MANUAL

Model: GPM-6

LCD Multifunctional
Power Meter

DCbox

1- Introduction

The multifunction energy analyzer GPM-6 is top new-generation intelligent panel meters, used not only in the electricity transmission and power distribution system, but also in the power consumption measurement and analysis in high voltage intelligent power grid.

The unit measures and displays the characteristics of single phase two wire, three phase three wire and three phase four wire supplies, including voltage, frequency, current, power, active and reactive energy, imported or exported energy, harmonic, power factor, max. demand, crest factor and key factor, etc.

Energy is measured in terms of kWh, kVArh.
Maximum demand current can be measured over preset periods of up to 60 minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to power the product. The requisite current input(s) are obtained via current transformers.

The GPM-6 can be configured to work with a wide range of CTs, giving the unit a wide range of operation. Built-in interfaces provide pulse and RS485 Modbus RTU outputs. The unit uses plug-in terminals for easy wiring and push-in mechanism for quick installation.

1-1 Unit Characteristics

The Unit can measure and display:
This series includes 3 models:

- Line voltage and THD% (total harmonic distortion) of all phases
- Key factor and Crest factor
- Line Frequency
- Currents, Current demands and current THD% of all phases
- Active power, reactive power, apparent power, maximum power demand and power factor
- Max./ Min.Current and voltage, Max.current demand
- Import / export / total active energy
- Import / export / total reactive energy
- Multi Tariff active energy(optional)
- Real time date and time

1-2 Current Transformer Primary Current

The GPM-6 is CT operated meters. The secondary current(CT2) of them are 1A/5A. And the primary current range is 1~9999A. Please set them according to your needs.
For example, if using 100/5A CT, please set CT2=5A, CT1=100A.

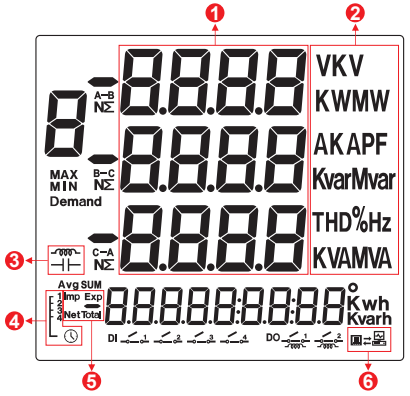
1-3 Pulse output

The GPM-6 provides 2 pulse outputs which clocks up measured active and reactive energy. The constant of each output is configurable.

1-4 RS485 Modbus RTU

This unit uses a RS485 serial port with Modbus RTU protocol to provide a means of remote monitoring and controlling. Set-up screens are provided for setting up the communication port.

1-5 Display



NO.	Descriptions
1	Measured Values
2	Measurement Units
3	: Inductive load ⊣⊢:capacitive load
4	IMP/EXP: Import/Export Value, Total: Total Value
5	The Symbol of Multi-tariffs
6	The Symbol of RS485 Modbus Communication

2- Start Up Screens

The first screen lights up all display segments and can be used as a display check.

The second screen indicates the firmware installed in the unit.

Please note: The numbers on the product may vary from those shown here.

The interface performs a self-test and indicates the result if the test passes.

After a short delay, the default measurement screen appears.

3- Measurements

The buttons operate as follows:

	Selects the Voltage and Current display screens. In Set-up Mode, this is the “Left” or “Back” button.
	Select the Frequency and Power factor display screens. In Set-up Mode, this is the “Up” button.
	Select the Power display screens. In Set-up Mode, this is the “Down” button.
	Select the Energy display screens. In Set-up mode, this is the “Enter” or “Right” button.

Click button	Screen	Parameters
	1	Phase to neutral voltages
	2	Phase to phase voltages
	3	Current on each phase
	4	Voltage THD% of each phase
	5	Current THD% of each phase
	6	Crest Factor
	7	Key Factor
	1	Total kW Frequency Total Power factor
	2	Power factor of each phase
	3	Max.Power demand
	4	Max.Current demand
	1	Instantaneous active power (kW)
	2	Instantaneous reactive power (kVAr)
	3	Instantaneous apparent power (KVA)
	4	Total kW, kVArh, kVA
	1	Total active energy (kWh)
	2	Total reactive energy (kVAh)
	3	Imported active energy (kWh)
	4	Exported active energy (kWh)
	5	Imported reactive energy (kVArh)
	6	Exported reactive energy (kVArh)
	7	T1 Energy
	8	T2 Energy
	9	T3 Energy
	10	T4 Energy
	11	Date
	12	Time

4- Set Up

To enter set-up mode, press the button E for 3 seconds until the password screen appears.

