



easywire 1x 3Ø
1x 1Ø
3x 1Ø

Pulse SO **DIN RAIL MOUNT**

Modbus RTU
RI-D340-G-C

M-Bus
RI-D340-G-MB

X 1

MID UK CA CE

MID Installation must comply with MID certified requirements

Configuration Lock >> see 'Configuration' for Lockable Settings

Once Configuration Mode is entered, 'Configuration Lock' will activate after 15 minutes or if meter is switched off. No further adjustment is possible for the lockable settings. Unlock only by returning to supplier.

All terminal covers provided must be fitted. All cable connections and terminal covers of the meter and the CT must be secured with sealing hasp.

Specifications		Accuracy					
Wiring Input	3Ø 4 wire (MID Approved) 1Ø 2 wire - P1, P2, P3 (All MID Approved)	Voltage V L-N and V L-L	±0.5% of full scale				
Rated Input Voltage	3x 85...240V AC (L-N), 147...415V AC (L-L)	Current	±0.5% of full scale				
Frequency	45...65Hz (MID approved @50Hz)	Frequency for L-N > 20V, L-L > 35V	±0.1% of full scale				
CT Primary	1...6,000A configurable	Active, Reactive and Apparent Power	1%				
CT Secondary	0.01...1(1.2)A (Meter Input: 330mV)	Power Factor	±0.01 of Unity				
VT Primary	100...600V configurable	Active Energy	EN50470-3: Cl.B				
VT Secondary	100...500V AC (L-L) configurable	Reactive Energy	EN62053-23: Cl.2				
Auxiliary	Supplied from any phase	Apparent Energy	Class 1				
Voltage Rated Burden	< 8VA						
Display Update Rate	1 sec all parameters	Wh Resolution and Default Pulse Weight					
Operating / Storage Temperature	-10...55°C / -20...75°C	CT Ratio x VT Ratio	<15	<150	<1500	<15000	>15000
Humidity	0...85% non-condensing	Wh / kArh / VAh /	0.01k	0.1k	1k	0.01M	0.1M
Protection Degree (IEC/EN60529)	IP54 (front of Housing), IP20 (terminals)	Example If CT Primary = 200A (CT ratio = 200/1 = 200) & VT = 350/350V (VT Ratio = 1) Wh resolution = 1kWh (200 x 1 = <1500) Pulse O/P default = 1kWh/pulse					
Communication	Modbus RTU over RS485 Mbus (EN13757)						

PRODUCT SAFETY

Safety related notification, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of personnel as well as the instrument. If the equipment is not used in a manner specified by the manufacturer it may impair the protection provided by the equipment

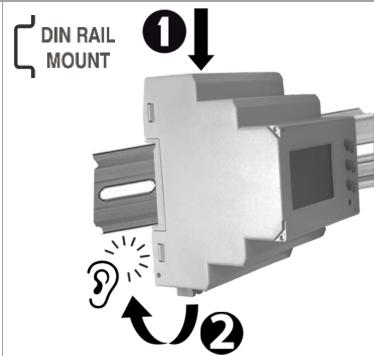
- Do not use the equipment if there are mechanical damage
- Do not exceed the stated maximum ratings of the device
- No repairs, maintenance or adjustments are possible
- Read the complete instruction manual prior to installation or operating the unit
- The equipment in its installed state must not come into close proximity to any heating sources, oils, steam, caustic vapours or other unwanted process by-products
- Do not use in hazardous or classified location where explosion or other dangers can be triggered by the device

INSTALLATION PRECAUTIONS

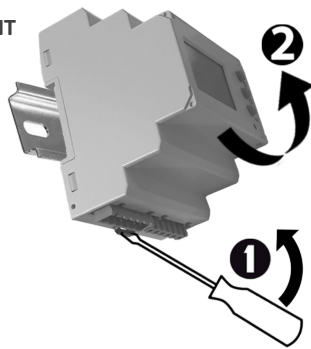
Risk of electric shock!
Only to be installed by a competent person

- To prevent the risk of electrocution, always isolate and lock-off the power supply to the equipment prior to undertaking any work
- Always confirm absence of electricity prior to starting work using appropriate voltage detection equipment
- Wiring shall be done strictly according to the terminal layout
- Confirm that all connections are correct before energizing the equipment
- Routing of cables shall be way from any internal EMI source
- Copper cable should be used
- All wiring to be in accordance with applicable local standards

MECHANICAL INSTALLATION



DISMOUNT



DIN rail mounted, this device must be installed within a suitable IP rated enclosure. Indoor use only.

The meter is intended to be installed in Mechanical Environment 'M1', with Shock and Vibrations of low significance, as per 2014/32/EC Directive.

