



## 24 WAY METAL PDU

### Overview

34U 24 Way 22 X 10A (C13) IEC, 2 X 16A (C19), Each IEC has a Fuse and Neon, Mains lead in 3 Metre sy cable with a 32A commando plug.

### Product Features

The **Power-2u** series provides a modular and flexible solution for today's power and environment needs to mission critical and remote equipment, where zero down time and maximisation of operations is a pre-requisite.

**Power-2u** offers customers a range of simple to use 'pick and mix' product options providing a tailored solution to specific requirements.

### Options include:

Remote current, voltage and kWh monitoring  
Remote reboot of individual socket outlets and sequential power on/shut down  
Up to 63A Load rating  
Remote temperature monitoring  
Surge Arrester Protection  
Vertical rack mounting also Horizontal  
19" 1U, 2U, 3U versions available (Metal)



### Specification:

#### Connectivity

(a) EIA RS232 or RS485 Modbus, via RJ45 connection port

(Additional Interface Equipment Maybe Required)

Options available to meet customer requirements on all power strips.

(b) All PDU's have a liquid crystal displaying the following with Class II accuracy:

- Voltage RMS Value
- Current RMS Value
- Power KWHr direct reading

Other measurements from the metering system available by the SNMP and Sensorium software program.

Power Factor, Kilo Watts, BTU's, Peak Current, Peak Voltage, Apparent Power, Harmonic Active Power.

(c) The monitoring of each individual socket for consumption plus total consumption on the strip plus control switching per individual socket.

The PDU accesses and scrolls through on the LCD.

- Display Voltage (V) for the PDU as a whole all sockets.
- Display Current (I) for the PDU as a whole all sockets.
- Display Power KWHr cumulative for the whole PDU all sockets.
- Plus Voltage RMS.
- Current RMS per socket.
- Power KWHr per socket.

(d) The CARBON FOOTPRINT can be established by using KWHr (actual reading) x a user adjustable DEFRA KWH to CO2 conversion multiplier to obtain a KGCO2 reading via the software.

Actual (KWHr reading) x multiplier = footprint number.

A number of our competitors work on current values and extrapolate to obtain in the software a calculated KWHr figure, not an actual reading.

(e) Extra PDU Facilities: TPT PDU's have an inbuilt facility to include local temperature monitoring via a provision on the PDU for up to 4 sensors and the result can be read by the software. This facility in the new model is being currently expanded to include an environmental module which enables the following to be monitored and included in the PDU, power, control of power and environmental monitoring in the same package if required by the customer. The environmental monitoring includes temperature, humidity, fire, leak, smoke, gas CO2 plus card reader / keypad contacts etc.

(f) Flexibility of Design: TPT can offer solutions to customer specific requirements in terms of number of socket outlets, types of socket outlets and a mixture, i.e. UK sockets + IEC socket combinations, length of cable, type of mains plug etc.

(g) Fused Sockets: IEC socket outlets are individually fused to provide customer protection i.e. should a piece of equipment go faulty, then the socket with the individual socket fuse protects will blow and maintain the system integrity and will not trip the PDU or supply MCB.

Only 1 IP address is required for up to 30 PDU's: These can then be monitored and controlled using an SNMP controller or Modbus TCP. This can then generate alarms such as emails and establish upper and lower thresholds for current, voltage, temperature etc. This can be done on a PDU to PDU basis with thresholds for each one. The IP address for the SNMP controller can be assigned either by using a DHCP server or manually assigned using either a terminal or via the web configuration interface. By using the SNMP protocol customers can select their preferred management platforms for getting the information they require. Sensorium does all the graphics, alarms etc. And can monitor and control 3<sup>rd</sup> party products, i.e. Aperture, BMS and HP Openview.

- (a) Additional information on the Environmental Module: to go on the new PDU's and Environmental Hub.

The Environmental Module product consists of a printed circuit board (PCB) capable of being integrated into the clients existing PDU product range. The module provides eight modular sockets with the following functions:

- Digital temperature sensor bus (up to 8 external temperature sensors capable)
- Humidity Sensor
- Three (3) voltage free contact inputs (for detectors, i.e. smoke alarms, fire etc.)
- Door status voltage free contact input.
- Door solenoid control relay output.
- RS232 keypad card reader interface with door status indicator output.

- (b) Minimum Software Capabilities.

- Real time or scheduled transfer of data.
- Store and process interval meter readings to at least a minimum of every 30 minutes.
- Present data both graphically and tabular format i.e. Histograms and Line Plots. Selectable time bases with periods of 30 minutes, 1 day, 1 week, 4 weeks, 1 calendar month and 1 year.
- Ability to select data sets and manipulate them by combining, comparing and calculating in order to analyse, identify and evaluate instances of energy waste.
- Regression analysis on data systems using two variables in whatever frequency the data set obtained. Display in graphical form with correlation co-efficient.
- Automatic exception reporting where period consumption is outside a selected variance.

Note: The above can be provided as an internet based service.

## Summary

The above software collates and analyses the data provided from the meters, sensors and manual input and produces outputs enabling energy managers to identify instances of waste, changes in operational characteristics and to compare the energy performance between different sites of similar type and against established benchmarks.

Special Note: When it comes to the calculation of CO2, it would be possible to program the PDU with KWH to CO2 calculation variable (DEFRA provide a KWH to CO2 multiplier value, see example below. They also provide large companies with their own unique values). It would also be good to program in the correct issued multiplier than using the standard.

Energy Source	Units	Kg CO2 per unit
Grid Electricity	KWH	0.537

### SNMP Controller Description:

The iSNMP Controller provides remote monitoring of up to 32 networked PDU's over your I.T. infrastructure in a single 19", 1U, rack mounted form.

Access to the entire internal register of the PMU (incl. The enhanced power monitoring and environmental monitoring and security module data) is available locally via the internal website, and remotely via SNMP (1,2 & 3).

IPv4 and IPv6 Network Connectivity and Local, SSL, LDAP and Radius authentication are available.

User adjustable SNMP Trap thresholds for all internal register objects are available as standard and the system has been configured to offer user adjustable condition text for "Plain English" trap messages. (Alarm, OK, High, Low, Open, Closed etc.)

Additional Descriptions and information can be configured for each PDU (Site, Distribution Board, Phase and Circuit Breaker) these are available via the internal website, but also as OID's for remote enhanced SNMP Monitoring.

Height x Width Length: 45mm x 80mm x 1542mm

Material: Powder Coated Mild Steel

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