	Setting up is password-protected so you must enter the correct password (default '1000') before processing.
	If an incorrect password is entered, the display will show: PASS Err

Press the button UI ESC to exit set-up interface.

4-1 Set-up mode

4-1.1 Modbus Address

	The address ranges from 001 to 247. The default address is 001. press E to activate the modification.
	use M and P buttons to set the address with the range 001~247,and pressing the button for confirmation.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-1.2 Baud Rate

	Baud rate options:2.4k, 4.8k, 9.6k, 19.2k, 38.4k) The default is 9600bps. From the Set-up menu, use M and P buttons to select the Baud Rate option.
	Press E to enter the selection routine. The Baud Rate setting will flash. Use M and P buttons to choose Baud rate.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-1.3 Parity

Parity Options: NONE, EVEN, ODD.
Default Parity : NONE
From the Set-up menu, use M and P buttons to select the Parity option
Default is NONE

Press E to enter the selection routine.
The current setting will flash.
Use M and P buttons to choose Parity (EVEN / ODD /NONE)

* Note that Parity can only be changed to EVEN or ODD when the Stop Bits is set to 1.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-1.4 Stop Bits

Stop Bit options: 1 or 2.
Default Stop Bit : 1
Press E to enter the selection routine. The current setting will flash.
Use M and P buttons to choose Stop Bit (2 or 1)
Default it 1

* Note that if parity is set to ODD or EVEN, Stop Bits will be set to 1 and cannot be changed.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-2 CT

Options: 5A or 1A
Default CT2: 5A
Long press E to enter the CT2 routine. Press E for 2s, the CT2 setting will flash. Use M and P to choose CT2 with 5A or 1A. (5A/1A)

Options: 1~9999
Default CT1: 5A
Long press E to enter the CT1 routine Press E for 2s, the CT1 setting will flash. Use M and P to choose CT1 with 1~9999.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-3 PT

Range: 100V ~ 500V
Default PT2: 400V
Long press E to enter the PT2 routine. Press E for 2s, the PT2 setting will flash. Use M and P to choose PT2 with 50~600.

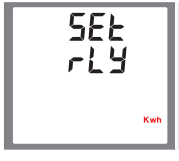
Range: 0004000 ~ 500000
Default: 000400
Long press E to enter the PT1 routine. Press E for 2s, the PT1 setting will flash. Use M and P to select Pt1.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-4 Pulse Output

This option allows you to configure the pulse output. The output can be set to provide a pulse for a defined amount of active or reactive energy.

From the Set-up menu, use M and P buttons to select the Pulse output option.



Press E to enter the selection routine. The unit symbol will flash. Use M and P buttons to choose kWh or kVArh.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-4.1 Pulse Constant

Use this to set the energy represented by each pulse. Rate can be set to
1 pulse = 0.001/0.01/0.1/1/10/100/1000kWh/kVArh
0.001/0.01/0.1/1/10/100 kWh/kVArh per pulse

Press E to enter the selection routine. The current setting will flash. Use M and P buttons to choose pulse rate.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-4.2 Pulse Duration

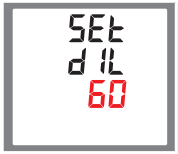
The pulse width can be selected as 200,100 or 60ms.

Press E to enter the selection routine. The current setting will flash. Use M and P buttons to choose pulse width(200/100/60ms)

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-5 DIT(Demand Integration Time)

This sets the period in minutes over which the current and power readings are integrated for maximum demand measurement.
The options are: 0(off), 5, 8,10,15 ,30,60 minutes



Press E to enter the selection routine. The current time interval will flash. Use M and P buttons to select the time required.

