)	
Data Register-4 Low Byte	00 (Hex)	
CRC Low	24 (Hex)	
CRC High	0D (Hex)	



To get the data through User Assignable Modbus Register go through the following steps:

- 1) Assign starting addresses(**TABLE 1**) of parameters of interest to "User assignable mapping registers" in a sequence in which they are to be accessed (see section 3.4 "**User Assignable Modbus Registers**").
- 2) Once the parameters are mapped, data can be acquired by using "User assignable data register" Starting address, i.e to access data of Voltage L2, Power factor Channel 1, W Channel 1, Frequency, send query with starting address 0x0400 with number of register 8 or individually parameters can be accessed. For example, if Current Channel 1 is to be accessed use starting address 0x144C. (see section 3.4 **User Assignable Modbus Registers**).

4. Datalogging

Datalogging is a feature that allows the meter to store measured parameters based on time or on occurrence of a certain event. The user can retrieve the data later for further application.

This meter offers three types of datalogging

1) Event based

2) Time based

3) Load profile

4.1 Event Based Datalogging

This type of datalogging stores data when certain event is observed. This data is time stamped and last five occurrences of each type of event are stored based on first in first out queue. This meter offers event based logging for 144 parameters. This data can be observed on the modbus on the address table shown below. These registers can be accessed by the query explained in section 3.1 The user can turn this logging on and off through display as well as modbus by using address 46291.

Changing any setup parameter related to the logged parameters will reset the log.

Note: Below addresses are available for 3X and for 4X. for example 312289 for 3X and 412289 for 4X.

Table 20: Addresses for event based datalog

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312289	Max Volts L1	Date 1	30	00
312291		Time 1	30	02
312293		Value 1	30	04
312295		Date 2	30	06
312297		Time 2	30	08
312299		Value 2	30	0A
312301		Date 3	30	0C
312303		Time 3	30	0E
312305		Value 3	30	10
312307		Date 4	30	12
312309		Time 4	30	14
312311		Value 4	30	16
312313		Date 5	30	18
312315		Time 5	30	1A
312317		Value 5	30	1C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312319	Max Volts L2	Date 1	30	1E
312321		Time 1	30	20
312323		Value 1	30	22
312325		Date 2	30	24
312327		Time 2	30	26
312329		Value 2	30	28
312331		Date 3	30	2A
312333		Time 3	30	2C
312335		Value 3	30	2E
312337		Date 4	30	30
312339		Time 4	30	32
312341		Value 4	30	34
312343		Date 5	30	36
312345		Time 5	30	38
312347		Value 5	30	3A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312349	Max Volts L3	Date 1	30	3C
312351		Time 1	30	3E
312353		Value 1	30	40
312355		Date 2	30	42
312357		Time 2	30	44
312359		Value 2	30	46
312361		Date 3	30	48
312363		Time 3	30	4A
312365		Value 3	30	4C
312367		Date 4	30	4E
312369		Time 4	30	50
312371		Value 4	30	52
312373		Date 5	30	54
312375		Time 5	30	56
312377		Value 5	30	58
312409	Min Volts L2	Date 1	30	78
312411		Time 1	30	7A
312413		Value 1	30	7C
312415		Date 2	30	7E
312417		Time 2	30	80
312419		Value 2	30	82
312421		Date 3	30	84
312423		Time 3	30	86
312425		Value 3	30	88
312427		Date 4	30	8A
312429		Time 4	30	8C
312431		Value 4	30	8E
312433		Date 5	30	90
312435		Time 5	30	92
312437		Value 5	30	94

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312379	Min Volts L1	Date 1	30	5A
312381		Time 1	30	5C
312383		Value 1	30	5E
312385		Date 2	30	60
312387		Time 2	30	62
312389		Value 2	30	64
312391		Date 3	30	66
312393		Time 3	30	68
312395		Value 3	30	6A
312397		Date 4	30	6C
312399		Time 4	30	6E
312401		Value 4	30	70
312403		Date 5	30	72
312405		Time 5	30	74
312407		Value 5	30	76
312439	Min Volts L3	Date 1	30	96
312441		Time 1	30	98
312443		Value 1	30	9A
312445		Date 2	30	9C
312447		Time 2	30	9E
312449		Value 2	30	A0
312451		Date 3	30	A2
312453		Time 3	30	A4
312455		Value 3	30	A6
312457		Date 4	30	A8
312459		Time 4	30	AA
312461		Value 4	30	AC
312463		Date 5	30	AE
312465		Time 5	30	B0
312467		Value 5	30	B2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312469	Max Volts L12	Date 1	30	B4
312471		Time 1	30	B6
312473		Value 1	30	B8
312475		Date 2	30	BA
312477		Time 2	30	BC
312479		Value 2	30	BE
312481		Date 3	30	C0
312483		Time 3	30	C2
312485		Value 3	31	C4
312487		Date 4	31	C6
312489		Time 4	31	C8
312491		Value 4	31	CA
312493		Date 5	31	CC
312495		Time 5	31	CE
312497		Value 5	31	D0
312529	Max Volts L31	Date 1	30	F0
312531		Time 1	30	F2
312533		Value 1	30	F4
312535		Date 2	30	F6
312537		Time 2	30	F8
312539		Value 2	30	FA
312541		Date 3	30	FC
312543		Time 3	30	FE
312545		Value 3	31	00
312547		Date 4	31	02
312549		Time 4	31	04
312551		Value 4	31	06
312553		Date 5	31	08
312555		Time 5	31	0A
312557		Value 5	31	0C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312499	Max Volts L23	Date 1	30	D2
312501		Time 1	30	D4
312503		Value 1	30	D6
312505		Date 2	30	D8
312507		Time 2	30	DA
312509		Value 2	30	DC
312511		Date 3	30	DE
312513		Time 3	30	E0
312515		Value 3	30	E2
312517		Date 4	30	E4
312519		Time 4	30	E6
312521		Value 4	30	E8
312523		Date 5	30	EA
312525		Time 5	30	EC
312527		Value 5	30	EE
312559	Min Volts L12	Date 1	31	0E
312561		Time 1	31	10
312563		Value 1	31	12
312565		Date 2	31	14
312567		Time 2	31	16
312569		Value 2	31	18
312571		Date 3	31	1A
312573		Time 3	31	1C
312575		Value 3	31	1E
312577		Date 4	31	20
312579		Time 4	31	22
312581		Value 4	31	24
312583		Date 5	31	26
312585		Time 5	31	28
312587		Value 5	31	2A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312589	Min Volts L23	Date 1	31	2C
312591		Time 1	31	2E
312593		Value 1	31	30
312595		Date 2	31	32
312597		Time 2	31	34
312599		Value 2	31	36
312601		Date 3	31	38
312603		Time 3	31	3A
312605		Value 3	31	3C
312607		Date 4	31	3E
312609		Time 4	31	40
312611		Value 4	31	42
312613		Date 5	31	44
312615		Time 5	31	46
312617		Value 5	31	48
312649	Max Current Ch1	Date 1	31	68
312651		Time 1	31	6A
312653		Value 1	31	6C
312655		Date 2	31	6E
312657		Time 2	31	70
312659		Value 2	31	72
312661		Date 3	31	74
312663		Time 3	31	76
312665		Value 3	31	78
312667		Date 4	31	7A
312669		Time 4	31	7C
312671		Value 4	31	7E
312673		Date 5	31	80
312675		Time 5	31	82
312677		Value 5	31	84

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312619	Min Volts L31	Date 1	31	4A
312621		Time 1	31	4C
312623		Value 1	31	4E
312625		Date 2	31	50
312627		Time 2	31	52
312629		Value 2	31	54
312631		Date 3	31	56
312633		Time 3	31	58
312635		Value 3	31	5A
312637		Date 4	31	5C
312639		Time 4	31	5E
312641		Value 4	31	60
312643		Date 5	31	62
312645		Time 5	31	64
312647		Value 5	31	66
312679	Max Current Ch2	Date 1	31	86
312681		Time 1	31	88
312683		Value 1	31	8A
312685		Date 2	31	8C
312687		Time 2	31	8E
312689		Value 2	31	90
312691		Date 3	31	92
312693		Time 3	31	94
312695		Value 3	31	96
312697		Date 4	31	98
312699		Time 4	31	9A
312701		Value 4	31	9C
312703		Date 5	31	9E
312705		Time 5	31	A0
312707		Value 5	31	A2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312709	Max Current Ch3	Date 1	31	A4
312711		Time 1	31	A6
312713		Value 1	31	A8
312715		Date 2	31	AA
312717		Time 2	31	AC
312719		Value 2	31	AE
312721		Date 3	31	B0
312723		Time 3	31	B2
312725		Value 3	31	B4
312727		Date 4	31	B6
312729		Time 4	31	B8
312731		Value 4	31	BA
312733		Date 5	31	BC
312735		Time 5	31	BE
312737		Value 5	31	C0
312769	Max Current Ch5	Date 1	31	E0
312771		Time 1	31	E2
312773		Value 1	31	E4
312775		Date 2	31	E6
312777		Time 2	31	E8
312779		Value 2	31	EA
312781		Date 3	31	EC
312783		Time 3	31	EE
312785		Value 3	31	F0
312787		Date 4	31	F2
312789		Time 4	31	F4
312791		Value 4	31	F6
312793		Date 5	31	F8
312795		Time 5	31	FA
312797		Value 5	31	FC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312739	Max Current Ch4	Date 1	31	C2
312741		Time 1	31	C4
312743		Value 1	31	C6
312745		Date 2	31	C8
312747		Time 2	31	CA
312749		Value 2	31	CC
312751		Date 3	31	CE
312753		Time 3	31	D0
312755		Value 3	31	D2
312757		Date 4	31	D4
312759		Time 4	31	D6
312761		Value 4	31	D8
312763		Date 5	31	DA
312765		Time 5	31	DC
312767		Value 5	31	DE
312799	Max Current Ch6	Date 1	31	FE
312801		Time 1	32	00
312803		Value 1	32	02
312805		Date 2	32	04
312807		Time 2	32	06
312809		Value 2	32	08
312811		Date 3	32	0A
312813		Time 3	32	0C
312815		Value 3	32	0E
312817		Date 4	32	10
312819		Time 4	32	12
312821		Value 4	32	14
312823		Date 5	32	16
312825		Time 5	32	18
312827		Value 5	32	1A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312829	Max Current Ch7	Date 1	32	1C
312831		Time 1	32	1E
312833		Value 1	32	20
312835		Date 2	32	22
312837		Time 2	32	24
312839		Value 2	32	26
312841		Date 3	32	28
312843		Time 3	32	2A
312845		Value 3	32	2C
312847		Date 4	32	2E
312849		Time 4	32	30
312851		Value 4	32	32
312853		Date 5	32	34
312855		Time 5	32	36
312857		Value 5	32	38
312889	Max Current Ch9	Date 1	32	58
312891		Time 1	32	5A
312893		Value 1	32	5C
312895		Date 2	32	5E
312897		Time 2	32	60
312899		Value 2	32	62
312901		Date 3	32	64
312903		Time 3	32	66
312905		Value 3	32	68
312907		Date 4	32	6A
312909		Time 4	32	6C
312911		Value 4	32	6E
312913		Date 5	32	70
312915		Time 5	32	72
312917		Value 5	32	74

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312859	Max Current Ch8	Date 1	32	3A
312861		Time 1	32	3C
312863		Value 1	32	3E
312865		Date 2	32	40
312867		Time 2	32	42
312869		Value 2	32	44
312871		Date 3	32	46
312873		Time 3	32	48
312875		Value 3	32	4A
312877		Date 4	32	4C
312879		Time 4	32	4E
312881		Value 4	32	50
312883		Date 5	32	52
312885		Time 5	32	54
312887		Value 5	32	56
312919	Max Current Ch10	Date 1	32	76
312921		Time 1	32	78
312923		Value 1	32	7A
312925		Date 2	32	7C
312927		Time 2	32	7E
312929		Value 2	32	80
312931		Date 3	32	82
312933		Time 3	32	84
312935		Value 3	32	86
312937		Date 4	32	88
312939		Time 4	32	8A
312941		Value 4	32	8C
312943		Date 5	32	8E
312945		Time 5	32	90
312947		Value 5	32	92

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312949	Max Current Ch11	Date 1	32	94
312951		Time 1	32	96
312953		Value 1	32	98
312955		Date 2	32	9A
312957		Time 2	32	9C
312959		Value 2	32	9E
312961		Date 3	32	A0
312963		Time 3	32	A2
312965		Value 3	32	A4
312967		Date 4	32	A6
312969		Time 4	32	A8
312971		Value 4	32	AA
312973		Date 5	32	AC
312975		Time 5	32	AE
312977		Value 5	32	B0
313009		Min Current Ch1	Date 1	32
313011	Time 1		32	D2
313013	Value 1		32	D4
313015	Date 2		32	D6
313017	Time 2		32	D8
313019	Value 2		32	DA
313021	Date 3		32	DC
313023	Time 3		32	DE
313025	Value 3		32	E0
313027	Date 4		32	E2
313029	Time 4		32	E4
313031	Value 4		32	E6
313033	Date 5		32	E8
313035	Time 5		32	EA
313037	Value 5		32	EC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
312979	Max Current Ch12	Date 1	32	B2
312981		Time 1	32	B4
312983		Value 1	32	B6
312985		Date 2	32	B8
312987		Time 2	32	BA
312989		Value 2	32	BC
312991		Date 3	32	BE
312993		Time 3	32	C0
312995		Value 3	32	C2
312997		Date 4	32	C4
312999		Time 4	32	C6
313001		Value 4	32	C8
313003		Date 5	32	CA
313005		Time 5	32	CC
313007		Value 5	32	CE
313039		Min Current Ch2	Date 1	32
313041	Time 1		32	F0
313043	Value 1		32	F2
313045	Date 2		32	F4
313047	Time 2		32	F6
313049	Value 2		32	F8
313051	Date 3		32	FA
313053	Time 3		32	FC
313055	Value 3		32	FE
313057	Date 4		33	00
313059	Time 4		33	02
313061	Value 4		33	04
313063	Date 5		33	06
313065	Time 5		33	08
313067	Value 5		33	0A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313069	Min Current Ch3	Date 1	33	0C
313071		Time 1	33	0E
313073		Value 1	33	10
313075		Date 2	33	12
313077		Time 2	33	14
313079		Value 2	33	16
313081		Date 3	33	18
313083		Time 3	33	1A
313085		Value 3	33	1C
313087		Date 4	33	1E
313089		Time 4	33	20
313091		Value 4	33	22
313093		Date 5	33	24
313095		Time 5	33	26
313097		Value 5	33	28
313129	Min Current Ch5	Date 1	33	48
313131		Time 1	33	4A
313133		Value 1	33	4C
313135		Date 2	33	4E
313137		Time 2	33	50
313139		Value 2	33	52
313141		Date 3	33	54
313143		Time 3	33	56
313145		Value 3	33	58
313147		Date 4	33	5A
313149		Time 4	33	5C
313151		Value 4	33	5E
313153		Date 5	33	60
313155		Time 5	33	62
313157		Value 5	33	64

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313099	Min Current Ch4	Date 1	33	2A
313101		Time 1	33	2C
313103		Value 1	33	2E
313105		Date 2	33	30
313107		Time 2	33	32
313109		Value 2	33	34
313111		Date 3	33	36
313113		Time 3	33	38
313115		Value 3	33	3A
313117		Date 4	33	3C
313119		Time 4	33	3E
313121		Value 4	33	40
313123		Date 5	33	42
313125		Time 5	33	44
313127		Value 5	33	46
313159	Min Current Ch6	Date 1	33	66
313161		Time 1	33	68
313163		Value 1	33	6A
313165		Date 2	33	6C
313167		Time 2	33	6E
313169		Value 2	33	70
313171		Date 3	33	72
313173		Time 3	33	74
313175		Value 3	33	76
313177		Date 4	33	78
313179		Time 4	33	7A
313181		Value 4	33	7C
313183		Date 5	33	7E
313185		Time 5	33	80
313187		Value 5	33	82