The meter is intended to be installed in Electromagnetic Environment 'E2', as per 2014/32/EC Directive.

Installation Category III (300V L-N)

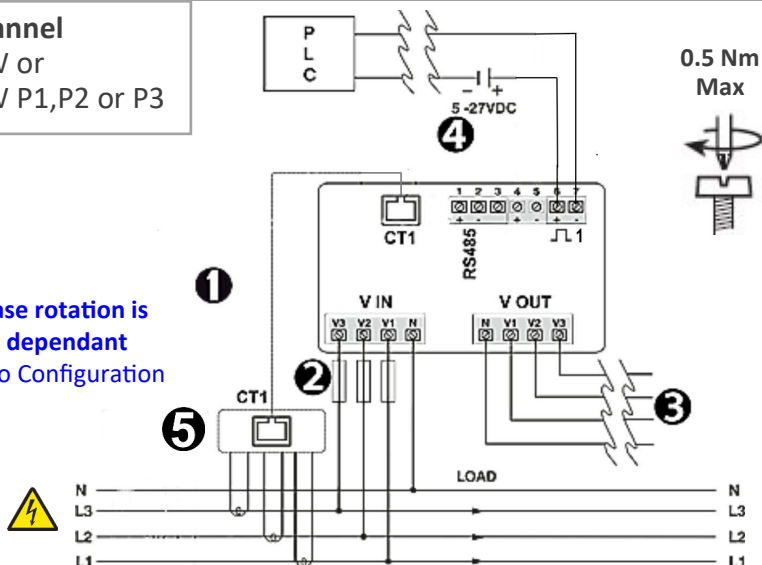
Protection Class: II Pollution degree: II

WIRING

1 Channel

3P4W or
1P2W P1,P2 or P3

CT phase rotation is
RH/LH dependant
refer to Configuration



1 RJ45 cable

2 Fuse class CC UL / fast acting

3 Phase 600V/Single Phase 250V

No. Meters	≤ 5	≤ 10	≤ 20	≤ 32
Fuse Rating	0.5A	1A	1.5A	2A

3 Supply 31 additional meters (32 total)

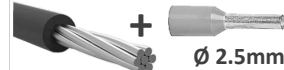
4 For 'Volt-free' PLC or digital input, voltage must be provided by the addition of a DC PSU

5 For Single Phase Easywire CT - Set Phase Network to 1P2W-P1, Voltage Reference V1 must be same phase as CT. Connect V2/V3 to N.

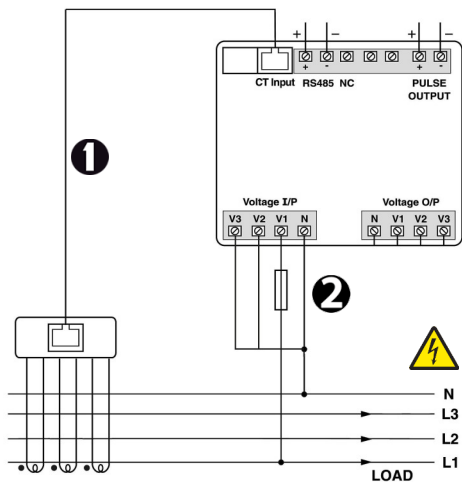
Single Core 0.5 > 4mm²
Ø 2.5mm Max



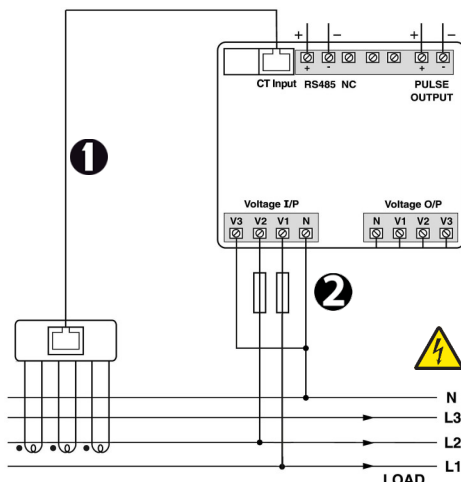
Stranded 0.5 > 2.5mm²



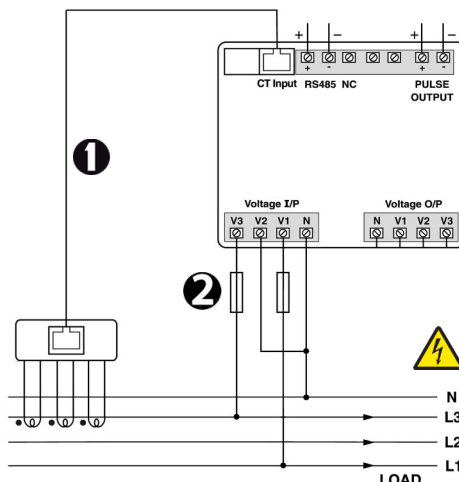
3 CH 1P2W-P1 (3x L1)