Default:60minutes

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-6 Supply System

Press E to enter the selection routine. The current selection will flash. Use M and P buttons to select the required system.
option: 3P4W,3P3W or 1P2W

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-7 CLR

4-7.1 Clear kWh

From the Set-up menu, use M and P buttons to select the reset option.

Press E to enter the selection routine. The yes will flash.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-7.2 Clear kVArh

From the Set-up menu, use M and P buttons to select the reset option.

Press E to enter the selection routine. The yes will flash.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-7.3 Clear Max Demand

From the Set-up menu, use M and P buttons to select the reset option.
Press E to enter the selection routine. The YES will flash.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-8 Change Password

Press E the to enter the change password routine. The new password screen will appear with the first digit flashing.

Use M and P to set the first digit and press to confirm your selection. The next digit will flash.

Press E to confirm the setting and press UI to return to the main set-up menu.

4-9 Auto Display in Turns

From the set-up menu, use M and P buttons to select page "SET AUTO"
Press button E to activate the modification on the time.
Options: 001-255 seconds
Default is 5 seconds.

Use M the P and to set the auto display interval time.

Press E to confirm the setting and press UI to return to the main set-up menu.

4-10 Reverse connected current inputs correction setting

From the Set-up menu, use M and P buttons to select page "SET SYS CONT"

Press E to enter Phase A , the default is FRD (forward)

Use M and P buttons to Phase B or C setting pages

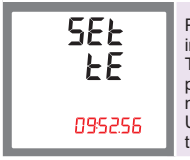
Press E to confirm the setting and press UI to return to the main set-up menu.

4-10.1 How to operate if phase A is reversely connected

	Go to phase A setting page.
	Press E to enter the selection routine. The FRD will flash. Use P button to change FRD to REV.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-11 System RTC

	From the Set-up menu, use M and P buttons to select page "SET DAY TE"
	Press button E to enter set-up interface, there is the date information. The format is YYYY-MM-DD To change it , please press E button to activate the modification. The digits will flash. Use M and P buttons to choose the correct date information.
	Press button E to enter set-up interface, there is the time information. The format is HH-MM-SS To change it , please press E button to activate the modification. The digits will flash. Use M and P buttons to choose the correct time information.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-12 Multi-tariffs

The meter can be set with max. 8 time periods and 4 tariffs. The user need to set the starting time of each period and choose which tariff it belongs to.

From the Set-up menu, use M and P buttons to select page "SET TE FEE"

Press button E to enter set-up interface, there is the Period 1 start time information.
The format is HH-MM
The left side picture show period 1 start from 00:00
Please press button E to activate the modification to change the time.

After set the period 1 start time, there is a page showing which tariff does period 1 belongs to.
The left picture shows period 1 belong to FEE0. FEE0 means: no tariff. press E to activate the modification. use M and P buttons to choose the correct tariff from 1 to 4.

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-13 Harmonic checking

From the Set-up menu, use M and P buttons to select page "DISP ADU". Press button E, there is the Voltage Harmonic.

Press button E, there is the individual Voltage Harmonic from 2nd to 63rd

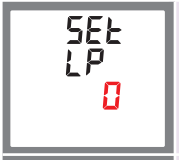
U-----Voltage
P1 --- Phase A /L1.
P2 --- Phase B/L2 ,
P3--- Phase C/L3
02 --- 2nd THD%

Press button E, there is the individual Current Harmonic from 2nd to 63rd

I--- Current
P1 ---Phase A /L1.
P2 --- Phase B/L2 ,
P3--- Phase C/L3
02 --- 2ND THD%

Press E to confirm the setting and press UI ESC to return to the main set-up menu.

4-14 Backlit set-up



The backlit lasting time is settable.
Default lasting time is 60 minutes.
Notes: If it set as 0, the backlit will always be on.

Press to enter the selection routine.
The current time interval will flash.

The options can be 0/5/30/60/120 minutes.

Press E to confirm the setting and press ESC to return to the main set-up menu.