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313189	Min Current Ch7	Date 1	33	84
313191		Time 1	33	86
313193		Value 1	33	88
313195		Date 2	33	8A
313197		Time 2	33	8C
313199		Value 2	33	8E
313201		Date 3	33	90
313203		Time 3	33	92
313205		Value 3	33	94
313207		Date 4	33	96
313209		Time 4	33	98
313211		Value 4	33	9A
313213		Date 5	33	9C
313215		Time 5	33	9E
313217		Value 5	33	A0
313249	Min Current Ch9	Date 1	33	C0
313251		Time 1	33	C2
313253		Value 1	33	C4
313255		Date 2	33	C6
313257		Time 2	33	C8
313259		Value 2	33	CA
313261		Date 3	33	CC
313263		Time 3	33	CE
313265		Value 3	33	D0
313267		Date 4	33	D2
313269		Time 4	33	D4
313271		Value 4	33	D6
313273		Date 5	33	D8
313275		Time 5	33	DA
313277		Value 5	33	DC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313219	Min Current Ch8	Date 1	33	A2
313221		Time 1	33	A4
313223		Value 1	33	A6
313225		Date 2	33	A8
313227		Time 2	33	AA
313229		Value 2	33	AC
313231		Date 3	33	AE
313233		Time 3	33	B0
313235		Value 3	33	B2
313237		Date 4	33	B4
313239		Time 4	33	B6
313241		Value 4	33	B8
313243		Date 5	33	BA
313245		Time 5	33	BC
313247		Value 5	33	BE
313279	Min Current Ch10	Date 1	33	DE
313281		Time 1	33	E0
313283		Value 1	33	E2
313285		Date 2	33	E4
313287		Time 2	33	E6
313289		Value 2	33	E8
313291		Date 3	33	EA
313293		Time 3	33	EC
313295		Value 3	33	EE
313297		Date 4	33	F0
313299		Time 4	33	F2
313301		Value 4	33	F4
313303		Date 5	33	F6
313305		Time 5	33	F8
313307		Value 5	33	FA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313309	Min Current Ch1	Date 1	33	FC
313311		Time 1	33	FE
313313		Value 1	34	00
313315		Date 2	34	02
313317		Time 2	34	04
313319		Value 2	34	06
313321		Date 3	34	08
313323		Time 3	34	0A
313325		Value 3	34	0C
313327		Date 4	34	0E
313329		Time 4	34	10
313331		Value 4	34	12
313333		Date 5	34	14
313335		Time 5	34	16
313337		Value 5	34	18
313369	Max W Imp Demand Ch1	Date 1	34	38
313371		Time 1	34	3A
313373		Value 1	34	3C
313375		Date 2	34	3E
313377		Time 2	34	40
313379		Value 2	34	42
313381		Date 3	34	44
313383		Time 3	34	46
313385		Value 3	34	48
313387		Date 4	34	4A
313389		Time 4	34	4C
313391		Value 4	34	4E
313393		Date 5	34	50
313395		Time 5	34	52
313397		Value 5	34	54

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313339	Min Current Ch2	Date 1	34	1A
313341		Time 1	34	1C
313343		Value 1	34	1E
313345		Date 2	34	20
313347		Time 2	34	22
313349		Value 2	34	24
313351		Date 3	34	26
313353		Time 3	34	28
313355		Value 3	34	2A
313357		Date 4	34	2C
313359		Time 4	34	2E
313361		Value 4	34	30
313363		Date 5	34	32
313365		Time 5	34	34
313367		Value 5	34	36
313399	Max W Imp Demand Ch2	Date 1	34	56
313401		Time 1	34	58
313403		Value 1	34	5A
313405		Date 2	34	5C
313407		Time 2	34	5E
313409		Value 2	34	60
313411		Date 3	34	62
313413		Time 3	34	64
313415		Value 3	34	66
313417		Date 4	34	68
313419		Time 4	34	6A
313421		Value 4	34	6C
313423		Date 5	34	6E
313425		Time 5	34	70
313427		Value 5	34	72

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313429	Max W Imp Demand Ch3	Date 1	34	74
313431		Time 1	34	76
313433		Value 1	34	78
313435		Date 2	34	7A
313437		Time 2	34	7C
313439		Value 2	34	7E
313441		Date 3	34	80
313443		Time 3	34	82
313445		Value 3	34	84
313447		Date 4	34	86
313449		Time 4	34	88
313451		Value 4	34	8A
313453		Date 5	34	8C
313455		Time 5	34	8E
313457		Value 5	34	90
313489	Max W Imp Demand Ch5	Date 1	34	B0
313491		Time 1	34	B2
313493		Value 1	34	B4
313495		Date 2	34	B6
313497		Time 2	34	B8
313499		Value 2	34	BA
313501		Date 3	34	BC
313503		Time 3	34	BE
313505		Value 3	34	C0
313507		Date 4	34	C2
313509		Time 4	34	C4
313511		Value 4	34	C6
313513		Date 5	34	C8
313515		Time 5	34	CA
313517		Value 5	34	CC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313459	Max W Imp Demand Ch4	Date 1	34	92
313461		Time 1	34	94
313463		Value 1	34	96
313465		Date 2	34	98
313467		Time 2	34	9A
313469		Value 2	34	9C
313471		Date 3	34	9E
313473		Time 3	34	A0
313475		Value 3	34	A2
313477		Date 4	34	A4
313479		Time 4	34	A6
313481		Value 4	34	A8
313483		Date 5	34	AA
313485		Time 5	34	AC
313487		Value 5	34	AE
313519	Max W Imp Demand Ch6	Date 1	34	CE
313521		Time 1	34	D0
313523		Value 1	34	D2
313525		Date 2	34	D4
313527		Time 2	34	D6
313529		Value 2	34	D8
313531		Date 3	34	DA
313533		Time 3	34	DC
313535		Value 3	34	DE
313537		Date 4	34	E0
313539		Time 4	34	E2
313541		Value 4	34	E4
313543		Date 5	34	E6
313545		Time 5	34	E8
313547		Value 5	34	EA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313549	Max W Imp Demand Ch7	Date 1	34	EC
313551		Time 1	34	EE
313553		Value 1	34	F0
313555		Date 2	34	F2
313557		Time 2	34	F4
313559		Value 2	34	F6
313561		Date 3	34	F8
313563		Time 3	34	FA
313565		Value 3	34	FC
313567		Date 4	34	FE
313569		Time 4	35	00
313571		Value 4	35	02
313573		Date 5	35	04
313575		Time 5	35	06
313577		Value 5	35	08
313609	Max W Imp Demand Ch9	Date 1	35	28
313611		Time 1	35	2A
313613		Value 1	35	2C
313615		Date 2	35	2E
313617		Time 2	35	30
313619		Value 2	35	32
313621		Date 3	35	34
313623		Time 3	35	36
313625		Value 3	35	38
313627		Date 4	35	3A
313629		Time 4	35	3C
313631		Value 4	35	3E
313633		Date 5	35	40
313635		Time 5	35	42
313637		Value 5	35	44

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313579	Max W Imp Demand Ch8	Date 1	35	0A
313581		Time 1	35	0C
313583		Value 1	35	0E
313585		Date 2	35	10
313587		Time 2	35	12
313589		Value 2	35	14
313591		Date 3	35	16
313593		Time 3	35	18
313595		Value 3	35	1A
313597		Date 4	35	1C
313599		Time 4	35	1E
313601		Value 4	35	20
313603		Date 5	35	22
313605		Time 5	35	24
313607		Value 5	35	26
313639	Max W Imp Demand Ch10	Date 1	35	46
313641		Time 1	35	48
313643		Value 1	35	4A
313645		Date 2	35	4C
313647		Time 2	35	4E
313649		Value 2	35	50
313651		Date 3	35	52
313653		Time 3	35	54
313655		Value 3	35	56
313657		Date 4	35	58
313659		Time 4	35	5A
313661		Value 4	35	5C
313663		Date 5	35	5E
313665		Time 5	35	60
313667		Value 5	35	62

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313669	Max W Imp Demand Ch11	Date 1	35	64
313671		Time 1	35	66
313673		Value 1	35	68
313675		Date 2	35	6A
313677		Time 2	35	6C
313679		Value 2	35	6E
313681		Date 3	35	70
313683		Time 3	35	72
313685		Value 3	35	74
313687		Date 4	35	76
313689		Time 4	35	78
313691		Value 4	35	7A
313693		Date 5	35	7C
313695		Time 5	35	7E
313697		Value 5	35	80
313729	Max W Exp Demand Ch1	Date 1	35	A0
313731		Time 1	35	A2
313733		Value 1	35	A4
313735		Date 2	35	A6
313737		Time 2	35	A8
313739		Value 2	35	AA
313741		Date 3	35	AC
313743		Time 3	35	AE
313745		Value 3	35	B0
313747		Date 4	35	B2
313749		Time 4	35	B4
313751		Value 4	35	B6
313753		Date 5	35	B8
313755		Time 5	35	BA
313757		Value 5	35	BC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313699	Max W Imp Demand Ch12	Date 1	35	82
313701		Time 1	35	84
313703		Value 1	35	86
313705		Date 2	35	88
313707		Time 2	35	8A
313709		Value 2	35	8C
313711		Date 3	35	8E
313713		Time 3	35	90
313715		Value 3	35	92
313717		Date 4	35	94
313719		Time 4	35	96
313721		Value 4	35	98
313723		Date 5	35	9A
313725		Time 5	35	9C
313727		Value 5	35	9E
313759	Max W Exp Demand Ch2	Date 1	35	BE
313761		Time 1	35	C0
313763		Value 1	35	C2
313765		Date 2	35	C4
313767		Time 2	35	C6
313769		Value 2	35	C8
313771		Date 3	35	CA
313773		Time 3	35	CC
313775		Value 3	35	CE
313777		Date 4	35	D0
313779		Time 4	35	D2
313781		Value 4	35	D4
313783		Date 5	35	D6
313785		Time 5	35	D8
313787		Value 5	35	DA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313789	Max W Exp Demand Ch3	Date 1	35	DC
313791		Time 1	35	DE
313793		Value 1	35	E0
313795		Date 2	35	E2
313797		Time 2	35	E4
313799		Value 2	35	E6
313801		Date 3	35	E8
313803		Time 3	35	EA
313805		Value 3	35	EC
313807		Date 4	35	EE
313809		Time 4	35	F0
313811		Value 4	35	F2
313813		Date 5	35	F4
313815		Time 5	35	F6
313817		Value 5	35	F8
313849	Max W Exp Demand Ch5	Date 1	36	18
313851		Time 1	36	1A
313853		Value 1	36	1C
313855		Date 2	36	1E
313857		Time 2	36	20
313859		Value 2	36	22
313861		Date 3	36	24
313863		Time 3	36	26
313865		Value 3	36	28
313867		Date 4	36	2A
313869		Time 4	36	2C
313871		Value 4	36	2E
313873		Date 5	36	30
313875		Time 5	36	32
313877		Value 5	36	34

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313819	Max W Exp Demand Ch4	Date 1	35	FA
313821		Time 1	35	FC
313823		Value 1	35	FE
313825		Date 2	36	00
313827		Time 2	36	02
313829		Value 2	36	04
313831		Date 3	36	06
313833		Time 3	36	08
313835		Value 3	36	0A
313837		Date 4	36	0C
313839		Time 4	36	0E
313841		Value 4	36	10
313843		Date 5	36	12
313845		Time 5	36	14
313847		Value 5	36	16
313879	Max W Exp Demand Ch6	Date 1	36	36
313881		Time 1	36	38
313883		Value 1	36	3A
313885		Date 2	36	3C
313887		Time 2	36	3E
313889		Value 2	36	40
313891		Date 3	36	42
313893		Time 3	36	44
313895		Value 3	36	46
313897		Date 4	36	48
313899		Time 4	36	4A
313901		Value 4	36	4C
313903		Date 5	36	4E
313905		Time 5	36	50
313907		Value 5	36	52

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313909	Max W Exp Demand Ch7	Date 1	36	54
313911		Time 1	36	56
313913		Value 1	36	58
313915		Date 2	36	5A
313917		Time 2	36	5C
313919		Value 2	36	5E
313921		Date 3	36	60
313923		Time 3	36	62
313925		Value 3	36	64
313927		Date 4	36	66
313929		Time 4	36	68
313931		Value 4	36	6A
313933		Date 5	36	6C
313935		Time 5	36	6E
313937		Value 5	36	70
313969	Max W Exp Demand Ch9	Date 1	36	90
313971		Time 1	36	92
313973		Value 1	36	94
313975		Date 2	36	96
313977		Time 2	36	98
313979		Value 2	36	9A
313981		Date 3	36	9C
313983		Time 3	36	9E
313985		Value 3	36	A0
313987		Date 4	36	A2
313989		Time 4	36	A4
313991		Value 4	36	A6
313993		Date 5	36	A8
313995		Time 5	36	AA
313997		Value 5	36	AC

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
313939	Max W Exp Demand Ch8	Date 1	36	72
313941		Time 1	36	74
313943		Value 1	36	76
313945		Date 2	36	78
313947		Time 2	36	7A
313949		Value 2	36	7C
313951		Date 3	36	7E
313953		Time 3	36	80
313955		Value 3	36	82
313957		Date 4	36	84
313959		Time 4	36	86
313961		Value 4	36	88
313963		Date 5	36	8A
313965		Time 5	36	8C
313967		Value 5	36	8E
313999	Max W Exp Demand Ch10	Date 1	36	AE
314001		Time 1	36	B0
314003		Value 1	36	B2
314005		Date 2	36	B4
314007		Time 2	36	B6
314009		Value 2	36	B8
314011		Date 3	36	BA
314013		Time 3	36	BC
314015		Value 3	36	BE
314017		Date 4	36	C0
314019		Time 4	36	C2
314021		Value 4	36	C4
314023		Date 5	36	C6
314025		Time 5	36	C8
314027		Value 5	36	CA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314029	Max W Exp Demand Ch11	Date 1	36	CC
314031		Time 1	36	CE
314033		Value 1	36	D0
314035		Date 2	36	D2
314037		Time 2	36	D4
314039		Value 2	36	D6
314041		Date 3	36	D8
314043		Time 3	36	DA
314045		Value 3	36	DC
314047		Date 4	36	DE
314049		Time 4	36	E0
314051		Value 4	36	E2
314053		Date 5	36	E4
314055		Time 5	36	E6
314057		Value 5	36	E8
314089	Max VAr Imp Demand Ch1	Date 1	37	08
314091		Time 1	37	0A
314093		Value 1	37	0C
314095		Date 2	37	0E
314097		Time 2	37	10
314099		Value 2	37	12
314101		Date 3	37	14
314103		Time 3	37	16
314105		Value 3	37	18
314107		Date 4	37	1A
314109		Time 4	37	1C
314111		Value 4	37	1E
314113		Date 5	37	20
314115		Time 5	37	22
314117		Value 5	37	24

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314059	Max W Exp Demand Ch12	Date 1	36	EA
314061		Time 1	36	EC
314063		Value 1	36	EE
314065		Date 2	36	F0
314067		Time 2	36	F2
314069		Value 2	36	F4
314071		Date 3	36	F6
314073		Time 3	36	F8
314075		Value 3	36	FA
314077		Date 4	36	FC
314079		Time 4	36	FE
314081		Value 4	37	00
314083		Date 5	37	02
314085		Time 5	37	04
314087		Value 5	37	06
314119	Max VAr Imp Demand Ch2	Date 1	37	26
314121		Time 1	37	28
314123		Value 1	37	2A
314125		Date 2	37	2C
314127		Time 2	37	2E
314129		Value 2	37	30
314131		Date 3	37	32
314133		Time 3	37	34
314135		Value 3	37	36
314137		Date 4	37	38
314139		Time 4	37	3A
314141		Value 4	37	3C
314143		Date 5	37	3E
314145		Time 5	37	40
314147		Value 5	37	42

