AUX SUPPLY

Standard	230 Volt 50/60Hz ± 15%
Options	110 Volt 50/60Hz ± 15% Others to order
Burden Meter	5 VA maximum
Burden Option Unit	4 VA maximum

DISPLAY

Type	Intelligent custom liquid crystal
Display Format	2 rows of 7 digits (7 segment) and legends
Digit Height	7mm each row
Legend Height	3.5mm
Backlight	Permanent Green/Yellow light emitting diode
Display Pages	2 pages plus configuration kW plus kWh (or MW plus MWh) kW (MW) Demand plus Peak Demand
CT & VT Ratios	Fully programmable
Legends & DP pos^{n}	Automatically set by VT & CT ratios
Demand Period	Selectable 1 minute to 60 minutes, with 15 sub-periods

ACCURACY

kW & kW Demand	Better than 0.2% of Full Scale
kWh	Better than Class 1 IEC 1036 Typically better than Class 0.5

PULSE OUTPUT

Energy Pulse	Programmable Volt Free Contacts 1 pulse per 1, 10, 100 or 1000 counts Actual value depends on CT & VT ratios
Maximum Rating	50 volt and 100mA max
Isolation	2000 Volt 50Hz 1 minute from inputs

GENERAL

Temperature	Operating -10°C to +55°C Storage -25°C to +70°C
Humidity	Operating <75% Non Condensing
Environment	IP20

STANDARDS

Safety	EN 61010-1 Installation Cat 3
EMC	89/336/EMC EN 50081, Part 1 1992 EN 50082, Part 2 1995
Accuracy	En 61036 and EN 60688

MECHANICAL

Case Dimensions	106 x 90 x 58mm
Option Dimensions	71 x 90 x 58mm
Weight	360gms (Option 240gms)
Case	DIN 42880 6 Modules wide. Grey Noryl ULV94 V-O self extinguishing Option 4 Modules wide
Terminals	Rising Cage 0.25mm^2 to 4mm^2

Northern Design (Electronics) Ltd.
228 Bolton Road, Bradford
West Yorkshire, BD3 0QW, England
Telephone: 01274 729 533
Fax: 01274 721 074

PowerRail 323

kW Demand and kWh

- **Large Backlit LCD**
- **kW, kWh, Rolling and Peak Demand**
- **High Accuracy - kW± 0.2%, kWh Class 1**
- **Plug-in Option Module for 4-20mA and MODBUS**
- **Fully Isolated Currents (Complies with the LVD)**

metering • monitoring • measuring • managing • energy • power

The ***PowerRail* 323 Demand Meter** measures kW, kWh, Rolling & Peak kW Demands. DIN rail mounting and with a plug-in Option module, it is simple to install, convenient to use and easy to upgrade. Equally suitable for both 3 wire and 4 wire unbalanced 3Ø systems (optionally for single phase or balanced 3Ø systems), the ***PowerRail*** 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.

Easy to Install

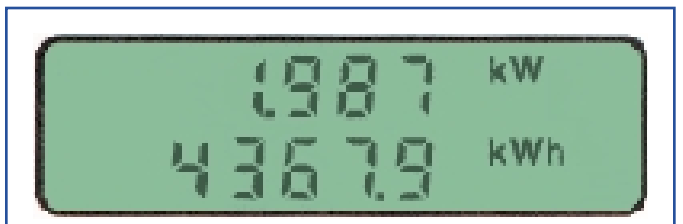
Standard symmetrical DIN rail mounted, and with large Rising Cage terminals to allow connection to a wide range of cables from 0.25mm² to 4mm².

An isolated pulse output - fully programmable - is provided as standard.

Safe to Use

With current inputs fully isolated, compliance with the Low Voltage Directive is assured and installation safety increased.

Current Input isolation simplifies retrofitting into an existing installation. The ***PowerRail*** is unlikely to be affected by the connections of existing instruments.



Clear & Simple Display

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.


Optional Wall Mounting Enclosure

Easy to Use

A clear display with a very wide viewing angle and subtle backlighting provides an instrument that can be read irrespective of location and under all lighting conditions.