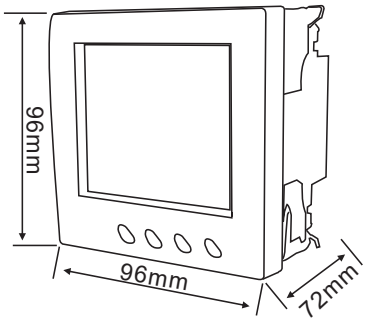
5- Specifications

Input	
Nominal input voltage	0-289V AC (L-N) 0-500V AC (L-L)
Max. short duration input voltage	2 x nominal voltage for 1 second
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	5A
Nom. Input current burden	< 0.1 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for 1 second
Auxiliary Power Supply	
Operating range	65-276V AC/90-380V DC
Supply burden	< 2W / 10 VA
Accuracy	
Voltage (V)	0.5% of range maximum
Current (A)	0.5% of range maximum
Frequency (Hz)	0.2% of mid-frequency
Power factor (PF)	1% of unity (0.01)
Active power (W)	1.0% of range maximum
Reactive power (VAr)	2.0% of range maximum
Apparent power (VA)	1.0% of range maximum
Active energy (kWh)	Class 1.0 IEC62053-21
Reactive energy (kVArh)	2.0% of range maximum
THD	2% to 63rd harmonic

Measured Range	
Voltage (V)	50-276V AC (L-N) 50-480V AC(L-L)
Current (A)	5 – 120% of nominal
Frequency (Hz)	45– 66 Hz
Power (W, VAr, VA)	5 – 120% of nominal (bi-directional)
Energy	8digits, up to 9999999.9 kWh
Power factor	4 quadrant
THD	0 – 40% up to 63rd harmonic
Environment	
Operating temperature	– 25˚C to +55˚C
Storage temperature	-40˚C to +70˚C
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Dielectric Voltage	4kV between voltage and current to earth
Altitude	2000m
Outputs	
Pulsed output relay (configurable)	Opto-coupled, potential-free SPST-NO contact
Contact Rating current	2-27mA at 27V DC
Contact Rating voltage	5-27V DC
Pulse Width	60 / 100 / 200 ms
Pulse rate of S0 1	0.01 / 0.1 / 1 / 10 / 100 kWh/kVArh
Pulsed output of S0 2 (non-configurable)	5000IMP/kWh
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU/Modbus TCP
Baud rate	2400/4800/9600/19200/38400bps
Address range	1-247
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

Digital Output	
Number/Type	2-electromagnetic relay
Output Frequency	1 Hz maximum
Switching Current	250 Vac at 3.0 Amps, 100k cycles
Isolation	2.5 kVac for 1 min
Digital Input	
Number	4
Input Resistance	10k Ω
Maximum Frequency	1kHz
Response Time	10 milliseconds
Isolation	2.5 kVac for 1 min
Enclosure	
Enclosure Style	DIN 96 panel mount
Dimensions	96x96x72 mm
Panel cut-out	92x92mm
Panel thickness	1-3 mm
Protection rating	IP51 (Indoor)
Material	UL 94-V0
Cable size	0.05mm-4mm stranded wire
Terminals	Voltage: Shrouded screw-clamp.

6-1 Dimensions

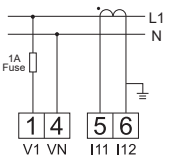


6-2 Installation

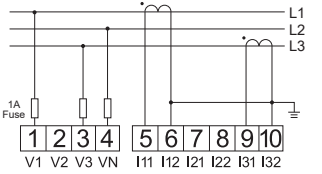
The unit may be mounted in a panel of any thickness up to a maximum of 3mm. Leave enough space behind the instrument to allow for bends in the connection cables.
The unit is intended for use in a reasonably stable ambient temperature within the range -25°C to +55°C.
Do not mount the unit where there is excessive vibration or in excessive direct sunlight.