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314149	Max VAr Imp Demand Ch3	Date 1	37	44
314151		Time 1	37	46
314153		Value 1	37	48
314155		Date 2	37	4A
314157		Time 2	37	4C
314159		Value 2	37	4E
314161		Date 3	37	50
314163		Time 3	37	52
314165		Value 3	37	54
314167		Date 4	37	56
314169		Time 4	37	58
314171		Value 4	37	5A
314173		Date 5	37	5C
314175		Time 5	37	5E
314177		Value 5	37	60
314209	Max VAr Imp Demand Ch5	Date 1	37	80
314211		Time 1	37	82
314213		Value 1	37	84
314215		Date 2	37	86
314217		Time 2	37	88
314219		Value 2	37	8A
314221		Date 3	37	8C
314223		Time 3	37	8E
314225		Value 3	37	90
314227		Date 4	37	92
314229		Time 4	37	94
314231		Value 4	37	96
314233		Date 5	37	98
314235		Time 5	37	9A
314237		Value 5	37	9C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314179	Max VAr Imp Demand Ch4	Date 1	37	62
314181		Time 1	37	64
314183		Value 1	37	66
314185		Date 2	37	68
314187		Time 2	37	6A
314189		Value 2	37	6C
314191		Date 3	37	6E
314193		Time 3	37	70
314195		Value 3	37	72
314197		Date 4	37	74
314199		Time 4	37	76
314201		Value 4	37	78
314203		Date 5	37	7A
314205		Time 5	37	7C
314207		Value 5	37	7E
314239	Max VAr Imp Demand Ch6	Date 1	37	9E
314241		Time 1	37	A0
314243		Value 1	37	A2
314245		Date 2	37	A4
314247		Time 2	37	A6
314249		Value 2	37	A8
314251		Date 3	37	AA
314253		Time 3	37	AC
314255		Value 3	37	AE
314257		Date 4	37	B0
314259		Time 4	37	B2
314261		Value 4	37	B4
314263		Date 5	37	B6
314265		Time 5	37	B8
314267		Value 5	37	BA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314269	Max VAr Imp Demand Ch7	Date 1	37	BC
314271		Time 1	37	BE
314273		Value 1	37	C0
314275		Date 2	37	C2
314277		Time 2	37	C4
314279		Value 2	37	C6
314281		Date 3	37	C8
314283		Time 3	37	CA
314285		Value 3	37	CC
314287		Date 4	37	CE
314289		Time 4	37	D0
314291		Value 4	37	D2
314293		Date 5	37	D4
314295		Time 5	37	D6
314297		Value 5	37	D8
314329	Max VAr Imp Demand Ch9	Date 1	37	F8
314331		Time 1	37	FA
314333		Value 1	37	FC
314335		Date 2	37	FE
314337		Time 2	38	00
314339		Value 2	38	02
314341		Date 3	38	04
314343		Time 3	38	06
314345		Value 3	38	08
314347		Date 4	38	0A
314349		Time 4	38	0C
314351		Value 4	38	0E
314353		Date 5	38	10
314355		Time 5	38	12
314357		Value 5	38	14

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314299	Max VAr Imp Demand Ch8	Date 1	37	DA
314301		Time 1	37	DC
314303		Value 1	37	DE
314305		Date 2	37	E0
314307		Time 2	37	E2
314309		Value 2	37	E4
314311		Date 3	37	E6
314313		Time 3	37	E8
314315		Value 3	37	EA
314317		Date 4	37	EC
314319		Time 4	37	EE
314321		Value 4	37	F0
314323		Date 5	37	F2
314325		Time 5	37	F4
314327		Value 5	37	F6
314359	Max VAr Imp Demand Ch10	Date 1	38	16
314361		Time 1	38	18
314363		Value 1	38	1A
314365		Date 2	38	1C
314367		Time 2	38	1E
314369		Value 2	38	20
314371		Date 3	38	22
314373		Time 3	38	24
314375		Value 3	38	26
314377		Date 4	38	28
314379		Time 4	38	2A
314381		Value 4	38	2C
314383		Date 5	38	2E
314385		Time 5	38	30
314387		Value 5	38	32

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314389	Max VAR Imp Demand Ch11	Date 1	38	34
314391		Time 1	38	36
314393		Value 1	38	38
314395		Date 2	38	3A
314397		Time 2	38	3C
314399		Value 2	38	3E
314401		Date 3	38	40
314403		Time 3	38	42
314405		Value 3	38	44
314407		Date 4	38	46
314409		Time 4	38	48
314411		Value 4	38	4A
314413		Date 5	38	4C
314415		Time 5	38	4E
314417		Value 5	38	50
314449	Max VAR Exp Demand Ch1	Date 1	38	70
314451		Time 1	38	72
314453		Value 1	38	74
314455		Date 2	38	76
314457		Time 2	38	78
314459		Value 2	38	7A
314461		Date 3	38	7C
314463		Time 3	38	7E
314465		Value 3	38	80
314467		Date 4	38	82
314469		Time 4	38	84
314471		Value 4	38	86
314473		Date 5	38	88
314475		Time 5	38	8A
314477		Value 5	38	8C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314419	Max VAR Imp Demand Ch12	Date 1	38	52
314421		Time 1	38	54
314423		Value 1	38	56
314425		Date 2	38	58
314427		Time 2	38	5A
314429		Value 2	38	5C
314431		Date 3	38	5E
314433		Time 3	38	60
314435		Value 3	38	62
314437		Date 4	38	64
314439		Time 4	38	66
314441		Value 4	38	68
314443		Date 5	38	6A
314445		Time 5	38	6C
314447		Value 5	38	6E
314479	Max VAR Exp Demand Ch2	Date 1	38	8E
314481		Time 1	38	90
314483		Value 1	38	92
314485		Date 2	38	94
314487		Time 2	38	96
314489		Value 2	38	98
314491		Date 3	38	9A
314493		Time 3	38	9C
314495		Value 3	38	9E
314497		Date 4	38	A0
314499		Time 4	38	A2
314501		Value 4	38	A4
314503		Date 5	38	A6
314505		Time 5	38	A8
314507		Value 5	38	AA

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314509	Max VAR Exp Demand Ch3	Date 1	38	AC
314511		Time 1	38	AE
314513		Value 1	38	B0
314515		Date 2	38	B2
314517		Time 2	38	B4
314519		Value 2	38	B6
314521		Date 3	38	B8
314523		Time 3	38	BA
314525		Value 3	38	BC
314527		Date 4	38	BE
314529		Time 4	38	C0
314531		Value 4	38	C2
314533		Date 5	38	C4
314535		Time 5	38	C6
314537		Value 5	38	C8
314569	Max VAR Exp Demand Ch5	Date 1	38	E8
314571		Time 1	38	EA
314573		Value 1	38	EC
314575		Date 2	38	EE
314577		Time 2	38	F0
314579		Value 2	38	F2
314581		Date 3	38	F4
314583		Time 3	38	F6
314585		Value 3	38	F8
314587		Date 4	38	FA
314589		Time 4	38	FC
314591		Value 4	38	FE
314593		Date 5	39	00
314595		Time 5	39	02
314597		Value 5	39	04

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314539	Max VAR Exp Demand Ch4	Date 1	38	CA
314541		Time 1	38	CC
314543		Value 1	38	CE
314545		Date 2	38	D0
314547		Time 2	38	D2
314549		Value 2	38	D4
314551		Date 3	38	D6
314553		Time 3	38	D8
314555		Value 3	38	DA
314557		Date 4	38	DC
314559		Time 4	38	DE
314561		Value 4	38	E0
314563		Date 5	38	E2
314565		Time 5	38	E4
314567		Value 5	38	E6
314599	Max VAR Exp Demand Ch6	Date 1	39	06
314601		Time 1	39	08
314603		Value 1	39	0A
314605		Date 2	39	0C
314607		Time 2	39	0E
314609		Value 2	39	10
314611		Date 3	39	12
314613		Time 3	39	14
314615		Value 3	39	16
314617		Date 4	39	18
314619		Time 4	39	1A
314621		Value 4	39	1C
314623		Date 5	39	1E
314625		Time 5	39	20
314627		Value 5	39	22

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314629	Max VAR Exp Demand Ch7	Date 1	39	24
314631		Time 1	39	26
314633		Value 1	39	28
314635		Date 2	39	2A
314637		Time 2	39	2C
314639		Value 2	39	2E
314641		Date 3	39	30
314643		Time 3	39	32
314645		Value 3	39	34
314647		Date 4	39	36
314649		Time 4	39	38
314651		Value 4	39	3A
314653		Date 5	39	3C
314655		Time 5	39	3E
314657		Value 5	39	40
314689	Max VAR Exp Demand Ch9	Date 1	39	60
314691		Time 1	39	62
314693		Value 1	39	64
314695		Date 2	39	66
314697		Time 2	39	68
314699		Value 2	39	6A
314701		Date 3	39	6C
314703		Time 3	39	6E
314705		Value 3	39	70
314707		Date 4	39	72
314709		Time 4	39	74
314711		Value 4	39	76
314713		Date 5	39	78
314715		Time 5	39	7A
314717		Value 5	39	7C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314659	Max VAR Exp Demand Ch8	Date 1	39	42
314661		Time 1	39	44
314663		Value 1	39	46
314665		Date 2	39	48
314667		Time 2	39	4A
314669		Value 2	39	4C
314671		Date 3	39	4E
314673		Time 3	39	50
314675		Value 3	39	52
314677		Date 4	39	54
314679		Time 4	39	56
314681		Value 4	39	58
314683		Date 5	39	5A
314685		Time 5	39	5C
314687		Value 5	39	5E
314719	Max VAR Exp Demand C10	Date 1	39	7E
314721		Time 1	39	80
314723		Value 1	39	82
314725		Date 2	39	84
314727		Time 2	39	86
314729		Value 2	39	88
314731		Date 3	39	8A
314733		Time 3	39	8C
314735		Value 3	39	8E
314737		Date 4	39	90
314739		Time 4	39	92
314741		Value 4	39	94
314743		Date 5	39	96
314745		Time 5	39	98
314747		Value 5	39	9A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314749	Max VAr Exp Demand Ch11	Date 1	39	9C
314751		Time 1	39	9E
314753		Value 1	39	A0
314755		Date 2	39	A2
314757		Time 2	39	A4
314759		Value 2	39	A6
314761		Date 3	39	A8
314763		Time 3	39	AA
314765		Value 3	39	AC
314767		Date 4	39	AE
314769		Time 4	39	B0
314771		Value 4	39	B2
314773		Date 5	39	B4
314775		Time 5	39	B6
314777		Value 5	39	B8
314809	Max VA Demand Ch1	Date 1	39	D8
314811		Time 1	39	DA
314813		Value 1	39	DC
314815		Date 2	39	DE
314817		Time 2	39	E0
314819		Value 2	39	E2
314821		Date 3	39	E4
314823		Time 3	39	E6
314825		Value 3	39	E8
314827		Date 4	39	EA
314829		Time 4	39	EC
314831		Value 4	39	EE
314833		Date 5	39	F0
314835		Time 5	39	F2
314837		Value 5	39	F4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314779	Max VAr Exp Demand Ch12	Date 1	39	BA
314781		Time 1	39	BC
314783		Value 1	39	BE
314785		Date 2	39	C0
314787		Time 2	39	C2
314789		Value 2	39	C4
314791		Date 3	39	C6
314793		Time 3	39	C8
314795		Value 3	39	CA
314797		Date 4	39	CC
314799		Time 4	39	CE
314801		Value 4	39	D0
314803		Date 5	39	D2
314805		Time 5	39	D4
314807		Value 5	39	D6
314839	Max VA Demand Ch2	Date 1	39	F6
314841		Time 1	39	F8
314843		Value 1	39	FA
314845		Date 2	39	FC
314847		Time 2	39	FE
314849		Value 2	3A	00
314851		Date 3	3A	02
314853		Time 3	3A	04
314855		Value 3	3A	06
314857		Date 4	3A	08
314859		Time 4	3A	0A
314861		Value 4	3A	0C
314863		Date 5	3A	0E
314865		Time 5	3A	10
314867		Value 5	3A	12

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314869	Max VA Demand Ch3	Date 1	3A	14
314871		Time 1	3A	16
314873		Value 1	3A	18
314875		Date 2	3A	1A
314877		Time 2	3A	1C
314879		Value 2	3A	1E
314881		Date 3	3A	20
314883		Time 3	3A	22
314885		Value 3	3A	24
314887		Date 4	3A	26
314889		Time 4	3A	28
314891		Value 4	3A	2A
314893		Date 5	3A	2C
314895		Time 5	3A	2E
314897		Value 5	3A	30
314929	Max VA Demand Ch5	Date 1	3A	50
314931		Time 1	3A	52
314933		Value 1	3A	54
314935		Date 2	3A	56
314937		Time 2	3A	58
314939		Value 2	3A	5A
314941		Date 3	3A	5C
314943		Time 3	3A	5E
314945		Value 3	3A	60
314947		Date 4	3A	62
314949		Time 4	3A	64
314951		Value 4	3A	66
314953		Date 5	3A	68
314955		Time 5	3A	6A
314957		Value 5	3A	6C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314899	Max VA Demand Ch4	Date 1	3A	32
314901		Time 1	3A	34
314903		Value 1	3A	36
314905		Date 2	3A	38
314907		Time 2	3A	3A
314909		Value 2	3A	3C
314911		Date 3	3A	3E
314913		Time 3	3A	40
314915		Value 3	3A	42
314917		Date 4	3A	44
314919		Time 4	3A	46
314921		Value 4	3A	48
314923		Date 5	3A	4A
314925		Time 5	3A	4C
314927		Value 5	3A	4E
314959	Max VA Demand Ch6	Date 1	3A	6E
314961		Time 1	3A	70
314963		Value 1	3A	72
314965		Date 2	3A	74
314967		Time 2	3A	76
314969		Value 2	3A	78
314971		Date 3	3A	7A
314973		Time 3	3A	7C
314975		Value 3	3A	7E
314977		Date 4	3A	80
314979		Time 4	3A	82
314981		Value 4	3A	84
314983		Date 5	3A	86
314985		Time 5	3A	88
314987		Value 5	3A	8A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
314989	Max VA Demand Ch7	Date 1	3A	8C
314991		Time 1	3A	8E
314993		Value 1	3A	90
314995		Date 2	3A	92
314997		Time 2	3A	94
314999		Value 2	3A	96
315001		Date 3	3A	98
315003		Time 3	3A	9A
315005		Value 3	3A	9C
315007		Date 4	3A	9E
315009		Time 4	3A	A0
315011		Value 4	3A	A2
315013		Date 5	3A	A4
315015		Time 5	3A	A6
315017		Value 5	3A	A8
315049	Max VA Demand Ch9	Date 1	3A	C8
315051		Time 1	3A	CA
315053		Value 1	3A	CC
315055		Date 2	3A	CE
315057		Time 2	3A	D0
315059		Value 2	3A	D2
315061		Date 3	3A	D4
315063		Time 3	3A	D6
315065		Value 3	3A	D8
315067		Date 4	3A	DA
315069		Time 4	3A	DC
315071		Value 4	3A	DE
315073		Date 5	3A	E0
315075		Time 5	3A	E2
315077		Value 5	3A	E4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315019	Max VA Demand Ch8	Date 1	3A	AA
315021		Time 1	3A	AC
315023		Value 1	3A	AE
315025		Date 2	3A	B0
315027		Time 2	3A	B2
315029		Value 2	3A	B4
315031		Date 3	3A	B6
315033		Time 3	3A	B8
315035		Value 3	3A	BA
315037		Date 4	3A	BC
315039		Time 4	3A	BE
315041		Value 4	3A	C0
315043		Date 5	3A	C2
315045		Time 5	3A	C4
315047		Value 5	3A	C6
315079	Max VA Demand Ch10	Date 1	3A	E6
315081		Time 1	3A	E8
315083		Value 1	3A	EA
315085		Date 2	3A	EC
315087		Time 2	3A	EE
315089		Value 2	3A	F0
315091		Date 3	3A	F2
315093		Time 3	3A	F4
315095		Value 3	3A	F6
315097		Date 4	3A	F8
315099		Time 4	3A	FA
315101		Value 4	3A	FC
315103		Date 5	3A	FE
315105		Time 5	3B	00
315107		Value 5	3B	02

