Overview

Advanced Intelligent Power Solutions

Setting new standards in data centre management

All **iPower** products (passive and intelligent) are UK manufactured using UK components where ever possible and come with a 5 year warranty as standard. The objective is to offer the most accurate of power measurements within a PDU configuration that suits the customers requirements.

The IT ACU versions offer the highest level of security encryption with SNMPv2 & 3 along with RADIUS, Telnet and Syslog. Information shown on the inbuilt touch screen TFT display along with remote screen option.

All units available in any socket quantity (subject to model), type or combination up to 125Amp single or 3phase with a range of socket protection for use up to 60Deg (subject to model type) providing a reliable solution in any environment.

Along with the inbuilt WEB GUI offering real time information and alerts locally and remotely our free to download management package PDU Agent is available. This provides an entry level management system at no cost with no ongoing licence fees. In addition, MIB files for all the products are available for use with 3rd party DCiM applications.

Available in standard vertical or horizontal build formats or customised to meet clients specific requirements with regards to format, space limitation, colours or other factors. All variants use a calibrated resister (not CT coil) to provide the most accurate of monitored and calculated parameters. Can be constructed as in line units for use with legacy PDUs.

An array of environmental and security functions are available as standard depending on the product type. The IT ACU range is the most comprehensive supporting both temperature and humidity sensors, WEB cams, other volt free contact applications such as water detection. In addition door sensors and electronic handles and key pads are supported. Remote displays are also available.

Following the latest quality EN62368 construction standards all units are assembled and tested by qualified personnel who have many year's experience in these products. In house test and compliance certification provided.

With the exception of the REM units, all of the iPower products can be mixed and matched and daisy chained with up to 32 devices per IP address. The PDU Agent software can support up to 50 different IP address.

While offering a 5 year warranty the IT range offers field replace management control boards and touch screen TFT display.

Our customer and technical service offers pre and post sale support to define a requirement and answer any technical questions going forward.

iPower Product Range

IP REM Single phase up to 32A overall monitored unit with any socket combination.

IP Lite Single phase up to 32A overall monitored with environmental capabilities with any socket combination and can be daisy chained with up to 32 units.

IP IT uses the Advanced Control Unit (ACU).

IP IT – IP1 Single or 3phase up to 125A overall monitored with environmental and security capabilities with any socket combination and can be daisy chained with up to 32 units.

IP IT – IP2 Single or 3phase up to 125A overall monitored and per socket monitored with environmental and security capabilities up to 48 sockets and can be daisy chained with up to 32 units.

IP IT – IP3 Single or 3phase up to 125A overall monitored and per socket monitored and switched with environmental and security capabilities up to 48 sockets and can be daisy chained with up to 32 units.

IP IT – IP4 Single or 3phase up to 125A overall monitored and per socket monitored and sequence switching with environmental and security capabilities up to 48 sockets and can be daisy chained with up to 32 units.

IP REM, IP Lite and IT IP1 Single or 3phase are available as in line units for use with legacy PDUs.

IP ATS 16/32A ATS switch with in line or socket options

IP DC A range of DC units designed as required with power monitoring (switching to follow)

PART NUMBERS FOR ALL IP PRODUCTS ARE SUPPLIED AT TIME OF ENQUIRY/QUOTATION WITH SUPPORTING DRAWING

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Product Features



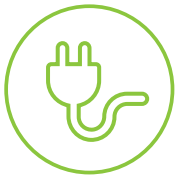
UNIT CONSTRUCTION

Supplied with any type and quantity of sockets (IT2, 3 & 4 maximum 48 sockets)
Single phase/3phase up to 125A
Locking and none locking socket options. (Locking socket
– use standard power cords no special mating parts required)
Supplied with any length of mains lead and termination
Top, bottom, front or rear entry
Choice of mounting options or designed to meet specific fixing centre or dimensions
Range of power protection including individually fused socket, thermal trips, MCB, Hydromagnetic breakers
High operating temperatures up to 60°C
UK manufactured with 5 year warranty