6-3 Wiring Connection

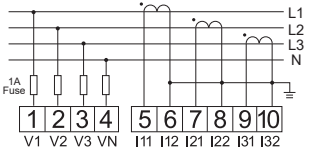
● 1φ2 W (CT)



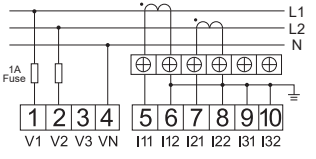
● 3φ3 W (2CT)



● 3 φ4W (3CT)



● 1φ3 W (2CT)



● Power

● RS485

6-4 Modbus RTU Mode Protocol Address Table

1 Input register

Address (Register)	Parameter Number	Input Register Parameter		Modbus Protocol Start Address Hex		3 Ø	3 Ø	1 Ø
		Description	Units	Hi Byte	Lo Byte	4 W	3 W	2 W
30001	1	Phase 1 line to neutral volts.	Volts	00	00	√	X	√
30003	2	Phase 2 line to neutral volts.	Volts	00	02	√	X	X
30005	3	Phase 3 line to neutral volts.	Volts	00	04	√	X	X
30007	4	Phase 1 current.	Amps	00	06	√	√	√
30009	5	Phase 2 current.	Amps	00	08	√	√	X
30011	6	Phase 3 current.	Amps	00	0A	√	√	X
30013	7	Phase 1 power.	Watts	00	0C	√	X	√
30015	8	Phase 2 power.	Watts	00	0E	√	X	√
30017	9	Phase 3 power.	Watts	00	10	√	X	X
30019	10	Phase 1 volt amps.	VoltAmps	00	12	√	X	√
30021	11	Phase 2 volt amps.	VoltAmps	00	14	√	X	X
30023	12	Phase 3 volt amps.	VoltAmps	00	16	√	X	X
30025	13	Phase 1 volt amps reactive.	VAr	00	18	√	X	√
30027	14	Phase 2 volt amps reactive.	VAr	00	1A	√	X	X
30029	15	Phase 3 volt amps reactive.	VAr	00	1C	√	X	X
30031	16	Phase 1 power factor (1).	None	00	1E	√	X	√
30033	17	Phase 2 power factor (1).	None	00	20	√	X	X
30035	18	Phase 3 power factor (1).	None	00	22	√	X	X
30037	19	Phase 1 phase angle.	Degrees	00	24	√	X	√
30039	20	Phase 2 phase angle.	Degrees	00	26	√	X	X
30041	21	Phase 3 phase angle.	Degrees	00	28	√	X	X
30043	22	Average line to neutral volts.	Volts	00	2A	√	X	X
30047	24	Average line current.	Amps	00	2E	√	√	√
30049	25	Sum of line currents.	Amps	00	30	√	√	√
30053	27	Total system power.	Watts	00	34	√	√	√
30057	29	Total system volt amps.	VA	00	38	√	√	√
30061	31	Total system VAr.	VAr	00	3C	√	√	√
30063	32	Total system power factor (1).	None	00	3E	√	√	√
30067	34	Total system phase angle.	Degrees	00	42	√	√	√
30071	36	Frequency of supply voltages.	Hz	00	46	√	√	√
30073	37	Import Wh since last reset (2).	kWh/MWh	00	48	√	√	√
30075	38	Export Wh since last reset (2).	kWH/MWh	00	4A	√	√	√
30077	39	Import VArh since last reset (2).	kVArh/MVArh	00	4C	√	√	√
30079	40	Export VArh since last reset (2).	kVArh/MVArh	00	4E	√	√	√
30081	41	VAh since last reset (2).	kVAh/MVAh	00	50	√	√	√
30083	42	Ah since last reset(3).	Ah/kAh	00	52	√	√	√

