

RI-D340 Series



Three Phase **easywire**[®] Multifunction DIN Rail Energy Meter (MID Certified)

- Four module DIN rail mounted
- Energy pulse LED
- Input from **easywire**[®] Current Transformers
- Three phase network compatible
- Programmable voltage and current transformer ratio
- True RMS measurement
- MID B+D Certified
- High definition white backlit LCD display
- Simple programming and operation
- Pulse output and Modbus communication
- Auto or manual page scrolling
- Daisy chaining up to 32 meters from one supply

Product Description

The RI-D340 series are part of the **easywire**[®] family of meters. The **easywire**[®] system has been designed to save up to 90% installation time compared to a standard meter and current transformer installation.

This MID approved DIN rail mounted multifunction energy meters is suitable for monitoring energy consumption and many other electrical parameters in industrial and commercial applications. These meters may be used in three phase applications and have been certified for billing purposes.

A high efficiency white backlit LCD display provides clear indication of measured values in all light conditions.

Push-buttons on the front of the meter allow the user access to the display page required.

The meter is available in one version:-

- With single pulse output and RS485 Modbus communication
- Available soon - single pulse output and Mbus communication

The unit is housed in a compact four module width housing suitable for DIN rail mounting.

Displayed Parameters

Voltage - L-L, L-N and average

Current - per phase and average

Power Factor - per phase and average

Frequency

Power - Active, Reactive and Apparent (per phase and total)

Power Max. demand - Active and apparent power

Energy - Active, reactive and apparent (total)



Display

Display Type	LCD, high definition with white back-light	
Digit height	6.35mm (displayed parameter)	
Page scrolling	Manual by front key / or auto scroll mode	
Displayed parameters and accuracies	Voltage	0.5% of full scale
	Current	0.5% of full scale
	Frequency	0.1% of full scale (L-N >20V)
	Power factor	1% of unity
	Active power	1%
	Reactive power	1%
	Apparent power	1%
	Active Energy	Class 1, Class B (IEC/EN62053-21, IEC/EN50470)
	Reactive Energy	Class 2 (IEC/EN62053-23)
Energy maximum display	9999999	
Resolution	0.01K, 0.1K, 1K, 0.01M, 0.1M (depending on CT ratio & VT ratio)	

Programming

Parameters that can be changed using programming menu	CT Primary current VT primary voltage VT secondary voltage Communication address Communication speed (Baud) Communication Parity Communication number of stop bits Back-light time-out period Demand period (for integration) Pulse duration Pulse output (kWh) Reset to Factory Default Reset Energy and Maximum Demand Reset Active Energy Reset Reactive Energy Reset Apparent Energy Reset Maximum Current Reset Maximum Active Power Reset Minimum Active Power Reset Maximum Reactive Power Reset Minimum Reactive Power Reset Maximum Apparent Power
<i>NOTE: Once Programming Mode Is entered The values in red will be locked out after 15 Mins. No further adjustment is possible without return to factory.</i>	
Programming access	Password protected (user selectable)
Memory retention	Non volatile memory

Input

Connection	Three phase four wire
Input voltage range	3 x 100...240V ±15% (L - N)
Voltage Rated Burden	<8VA
Nominal current input	easywire [®] - 1A (330mV)
Max current (Imax)	easywire [®] - 1.2A (396mV)
Current Rated Burden	N/A - easywire [®] input
Starting current	0.2mA (0.66mV)
Short time overcurrent	30 x Imax to IEC/EN62053-21 + 23
Impulse voltage withstand	6kV 1.2/50µS 0.5J
AC voltage withstand	4kV 50Hz for 1 min
CT primary current	5...6000A
VT primary voltage	100...600V
Frequency	50Hz
Current distortion factor	According to IEC/EN50470

Auxiliary Supply

Voltage range	Self supplied from measuring input (any phase or all phases)
Operating frequency	See input section
Power consumption	See input section