3 CH 1P2W-P2 (3x L2)

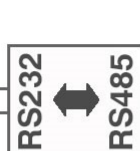
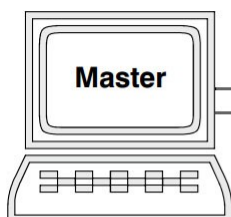


3 CH 1P2W-P3 (3x L3)



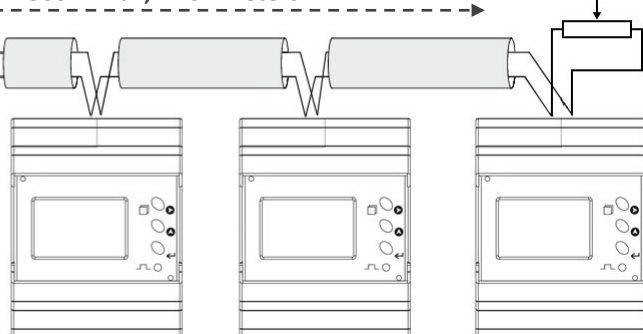
Modbus / MBus

Typical Modbus configuration shown
For MBus interface follow Wiring Topology below



500m Max, ≤ 32 meters

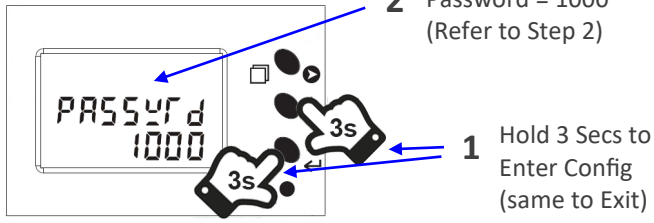
Recommended termination resistor 120 Ω



Wiring Topology	A B	Daisy Chain	Star Network
Modbus	+ -	✓	✗
MBus	1 2	✓	✓

CONFIGURATION

Step A: Enter Configuration Menu

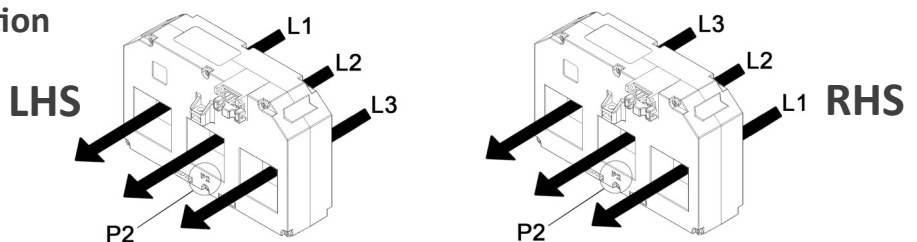


Step B: Configure each setting, as required, referring to Config Table below, using the buttons as follow:

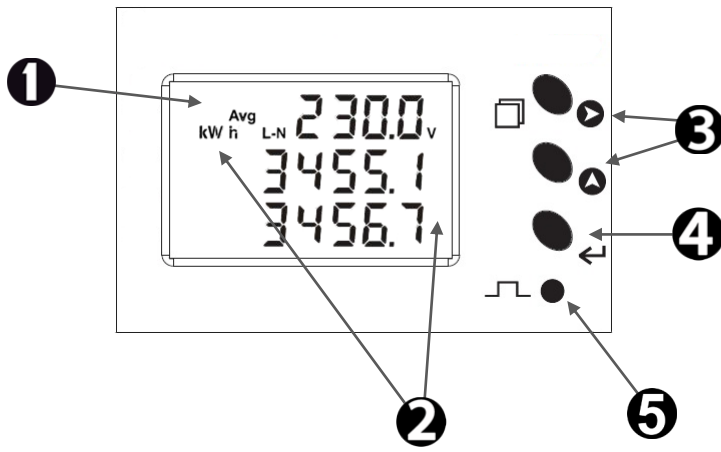
- 1 Press once to make digit or option flash, press again to move flashing cursor
- 2 Press to change digit or option, press to move cursor position as required
- 3 Press to save and move to next setting option, Exit menu once all settings are configured (see Step A)