30085	43	Total system power demand (4).	Watts	00	54	√	√	√
30087	44	Maximum total system power demand (4).	Watts	00	56	√	√	√
30101	51	Total system VA demand.	VA	00	64	√	√	√
30103	52	Maximum total system VA demand.	VA	00	66	√	√	√
30105	53	Neutral current demand.	Amps	00	68	√	X	X
30107	54	Maximum neutral current demand.	Amps	00	6A	√	X	X
30201	101	Line 1 to Line 2 volts.	Volts	00	C8	√	√	X
30203	102	Line 2 to Line 3 volts.	Volts	00	CA	√	√	X
30205	103	Line 3 to Line 1 volts.	Volts	00	CC	√	√	X
30207	104	Average line to line volts.	Volts	00	CE	√	√	X
30225	113	Neutral current.	Amps	00	E0	√	X	X
30235	118	Phase 1 L/N volts THD	%	00	EA	√	X	√
30237	119	Phase 2 L/N volts THD	%	00	EC	√	X	X
30239	120	Phase 3 L/N volts THD	%	00	EE	√	X	X
30241	121	Phase 1 Current THD	%	00	F0	√	√	√
30243	122	Phase 2 Current THD	%	00	F2	√	√	X
30245	123	Phase 3 Current THD	%	00	F4	√	√	X
30249	125	Average line to neutral volts THD.	%	00	F8	√	X	√
30251	126	Average line current THD.	%	00	FA	√	√	√
30255	128	-Total system power factor (5).	Degrees	00	FE	√	√	√
30259	130	Phase 1 current demand.	Amps	01	02	√	√	√
30261	131	Phase 2 current demand.	Amps	01	04	√	√	X
30263	132	Phase 3 current demand.	Amps	01	06	√	√	X
30265	133	Maximum phase 1 current demand.	Amps	01	08	√	√	√
30267	134	Maximum phase 2 current demand.	Amps	01	0A	√	√	X
30269	135	Maximum phase 3 current demand.	Amps	01	0C	√	√	X
30335	168	Line 1 to line 2 volts THD.	%	01	4E	√	√	X
30337	169	Line 2 to line 3 volts THD.	%	01	50	√	√	X

1 Input register

30339	170	Line 3 to line 1 volts THD.	%	01	52	√	√	X
30341	171	Average line to line volts THD.	%	01	54	√	√	X
30343	172	Total kwh	%	01	56	√	√	√
30345	173	Total kvarh	%	01	58	√	√	√
30399	200	Current KF		01	8E	√	√	X
30401	201	Voltage CF		01	90	√	√	X
30403	202-260	Ua 2-60 THD	%	01	92	√	√	√
30521	261-319	Ub 2-60 THD	%	02	08	√	√	X
30639	320-378	Uc 2-60 THD	%	02	7E	√	√	X
30757	379-437	Ia 2-60 THD	%	02	F4	√	√	√
30875	438-496	Ib 2-60 THD	%	03	6A	√	√	X
30993	497-555	Ic 2-60 THD	%	03	E0	√	√	X
31199	600	TIME1 import wh	kWh/MWh	04	AE	√	√	√
31201	601	TIME2 import wh	kWh/MWh	04	B0	√	√	√
31203	602	TIME3 import wh	kWh/MWh	04	B2	√	√	√
31205	603	TIME4 import wh	kWh/MWh	04	B4	√	√	√
31207	604	TIME1 export wh	kWh/MWh	04	B6	√	√	√
31209	605	TIME2 export wh	kWh/MWh	04	B8	√	√	√
31211	606	TIME3 export wh	kWh/MWh	04	BA	√	√	√
31213	607	TIME4 export wh	kWh/MWh	04	BC	√	√	√
31215	608	TIME1 import varh	kVArh/MVArh	04	BE	√	√	√
31217	609	TIME2 import varh	kVArh/MVArh	04	C0	√	√	√
31219	610	TIME3 import varh	kVArh/MVArh	04	C2	√	√	√
31221	611	TIME4 import varh	kVArh/MVArh	04	C4	√	√	√

31223	612	TIME1 export varh	kVArh/MVArh	04	C6	√	√	√
31225	613	TIME2 export varh	kVArh/MVArh	04	C8	√	√	√
31227	614	TIME3 export varh	kVArh/MVArh	04	CA	√	√	√
31229	615	TIME4 export varh	kVArh/MVArh	04	CC	√	√	√
31231	616	Net Real energy	kWh/MWh	04	CE	√	√	√
31233	617	Net reactive energy	kVArh/MVArh	04	D0	√	√	√
31235	618	Abs real energy	kWh/MWh	04	D2	√	√	√
31237	619	Abs reactive energy	kVArh/MVArh	04	D4	√	√	√
31239	620	Maximum demand occurred at a time	kWh/MWh MM DD HH MIN	04	D6	√	√	√