POWER MONITORING & METERING

Accurate true power readings >1 by using calibrated resister
Overall readings of – RMS Volts, RMS Amps, Kilowats, Frequency PF (REM V/A/Kw/PF only)
Extended readings of – Peak volts, Peak current, kVA
Cumulative readings of – kWh, kJ/H, kg/CO2, BTU/h, consumption cost
Phase balancing measurements (breaker/3phase only)
Customer set threshold on key measured parameters (REM V/A/Kw/PF only)



SOCKET MONITORING / SWITCHING

Per socket reading of – Amps,VA,Watts.
Customer set threshold on key measured parameters
Socket Switching
Individual socket switching (fail on)
Group setting for multiple socket on/off
Security setting to allow specific socket switching
Customer set threshold on key measured parameters
Individual socket switching (fail off) with sequence start functionality
Group setting for multiple socket on/off with sequence start functionality



SECURITY & ENVIRONMENTAL FUNCTIONS

Internal temperature reading
Up to 8 x Temperature sensors daisy chained – each with separate settings
Temperature & Humidity Sensor
Door Lock Port
Sensor Port
Key Pad Port
Remote Display Port
Volt free contact port allowing connectivity of 3 devices
USB port for WEB Cam or 2nd Network Connection



MANAGEMENT PROTOCOLS

10/100 Base T Ethernet port for network connectivity
Modbus port to allow up to 32 devices linked over 1 x IP Address
RGB or TFT Display
Communications via: HTTP/HTTPS/HTML/CGI Telenet/SMTP/Syslog/Radius SNMPv2&3 IPv4&6
Full security access and alert setting
MID File available
Free PDU management software available (supporting up to 50 x IP address)