D340-G-C	D340-G-MB	Setting	Default	Adjustment Range	Network & CT Must configure	VT Adjust if Using VT	Comms Modbus / MBus	Pulse O/P Adjust if utilised	System Settings Optional
1	1	Change Password	1000	NO / YES (0000 > 9998)					✓
2	2	Channel Selection	1 CH	1 CH (3P4W or 1P2W) 3 CH (3x 1P2W)					
3	3	Phase Network Selection	3P4W	3P4W, 1P2W-P1/P2/P3					
4	4	CT Secondary	1	Non-adjustable					
5	5	CT Primary (see CT Label)	1	1 - 6000A					
6	6	Current Connection - see	RHS	RHS / LHS					
7	7	PT Secondary	350	100 > 500V					
8	8	PT Primary	350	100 > 600V					
9	9	Slave ID <i>Modbus:</i> <i>MBus (Primary ID):</i>	1 1	1 > 255 1 > 250			✓		
10	10	Baud rate <i>Modbus:</i> <i>MBus:</i>	9600 2400	300 > 19200 bps 1200 > 9600			✓		
11	11	Parity <i>Modbus:</i> <i>MBus:</i>	None Even	None / Odd / Even Even			✓		
12	12	Stop Bit <i>Modbus:</i> <i>MBus:</i>	1 1	1 / 2 1			✓		
13	13	Back Light Off (0000 = Never)	0000	0 > 7200 Sec					✓
14	14	Demand interval method	Sliding	Sliding / Fixed					✓
15	15	Demand interval duration	15	1 > 30 min					✓
16	16	Demand interval length	1	1 > 30 min					✓
17	17	Pulse Weight	0.10	0.01 > 9.99 kWh/imp					
18	18	Pulse Duration	200	50 > 300 mS				✓	
X	19	MBus Secondary ID	Serial #	0000 0000 > 9999 9999			✓		
19	20	Factory Default	No	No / Yes	Does not reset energy & demand values				
20	21	Reset Energy & Demand	No	No / Yes (Password +1)	Once entered, reset each value individually				

easywire CT Phase Rotation



OPERATION



1 Display Symbols:

- Avg** Average of 3-phase
- tOt** Total of 3-phase
- MD** Max/Min Demand
- L-N** Line to Neutral
- RS485 communication in progress

2 Measurement Units (refer to Functions Table below)

V, kWh, kVAh, kVAh, A, Hz, kW, kVAR, kVA

- ### 3 Navigation Buttons:
- Change **PARAMETER**
 - Change **PAGE**
(hold 10 sec: Serial #)

4 HOLD 10 Secs to check Current Connection

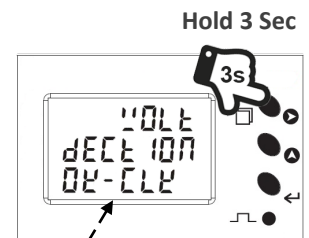
5 Integration of Energy Indicator (blinks at rate of INT)

1 CHANNEL	Energy	x1 Voltage	x2 Current	x3 V/A/F/PF	x4 PF & Power
	Avg Voltage (V L-N) Active Energy (kWh)	Phase Voltage (V L-N)	Phase Current (A)	Avg Voltage (V L-N) Total Current (A) Frequency (Hz) Avg Power Factor	Phase Power Factor Frequency (Hz)
x1	Avg Voltage (V L-N) Reactive Energy (kVArh)	Phase Voltage (V L-L)		Avg Voltage (V L-L) Total Current (A) Frequency (Hz) Avg Power Factor	Phase Active Power (kW)
x2					Phase Reactive Power (kVAR)
x3					Phase Apparent Power (kVA)
x4					tOt Active Power (kW)
x5					tOt Reactive Power (kVAR)
x6					tOt Apparent Power (kVA)
x7					tOt Active Max MD (kW)
x8					tOt Reactive Max MD (kVAR)

Parameters in **BOLD** not displayed for 1P2W

3 CHANNEL	Energy	x1 Voltage	x2 Current	x3 PF & Power
	Avg Voltage (V L-N) CH1 Active Energy (kWh)	Phase Voltage (V L-N)	Phase Current (A)	Phase Power Factor Frequency (Hz)
x1	CH1 Reactive Energy (kVArh)			Phase Active Power (kW)
x2	CH2 Active Energy (kWh)			Phase Reactive Power (kVAR)
x3	CH2 Reactive Energy (kVArh)			Phase Apparent Power (kVA)
x4	CH3 Active Energy (kWh)			tOt Active Power (kW)
x5	CH3 Reactive Energy (kVArh)			tOt Reactive Power (kVAR)
x6	tOt Active Energy (kWh)			tOt Apparent Power (kVA)
x7	tOt Reactive Energy (kVArh)			Phase Active Max MD (kW)
x8				Phase Reactive Max MD (kVAR)

Voltage Phase Rotation



OK CLK: L1 → L2 → L3 ✓

ANTI-CK: Incorrect Order

INVAL Id: Missing Phase ✗