2 Modbus Protocol Holding Registers and Digital meter set up

Address Register	Parameter Number	Parameter	Modbus Protocol Start Address Hex		Valid range	Mode
			High Byte	Low Byte		
40001	1	Demand Time	00	00	Read minutes into first demand calculation. When the Demand Time reaches the Demand Period then the demand values are valid.	Ro
40003	2	Demand Period	00	02	Write demand period: 0, 5,8, 10, 15, 20, 30 or 60 minutes, default 60. Setting the period to 0 will cause the demand to show the current parameter value, and demand max to show the maximum parameter value since last demand reset.	r/w
40007	4	System Volts	00	06	Read system voltage, VLL for 3P3W, VLN for others.	ro
40009	5	System Current	00	06	Write system current, limited to 1 to 9999A.Requires password, see parameter 13	ro
40011	6	System Type	00	08	Write system type: 3p4w = 3, 3p3w = 2 & 1p2w= 1 Requires password, see parameter 13	r/wp
40013	7	Relay Pulse Width	00	OA	Write relay on period in milliseconds: 60, 100 or 200, default 200.	r/wp
40015	8	Password Lock	00	OE	Write any value to password lock protected registers. Read password lock status: 0 = locked. 1 = unlocked. Reading will also reset the password timeout back to one minute.	r/w

40019	10	Network Parity Stop	00	12	Write the network port parity/stop bits for MODBUS Protocol, where: 0 = One stop bit and no parity, default. 1 = One stop bit and even parity. 2 = One stop bit and odd parity.3 = Two stop bits and no parity.Requires a restart to become effective.
40021	11	Network Node	00	14	Write the network port node address: 1 to 247 for MODBUS Protocol, default 1. Requires a restart to become effective. Note, both the MODBUS Protocol and Johnson Controls node addresses can be changed via the display setup menus.
40023	12	Pulse Divisor	00	16	Write pulse divisor index: n = 2 to 6 in Wh/l0^n, default 3.
40025	13	Password	00	18	Write password for access to protected registers. Read zero. Reading will also reset the password timeout back to one minute. Default password is 0000.
40029	15	Network Baud Rate	00	1C	Write the network port baud rate for MODBUS Protocol, where: 0 = 2400 baud. 1 = 4800 baud. 2 = 9600 baud, default. 3 = 19200 baud. 4 = 38400 baud. Requires a restart to become effective
40031	16	Energy Units Prefix	00	1E	Write the units prefix for energy output values. 0 = k, e.g. kWh, default. But Ah for ampere hours. 1 = M, e.g. MWh. But kAh for ampere hours.

2 Modbus Protocol Holding Registers and Digital meter set up

40037	19	System Power	00	24	Read the total system power, e.g. for 3p4w returns System Volts x System Amps x 3.	ro
40041	21	Register Order	00	28	Write the value 2141 in the required register order.	r/w
40043	22	Serial Number Hi	00	2A	Read the first product serial number.	ro
40045	23	Serial Number Lo	00	2C	Read the second product serial number.	ro
40087	44	Relayl Energy Type	00	56	Write MODBUS Protocol input parameter for pulse relay 1: 0 = relay off, 37 = Import Wh or 39 = Import VArh, default 37.	r/w
40089	45	Relay2 Energy Type	00	58	MODBUS Protocol input parameter for pulse relay 2: 0 = relay off, 37 = Import Wh or 39 = Import VArh, default 37.	r/w
40217	109	Reset Logged Data	00	D8	Write code to reset data group. Code 1 for Energy. Code 2 for Demand Maximums. Code 3 for Demand Maximums and Demand Time.	r/w

40257	129	System Time	01	00	Format :BCD Code 130806122030 mean At 12:20:30 on August 6, 2013
40260	130	Rates and the period setting	01	03	A total of 8 hours: For example: rate Start time time1: 01 07: 00 time2: 02 09: 00 time3: 03 12: 00 time4: 04 14: 00 time5: 01 17: 00 time6: 02 19: 00 time7: 03 21: 00 time8: 04 22: 00 Less than eight hours, only the front set Behind both complement 0; For example: rate Start time time1: 01 07: 00 time2: 02 20: 00 time3: 00 00: 00 time4: 00 00: 00 time5: 00 00: 00 time6: 00 00: 00 time7: 00 00: 00 time8: 00 00: 00 12 WORD BCD
40289	145	AO1 output settings	01	20	00 no output 01 current 02 Active power
40290	146	AO2 output settings	01	21	00 no output 02 current 02 Active power

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