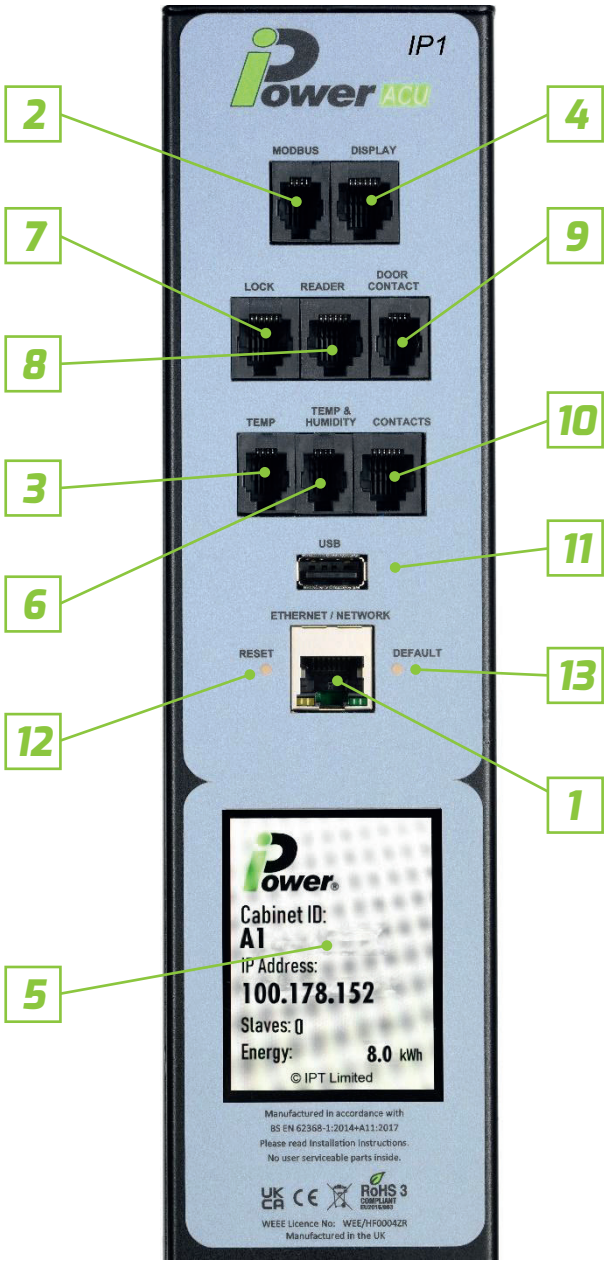
Intelligent Monitoring Comparison

	IP1 Overall Monitoring	IP2 Overall + Individual Socket Monitoring	IP3 Overall + Individual Socket Monitoring + Switching	IP4 Overall + Individual Socket Monitoring + Switching	iPLite	iPowerREM
KEY FLEXIBILITY						
Standard Build Spec	✓	✓	✓	✓	✓	✓
Custom Build Capability (NO MOQ)	✓	✓	✓	✓	✓	✓
Custom Design Availability	Short Lead Time	Short Lead Time	Short Lead Time	Short Lead Time	Short Lead Time	Short Lead Time
Full Manufacturer/Design Support within UK	Yes	Yes	Yes	Yes	Yes	Yes
Hot Swap Controller	✓	✓	✓	✓	-	-
PDU INFO						
Rack Mount Vertical (0U)	✓	✓	✓	✓	✓	✓
Rack Mount Horizontal (1U+)	✓	✓	✓	✓	✓	✓
Inline Unit	✓	-	-	-	✓	✓
Construction	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel
Finish	Powder Coated	Powder Coated	Powder Coated	Powder Coated	Powder Coated	Powder Coated
Mains Lead	HO7	HO7	HO7	HO7	HO7	HO7
Lead Length (Standard)	3 Mtr	3 Mtr	3 Mtr	3 Mtr	3 Mtr	3 Mtr
Maximum Number of Sockets	∞	48	48	48	∞	∞
Socket Types			C13, C19, Uk, Schuko, Plus Other			
ELECTRICAL CHARACTERISTICS						
Single/Three Phase Options	Both	Both	Both	Both	Single Phase Only	Single Phase Only
Main Input	85 - 265 VAC	85 - 265 VAC	85 - 265 VAC	85 - 265 VAC	85 - 265 VAC	85 - 265 VAC
Frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Overall Meter Current Range	0 - 63 Amps	0 - 63 Amps	0 - 63 Amps	0 - 63 Amps	0 - 63 Amps	0 - 32 Amps
Socket Current Range	-	0 - 16 Amps	0 - 16 Amps	0 - 16 Amps	-	-
Overall Meter Accuracy	+/- 1% Typical	+/- 1% Typical	+/- 1% Typical	+/- 1% Typical	+/- 1% Typical	+/- 1% Typical
OVERALL MEASUREMENT						
RMS Volts	✓	✓	✓	✓	✓	✓
RMS Amps	✓	✓	✓	✓	✓	✓
Kilowatts	✓	✓	✓	✓	✓	✓
Frequency	✓	✓	✓	✓	✓	✓
Power Factor	✓	✓	✓	✓	✓	✓
Internal PDU Temperature	✓	✓	✓	✓	✓	✓
Peak Voltage	✓	✓	✓	✓	✓	✓
Peak Current	✓	✓	✓	✓	✓	✓
kVA	✓	✓	✓	✓	✓	✓
kWh (Cumulative)	✓	✓	✓	✓	✓	✓
Kg/CO2 (Cumulative)	✓	✓	✓	✓	✓	✓
BTU/h (Cumulative)	✓	✓	✓	✓	✓	✓
KJ/h (Cumulative	✓	✓	✓	✓	✓	✓
Cost (Cumulative)	✓	✓	✓	✓	✓	✓
OVERALL METER ACCURACY						
Class II	✓	✓	✓	✓	✓	✓
Billing Quality	✓	✓	✓	✓	✓	✓
Sampling Rate 4000 times a second	✓	✓	✓	✓	✓	✓
INDIVIDUAL SOCKET MEASUREMENT						
Amps	-	✓	✓	✓	-	-
Watts	-	✓	✓	✓	-	-
VA	-	✓	✓	✓	-	-
kWh (Cumulative)	-	✓	✓	✓	-	-
SOCKET CONTROL						
Individual Socket Switching	-	-	✓	✓	-	-
Individual Socket Power Cycle	-	-	✓	✓	-	-
Sequential Start Up (100 - 5000mS)	-	-	-	✓	-	-
Programmable Startup Sequence (IP4 Only)	-	-	-	✓	-	-
CONNECTIVITY						
Web GUI	✓	✓	✓	✓	✓	✓
SNMP v1 and v2	✓	✓	✓	✓	✓	✓
SNMP v3	✓	✓	✓	✓	✓	-
HTTP	✓	✓	✓	✓	✓	✓
HTTPs	✓	✓	✓	✓	✓	-
XML	✓	✓	✓	✓	✓	✓
Email Alerts	✓	✓	✓	✓	✓	✓
IPv4	✓	✓	✓	✓	✓	✓
IPv6	✓	✓	✓	✓	✓	-
TelNet	✓	✓	✓	✓	✓	✓
Syslog	✓	✓	✓	✓	-	-
On Board Log Storage	✓	✓	✓	✓	-	-
DAISY CHAINING						
RS485 Modbus - 1 Master up to 31 Slaves	✓	✓	✓	✓	✓	-
DISPLAY OPTIONS						
RGB/Graphical Display Fitted within PDU	✓ (1U)	✓ (1U)	✓ (1U)	✓ (1U)	✓	-
Remote Display Option	✓	✓	✓	✓	✓	-
LED Display	-	-	-	-	-	✓
Graphical Display	✓ (1.5U+ / Vert)	✓ (1.5U+ / Vert)	✓ (1.5U+ / Vert)	✓ (1.5U+ / Vert)	-	-
CAPABILITY ONLY, SENSORS / ACCESSORIES AVAILABLE SEPARATELY						
ENVIRONMENTAL SENSORS						
Temperature Sensor Port (Up to 8 Sensors)	✓	✓	✓	✓	✓	-
Humidity/Temperature Sensor	✓	✓	✓	✓	✓	-
Volt Free Contacts (3 Sets)	✓	✓	✓	✓	-	-
CABINET SECURITY PORTS						
Door Contacts	✓	✓	✓	✓	-	-
Electronic Door Handle	✓	✓	✓	✓	-	-
Card Reader/Pin Pads	✓	✓	✓	✓	-	-
OTHER						
USB Port	✓	✓	✓	✓	-	-

