

ND

DIN Rail kWh Meter PowerRail 303



- ◆ **Giant Backlit LCD with Legends**
- ◆ **Accuracy Better than Class 1**
- ◆ **Pulsing Output for BEMs**
- ◆ **Fully User Configurable**

DESCRIPTION

The **PowerRail 303** is an electronic kWh Meter - DIN rail mounting, easy to install and convenient to use. Equally suitable for both 3 wire and 4 wire 3Ø unbalanced loads (optionally for single phase or balanced 3Ø systems), the **PowerRail 303** has been designed to measure accurately irrespective of the type of load - ideal for a motor or heater, or for a modern electronically controlled load.

Safe to Use

With fully isolated current inputs, installation safety - through compliance with the Low Voltage Directive (LVD) - is assured. Current input isolation provides versatility of connection. Installation in conjunction with other instrumentation can be carried out safely, without affecting accuracy.

Easy to Install

The **PowerRail 303** mounts on a standard symmetrical DIN rail and is fitted with large Rising Cage terminals - allowing connection to a wide range of cables from 0.25mm² to 4.0mm². For wall mounted installation, an optional protective enclosure is available.

Easy to Use

The **PowerRail 303** can be read irrespective of location, under all lighting conditions. The giant backlit LCD display overcomes small character size, poor visibility and short life associated with electromechanical counters and provides the necessary legends (Wh, kWh, MWh).

A programmable isolated pulse output is optionally available for interface to a remote data collection system or BEMs.

Input Scaling

The Meter may be user configured to suit installations using Current and/or Voltage Transformers, with decimal point and legend being automatically set to provide optimum resolution.

Fully Supported

Comprehensive operating instructions - supplied with every **PowerRail 303** - include full information on installation. These include connection schematics and configuration details for common CT ratios. Full technical support is readily available from your local Distributor or from Technical Sales at Northern Design.

Universality of Connections

For maximum convenience all **PowerRail 303** Meters can be powered from the measurement voltage. Where supplies may be subject to unusually wide variations, the Meters may be powered from a separate auxiliary supply. Standard PowerRail 303 Meters are suitable for both 3 wire and 4 wire 3Ø unbalanced loads, and can be used on single phase.

Accurate Real World Measurement

A precision analogue measurement system maintains full accuracy in the presence of harmonics and randomly and/or periodically interrupted waveforms - as commonly found on modern electronically controlled loads. Standard accuracy is Class 1 (EN 61036), higher accuracy models being available on request.

Optional Reset

Front panel reset of kWh register available on request.

SPECIFICATION

INPUTS

System	3 Phase 3 or 4 Wire Unbalanced Load 3 Phase Balanced & Single Phase to order
Voltage	400/230V. 3 Phase 3 or 4 Wire 110/63V & 208/120V optional
Current Measurement	5A from external CTs. 1A optional. Fully isolated
Range	Voltage 50% to 120% Current 0.5% to 120%
Frequency Range	Fundamental 45 to 65Hz Harmonics Up to 40th harmonic
Voltage Burden	<0.1VA per phase
Current Burden	<0.1VA per phase
Overload Voltage	x2 for 2 seconds max.
Overload Current	x40 for 1 second max.

DISPLAY

Type	Custom, Supertwist, LCD with LED backlight
Data Retention	25 years min. Stores kWh & Meter set-up
Format	8x9mm high digits with DPs & 3mm legends
Scaling	Direct reading. User programmable CT & VT
Legends	Wh, kWh, MWh etc. depending on user settings

AUXILIARY SUPPLY

Standard	230V 50/60 Hz ±15%
Options	110V 50/60 Hz ±15%
Load	3VA max.

ACCURACY

kWh	Better than Class 1 per EN 61036 (IEC 1036)
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OUTPUT RELAY

Function	1 Pulse per unit of energy
Scaling	Settable 1,10,100 or 1000 counts of kWh register
Pulse Period	Settable 0.1 to 25.5 secs. in 0.1s steps Rise & Fall Time < 2.0ms
Type	N/O Volt free contact. Optically isolated BiFET
Contacts	100mA ac/dc max., 100V ac/dc max.
Isolation	2.5kV

GENERAL

Temperature	Operating -10°C to +65°C Storage -25°C to +70°C
Humidity Environment	< 75% non-condensing IP22

MECHANICAL

Enclosure	DIN 43880, 6 Modules. Noryl ULV940-V-O
Dimensions	106mm x 90mm x 58mm, 6 Modules wide
Weight	325gms
DIN Rail	DIN EN 50022 106mm min. x 35mm
Terminals	Rising Cage. 4mm ² cable max.