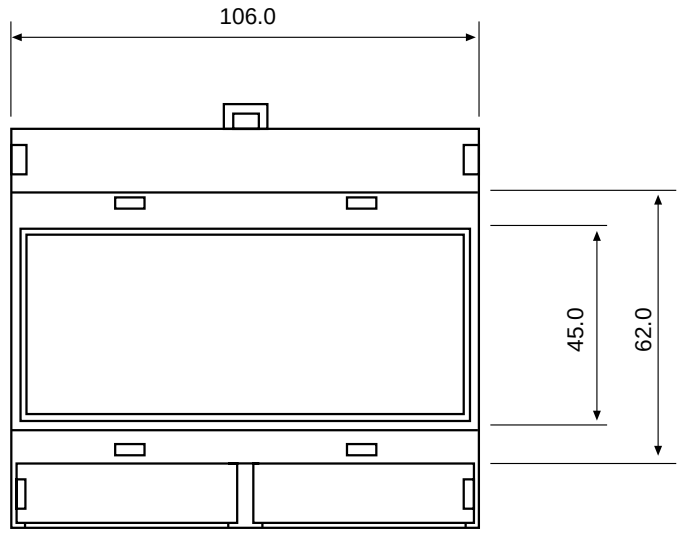
Simple on-screen legends using standard engineering terms removes any chance of misunderstanding readings - no flashing leds or stick-on legends to indicate parameter or scale multiplier.

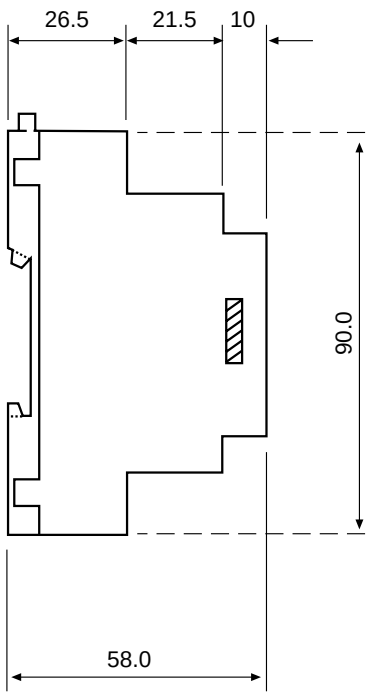
Dedicated keys simplify selection of the required parameters.

Clear and Informative

Intelligent programming with automatic decimal point and legend selection ensures that the 4½ digits available for power and demand measurement provides maximum resolution - allowing load system changes to be clearly seen.

A comprehensive 60+ page manual - supplied with every ***PowerRail*** meter - provides full information on installation, measurement and operation. Full details of the **option module** are included.





The ***PowerRail* Option Module** can be retrofitted at any time, or installed with the Meter. Mount on the rail, plug into the Meter, connect the auxiliary supply and you immediately have two Analogue Outputs and fast MODBUS communications - all fully isolated from the Meter.

MODBUS Communications

An optimised data table structure ensures the fastest possible download speeds of critical data.

A sophisticated operating system ensures minimal internal delays when replying to a data request - values from 40 to 50 ***PowerRail*** meters can be read every second.

Low "¼ unit loading" drivers allow up to 127 ***PowerRail*** meters to be connected to a single bus.

Analogue Outputs

Two Analogue Outputs as standard - Instantaneous kW and Average kW.

SPECIFICATION

INPUTS

System	3ø 3 or 4 wire Unbalanced Load 3ø Balanced Load and 1ø to Order
Voltage	400 / 230 Volt 3ø 3 or 4 wire (110 / 63 Volt optional), Other voltages to order
Current	Fully Isolated 5 Amp from CTs (1 Amp optional)
Measurement Range	Voltage 50% to 120% Current 0.5% to 120%
Frequency Range	45Hz to 65Hz fundamental
Harmonic Range	Up to the 40th
Input Burdens Voltage & Current	Less than 0.1VA per phase
Overloads Voltage Current	 x2 for 2 seconds x20 for 0.5 seconds