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IP1, 2, 3, 4 (ACU) – Port Identification



1 **Ethernet Port** IEEE 802.3 with full 10/100Base-T network Compatability.

2 **Modbus Port** High Speed MODBUS RS485 port for local daisy chaining of up to 32 PDUs.

3 **Temperature Sensor Port** connect up to 8 Daisy Chained Temperature Sensors.

4 **Remote Display Port** connect a secondary RGB Display for ease of viewing.

5 **Local TFT 'Touch Screen' Display** Shows energy metrics, Some Environmental Metrics, Security Status and current IP Address, The display also relays alarm messages (if Required).

6 **Humidity Sensor Port** Connect a Humidity / Temperature Sensor.

7 **Cabinet Door Lock Control Port** Connect Electronic Handles, either purchase from us, or contact us to discuss integrating other handle manufacturers.

8 **Cabinet Door Card Reader Port** Connect your Card Reader / Pin Pads, either purchase from us, or Contact us to discuss integrating your own Wiegand 26 Reader.

9 **Cabinet Door Contact Monitoring Port** Connect door contacts to this port, either purchase from us, or contact us to discuss integrating your own door contacts.

10 **Voltage Free Contacts** 3 sets of Volt Free Contacts these are for the connection of any accessory contain a normally closed relay contact, e.g. Leak Detection, Smoke Detection, PIR.