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315109	Max VA Demand Ch11	Date 1	3B	04
315111		Time 1	3B	06
315113		Value 1	3B	08
315115		Date 2	3B	0A
315117		Time 2	3B	0C
315119		Value 2	3B	0E
315121		Date 3	3B	10
315123		Time 3	3B	12
315125		Value 3	3B	14
315127		Date 4	3B	16
315129		Time 4	3B	18
315131		Value 4	3B	1A
315133		Date 5	3B	1C
315135		Time 5	3B	1E
315137		Value 5	3B	20
315169	Max A Demand Ch1	Date 1	3B	40
315171		Time 1	3B	42
315173		Value 1	3B	44
315175		Date 2	3B	46
315177		Time 2	3B	48
315179		Value 2	3B	4A
315181		Date 3	3B	4C
315183		Time 3	3B	4E
315185		Value 3	3B	50
315187		Date 4	3B	52
315189		Time 4	3B	54
315191		Value 4	3B	56
315193		Date 5	3B	58
315195		Time 5	3B	5A
315197		Value 5	3B	5C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315139	Max VA Demand Ch12	Date 1	3B	22
315141		Time 1	3B	24
315143		Value 1	3B	26
315145		Date 2	3B	28
315147		Time 2	3B	2A
315149		Value 2	3B	2C
315151		Date 3	3B	2E
315153		Time 3	3B	30
315155		Value 3	3B	32
315157		Date 4	3B	34
315159		Time 4	3B	36
315161		Value 4	3B	38
315163		Date 5	3B	3A
315165		Time 5	3B	3C
315167		Value 5	3B	3E
315199	Max A Demand Ch2	Date 1	3B	5E
315201		Time 1	3B	60
315203		Value 1	3B	62
315205		Date 2	3B	64
315207		Time 2	3B	66
315209		Value 2	3B	68
315211		Date 3	3B	6A
315213		Time 3	3B	6C
315215		Value 3	3B	6E
315217		Date 4	3B	70
315219		Time 4	3B	72
315221		Value 4	3B	74
315223		Date 5	3B	76
315225		Time 5	3B	78
315227		Value 5	3B	7A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315229	Max A Demand Ch3	Date 1	3B	7C
315231		Time 1	3B	7E
315233		Value 1	3B	80
315235		Date 2	3B	82
315237		Time 2	3B	84
315239		Value 2	3B	86
315241		Date 3	3B	88
315243		Time 3	3B	8A
315245		Value 3	3B	8C
315247		Date 4	3B	8E
315249		Time 4	3B	90
315251		Value 4	3B	92
315253		Date 5	3B	94
315255		Time 5	3B	96
315257		Value 5	3B	98
315289	Max A Demand Ch5	Date 1	3B	B8
315291		Time 1	3B	BA
315293		Value 1	3B	BC
315295		Date 2	3B	BE
315297		Time 2	3B	C0
315299		Value 2	3B	C2
315301		Date 3	3B	C4
315303		Time 3	3B	C6
315305		Value 3	3B	C8
315307		Date 4	3B	CA
315309		Time 4	3B	CC
315311		Value 4	3B	CE
315313		Date 5	3B	D0
315315		Time 5	3B	D2
315317		Value 5	3B	D4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315259	Max A Demand Ch4	Date 1	3B	9A
315261		Time 1	3B	9C
315263		Value 1	3B	9E
315265		Date 2	3B	A0
315267		Time 2	3B	A2
315269		Value 2	3B	A4
315271		Date 3	3B	A6
315273		Time 3	3B	A8
315275		Value 3	3B	AA
315277		Date 4	3B	AC
315279		Time 4	3B	AE
315281		Value 4	3B	B0
315283		Date 5	3B	B2
315285		Time 5	3B	B4
315287		Value 5	3B	B6
315319	Max A Demand Ch6	Date 1	3B	D6
315321		Time 1	3B	D8
315323		Value 1	3B	DA
315325		Date 2	3B	DC
315327		Time 2	3B	DE
315329		Value 2	3B	E0
315331		Date 3	3B	E2
315333		Time 3	3B	E4
315335		Value 3	3B	E6
315337		Date 4	3B	E8
315339		Time 4	3B	EA
315341		Value 4	3B	EC
315343		Date 5	3B	EE
315345		Time 5	3B	F0
315347		Value 5	3B	F2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315349	Max A Demand Ch7	Date 1	3B	F4
315351		Time 1	3B	F6
315353		Value 1	3B	F8
315355		Date 2	3B	FA
315357		Time 2	3B	FC
315359		Value 2	3B	FE
315361		Date 3	3C	00
315363		Time 3	3C	02
315365		Value 3	3C	04
315367		Date 4	3C	06
315369		Time 4	3C	08
315371		Value 4	3C	0A
315373		Date 5	3C	0C
315375		Time 5	3C	0E
315377		Value 5	3C	10
315409	Max A Demand Ch9	Date 1	3C	30
315411		Time 1	3C	32
315413		Value 1	3C	34
315415		Date 2	3C	36
315417		Time 2	3C	38
315419		Value 2	3C	3A
315421		Date 3	3C	3C
315423		Time 3	3C	3E
315425		Value 3	3C	40
315427		Date 4	3C	42
315429		Time 4	3C	44
315431		Value 4	3C	46
315433		Date 5	3C	48
315435		Time 5	3C	4A
315437		Value 5	3C	4C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315379	Max A Demand Ch8	Date 1	3C	12
315381		Time 1	3C	14
315383		Value 1	3C	16
315385		Date 2	3C	18
315387		Time 2	3C	1A
315389		Value 2	3C	1C
315391		Date 3	3C	1E
315393		Time 3	3C	20
315395		Value 3	3C	22
315397		Date 4	3C	24
315399		Time 4	3C	26
315401		Value 4	3C	28
315403		Date 5	3C	2A
315405		Time 5	3C	2C
315407		Value 5	3C	2E
315439	Max A Demand Ch10	Date 1	3C	4E
315441		Time 1	3C	50
315443		Value 1	3C	52
315445		Date 2	3C	54
315447		Time 2	3C	56
315449		Value 2	3C	58
315451		Date 3	3C	5A
315453		Time 3	3C	5C
315455		Value 3	3C	5E
315457		Date 4	3C	60
315459		Time 4	3C	62
315461		Value 4	3C	64
315463		Date 5	3C	66
315465		Time 5	3C	68
315467		Value 5	3C	6A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315469	Max A Demand Ch11	Date 1	3C	6C
315471		Time 1	3C	6E
315473		Value 1	3C	70
315475		Date 2	3C	72
315477		Time 2	3C	74
315479		Value 2	3C	76
315481		Date 3	3C	78
315483		Time 3	3C	7A
315485		Value 3	3C	7C
315487		Date 4	3C	7E
315489		Time 4	3C	80
315491		Value 4	3C	82
315493		Date 5	3C	84
315495		Time 5	3C	86
315497		Value 5	3C	88
315529	Max Sys Volts LN	Date 1	3C	A8
315531		Time 1	3C	AA
315533		Value 1	3C	AC
315535		Date 2	3C	AE
315537		Time 2	3C	B0
315539		Value 2	3C	B2
315541		Date 3	3C	B4
315543		Time 3	3C	B6
315545		Value 3	3C	B8
315547		Date 4	3C	BA
315549		Time 4	3C	BC
315551		Value 4	3C	BE
315553		Date 5	3C	C0
315555		Time 5	3C	C2
315557		Value 5	3C	C4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315499	Max A Demand Ch12	Date 1	3C	8A
315501		Time 1	3C	8C
315503		Value 1	3C	8E
315505		Date 2	3C	90
315507		Time 2	3C	92
315509		Value 2	3C	94
315511		Date 3	3C	96
315513		Time 3	3C	98
315515		Value 3	3C	9A
315517		Date 4	3C	9C
315519		Time 4	3C	9E
315521		Value 4	3C	A0
315523		Date 5	3C	A2
315525		Time 5	3C	A4
315527		Value 5	3C	A6
315559	Min Sys Volts LN	Date 1	3C	C6
315561		Time 1	3C	C8
315563		Value 1	3C	CA
315565		Date 2	3C	CC
315567		Time 2	3C	CE
315569		Value 2	3C	D0
315571		Date 3	3C	D2
315573		Time 3	3C	D4
315575		Value 3	3C	D6
315577		Date 4	3C	D8
315579		Time 4	3C	DA
315581		Value 4	3C	DC
315583		Date 5	3C	DE
315585		Time 5	3C	E0
315587		Value 5	3C	E2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315589	Max Sys Volts LL	Date 1	3C	E4
315591		Time 1	3C	E6
315593		Value 1	3C	E8
315595		Date 2	3C	EA
315597		Time 2	3C	EC
315599		Value 2	3C	EE
315601		Date 3	3C	F0
315603		Time 3	3C	F2
315605		Value 3	3C	F4
315607		Date 4	3C	F6
315609		Time 4	3C	F8
315611		Value 4	3C	FA
315613		Date 5	3C	FC
315615		Time 5	3C	FE
315617		Value 5	3D	00
315649	System1 Max Current	Date 1	3D	20
315651		Time 1	3D	22
315653		Value 1	3D	24
315655		Date 2	3D	26
315657		Time 2	3D	28
315659		Value 2	3D	2A
315661		Date 3	3D	2C
315663		Time 3	3D	2E
315665		Value 3	3D	30
315667		Date 4	3D	32
315669		Time 4	3D	34
315671		Value 4	3D	36
315673		Date 5	3D	38
315675		Time 5	3D	3A
315677		Value 5	3D	3C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315619	Min Sys Volts LL	Date 1	3D	02
315621		Time 1	3D	04
315623		Value 1	3D	06
315625		Date 2	3D	08
315627		Time 2	3D	0A
315629		Value 2	3D	0C
315631		Date 3	3D	0E
315633		Time 3	3D	10
315635		Value 3	3D	12
315637		Date 4	3D	14
315639		Time 4	3D	16
315641		Value 4	3D	18
315643		Date 5	3D	1A
315645		Time 5	3D	1C
315647		Value 5	3D	1E
315679	System2 Max Current	Date 1	3D	3E
315681		Time 1	3D	40
315683		Value 1	3D	42
315685		Date 2	3D	44
315687		Time 2	3D	46
315689		Value 2	3D	48
315691		Date 3	3D	4A
315693		Time 3	3D	4C
315695		Value 3	3D	4E
315697		Date 4	3D	50
315699		Time 4	3D	52
315701		Value 4	3D	54
315703		Date 5	3D	56
315705		Time 5	3D	58
315707		Value 5	3D	5A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315709	System3 Max Current	Date 1	3D	5C
315711		Time 1	3D	5E
315713		Value 1	3D	60
315715		Date 2	3D	62
315717		Time 2	3D	64
315719		Value 2	3D	66
315721		Date 3	3D	68
315723		Time 3	3D	6A
315725		Value 3	3D	6C
315727		Date 4	3D	6E
315729		Time 4	3D	70
315731		Value 4	3D	72
315733		Date 5	3D	74
315735		Time 5	3D	76
315737		Value 5	3D	78
315769	System1 Min Current	Date 1	3D	98
315771		Time 1	3D	9A
315773		Value 1	3D	9C
315775		Date 2	3D	9E
315777		Time 2	3D	A0
315779		Value 2	3D	A2
315781		Date 3	3D	A4
315783		Time 3	3D	A6
315785		Value 3	3D	A8
315787		Date 4	3D	AA
315789		Time 4	3D	AC
315791		Value 4	3D	AE
315793		Date 5	3D	B0
315795		Time 5	3D	B2
315797		Value 5	3D	B4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315739	System4 Max Current	Date 1	3D	7A
315741		Time 1	3D	7C
315743		Value 1	3D	7E
315745		Date 2	3D	80
315747		Time 2	3D	82
315749		Value 2	3D	84
315751		Date 3	3D	86
315753		Time 3	3D	88
315755		Value 3	3D	8A
315757		Date 4	3D	8C
315759		Time 4	3D	8E
315761		Value 4	3D	90
315763		Date 5	3D	92
315765		Time 5	3D	94
315767		Value 5	3D	96
315799	System2 Min Current	Date 1	3D	B6
315801		Time 1	3D	B8
315803		Value 1	3D	BA
315805		Date 2	3D	BC
315807		Time 2	3D	BE
315809		Value 2	3D	C0
315811		Date 3	3D	C2
315813		Time 3	3D	C4
315815		Value 3	3D	C6
315817		Date 4	3D	C8
315819		Time 4	3D	CA
315821		Value 4	3D	CC
315823		Date 5	3D	CE
315825		Time 5	3D	D0
315827		Value 5	3D	D2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315829	System3 Min Current	Date 1	3D	D4
315831		Time 1	3D	D6
315833		Value 1	3D	D8
315835		Date 2	3D	DA
315837		Time 2	3D	DC
315839		Value 2	3D	DE
315841		Date 3	3D	E0
315843		Time 3	3D	E2
315845		Value 3	3D	E4
315847		Date 4	3D	E6
315849		Time 4	3D	E8
315851		Value 4	3D	EA
315853		Date 5	3D	EC
315855		Time 5	3D	EE
315857		Value 5	3D	F0
315889	System1 Max kW imp demand	Date 1	3E	10
315891		Time 1	3E	12
315893		Value 1	3E	14
315895		Date 2	3E	16
315897		Time 2	3E	18
315899		Value 2	3E	1A
315901		Date 3	3E	1C
315903		Time 3	3E	1E
315905		Value 3	3E	20
315907		Date 4	3E	22
315909		Time 4	3E	24
315911		Value 4	3E	26
315913		Date 5	3E	28
315915		Time 5	3E	2A
315917		Value 5	3E	2C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315859	System4 Min Current	Date 1	3D	F2
315861		Time 1	3D	F4
315863		Value 1	3D	F6
315865		Date 2	3D	F8
315867		Time 2	3D	FA
315869		Value 2	3D	FC
315871		Date 3	3D	FE
315873		Time 3	3E	00
315875		Value 3	3E	02
315877		Date 4	3E	04
315879		Time 4	3E	06
315881		Value 4	3E	08
315883		Date 5	3E	0A
315885		Time 5	3E	0C
315887		Value 5	3E	0E
315919	System2 Max kW imp demand	Date 1	3E	2E
315921		Time 1	3E	30
315923		Value 1	3E	32
315925		Date 2	3E	34
315927		Time 2	3E	36
315929		Value 2	3E	38
315931		Date 3	3E	3A
315933		Time 3	3E	3C
315935		Value 3	3E	3E
315937		Date 4	3E	40
315939		Time 4	3E	42
315941		Value 4	3E	44
315943		Date 5	3E	46
315945		Time 5	3E	48
315947		Value 5	3E	4A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315949	System3 Max kW imp demand	Date 1	3E	4C
315951		Time 1	3E	4E
315953		Value 1	3E	50
315955		Date 2	3E	52
315957		Time 2	3E	54
315959		Value 2	3E	56
315961		Date 3	3E	58
315963		Time 3	3E	5A
315965		Value 3	3E	5C
315967		Date 4	3E	5E
315969		Time 4	3E	60
315971		Value 4	3E	62
315973		Date 5	3E	64
315975		Time 5	3E	66
315977		Value 5	3E	68
316009	System1 Max kW exp demand	Date 1	3E	88
316011		Time 1	3E	8A
316013		Value 1	3E	8C
316015		Date 2	3E	8E
316017		Time 2	3E	90
316019		Value 2	3E	92
316021		Date 3	3E	94
316023		Time 3	3E	96
316025		Value 3	3E	98
316027		Date 4	3E	9A
316029		Time 4	3E	9C
316031		Value 4	3E	9E
316033		Date 5	3E	A0
316035		Time 5	3E	A2
316037		Value 5	3E	A4