Outputs

Energy pulses	
Number of pulse outputs	1
Pulse output function	kWh
Pulse output type	1
Pulse output Max. current	100mA
Pulse output voltage range	5...27VDC
Pulse duration	100ms...2s
Pulse resolution	0.01K, 0.1K, 1K, 0.01M, 0.1M (depending on CT ratio & VT ratio)
Communication - Modbus Version	
Communication type	RS485
Communication protocol	Modbus
Address	1...255
Number of bits	8bits
Parity	None, odd, even
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200
Required response time to request	≤100ms
Number of meters connected on the bus	32 (up to 255 with RS485 repeater)
Max distance from Master device	500M

Communication - Mbus Version

Communication protocol	Mbus
Communication standard	IEC/EN13757
Primary address	1...250
Secondary address	0...99999999
Parity	None, odd, even
Baud rate	300, 600, 1200, 2400, 9600

Insulation

Installation category	III
Pollution degree	2
Insulation voltage rating	300V (L-N)

Environmental Conditions

Reference temperature	23°C ±2°C
Specified temperature operating range	-10°C...+55°C
Storage temperature	-20°C...+75°C
Relative humidity	0...85%, non condensing
Mechanical environment	M1
Electromagnetic environment	E2

Mechanical
Housing

Housing	4 module DIN 43880
Mounting	Snap-on 35mm rail
Tamper sealing	Meter housing (by means of a tamper evident seal). Sealable terminal covers.
Housing material	Self-extinguishing polycarbonate (UL94 V-0)
Protection degree (IEC/EN60529)	IP20 (terminals), IP54 (front of housing)
Weight	<210g

Termination

Current input terminal type	Screw clamp type
Max. wire size	4mm ²
Voltage input terminal type	Screw clamp type
Max. wire size	4mm ²
Output terminal type	Screw clamp type
Max. wire size	1.5mm ²

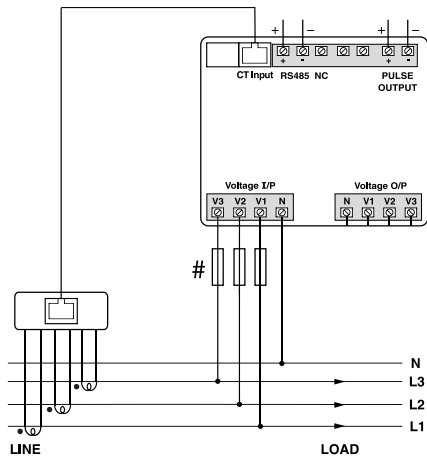
Conformity

Electromagnetic compatibility	IEC/EN61326-1, IEC/EN55011 Class A, IEC/EN61000-4-2, -3, -4, -5, -6, -8, -11 IEC/EN50470-1/3
Accuracy and functionality	IEC/EN50470-1/3, IEC/EN62053-21, IEC/EN62053-23, DIRECTIVE 2014/32/EU
Safety	IEC/EN61010, IEC/EN50470-1

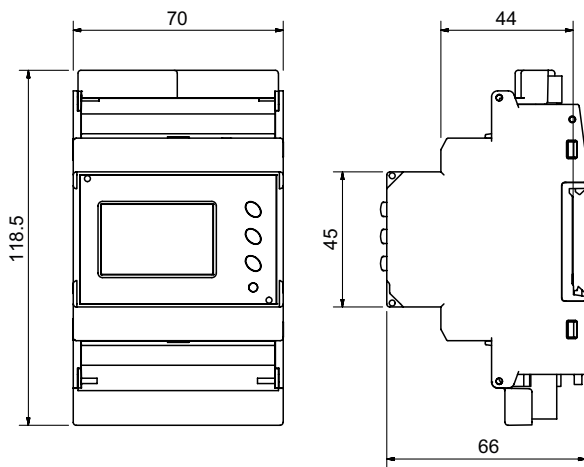
Wiring Diagrams

Note: # All fuse types : 0.5A class CC UL type
0.5A fast acting 600V

3 Phase 4 Wire - 1 CT



Dimensions



Model Selection Table

Communications	Model
Single Pulse and RS485 Modbus Output	RI-D340-G-C
Single Pulse and Mbus Output - <i>Available soon</i>	RI-D340-G-MB