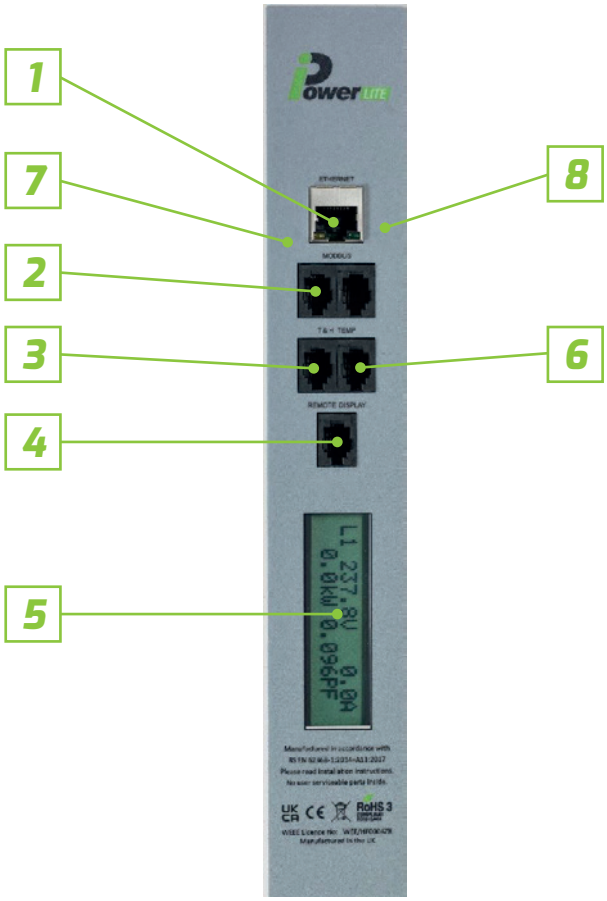
11 **USB2.0 Port** The USB port can be used to connect a small pin hole camera for security, or it can also be used for Automatic config upload, or as a small 5VDC PSU for connected accessories.

12 **Reset Button** hidden beneath the label you will find a reset button, pressing this reboots the electronics (There is NO risk of power failure to connected equipment).

13 **Default Button** hidden beneath the label you will find the default button, this enables a 'Factory Reset'. Please contact us for correct operation.

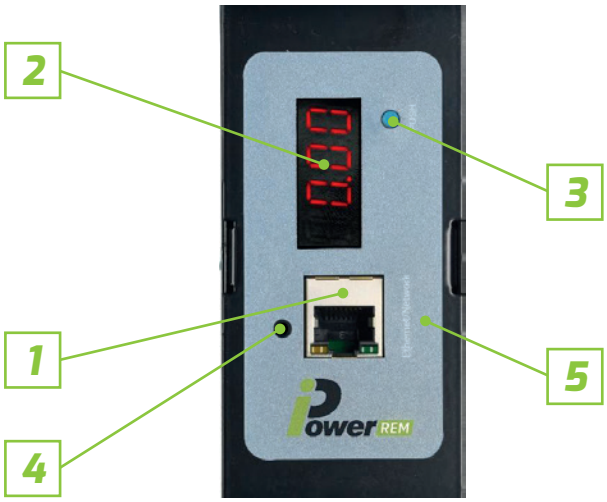
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IPLite – Port Identification



1. **Ethernet Port** IEEE 802.3 with full 10/100Base-T network Compatibility.
2. **Modbus Port** High Speed MODBUS RS485 port for local daisy chaining of up to 32 PDUs.
3. **Temperature Sensor Port** connect up to 8 Daisy Chained Temperature Sensors
4. **Remote Display Port** connect a secondary RGB Display for ease of viewing.
5. **Local RGB/Graphical Display** Backlit display shows energy metrics, Some Environmental Metrics, and current IP Address, the backlight can be configured to change colour in the event of an alarm condition.
6. **Humidity Sensor Port** Connect a Humidity / Temperature Sensor.
7. **Reset Button** hidden beneath the label you will find a reset button, pressing this reboots the electronics (There is NO risk of power failure to connected equipment).
8. **Default Button** hidden beneath the label you will find the default button, this enables a 'Factory Reset' (Please contact us for correct opera on.

IPREM – Port Identification



1. **Ethernet Port** (IEEE 802.3 with full 10/100Base-T network Compatibility.
2. **Local LED Display** Four digit LED Display showing Volts, Amps, kWs, Power Factor, Frequency, and IP Address.
3. **Function 'PUSH' Button** this button allows you to scroll though the Metrics that can be displayed Locally.
4. **Reset Button** pressing this reboots the electronics (There is NO risk of power failure to connected equipment).
5. **Boot Button** hidden beneath the label you will find the boot button, this enables the REM Meter to enter 'Bootloader mode' for the update of firmware. Please contact us for correct operation.