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
315979	System4 Max kW imp demand	Date 1	3E	6A
315981		Time 1	3E	6C
315983		Value 1	3E	6E
315985		Date 2	3E	70
315987		Time 2	3E	72
315989		Value 2	3E	74
315991		Date 3	3E	76
315993		Time 3	3E	78
315995		Value 3	3E	7A
315997		Date 4	3E	7C
315999		Time 4	3E	7E
316001		Value 4	3E	80
316003		Date 5	3E	82
316005		Time 5	3E	84
316007		Value 5	3E	86
316039	System2 Max kW exp demand	Date 1	3E	A6
316041		Time 1	3E	A8
316043		Value 1	3E	AA
316045		Date 2	3E	AC
316047		Time 2	3E	AE
316049		Value 2	3E	B0
316051		Date 3	3E	B2
316053		Time 3	3E	B4
316055		Value 3	3E	B6
316057		Date 4	3E	B8
316059		Time 4	3E	BA
316061		Value 4	3E	BC
316063		Date 5	3E	BE
316065		Time 5	3E	C0
316067		Value 5	3E	C2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316069	System3 Max kW exp demand	Date 1	3E	C4
316071		Time 1	3E	C6
316073		Value 1	3E	C8
316075		Date 2	3E	CA
316077		Time 2	3E	CC
316079		Value 2	3E	CE
316081		Date 3	3E	D0
316083		Time 3	3E	D2
316085		Value 3	3E	D4
316087		Date 4	3E	D6
316089		Time 4	3E	D8
316091		Value 4	3E	DA
316093		Date 5	3E	DC
316095		Time 5	3E	DE
316097		Value 5	3E	E0
316129	System1 Max kVAr imp demand	Date 1	3F	00
316131		Time 1	3F	02
316133		Value 1	3F	04
316135		Date 2	3F	06
316137		Time 2	3F	08
316139		Value 2	3F	0A
316141		Date 3	3F	0C
316143		Time 3	3F	0E
316145		Value 3	3F	10
316147		Date 4	3F	12
316149		Time 4	3F	14
316151		Value 4	3F	16
316153		Date 5	3F	18
316155		Time 5	3F	1A
316157		Value 5	3F	1C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316099	System4 Max kW exp demand	Date 1	3E	E2
316101		Time 1	3E	E4
316103		Value 1	3E	E6
316105		Date 2	3E	E8
316107		Time 2	3E	EA
316109		Value 2	3E	EC
316111		Date 3	3E	EE
316113		Time 3	3E	F0
316115		Value 3	3E	F2
316117		Date 4	3E	F4
316119		Time 4	3E	F6
316121		Value 4	3E	F8
316123		Date 5	3E	FA
316125		Time 5	3E	FC
316127		Value 5	3E	FE
316159	System2 Max kVAr imp demand	Date 1	3F	1E
316161		Time 1	3F	20
316163		Value 1	3F	22
316165		Date 2	3F	24
316167		Time 2	3F	26
316169		Value 2	3F	28
316171		Date 3	3F	2A
316173		Time 3	3F	2C
316175		Value 3	3F	2E
316177		Date 4	3F	30
316179		Time 4	3F	32
316181		Value 4	3F	34
316183		Date 5	3F	36
316185		Time 5	3F	38
316187		Value 5	3F	3A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316189	System3 Max kVAr imp demand	Date 1	3F	3C
316191		Time 1	3F	3E
316193		Value 1	3F	40
316195		Date 2	3F	42
316197		Time 2	3F	44
316199		Value 2	3F	46
316201		Date 3	3F	48
316203		Time 3	3F	4A
316205		Value 3	3F	4C
316207		Date 4	3F	4E
316209		Time 4	3F	50
316211		Value 4	3F	52
316213		Date 5	3F	54
316215		Time 5	3F	56
316217		Value 5	3F	58
316249	System1 Max kVAr exp demand	Date 1	3F	78
316251		Time 1	3F	7A
316253		Value 1	3F	7C
316255		Date 2	3F	7E
316257		Time 2	3F	80
316259		Value 2	3F	82
316261		Date 3	3F	84
316263		Time 3	3F	86
316265		Value 3	3F	88
316267		Date 4	3F	8A
316269		Time 4	3F	8C
316271		Value 4	3F	8E
316273		Date 5	3F	90
316275		Time 5	3F	92
316277		Value 5	3F	94

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316219	System4 Max kVAr imp demand	Date 1	3F	5A
316221		Time 1	3F	5C
316223		Value 1	3F	5E
316225		Date 2	3F	60
316227		Time 2	3F	62
316229		Value 2	3F	64
316231		Date 3	3F	66
316233		Time 3	3F	68
316235		Value 3	3F	6A
316237		Date 4	3F	6C
316239		Time 4	3F	6E
316241		Value 4	3F	70
316243		Date 5	3F	72
316245		Time 5	3F	74
316247		Value 5	3F	76
316279	System2 Max kVAr exp demand	Date 1	3F	96
316281		Time 1	3F	98
316283		Value 1	3F	9A
316285		Date 2	3F	9C
316287		Time 2	3F	9E
316289		Value 2	3F	A0
316291		Date 3	3F	A2
316293		Time 3	3F	A4
316295		Value 3	3F	A6
316297		Date 4	3F	A8
316299		Time 4	3F	AA
316301		Value 4	3F	AC
316303		Date 5	3F	AE
316305		Time 5	3F	B0
316307		Value 5	3F	B2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316309	System3 Max kVA exp demand	Date 1	3F	B4
316311		Time 1	3F	B6
316313		Value 1	3F	B8
316315		Date 2	3F	BA
316317		Time 2	3F	BC
316319		Value 2	3F	BE
316321		Date 3	3F	C0
316323		Time 3	3F	C2
316325		Value 3	3F	C4
316327		Date 4	3F	C6
316329		Time 4	3F	C8
316331		Value 4	3F	CA
316333		Date 5	3F	CC
316335		Time 5	3F	CE
316337		Value 5	3F	D0
316369	System1 Max kVA demand	Date 1	3F	F0
316371		Time 1	3F	F2
316373		Value 1	3F	F4
316375		Date 2	3F	F6
316377		Time 2	3F	F8
316379		Value 2	3F	FA
316381		Date 3	3F	FC
316383		Time 3	3F	FE
316385		Value 3	40	00
316387		Date 4	40	02
316389		Time 4	40	04
316391		Value 4	40	06
316393		Date 5	40	08
316395		Time 5	40	0A
316397		Value 5	40	0C

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316339	System4 Max kVA exp demand	Date 1	3F	D2
316341		Time 1	3F	D4
316343		Value 1	3F	D6
316345		Date 2	3F	D8
316347		Time 2	3F	DA
316349		Value 2	3F	DC
316351		Date 3	3F	DE
316353		Time 3	3F	E0
316355		Value 3	3F	E2
316357		Date 4	3F	E4
316359		Time 4	3F	E6
316361		Value 4	3F	E8
316363		Date 5	3F	EA
316365		Time 5	3F	EC
316367		Value 5	3F	EE
316399	System2 Max kVA demand	Date 1	40	0E
316401		Time 1	40	10
316403		Value 1	40	12
316405		Date 2	40	14
316407		Time 2	40	16
316409		Value 2	40	18
316411		Date 3	40	1A
316413		Time 3	40	1C
316415		Value 3	40	1E
316417		Date 4	40	20
316419		Time 4	40	22
316421		Value 4	40	24
316423		Date 5	40	26
316425		Time 5	40	28
316427		Value 5	40	2A

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316429	System3 Max kVA demand	Date 1	40	2C
316431		Time 1	40	2E
316433		Value 1	40	30
316435		Date 2	40	32
316437		Time 2	40	34
316439		Value 2	40	36
316441		Date 3	40	38
316443		Time 3	40	3A
316445		Value 3	40	3C
316447		Date 4	40	3E
316449		Time 4	40	40
316451		Value 4	40	42
316453		Date 5	40	44
316455		Time 5	40	46
316457		Value 5	40	48
316489	System1 Max Current demand	Date 1	40	68
316491		Time 1	40	6A
316493		Value 1	40	6C
316495		Date 2	40	6E
316497		Time 2	40	70
316499		Value 2	40	72
316501		Date 3	40	74
316503		Time 3	40	76
316505		Value 3	40	78
316507		Date 4	40	7A
316509		Time 4	40	7C
316511		Value 4	40	7E
316513		Date 5	40	80
316515		Time 5	40	82
316517		Value 5	40	84

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316459	System4 Max kVA demand	Date 1	40	4A
316461		Time 1	40	4C
316463		Value 1	40	4E
316465		Date 2	40	50
316467		Time 2	40	52
316469		Value 2	40	54
316471		Date 3	40	56
316473		Time 3	40	58
316475		Value 3	40	5A
316477		Date 4	40	5C
316479		Time 4	40	5E
316481		Value 4	40	60
316483		Date 5	40	62
316485		Time 5	40	64
316487		Value 5	40	66
316519	System2 Max Current demand	Date 1	40	86
316521		Time 1	40	88
316523		Value 1	40	8A
316525		Date 2	40	8C
316527		Time 2	40	8E
316529		Value 2	40	90
316531		Date 3	40	92
316533		Time 3	40	94
316535		Value 3	40	96
316537		Date 4	40	98
316539		Time 4	40	9A
316541		Value 4	40	9C
316543		Date 5	40	9E
316545		Time 5	40	A0
316547		Value 5	40	A2

Table 20: Continued...

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316549	System3 Max Current demand	Date 1	40	A4
316551		Time 1	40	A6
316553		Value 1	40	A8
316555		Date 2	40	AA
316557		Time 2	40	AC
316559		Value 2	40	AE
316561		Date 3	40	B0
316563		Time 3	40	B2
316565		Value 3	40	B4
316567		Date 4	40	B6
316569		Time 4	40	B8
316571		Value 4	40	BA
316573		Date 5	40	BC
316575		Time 5	40	BE
316577		Value 5	40	C0

Address	Logged Parameter	Log Details	Mod Start Address Hex	
			High Byte	Low Byte
316579	System4 Max Current demand	Date 1	40	C2
316581		Time 1	40	C4
316583		Value 1	40	C6
316585		Date 2	40	C8
316587		Time 2	40	CA
316589		Value 2	40	CC
316591		Date 3	40	CE
316593		Time 3	40	D0
316595		Value 3	40	D2
316597		Date 4	40	D4
316599		Time 4	40	D6
316601		Value 4	40	D8
316603		Date 5	40	DA
316605		Time 5	40	DC
316607		Value 5	40	DE

- Note 1 :** System 1 parameter represents Three Phase system present at channel 1,2, and 3.
Similarly System 2 parameter represents Three Phase system present at channel 4,5,6 and so on.
- Note 2 :** If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

4.2 Time Based Datalogging

This type of datalogging stores data with a timestamp at a preset time interval. This can be used to take a snapshot of the system at regular time intervals. This data can be used to do in-depth analysis of the system. The number of parameters to be logged and which parameters to be stored can also be configured by the user through display as well as modbus. Various configuration registers can be found on addresses 46293 to 46537.

The number of entries stored varies according to the number of parameters logged i.e. more entries can be stored if less number of parameters are being logged. User can configure the meter to store 1 to 120 parameters. And the time interval can vary from 1 to 60 minutes. Editing of these parameters is not allowed while the logging is on.

Each entry consists of number of parameters selected by the user in addition to date and time of the entry log.

Max Memory Locations = 578900

Actual parameter stored in Each log = Date + Time + Number of parameter selected by user

for ex. Number of parameter selected by user = 1.

Actual parameter stored in Each log = 1(Date) + 1(Time) + 1 = 3

Maximum log that can be stored = Max Memory Location/Actual parameter stored in Each log
= 578900 / 3 = 192966

Timelog Interval setting = 15 minutes

Log in one day = (60 / Timelog Interval setting) * 24
= (60 / 15) * 24 = 96

Max Days = Maximum log that can be stored / log in one day
= 192966 / 96 = 2010.06 days

After all memory allocated locations are filled with logging data, the meter will start shifting data by first in first out queue i.e. at any time after all the locations are used once, the user will have access to the latest logged maximum number of entries.

