



MPL PDU FUNDAMENTAL DESIGN PHILOSOPHY



The primary function of any power strip (PDU) is to distribute power within the cabinet, effectively and reliably. Any additional features built into the units should not interfere with this primary function.

Therefore, all other features, although important to Facilities and Operation management, must be designed so as not to compromise resilience or introduce unacceptable operational disruption and downtime.

In today's data centres, there is a driver from equipment manufacturers to increase inlet temperatures (up to 27°C) and there is increasing demand for higher power consumptions and high-density solutions. This has resulted in elevated

equipment exhaust temperatures which in turn, compromises the reliability and rating of the power strip, by impacting the surrounding ambient temperature where the power strip is positioned.

Certain components, such as LCD screens, neon indicators and internal power supplies are vulnerable in such high ambient temperatures with resulting reductions in life expectancy and reliability.

With these design considerations in mind, MPL Technology Group has designed its family of PDUs to offer the highest levels of resilience, by developing an architecture which reduces points of failure and enhances overall reliability by reducing power strip complexity.

KEY POINTS



Cost Efficient Solution Architecture

The PDUs are connected via the MPL Comms Bus (RS485) and are centrally managed via the data collection Gateways. This architecture allows for up to 256 devices being managed on a **single IP address**. This represents a significant financial cost saving to the end user when compared to IP addressable PDU offerings.



Visualisation

All real time monitoring and historical data is visualised via MPL NGEN software. In addition to reporting, instantaneous alerting and alarming can be delivered against user defined thresholds. NGEN software can be deployed as an on-premise solution, via a gateway appliance or as a fully hosted and supported solution (SaaS).



PDU Scalable Intelligence

The entire range of high resilience PDUs are available with a choice of intelligence namely, Aggregated Monitored, Per Outlet Monitored and Per Outlet Monitored with Outlet Control. The units will measure Volts, Amps, kW, kW/Hrs, kVA, PF and environmental conditions.



Accuracy

Metering accuracy on all devices is +1/-1% across all power load types.



Choice of Power Configuration

Available in either single or three phase versions and rated up to 63A. Star and Delta wiring configurations are available to suit regional standards.



High Density Solutions

To support high density solutions, MPL offer a range of high power PDU solutions up to 75kW.



Safety

All PDU models are available with the option of inlet circuit protection. This is achieved via the addition of low profile, flush mount MCB's. Further, outlets can be protected from current overload by the fitting of panel mounted thermal trip protection.

MPL units have the ability to monitor transient power outages and true power 'fails' i.e. the monitoring technology does not rely on power from the cabinet. Circuit breaker trip alarming enables detailed power management for every branch circuit.



Latching Relays

To improve outlet switching safety, MPL outlet controlled PDUs are equipped with bi-state latching relays. These relays consume less energy, protect against in-rush currents and hold the critical power load in the event of a failure.



MID

To comply with the Measuring Instrument Directive (MID), MPL offer MID compliant PDU's and In-Line units which comply with EN50470-1 and EN50470-3. These products are applicable for applications where there is a direct correlation between an energy measurement and an invoice.



KEY POINTS



PDU Configurations

MPL offers a choice of mixed outlet types and configurations to support regional standards and equipment types. Locking sockets are also available as a standard option.

The units can be designed for Zero U or in 1U, 2U or 3U form factors. Vertical PDUs are designed on a client by client basis to meet specific application requirements. For example, a vertical PDU may be designed to the smallest footprint achievable or to space the individual outlets over the entire U height of the cabinet.

To assist in identifying power feeds, the PDU housing can be provided in any RAL colour.

To reduce 'time to market' and support its' Partner Programmes, MPL offers a standard range of '**rapid deployment**' units based on the most popular PDU types deployed in the market. These delivered from stock units are available in a choice of power/configuration options and offer scalable intelligence.



Power Feed Options

In addition to the more traditional input power feed lead and plug, MPL offer the option of direct wiring to the PDU via a terminal block, accessed via a service plate. This option can provide significant cost savings in applications where a direct connection is preferred.