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Mains Lead and Terminations

Each option of the IPower range of units can be manufactured with mains cable either top or bottom entry and to a length as required. The mains lead can be supplied in HO7, PVC, LSOH/LSZH, SWA or any other chosen specification and core number and size would meet the current characteristics of the specific units. The mains lead termination for these leads can be into any connector type required (subject to physical fit). The mains lead can also be colour coded if required. We can also provide units with direct connections using a range of sockets (C14/C20/Neutric etc).

Sockets

Each option of the IPower range of units can be manufactured with any quantity* and combination or type of sockets. These include:



IEC C13 Type F



Individually Fused



Locking



IEC C19 Type J



Individually Fused



Locking



BS1363 UK



Schuko



Neutric



NEMA



IEC 60309
SINGLE PHASE



3Phase



IEC C14



IEC C20



UK Plug



Schuko



Neutric



NEMA

*On IP2, IP3 or IP4 build the maximum number of sockets is 48. Other socket types are available.

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Accessories

Temperature Sensor



Daisy chain 8 x Temperature Sensor ports each with separate settings.

Units come with 3mtr lead as standard but other lengths available.

High/Low temperatures can be set and alerts reported or logged using PDU Agent.

Part No: IPT-500-100

Temperature & Humidity Sensor



Part No: IPT-500-200

Leak Tape



Leak Tape available in 5mtr incremental lengths or as spot sensors as required. Any alert will be raised.

Part No: IPT-500-900-XX

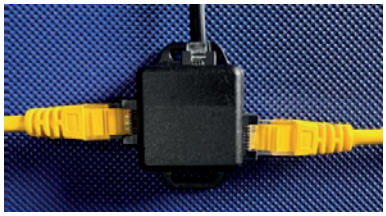
Door / Panel Sensor



Door or panel sensor as required with alerts sent when contact is broken. If running PDU Agent times would be logged.

Part No: IPT-500-800

Daisy Chain Kit



The IPLite units have IO ports to directly daisy chain up to 32 units on 1 x IP Address.

For the IT version there is a daisy chain kit available. The IT versions will also support 32 devices on any configuration over a single IP address.

Can mix and match any IPower products on the PDU Agent platform.

Part No: IPT-500-550

Handles

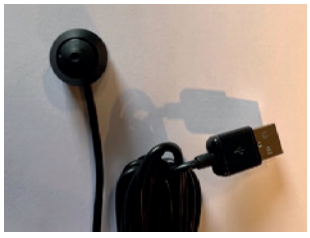


Handles with inbuilt or remote key pads connected into the IPower Units. No additional power requirements as release voltage taken from the PDU itself. An array of security access levels and up to 32 separate card users. Alerts can be set and full logging if running PDU Agent.

Shown is the Southco version but any Wegan based handle can be incorporated.

Part No:
as specified

Camera



Any WEB based camera can be used either stand alone or used in conjunction with the door sensors.

Part No: as specified

Volt Free Contact Port

The volt free contact port can take up to 3 close contact types of sensors against which alerts can be raised.

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PDU Build Check List

Please follow the simple check list to obtain the information required to provide an accurate quotation.
If any doubt complete as best as possible or call.

CONSTRUCTION ☐ Horizontal ☐ Vertical ☐ In-Line

Any colour requirements _____

CURRENT ☐ 10amp ☐ 16amp ☐ 32amp ☐ 63amp ☐ 125amp ☐ DC

PHASING ☐ 1Ph ☐ 3Ph

MAIN LEAD ☐ Bottom Entry ☐ Top Entry

Lead length in meters _____

FUNCTIONALITY

Passive
- ☐ No functionality
- ☐ Local Monitoring

Active
- ☐ Overall Unit Monitoring
- ☐ Per Socket Monitoring
- ☐ Per Socket Switching
- ☐ Per Socket – Sequence Start

SOCKET OPTIONS

Socket Types Socket types and quantities can be mixed

C13	Qty _____
C19	Qty _____
UK	Qty _____
Schuko	Qty _____
Other	Qty _____

Total Socket Quantity _____

Is locking required _____

ESTIMATED NUMBER OF UNITS _____

ANY SPECIAL INSTRUCTIONS _____

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