TABLE 21 : Time - based Datalogging Parameters List

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
0	None	✓	✓	✓
1	Voltage L1	✓	✓	✓
2	Voltage L2	✓	✓	✓
3	Voltage L3	✓	✓	✓
4	Voltage L12	✓	✓	✓
5	Voltage L23	✓	✓	✓
6	Voltage L31	✓	✓	✓
7	Current Channel 1	✓	✓	✓
8	Current Channel 2	✓	✓	✓
9	Current Channel 3	✓	✓	✓
10	Current Channel 4	✓	✓	✓
11	Current Channel 5	✓	✓	✓
12	Current Channel 6	✓	✓	✓
13	Current Channel 7	✓	✓	✓
14	Current Channel 8	✓	✓	✓
15	Current Channel 9	✓	✓	✓
16	Current Channel 10	✓	✓	✓
17	Current Channel 11	✓	✓	✓
18	Current Channel 12	✓	✓	✓
19	W Channel 1	✓	✗	✓
20	W Channel 2	✓	✗	✓
21	W Channel 3	✓	✗	✓
22	W Channel 4	✓	✗	✓
23	W Channel 5	✓	✗	✓
24	W Channel 6	✓	✗	✓
25	W Channel 7	✓	✗	✓
26	W Channel 8	✓	✗	✓
27	W Channel 9	✓	✗	✓
28	W Channel 10	✓	✗	✓
29	W Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
30	W Channel 12	✓	✗	✓
31	VA Channel 1	✓	✗	✓
32	VA Channel 2	✓	✗	✓
33	VA Channel 3	✓	✗	✓
34	VA Channel 4	✓	✗	✓
35	VA Channel 5	✓	✗	✓
36	VA Channel 6	✓	✗	✓
37	VA Channel 7	✓	✗	✓
38	VA Channel 8	✓	✗	✓
39	VA Channel 9	✓	✗	✓
40	VA Channel 10	✓	✗	✓
41	VA Channel 11	✓	✗	✓
42	VA Channel 12	✓	✗	✓
43	VAr Channel 1	✓	✗	✓
44	VAr Channel 2	✓	✗	✓
45	VAr Channel 3	✓	✗	✓
46	VAr Channel 4	✓	✗	✓
47	VAr Channel 5	✓	✗	✓
48	VAr Channel 6	✓	✗	✓
49	VAr Channel 7	✓	✗	✓
50	VAr Channel 8	✓	✗	✓
51	VAr Channel 9	✓	✗	✓
52	VAr Channel 10	✓	✗	✓
53	VAr Channel 11	✓	✗	✓
54	VAr Channel 12	✓	✗	✓
55	PF Channel 1	✓	✗	✓
56	PF Channel 2	✓	✗	✓
57	PF Channel 3	✓	✗	✓
58	PF Channel 4	✓	✗	✓
59	PF Channel 5	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
60	PF Channel 6	✓	✗	✓
61	PF Channel 7	✓	✗	✓
62	PF Channel 8	✓	✗	✓
63	PF Channel 9	✓	✗	✓
64	PF Channel 10	✓	✗	✓
65	PF Channel 11	✓	✗	✓
66	PF Channel 12	✓	✗	✓
67	Angle Channel 1	✓	✗	✓
68	Angle Channel 2	✓	✗	✓
69	Angle Channel 3	✓	✗	✓
70	Angle Channel 4	✓	✗	✓
71	Angle Channel 5	✓	✗	✓
72	Angle Channel 6	✓	✗	✓
73	Angle Channel 7	✓	✗	✓
74	Angle Channel 8	✓	✗	✓
75	Angle Channel 9	✓	✗	✓
76	Angle Channel 10	✓	✗	✓
77	Angle Channel 11	✓	✗	✓
78	Angle Channel 12	✓	✗	✓
79	Wh Import Channel 1	✓	✗	✓
80	Wh Import Channel 2	✓	✗	✓
81	Wh Import Channel 3	✓	✗	✓
82	Wh Import Channel 4	✓	✗	✓
83	Wh Import Channel 5	✓	✗	✓
84	Wh Import Channel 6	✓	✗	✓
85	Wh Import Channel 7	✓	✗	✓
86	Wh Import Channel 8	✓	✗	✓
87	Wh Import Channel 9	✓	✗	✓
88	Wh Import Channel 10	✓	✗	✓
89	Wh Import Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
90	Wh Import Channel 12	✓	✗	✓
91	Wh Export Channel 1	✓	✗	✓
92	Wh Export Channel 2	✓	✗	✓
93	Wh Export Channel 3	✓	✗	✓
94	Wh Export Channel 4	✓	✗	✓
95	Wh Export Channel 5	✓	✗	✓
96	Wh Export Channel 6	✓	✗	✓
97	Wh Export Channel 7	✓	✗	✓
98	Wh Export Channel 8	✓	✗	✓
99	Wh Export Channel 9	✓	✗	✓
100	Wh Export Channel 10	✓	✗	✓
101	Wh Export Channel 11	✓	✗	✓
102	Wh Export Channel 12	✓	✗	✓
103	VARh Capacitive Channel 1	✓	✗	✓
104	VARh Capacitive Channel 2	✓	✗	✓
105	VARh Capacitive Channel 3	✓	✗	✓
106	VARh Capacitive Channel 4	✓	✗	✓
107	VARh Capacitive Channel 5	✓	✗	✓
108	VARh Capacitive Channel 6	✓	✗	✓
109	VARh Capacitive Channel 7	✓	✗	✓
110	VARh Capacitive Channel 8	✓	✗	✓
111	VARh Capacitive Channel 9	✓	✗	✓
112	VARh Capacitive Channel 10	✓	✗	✓
113	VARh Capacitive Channel 11	✓	✗	✓
114	VARh Capacitive Channel 12	✓	✗	✓
115	VARh Inductive Channel 1	✓	✗	✓
116	VARh Inductive Channel 2	✓	✗	✓
117	VARh Inductive Channel 3	✓	✗	✓
118	VARh Inductive Channel 4	✓	✗	✓
119	VARh Inductive Channel 5	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
120	VArh Inductive Channel 6	✓	✗	✓
121	VArh Inductive Channel 7	✓	✗	✓
122	VArh Inductive Channel 8	✓	✗	✓
123	VArh Inductive Channel 9	✓	✗	✓
124	VArh Inductive Channel 10	✓	✗	✓
125	VArh Inductive Channel 11	✓	✗	✓
126	VArh Inductive Channel 12	✓	✗	✓
127	VAh Channel 1	✓	✗	✓
128	VAh Channel 2	✓	✗	✓
129	VAh Channel 3	✓	✗	✓
130	VAh Channel 4	✓	✗	✓
131	VAh Channel 5	✓	✗	✓
132	VAh Channel 6	✓	✗	✓
133	VAh Channel 7	✓	✗	✓
134	VAh Channel 8	✓	✗	✓
135	VAh Channel 9	✓	✗	✓
136	VAh Channel 10	✓	✗	✓
137	VAh Channel 11	✓	✗	✓
138	VAh Channel 12	✓	✗	✓
139	Wh Import overflow count Channel 1	✓	✗	✓
140	Wh Import overflow count Channel 2	✓	✗	✓
141	Wh Import overflow count Channel 3	✓	✗	✓
142	Wh Import overflow count Channel 4	✓	✗	✓
143	Wh Import overflow count Channel 5	✓	✗	✓
144	Wh Import overflow count Channel 6	✓	✗	✓
145	Wh Import overflow count Channel 7	✓	✗	✓
146	Wh Import overflow count Channel 8	✓	✗	✓
147	Wh Import overflow count Channel 9	✓	✗	✓
148	Wh Import overflow count Channel 10	✓	✗	✓
149	Wh Import overflow count Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
150	Wh Import overflow count Channel 12	✓	✗	✓
151	Wh Export overflow count Channel 1	✓	✗	✓
152	Wh Export overflow count Channel 2	✓	✗	✓
153	Wh Export overflow count Channel 3	✓	✗	✓
154	Wh Export overflow count Channel 4	✓	✗	✓
155	Wh Export overflow count Channel 5	✓	✗	✓
156	Wh Export overflow count Channel 6	✓	✗	✓
157	Wh Export overflow count Channel 7	✓	✗	✓
158	Wh Export overflow count Channel 8	✓	✗	✓
159	Wh Export overflow count Channel 9	✓	✗	✓
160	Wh Export overflow count Channel 10	✓	✗	✓
161	Wh Export overflow count Channel 11	✓	✗	✓
162	Wh Export overflow count Channel 12	✓	✗	✓
163	VARh Capacitive overflow count Channel 1	✓	✗	✓
164	VARh Capacitive overflow count Channel 2	✓	✗	✓
165	VARh Capacitive overflow count Channel 3	✓	✗	✓
166	VARh Capacitive overflow count Channel 4	✓	✗	✓
167	VARh Capacitive overflow count Channel 5	✓	✗	✓
168	VARh Capacitive overflow count Channel 6	✓	✗	✓
169	VARh Capacitive overflow count Channel 7	✓	✗	✓
170	VARh Capacitive overflow count Channel 8	✓	✗	✓
171	VARh Capacitive overflow count Channel 9	✓	✗	✓
172	VARh Capacitive overflow count Channel 10	✓	✗	✓
173	VARh Capacitive overflow count Channel 11	✓	✗	✓
174	VARh Capacitive overflow count Channel 12	✓	✗	✓
175	VARh Inductive overflow count Channel 1	✓	✗	✓
176	VARh Inductive overflow count Channel 2	✓	✗	✓
177	VARh Inductive overflow count Channel 3	✓	✗	✓
178	VARh Inductive overflow count Channel 4	✓	✗	✓
179	VARh Inductive overflow count Channel 5	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
180	VArh Inductive overflow count Channel 6	✓	✗	✓
181	VArh Inductive overflow count Channel 7	✓	✗	✓
182	VArh Inductive overflow count Channel 8	✓	✗	✓
183	VArh Inductive overflow count Channel 9	✓	✗	✓
184	VArh Inductive overflow count Channel 10	✓	✗	✓
185	VArh Inductive overflow count Channel 11	✓	✗	✓
186	VArh Inductive overflow count Channel 12	✓	✗	✓
187	VAh overflow count Channel 1	✓	✗	✓
188	VAh overflow count Channel 2	✓	✗	✓
189	VAh overflow count Channel 3	✓	✗	✓
190	VAh overflow count Channel 4	✓	✗	✓
191	VAh overflow count Channel 5	✓	✗	✓
192	VAh overflow count Channel 6	✓	✗	✓
193	VAh overflow count Channel 7	✓	✗	✓
194	VAh overflow count Channel 8	✓	✗	✓
195	VAh overflow count Channel 9	✓	✗	✓
196	VAh overflow count Channel 10	✓	✗	✓
197	VAh overflow count Channel 11	✓	✗	✓
198	VAh overflow count Channel 12	✓	✗	✓
199	kW Import demand Channel 1	✓	✗	✓
200	kW Import demand Channel 2	✓	✗	✓
201	kW Import demand Channel 3	✓	✗	✓
202	kW Import demand Channel 4	✓	✗	✓
203	kW Import demand Channel 5	✓	✗	✓
204	kW Import demand Channel 6	✓	✗	✓
205	kW Import demand Channel 7	✓	✗	✓
206	kW Import demand Channel 8	✓	✗	✓
207	kW Import demand Channel 9	✓	✗	✓
208	kW Import demand Channel 10	✓	✗	✓
209	kW Import demand Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
210	kW Import demand Channel 12	✓	✗	✓
211	kW Export demand Channel 1	✓	✗	✓
212	kW Export demand Channel 2	✓	✗	✓
213	kW Export demand Channel 3	✓	✗	✓
214	kW Export demand Channel 4	✓	✗	✓
215	kW Export demand Channel 5	✓	✗	✓
216	kW Export demand Channel 6	✓	✗	✓
217	kW Export demand Channel 7	✓	✗	✓
218	kW Export demand Channel 8	✓	✗	✓
219	kW Export demand Channel 9	✓	✗	✓
220	kW Export demand Channel 10	✓	✗	✓
221	kW Export demand Channel 11	✓	✗	✓
222	kW Export demand Channel 12	✓	✗	✓
223	kVAr Capacitive demand Channel 1	✓	✗	✓
224	kVAr Capacitive demand Channel 2	✓	✗	✓
225	kVAr Capacitive demand Channel 3	✓	✗	✓
226	kVAr Capacitive demand Channel 4	✓	✗	✓
227	kVAr Capacitive demand Channel 5	✓	✗	✓
228	kVAr Capacitive demand Channel 6	✓	✗	✓
229	kVAr Capacitive demand Channel 7	✓	✗	✓
230	kVAr Capacitive demand Channel 8	✓	✗	✓
231	kVAr Capacitive demand Channel 9	✓	✗	✓
232	kVAr Capacitive demand Channel 10	✓	✗	✓
233	kVAr Capacitive demand Channel 11	✓	✗	✓
234	kVAr Capacitive demand Channel 12	✓	✗	✓
235	kVAr Inductive demand Channel 1	✓	✗	✓
236	kVAr Inductive demand Channel 2	✓	✗	✓
237	kVAr Inductive demand Channel 3	✓	✗	✓
238	kVAr Inductive demand Channel 4	✓	✗	✓
239	kVAr Inductive demand Channel 5	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
240	kVAr Inductive demand Channel 6	✓	✗	✓
241	kVAr Inductive demand Channel 7	✓	✗	✓
242	kVAr Inductive demand Channel 8	✓	✗	✓
243	kVAr Inductive demand Channel 9	✓	✗	✓
244	kVAr Inductive demand Channel 10	✓	✗	✓
245	kVAr Inductive demand Channel 11	✓	✗	✓
246	kVAr Inductive demand Channel 12	✓	✗	✓
247	kVA demand Channel 1	✓	✗	✓
248	kVA demand Channel 2	✓	✗	✓
249	kVA demand Channel 3	✓	✗	✓
250	kVA demand Channel 4	✓	✗	✓
251	kVA demand Channel 5	✓	✗	✓
252	kVA demand Channel 6	✓	✗	✓
253	kVA demand Channel 7	✓	✗	✓
254	kVA demand Channel 8	✓	✗	✓
255	kVA demand Channel 9	✓	✗	✓
256	kVA demand Channel 10	✓	✗	✓
257	kVA demand Channel 11	✓	✗	✓
258	kVA demand Channel 12	✓	✗	✓
259	Current demand Channel 1	✓	✗	✓
260	Current demand Channel 2	✓	✗	✓
261	Current demand Channel 3	✓	✗	✓
262	Current demand Channel 4	✓	✗	✓
263	Current demand Channel 5	✓	✗	✓
264	Current demand Channel 6	✓	✗	✓
265	Current demand Channel 7	✓	✗	✓
266	Current demand Channel 8	✓	✗	✓
267	Current demand Channel 9	✓	✗	✓
268	Current demand Channel 10	✓	✗	✓
269	Current demand Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
270	Current demand Channel 12	✓	✗	✓
271	kW Import Max demand Channel 1	✓	✗	✓
272	kW Import Max demand Channel 2	✓	✗	✓
273	kW Import Max demand Channel 3	✓	✗	✓
274	kW Import Max demand Channel 4	✓	✗	✓
275	kW Import Max demand Channel 5	✓	✗	✓
276	kW Import Max demand Channel 6	✓	✗	✓
277	kW Import Max demand Channel 7	✓	✗	✓
278	kW Import Max demand Channel 8	✓	✗	✓
279	kW Import Max demand Channel 9	✓	✗	✓
280	kW Import Max demand Channel 10	✓	✗	✓
281	kW Import Max demand Channel 11	✓	✗	✓
282	kW Import Max demand Channel 12	✓	✗	✓
283	kW Export Max demand Channel 1	✓	✗	✓
284	kW Export Max demand Channel 2	✓	✗	✓
285	kW Export Max demand Channel 3	✓	✗	✓
286	kW Export Max demand Channel 4	✓	✗	✓
287	kW Export Max demand Channel 5	✓	✗	✓
288	kW Export Max demand Channel 6	✓	✗	✓
289	kW Export Max demand Channel 7	✓	✗	✓
290	kW Export Max demand Channel 8	✓	✗	✓
291	kW Export Max demand Channel 9	✓	✗	✓
292	kW Export Max demand Channel 10	✓	✗	✓
293	kW Export Max demand Channel 11	✓	✗	✓
294	kW Export Max demand Channel 12	✓	✗	✓
295	kVAr Capacitive Max demand Channel 1	✓	✗	✓
296	kVAr Capacitive Max demand Channel 2	✓	✗	✓
297	kVAr Capacitive Max demand Channel 3	✓	✗	✓
298	kVAr Capacitive Max demand Channel 4	✓	✗	✓
299	kVAr Capacitive Max demand Channel 5	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
300	kVAr Capacitive Max demand Channel 6	✓	✗	✓
301	kVAr Capacitive Max demand Channel 7	✓	✗	✓
302	kVAr Capacitive Max demand Channel 8	✓	✗	✓
303	kVAr Capacitive Max demand Channel 9	✓	✗	✓
304	kVAr Capacitive Max demand Channel 10	✓	✗	✓
305	kVAr Capacitive Max demand Channel 11	✓	✗	✓
306	kVAr Capacitive Max demand Channel 12	✓	✗	✓
307	kVAr Inductive Max demand Channel 1	✓	✗	✓
308	kVAr Inductive Max demand Channel 2	✓	✗	✓
309	kVAr Inductive Max demand Channel 3	✓	✗	✓
310	kVAr Inductive Max demand Channel 4	✓	✗	✓
311	kVAr Inductive Max demand Channel 5	✓	✗	✓
312	kVAr Inductive Max demand Channel 6	✓	✗	✓
313	kVAr Inductive Max demand Channel 7	✓	✗	✓
314	kVAr Inductive Max demand Channel 8	✓	✗	✓
315	kVAr Inductive Max demand Channel 9	✓	✗	✓
316	kVAr Inductive Max demand Channel 10	✓	✗	✓
317	kVAr Inductive Max demand Channel 11	✓	✗	✓
318	kVAr Inductive Max demand Channel 12	✓	✗	✓
319	kVA Max demand Channel 1	✓	✗	✓
320	kVA Max demand Channel 2	✓	✗	✓
321	kVA Max demand Channel 3	✓	✗	✓
322	kVA Max demand Channel 4	✓	✗	✓
323	kVA Max demand Channel 5	✓	✗	✓
324	kVA Max demand Channel 6	✓	✗	✓
325	kVA Max demand Channel 7	✓	✗	✓
326	kVA Max demand Channel 8	✓	✗	✓
327	kVA Max demand Channel 9	✓	✗	✓
328	kVA Max demand Channel 10	✓	✗	✓
329	kVA Max demand Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
330	kVA Max demand Channel 12	✓	✗	✓
331	Current Max demand Channel 1	✓	✗	✓
332	Current Max demand Channel 2	✓	✗	✓
333	Current Max demand Channel 3	✓	✗	✓
334	Current Max demand Channel 4	✓	✗	✓
335	Current Max demand Channel 5	✓	✗	✓
336	Current Max demand Channel 6	✓	✗	✓
337	Current Max demand Channel 7	✓	✗	✓
338	Current Max demand Channel 8	✓	✗	✓
339	Current Max demand Channel 9	✓	✗	✓
340	Current Max demand Channel 10	✓	✗	✓
341	Current Max demand Channel 11	✓	✗	✓
342	Current Max demand Channel 12	✓	✗	✓
463	Max Voltage L1	✓	✓	✓
464	Max Voltage L2	✓	✓	✓
465	Max Voltage L3	✓	✓	✓
466	Min Voltage L1	✓	✓	✓
467	Min Voltage L2	✓	✓	✓
468	Min Voltage L3	✓	✓	✓
469	Max Voltage L12	✓	✓	✓
470	Max Voltage L23	✓	✓	✓
471	Max Voltage L31	✓	✓	✓
472	Min Voltage L12	✓	✓	✓
473	Min Voltage L23	✓	✓	✓
474	Min Voltage L31	✓	✓	✓
475	Max Current Channel 1	✓	✓	✓
476	Max Current Channel 2	✓	✓	✓
477	Max Current Channel 3	✓	✓	✓
478	Max Current Channel 4	✓	✓	✓
479	Max Current Channel 5	✓	✓	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
480	Max Current Channel 6	✓	✓	✓
481	Max Current Channel 7	✓	✓	✓
482	Max Current Channel 8	✓	✓	✓
483	Max Current Channel 9	✓	✓	✓
484	Max Current Channel 10	✓	✓	✓
485	Max Current Channel 11	✓	✓	✓
486	Max Current Channel 12	✓	✓	✓
487	Min Current Channel 1	✓	✓	✓
488	Min Current Channel 2	✓	✓	✓
489	Min Current Channel 3	✓	✓	✓
490	Min Current Channel 4	✓	✓	✓
491	Min Current Channel 5	✓	✓	✓
492	Min Current Channel 6	✓	✓	✓
493	Min Current Channel 7	✓	✓	✓
494	Min Current Channel 8	✓	✓	✓
495	Min Current Channel 9	✓	✓	✓
496	Min Current Channel 10	✓	✓	✓
497	Min Current Channel 11	✓	✓	✓
498	Min Current Channel 12	✓	✓	✓
499	Run hour Channel 1	✓	✗	✓
500	Run hour Channel 2	✓	✗	✓
501	Run hour Channel 3	✓	✗	✓
502	Run hour Channel 4	✓	✗	✓
503	Run hour Channel 5	✓	✗	✓
504	Run hour Channel 6	✓	✗	✓
505	Run hour Channel 7	✓	✗	✓
506	Run hour Channel 8	✓	✗	✓
507	Run hour Channel 9	✓	✗	✓
508	Run hour Channel 10	✓	✗	✓
509	Run hour Channel 11	✓	✗	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
510	Run hour Channel 12	✓	✓	✓
511	Voltage L1 THD	✓	✓	✓
512	Voltage L2 THD	✓	✓	✓
513	Voltage L3 THD	✓	✓	✓
514	Voltage L12 THD	✓	✓	✓
515	Voltage L23 THD	✓	✓	✓
516	Voltage L31 THD	✓	✓	✓
517	Current THD Channel 1	✓	✓	✓
518	Current THD Channel 2	✓	✓	✓
519	Current THD Channel 3	✓	✓	✓
520	Current THD Channel 4	✓	✓	✓
521	Current THD Channel 5	✓	✓	✓
522	Current THD Channel 6	✓	✓	✓
523	Current THD Channel 7	✓	✓	✓
524	Current THD Channel 8	✓	✓	✓
525	Current THD Channel 9	✓	✓	✓
526	Current THD Channel 10	✓	✓	✓
527	Current THD Channel 11	✓	✓	✓
528	Current THD Channel 12	✓	✓	✓
529	System Voltage LN Avg	✓	✓	✓
531	System Voltage LL Avg	✓	✓	✓
533	Current Avg System 1	✓	✓	✗
534	Current Avg System 2	✓	✓	✗
535	Current Avg System 3	✓	✓	✗
536	Current Avg System 4	✓	✓	✗
545	Watt Sum System 1	✓	✓	✗
546	Watt Sum System 2	✓	✓	✗
547	Watt Sum System 3	✓	✓	✗
548	Watt Sum System 4	✓	✓	✗
553	VA Sum System 1	✓	✓	✗

