

## NewFound Energy multifunction meters



Don't let the simple looks of the Rail fool you, this is a powerful, feature rich multi-function meter.

The Rail 350's 'Right First Time' setup includes the Auto-rotation functionality for CTs which may be installed incorrectly. This effort to minimize and correct any installation issues, married to the 5 year warranty and extensive data sets available via the communication options makes this the perfect system meter for any sub-metering rollout.

Standard feature on the Rail 350 is 2 pulse outputs, which can be configured for kWh, kVAh or kVAh.

To aid with installation and commissioning the meter offers a pulse test function to simulate pulses without any load being measured, allowing installation engineers to check cabling is complete.

Standard communications are RS485 MODBUS, however the Rail 350 is available with a range of powerful IP communications options: MODBUS TCP and other TCP/IP protocols such as HTTP, FTP, TFTP, SNMP. The various TCP/IP protocols make this the ideal meter to interface directly with energy management software and building control solutions without the need for data loggers or concentrators. The web pages on the IP enabled Rail 350-IP allows the user to view important instantaneous values and access the setup pages should the need arise to change any of the parameters.



### Options

- MODBUS RTU
- Harmonics
- 1 Amp or mV current transformer inputs (5 Amp is standard)
- IP communications (all IP meters include logging, 3 additional pulse inputs and 2 programmable pulse/alarm outputs)
- Custom wall mount enclosure.
- 240V or 110V Aux power supply

## Technical Specification

System	3 Phase or 4 Wire Unbalanced Load
Voltage U	480/277V 110/63V & 208/120V (optional).
Current I	5 Amp, 1 Amp or 0.333V
Measurement Range	Voltage 20% to 120% Current 0.2% to 120%
Frequency Range	Fundamental 45 to 65Hz Harmonics Up to 30th harmonic at 50Hz (Option) Individual up to the 15th (Option)

### AUXILIARY SUPPLY

Standard	230V 50/60Hz at 5W max
Option	110V 50/60Hz at 5W max

### ACCURACY

kWh	Class 1 per EN 62053-21 & BS 8431 ANSI C12.20 Class 0.5
kVArh	Class 2 per EN 62053-23 & BS 8431
kW & kVA	Class 0.25 IEC 60688
kVAr	Class 0.5 IEC 60688
Amps & Volts	Class 0.1 IEC 60688
PF	±0.2°
Neutral Current	Class 0.5 IEC 6068

### PULSE OUTPUTS

Function	1 pulse per unit of energy
Scaling	Configurable
Pulse duration	0.1 second default (other durations configurable)
Type	N/O volt free contact. Optically isolated.
Contacts	100mA ac/dc max; 70Vdc/33Vac max; 5W maximum load
Isolation	3.5kV 50Hz 1 minute

### GENERAL

Operating	-10°C to +55°C
Storage	-25°C to +70°C
Humidity	<75% non-condensing
Environment	IP20

### MECHANICAL

Terminals	Rising cage. 4 mm <sup>2</sup> (12AWG) cable max
Enclosure	DIN 43880, 6 modules wide
Material	Mablex® with fire protection to UL94-V-O. Self extinguishing
Dimensions	106x90x58mm (4.2"x3.5"x2.3")
Weight	~ 150 gm (0.33lbs)

### Multi-Parameter details available via Display & MODBUS/TCP/IP

(\* only available via remote communication port i.e. RS485, TCP/IP)

	All phases	Sum
Volts, L-N & L-L	•	
Amps	•	
Power Factor	•	•
Import kWh, kVArh		•
kW	•	•
Frequency		
Hours run (on load)		•
*Export kWh, kVArh		•
*Inductive and capacitive kVArh		•
*Peak Volts, L-N	•	
*Peak Amps	•	
*Neutral Amps		•
*kW, kVA & kVAr	•	•
*kW, kVA & kVAr Demand		•
*Peak kW, kVA, & kVAr Demand		•
*Average Volt & Peak	•	
*Amp Demand & Peak	•	
*(Option) % THD Volts & Amps	•	
Individual harmonics 2nd – 30th		
True rms measurement of Volts & Amps – and true Power Measurement – to the 30th harmonic at 50Hz (>25 <sup>th</sup> @ 60Hz).		

### SAFETY

Conforms to EN 61010-1 Over-voltage Category III Accreditation UL, cUL, RCM/C-Tick, CB, CE

## NewFound Energy Limited

Park View House, Worrall Street, Congleton, Cheshire CW12 1DT  
Tel +44 (0)1260 290151 Fax +44 (0)1260 290811  
www.newfound-energy.co.uk