Residual Current Monitoring (RCM)

RCM detects current leaking outside its normal circuit path (i.e. phase and neutral wires). Current flowing in the ground wire (or other path to ground) presents a significant safety hazard (electrocution and fire). The RCM option from MPL monitors residual/ fault currents in 'real time' and signal when values are exceeded (RCM's are designed for signalling not tripping). Continuous system residual current monitoring is an acceptable alternative to isolation for periodic inspection and testing.



Environmental

Optional plug and play environmental sensors (i.e. temperature and humidity) can be connected directly to a port on the PDU. Highly accurate, these devices will monitor the environment to report and alert against pre-defined thresholds.



Build Quality

MPL hardware has been designed to support and operate in high resilience applications. Our in-house engineering teams design to enhance build quality and remove 'single points of failure' throughout the entire hardware design and manufacturing processes. This philosophy, coupled with a rigorous 100% test regime, ensures unrivalled levels of resilience and reliability is achieved across all deployments.



RAPID DEPLOYMENT MEASURING DEVICES

Part No	PDU Type	Current Rating	Single or 3-phase	Voltage Rating	C13 Qty	C19 Qty	Aggregated Monitoring (A)	Outlet Monitoring (O)	Outlet Control (C)	Circuit Protection (MCB'S)*
OB-ILU-16A-1	In Line Unit	16A	Single	230V	-	-	Yes	-	-	-
OB-ILU-32A-1	In Line Unit	32A	Single	230V	-	-	Yes	-	-	-
OB-ILU-16A-3	In Line Unit	16A	3-Ph	230V/400V	-	-	Yes	-	-	-
OB-ILU-32A-3	In Line Unit	32A	3-Ph	230V/400V	-	-	Yes	-	-	-
OBH-16A-IP 10-0-A	PDU 1U Horiz	16A	Single	230V	10	0	Yes	-	-	1x 16A
OBH-32A-IP 10-0-A	PDU 1U Horiz	32A	Single	230V	10	0	Yes	-	-	2x 16A
OBV-16A-IP 18-6-A	PDU 0U Vert.	16A	Single	230V	18	6	Yes	-	-	1x 16A
OBV-32A-IP 18-6-A	PDU 0U Vert.	32A	Single	230V	18	6	Yes	-	-	2x 16A
OBV-32A-3P 21-9-A	PDU 0U Vert.	32A	3-Ph	230V/400V	21	9	Yes	-	-	2x 16A Per Phase
OBV-32A-3P 24-12-A	PDU 0U Vert.	32A	3-Ph	230V/400V	24	12	Yes	-	-	2x 16A Per Phase
OBV-16A-1P 18-6-O	PDU 0U Vert.	16A	Single	230V	18	6	Yes	Yes	-	1x 16A
OBV-32A-1P 18-6-O	PDU 0U Vert.	32A	Single	230V	18	6	Yes	Yes	-	2x 16A
OBV-32A-3P 21-9-O	PDU 0U Vert.	32A	3-Ph	230V/400V	21	9	Yes	Yes	-	2x 16A Per Phase
OBV-32A-3P 24-12-O	PDU 0U Vert.	32A	3-Ph	230V/400V	24	12	Yes	Yes	-	2x 16A Per Phase
OBV-16A-1P 18-6-C	PDU 0U Vert.	16A	Single	230V	18	6	Yes	Yes	Yes	1x 16A
OBV-32A-1P 18-6-C	PDU 0U Vert.	32A	Single	230V	18	6	Yes	Yes	Yes	2x 16A
OBV-32A-3P 18-9-C	PDU 0U Vert.	32A	3-Ph	230V/400V	18	9	Yes	Yes	Yes	2x 16A Per Phase
OBV-32A-3P 24-12-C	PDU 0U Vert.	32A	3-Ph	230V/400V	24	12	Yes	Yes	Yes	2x 16A Per Phase

***Note:** Circuit protection (MCBs) is an option. To select please add -BR to the end of the device part number.