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
554	VA Sum System 2	✓	✓	✗
555	VA Sum System 3	✓	✓	✗
556	VA Sum System 4	✓	✓	✗
561	VAr Sum System 1	✓	✓	✗
562	VAr Sum System 2	✓	✓	✗
563	VAr Sum System 3	✓	✓	✗
564	VAr Sum System 4	✓	✓	✗
565	PF Avg System 1	✓	✓	✗
566	PF Avg System 2	✓	✓	✗
567	PF Avg System 3	✓	✓	✗
568	PF Avg System 4	✓	✓	✗
573	Phase Angle Avg System 1	✓	✓	✗
574	Phase Angle Avg System 2	✓	✓	✗
575	Phase Angle Avg System 3	✓	✓	✗
576	Phase Angle Avg System 4	✓	✓	✗
581	Wh Import System 1	✓	✓	✗
582	Wh Import System 2	✓	✓	✗
583	Wh Import System 3	✓	✓	✗
584	Wh Import System 4	✓	✓	✗
585	Wh Export System 1	✓	✓	✗
586	Wh Export System 2	✓	✓	✗
587	Wh Export System 3	✓	✓	✗
588	Wh Export System 4	✓	✓	✗
589	VArh Capacitive System 1	✓	✓	✗
590	VArh Capacitive System 2	✓	✓	✗
591	VArh Capacitive System 3	✓	✓	✗
592	VArh Capacitive System 4	✓	✓	✗
593	VArh Inductive System 1	✓	✓	✗
594	VArh Inductive System 2	✓	✓	✗
595	VArh Inductive System 3	✓	✓	✗

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
596	VArh Inductive System 4	✓	✓	✗
597	VAh System 1	✓	✓	✗
598	VAh System 2	✓	✓	✗
599	VAh System 3	✓	✓	✗
600	VAh System 4	✓	✓	✗
601	Wh Import overflow count System 1	✓	✓	✗
602	Wh Import overflow count System 2	✓	✓	✗
603	Wh Import overflow count System 3	✓	✓	✗
604	Wh Import overflow count System 4	✓	✓	✗
605	Wh Export overflow count System 1	✓	✓	✗
606	Wh Export overflow count System 2	✓	✓	✗
607	Wh Export overflow count System 3	✓	✓	✗
608	Wh Export overflow count System 4	✓	✓	✗
609	VArh Capacitive overflow count System 1	✓	✓	✗
610	VArh Capacitive overflow count System 2	✓	✓	✗
611	VArh Capacitive overflow count System 3	✓	✓	✗
612	VArh Capacitive overflow count System 4	✓	✓	✗
613	VArh Inductive overflow count System 1	✓	✓	✗
614	VArh Inductive overflow count System 2	✓	✓	✗
615	VArh Inductive overflow count System 3	✓	✓	✗
616	VArh Inductive overflow count System 4	✓	✓	✗
617	VAh overflow count System 1	✓	✓	✗
618	VAh overflow count System 2	✓	✓	✗
619	VAh overflow count System 3	✓	✓	✗
620	VAh overflow count System 4	✓	✓	✗
621	kW Import demand System 1	✓	✓	✗
622	kW Import demand System 2	✓	✓	✗
623	kW Import demand System 3	✓	✓	✗
624	kW Import demand System 4	✓	✓	✗
625	kW Export demand System 1	✓	✓	✗

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
626	kW Export demand System 2	✓	✓	✗
627	kW Export demand System 3	✓	✓	✗
628	kW Export demand System 4	✓	✓	✗
629	kVAr Capacitive demand System 1	✓	✓	✗
630	kVAr Capacitive demand System 2	✓	✓	✗
631	kVAr Capacitive demand System 3	✓	✓	✗
632	kVAr Capacitive demand System 4	✓	✓	✗
633	kVAr Inductive demand System 1	✓	✓	✗
634	kVAr Inductive demand System 2	✓	✓	✗
635	kVAr Inductive demand System 3	✓	✓	✗
636	kVAr Inductive demand System 4	✓	✓	✗
637	KVA demand System 1	✓	✓	✗
638	KVA demand System 2	✓	✓	✗
639	KVA demand System 3	✓	✓	✗
640	KVA demand System 4	✓	✓	✗
641	Current demand System 1	✓	✓	✗
642	Current demand System 2	✓	✓	✗
643	Current demand System 3	✓	✓	✗
644	Current demand System 4	✓	✓	✗
645	kW Import Max demand System 1	✓	✓	✗
646	kW Import Max demand System 2	✓	✓	✗
647	kW Import Max demand System 3	✓	✓	✗
648	kW Import Max demand System 4	✓	✓	✗
649	KW Export Max demand System 1	✓	✓	✗
650	KW Export Max demand System 2	✓	✓	✗
651	KW Export Max demand System 3	✓	✓	✗
652	KW Export Max demand System 4	✓	✓	✗
653	kVAr Capacitive Max demand System 1	✓	✓	✗
654	kVAr Capacitive Max demand System 2	✓	✓	✗
655	kVAr Capacitive Max demand System 3	✓	✓	✗

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
656	kVAr Capacitive Max demand System 4	✓	✓	✗
657	kVAr Inductive Max demand System 1	✓	✓	✗
658	kVAr Inductive Max demand System 2	✓	✓	✗
659	kVAr Inductive Max demand System 3	✓	✓	✗
660	kVAr Inductive Max demand System 4	✓	✓	✗
661	kVA Max demand System 1	✓	✓	✗
662	kVA Max demand System 2	✓	✓	✗
663	kVA Max demand System 3	✓	✓	✗
664	kVA Max demand System 4	✓	✓	✗
665	Current Max demand System 1	✓	✓	✗
666	Current Max demand System 2	✓	✓	✗
667	Current Max demand System 3	✓	✓	✗
668	Current Max demand System 4	✓	✓	✗
709	System Max Voltage LN	✓	✓	✓
710	System Min Voltage LN	✓	✓	✓
711	System Max Voltage LL	✓	✓	✓
712	System Min Voltage LL	✓	✓	✓
713	Max Current System 1	✓	✓	✗
714	Max Current System 2	✓	✓	✗
715	Max Current System 3	✓	✓	✗
716	Max Current System 4	✓	✓	✗
717	Min Current System 1	✓	✓	✗
718	Min Current System 2	✓	✓	✗
719	Min Current System 3	✓	✓	✗
720	Min Current System 4	✓	✓	✗
721	Run hour System 1	✓	✓	✗
722	Run hour System 2	✓	✓	✗
723	Run hour System 3	✓	✓	✗
724	Run hour System 4	✓	✓	✗
725	System VLN-THD	✓	✓	✓

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
726	System VLL-THD	✓	✓	✓
727	I-THD System 1	✓	✓	✗
728	I-THD System 2	✓	✓	✗
729	I-THD System 3	✓	✓	✗
730	I-THD System 4	✓	✓	✗
731	Neutral Current System 1	✓	✗	✗
732	Neutral Current System 2	✓	✗	✗
733	Neutral Current System 3	✓	✗	✗
734	Neutral Current System 4	✓	✗	✗
735	Frequency	✓	✓	✓
736	RPM	✓	✓	✓
737	Instrument ON Hour	✓	✓	✓
738	Instrument No of Interruption	✓	✓	✓
739	Total System Voltage LN avg	These parameters do not depend upon channel mode		
740	Total System Voltage LL avg			
741	Total System Current avg			
742	Total System Active Power sum			
743	Total System Reactive Power sum			
744	Total System Apparent Power sum			
745	Total System PF avg			
746	Total System PA avg			
747	Total System Wh Import sum			
748	Total System Wh Export sum			
749	Total System VARh Capacitive sum			
750	Total System VARh Inductive sum			
751	Total System VAh sum			
752	Total System Wh Import overflow count			
753	Total System Wh Export overflow count			
754	Total System VARh Capacitive overflow count			
755	Total System VARh Inductive overflow count			

TABLE 21 : Continue...

Para. No.	Parameter	3P 4W	3P 3W	1P 2W
756	Total System VAh overflow count	These parameters do not depend upon channel mode		
757	Total System kW Import Demand sum			
758	Total System kW Export Demand sum			
759	Total System kVAR Capacitive Demand sum			
760	Total System kVAR Inductive Demand sum			
761	Total System kVA Demand sum			
762	Total System A Demand sum			
763	Total System kW Import Max Demand			
764	Total System kW Export Max Demand			
765	Total System kVAR Capacitive Max Demand			
766	Total System kVAR Inductive Max Demand			
767	Total System kVA Max Demand			
768	Total System A Max Demand			
769	Total System CT Primary			
770	Phase sequence indication	✓	✓	✓

Query Format for Downloading the Time based datalog

The query format for downloading an entry of a time datalog is given below. Maximum number of register the user can access in 1 query are limited by 64 and corresponding to it maximum byte count is 128. The byte count should be logging parameter count multiplied by 4 and added to 8, where 8 is the byte count for date and time (4 bytes x 2 parameters).

(logging parameter count x 4) + (2 x 4)

e.g.

if logging parameter count is 10

byte count = (10 x 4) + 8 = 48 (4 bytes per parameter)

number of registers = (10 x 2) + (2 x 2) = 24 (2 registers per parameter)

Starting address will be 01,CA for time datalog.

The entry number of the desired log need to be converted to IEEE format and sent as 4 bytes.

Query example:

Description	Decimal Value	Hex Value
Dev Addr	1	01
Func Code	16	10
Start Addr Hi		01
Start Addr Lo		CA
No of Reg Hi	00	00
No of Reg Lo	14	0E
Log Download Bytes	28	1C
Entry No Reg 1 Hi	25	41
Entry No Reg 1 Lo		C8
Entry No Reg 2 Hi		00
Entry No Reg 2 Lo		00
CRC Lo		C7
CRC Hi		1C

If a user wants to download 5 parameters logged at entry number 25, the query will be as following (Assuming device address 3). All the data in query is represented in hexadecimal float.

01,10,01,CA,00,0E,1C,41,C8,00,00,C7,1C

01 is device address;

10 is function code;

01 CA is the address that lets the user access the time datalog;

00 0E is number of registers to be accessed (actual parameter count x 2+4);

1C is number of bytes to be accessed;

41 C8 00 00 is entry number converted to hex;

C7 1C is CRC calculated on query.

Response:

Description	Hex Value	Decimal Value
Dev Addr	01	01
Func Code	10	16
No of bytes	1C	28
Date	46,24,60,00	010520(May 1st 2020)
Time	40,CC,CC,CD	6.40 (06:40 am)
Parameter 1	41,78,1F,68	15.50
Parameter 2	46,AB,5A,12	21933.0
Parameter 3	46,AC,57,6A	22059.7
Parameter 4	46,AB,3C,58	21918.2
Parameter 5	46,A9,AD,9D	21718.8
CRC	01,E4	

The response to time datalog query contains data in following structure.

First two bytes are device address and function code, followed by number of bytes data of 1 byte and then date and a time data of 4 bytes each.

Then requested parameters are received in order that is specified in timelog parameters settings, each of 4 bytes.

The response ends with 2 bytes of CRC.

4.3 Load Profile Datalogging

This type of datalogging stores data on each day at time 00:00. The parameters stored in this log include all energies and maximum demands. This log stores data in daily as well as monthly interval. Hence, daily and monthly energy consumption can be logged. Furthermore, maximum power demand and maximum current demand during each day and each month is also logged. This data can be used to study load behaviour over a period of time.

The daily data available to the user is maximum of one year interval and the monthly data for 14 years interval assuming the log requested is after the starting date (requesting data before the starting date will result in modbus exception message). 1 year after the starting date, the oldest logs of daily data are constantly replaced with latest logs. 14 years after the starting date, all the load profile logs for that channel are cleared and logging is started again.

This log can be selected or de-selected using memory location 46539 if it is selected, then energy, maximum demand will be logged. The starting date of this datalog is stored in read only memory location from 46541 to 46563.

The user can access different parameters in this log by sending queries using following addresses.

Note: Changing the meter date resets the load profile log.

TABLE 22: Addresses for Load Profile datalog access

Parameter	Modbus Start Address Hex	
	High Byte	Low Byte
Daily Energy Datalog Download Addr	01	CC
Daily Maximum Demand Datalog Download Addr	01	CE
Monthly Energy Overflow count Datalog Download Addr	01	D0
Monthly Energy Datalog Download Addr	01	D2
Monthly Maximum Demand Datalog Download Addr	01	D4

Note: Total Monthly energy is combination of overflow count and main energy .

For Example: if overflow count = 2 and main energy is 345678 then total energy for that month will be, $2 \times 10^9 + 345678 = 2000345678$.

TABLE 23 : Load Profile Datalog Parameters

Para No.	Energy Parameter	Energy Overflow Count Parameter	Demand Parameters
1	Wh Import Channel 1	Wh Import overflow count Channel 1	kW Import Max demand Channel 1
2	Wh Import Channel 2	Wh Import overflow count Channel 2	kW Import Max demand Channel 2
3	Wh Import Channel 3	Wh Import overflow count Channel 3	kW Import Max demand Channel 3
4	Wh Import Channel 4	Wh Import overflow count Channel 4	kW Import Max demand Channel 4
5	Wh Import Channel 5	Wh Import overflow count Channel 5	kW Import Max demand Channel 5
6	Wh Import Channel 6	Wh Import overflow count Channel 6	kW Import Max demand Channel 6
7	Wh Import Channel 7	Wh Import overflow count Channel 7	kW Import Max demand Channel 7
8	Wh Import Channel 8	Wh Import overflow count Channel 8	kW Import Max demand Channel 8
9	Wh Import Channel 9	Wh Import overflow count Channel 9	kW Import Max demand Channel 9
10	Wh Import Channel 10	Wh Import overflow count Channel 10	kW Import Max demand Channel 10
11	Wh Import Channel 11	Wh Import overflow count Channel 11	kW Import Max demand Channel 11
12	Wh Import Channel 12	Wh Import overflow count Channel 12	kW Import Max demand Channel 12
13	Wh Export Channel 1	Wh Export overflow count Channel 1	kW Export Max demand Channel 1
14	Wh Export Channel 2	Wh Export overflow count Channel 2	kW Export Max demand Channel 2
15	Wh Export Channel 3	Wh Export overflow count Channel 3	kW Export Max demand Channel 3
16	Wh Export Channel 4	Wh Export overflow count Channel 4	kW Export Max demand Channel 4
17	Wh Export Channel 5	Wh Export overflow count Channel 5	kW Export Max demand Channel 5
18	Wh Export Channel 6	Wh Export overflow count Channel 6	kW Export Max demand Channel 6
19	Wh Export Channel 7	Wh Export overflow count Channel 7	kW Export Max demand Channel 7
20	Wh Export Channel 8	Wh Export overflow count Channel 8	kW Export Max demand Channel 8
21	Wh Export Channel 9	Wh Export overflow count Channel 9	kW Export Max demand Channel 9
22	Wh Export Channel 10	Wh Export overflow count Channel 10	kW Export Max demand Channel 10
23	Wh Export Channel 11	Wh Export overflow count Channel 11	kW Export Max demand Channel 11
24	Wh Export Channel 12	Wh Export overflow count Channel 12	kW Export Max demand Channel 12
25	VArh Capacitive Channel 1	VArh Capacitive overflow count Channel 1	kVAr Capacitive Max demand Channel 1
26	VArh Capacitive Channel 2	VArh Capacitive overflow count Channel 2	kVAr Capacitive Max demand Channel 2
27	VArh Capacitive Channel 3	VArh Capacitive overflow count Channel 3	kVAr Capacitive Max demand Channel 3
28	VArh Capacitive Channel 4	VArh Capacitive overflow count Channel 4	kVAr Capacitive Max demand Channel 4
29	VArh Capacitive Channel 5	VArh Capacitive overflow count Channel 5	kVAr Capacitive Max demand Channel 5
30	VArh Capacitive Channel 6	VArh Capacitive overflow count Channel 6	kVAr Capacitive Max demand Channel 6

TABLE 23 : Continue...

Para No.	Energy Parameter	Energy Overflow Count Parameter	Demand Parameters
31	VArh Capacitive Channel 7	VArh Capacitive overflow count Channel 7	kVAr Capacitive Max demand Channel 7
32	VArh Capacitive Channel 8	VArh Capacitive overflow count Channel 8	kVAr Capacitive Max demand Channel 8
33	VArh Capacitive Channel 9	VArh Capacitive overflow count Channel 9	kVAr Capacitive Max demand Channel 9
34	VArh Capacitive Channel 10	VArh Capacitive overflow count Channel 10	kVAr Capacitive Max demand Channel 10
35	VArh Capacitive Channel 11	VArh Capacitive overflow count Channel 11	kVAr Capacitive Max demand Channel 11
36	VArh Capacitive Channel 12	VArh Capacitive overflow count Channel 12	kVAr Capacitive Max demand Channel 12
37	VArh Inductive Channel 1	VArh Inductive overflow count Channel 1	kVAr Inductive Max demand Channel 1
38	VArh Inductive Channel 2	VArh Inductive overflow count Channel 2	kVAr Inductive Max demand Channel 2
39	VArh Inductive Channel 3	VArh Inductive overflow count Channel 3	kVAr Inductive Max demand Channel 3
40	VArh Inductive Channel 4	VArh Inductive overflow count Channel 4	kVAr Inductive Max demand Channel 4
41	VArh Inductive Channel 5	VArh Inductive overflow count Channel 5	kVAr Inductive Max demand Channel 5
42	VArh Inductive Channel 6	VArh Inductive overflow count Channel 6	kVAr Inductive Max demand Channel 6
43	VArh Inductive Channel 7	VArh Inductive overflow count Channel 7	kVAr Inductive Max demand Channel 7
44	VArh Inductive Channel 8	VArh Inductive overflow count Channel 8	kVAr Inductive Max demand Channel 8
45	VArh Inductive Channel 9	VArh Inductive overflow count Channel 9	kVAr Inductive Max demand Channel 9
46	VArh Inductive Channel 10	VArh Inductive overflow count Channel 10	kVAr Inductive Max demand Channel 10
47	VArh Inductive Channel 11	VArh Inductive overflow count Channel 11	kVAr Inductive Max demand Channel 11
48	VArh Inductive Channel 12	VArh Inductive overflow count Channel 12	kVAr Inductive Max demand Channel 12
49	VAh Channel 1	VAh overflow count Channel 1	kVA Max demand Channel 1
50	VAh Channel 2	VAh overflow count Channel 2	kVA Max demand Channel 2
51	VAh Channel 3	VAh overflow count Channel 3	kVA Max demand Channel 3
52	VAh Channel 4	VAh overflow count Channel 4	kVA Max demand Channel 4
53	VAh Channel 5	VAh overflow count Channel 5	kVA Max demand Channel 5
54	VAh Channel 6	VAh overflow count Channel 6	kVA Max demand Channel 6
55	VAh Channel 7	VAh overflow count Channel 7	kVA Max demand Channel 7
56	VAh Channel 8	VAh overflow count Channel 8	kVA Max demand Channel 8
57	VAh Channel 9	VAh overflow count Channel 9	kVA Max demand Channel 9
58	VAh Channel 10	VAh overflow count Channel 10	kVA Max demand Channel 10
59	VAh Channel 11	VAh overflow count Channel 11	kVA Max demand Channel 11
60	VAh Channel 12	VAh overflow count Channel 12	kVA Max demand Channel 12

TABLE 23 : Continue...

Para No.	Energy Parameter	Energy Overflow Count Parameter	Demand Parameters
61	---	---	Current Max demand Channel 1
62	---	---	Current Max demand Channel 2
63	---	---	Current Max demand Channel 3
64	---	---	Current Max demand Channel 4
65	---	---	Current Max demand Channel 5
66	---	---	Current Max demand Channel 6
67	---	---	Current Max demand Channel 7
68	---	---	Current Max demand Channel 8
69	---	---	Current Max demand Channel 9
70	---	---	Current Max demand Channel 10
71	---	---	Current Max demand Channel 11
72	---	---	Current Max demand Channel 12
73	Wh Import System 1	Wh Import overflow count System 1	kW Import Max demand System 1
74	Wh Import System 2	Wh Import overflow count System 2	kW Import Max demand System 2
75	Wh Import System 3	Wh Import overflow count System 3	kW Import Max demand System 3
76	Wh Import System 4	Wh Import overflow count System 4	kW Import Max demand System 4
77	Wh Export System 1	Wh Export overflow count System 1	KW Export Max demand System 1
78	Wh Export System 2	Wh Export overflow count System 2	KW Export Max demand System 2
79	Wh Export System 3	Wh Export overflow count System 3	KW Export Max demand System 3
80	Wh Export System 4	Wh Export overflow count System 4	KW Export Max demand System 4
81	VARh Capacitive System 1	VARh Capacitive overflow count System 1	kVAr Capacitive Max demand System 1
82	VARh Capacitive System 2	VARh Capacitive overflow count System 2	kVAr Capacitive Max demand System 2
83	VARh Capacitive System 3	VARh Capacitive overflow count System 3	kVAr Capacitive Max demand System 3
84	VARh Capacitive System 4	VARh Capacitive overflow count System 4	kVAr Capacitive Max demand System 4
85	VARh Inductive System 1	VARh Inductive overflow count System 1	kVAr Inductive Max demand System 1
86	VARh Inductive System 2	VARh Inductive overflow count System 2	kVAr Inductive Max demand System 2
87	VARh Inductive System 3	VARh Inductive overflow count System 3	kVAr Inductive Max demand System 3
88	VARh Inductive System 4	VARh Inductive overflow count System 4	kVAr Inductive Max demand System 4
89	VAh System 1	VAh overflow count System 1	kVA Max demand System 1
90	VAh System 2	VAh overflow count System 2	kVA Max demand System 2

TABLE 23 : Continue...

Para No.	Energy Parameter	Energy Overflow Count Parameter	Demand Parameters
91	VAh System 3	VAh overflow count System 3	kVA Max demand System 3
92	VAh System 4	VAh overflow count System 4	kVA Max demand System 4
93	---	---	Current Max demand System 1
94	---	---	Current Max demand System 2
95	---	---	Current Max demand System 3
96	---	---	Current Max demand System 4

Note 1 : System 1 parameter represents Three Phase system present at channel 1,2, and 3. Similarly System 2 parameter represents Three Phase system present at channel 4,5,6 and so on.

Note 2 : If a channel is not a part of Three Phase system, then the corresponding system parameter will show value 0.

TABLE 24: Load profile logging channel setting

bit15	bit14	bit13	bit12	bit11	bit10	bit9	bit8	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
XX	XX	XX	XX	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12
0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0

For ex:

- 1) bit15, bit14, bit13 and bit12 will always be **0001**.
- 2) To start loadprofile datalogging of channel 1 only, set channel 1 bit as 1 and all other channel bit as 0.
- 3) Binary value of channel 1 for loadprofile datalogging is **0001100000000000**
- 4) Convert this binary value to decimal value i.e 6144.
- 5) Pass the value to Load Profile Datalog Select address.

Note 1 : To turn ON log for 3ph system, make bit for 1st channel of the system = 1. e.g., for system2, bit8 = 1 and bit7,bit6 can be 0/1.

Note 2 : To turn OFF log for 3ph system, make bit for all channels of the system = 0. e.g., for system2, bit8=bit7=bit6=0.

Query Format for Downloading the Load Profile Datalog

The query format for downloading an entry of a daily load profile log is given below. Maximum number of register the user can access in 1 query are limited by 120.

Query example:

Description	Decimal Value	Hex Value
Dev Addr	01	01
Func Code	16	10
Start Addr Hi		01
Start Addr Lo		CC
No of Reg Hi	00	00
No of Reg Lo	20	14
Log Download Bytes	40	28
Parameter no	03	01
Date	27	1B
Month	05	05
Year	20	14
CRC Lo		13
CRC Hi		AE

Example: If a user wants to access daily energy load profile log of Active import channel 1 Energy for 10 days from 27 May 2020 to 05 June 2020 the query for this will be as following.

01,10,01,CC,00,14,28,01,1B,05,14,13,AE

01 is device address;

10 is function code;

01 CC is the starting address for accessing the daily energy load profile log. (refer **TABLE 22**)

00 14 is the number of registers to be accessed. This value will be double of the number of parameters requested.

28 is the number of bytes requested in this query. This value will be 4 times the number of parameters requested.

01 is the parameter number for Active import channel 1 energy data. (refer **TABLE 23**)

1B 05 14 is the starting date of the log to be accessed.

13 AE is the CRC added at the end.

Note : Energy is read in integer format.

Response:

Description	Hex	Decimal
Dev Addr	01	01
Func Code	10	16
Number of bytes	28	40
Value 1 (May 27)	05,59,F1,C6	89780678
Value 2 (May 28)	05,59,F2,40	89780800
Value 3 (May 29)	05,59,F3,D0	89781200
Value 4 (May 30)	05,59,F4,98	89781400
Value 5 (May 31)	05,59,F5,60	89781600
Value 6 (June 1)	05,59,F6,28	89781800
Value 7 (June 2)	05,59,F6,F0	89782000
Value 8 (June 3)	05,59,F7,B8	89782200
Value 9 (June 4)	05,59,F8,80	89782400
Value 10 (June 5)	05,59,F9,48	89782600
CRC	B1,72	

The response to the load profile query contains device address, function code and number of bytes data each of 1 byte, and then the requested parameters of 4 bytes each. Each parameter represents data over a period of a day when daily log is accessed and represents data over a period of a month when monthly log is accessed.

The response ends with 2 byte CRC.

Query example:

Description	Decimal Value	Hex Value
Dev Addr	01	01
Func Code	16	10
Start Addr Hi		01
Start Addr Lo		CE
No of Reg Hi	00	00
No of Reg Lo	20	14
Log Download Bytes	40	28
Parameter no	03	01
Date	27	1B
Month	05	05
Year	20	14
CRC Lo		92
CRC Hi		77

Example: If a user wants to access daily max demand load profile log of Active import max demand channel 1 for 10 days from 27 May 2020 to 05 June 2020, the query for this will be as following.

03,10,01,CE,00,14,28,01,1B,05,14,92,77

01 is device address;

10 is function code;

01 CE is the starting address for accessing the daily demand load profile log. (refer **TABLE 22**)

00 14 is the number of registers to be accessed. This value will be double of the number of parameters requested.

28 is the number of bytes requested in this query. This value will be 4 times the number of parameters requested.

01 is the parameter number for Active import channel 1 max demand data. (refer **TABLE 23**)

1B 05 14 is the starting date of the log to be accessed.

92 77 is the CRC added at the end.

The load profile datalog access query consists of device address and function code followed by the starting address which is different for different parameters and mentioned in **TABLE 22**. Number of registers can vary in multiple of 2, but can not exceed 120 and corresponding to it, number of bytes can not exceed 240.

Parameter number decides the parameter within the log (eg. Active import channel 1 max demand from the daily demand log.) Refer **TABLE 23**

Date, month and year decides the date from which the data is to be downloaded.

All data in the query is represented in hexadecimal format.

At the end 2 byte CRC is calculated.

Note: demand is read in float(IEEE) format.

Response:

Description	Hex	Decimal
Dev Addr	01	01
Func Code	10	16
Number of bytes	28	40
Value 1 (May 27)	43,7A,99,99	250.6
Value 2 (May 28)	42,C9,66,66	100.7
Value 3 (May 29)	43,16,D4,7B	150.38
Value 4 (May 30)	44,16,39,9A	600.9
Value 5 (May 31)	42,97,CC,CD	75.9
Value 6 (June 1)	43,1C,B3,33	156.7
Value 7 (June 2)	43,AF,19,9A	350.2
Value 8 (June 3)	44,09,A6,66	550.6
Value 9 (June 4)	44,39,26,66	740.1
Value 10 (June 5)	44,07,6C,CC	541.7
CRC	B1,72	

The response to the load profile query contains device address, function code and number of bytes data each of 1 byte, and then the requested parameters of 4 bytes each. Each parameter represents data over a period of a day when daily log is accessed and represents data over a period of a month when monthly log is accessed.

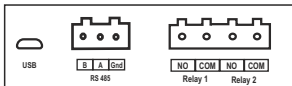
The response ends with 2 byte CRC.

Note: Modbus exception occurs in the following cases :

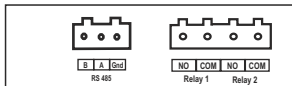
1. If user tries to access the data before the datalog starting date of corresponding channel.
2. For daily log, if user tries to access data other than that of the previous 12 months (present month included).
3. For monthly log, if user tries to access data other than the 14 years (datalog start year included) after datalog starting year of corresponding channel.

5. Connection for Optional Pulse Output / RS 485 / Ethernet Module (rear (back) view of Multifunction Meter):

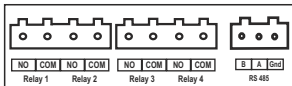
1. USB and RS 485 Output with 2 Relays



2. RS 485 Output with 2 Relays



3. RS 485 Output with 4 Relays



4. Ethernet Option



NOTE

The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, 'manufacturer' has no control over the field conditions which influence product installation.

It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. 'manufacturer' only obligations are responsibility to determine the suitability of the installation method in the user's field conditions. 'manufacturer' only obligations are those in 'manufacturer' standard Conditions of Sale for this product and in no case will 'manufacturer' be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products.