

CPM 300/360



A new concept in
UPS Technology to revolutionise
power protection within Data Centres



PILLER
Power Systems

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The Piller Critical Power Module: Double Conversion, Battery-Free UPS

The Piller Critical Power Module (CPM) has been designed with the specific needs of the modern enterprise data centre in mind, allowing designers to radically change their thinking for the provision of continuous power conditioning.

In the typical data centre, a significant proportion of power entering the building is lost on power conditioning, cooling and distribution before it reaches the IT load. These losses become compounded and have a major effect on financial performance: Reducing UPS losses delivers a wider impact on overall losses.

Construction and infrastructure costs are a significant part of the funding cycle for new data centres and the more complex the building project, the longer the construction time further adding to the capital burden.

A product that can positively address both capital and operating expenditure for a data centre will make a significant difference to the total cost of ownership.

ENERGY SAVING

The CPM concept brings together a highly efficient and reliable energy store with a multi-mode uninterruptible power system. There are two principle modes of operation* providing real power protection and the unit can operate with

exceptional efficiency that is above 96% at 25% load and approaching 99% at full load.

Efficiency improvements run throughout this design, however by integrating the energy store and utilising innovative cooling techniques, the CPM also benefits from wide environmental operating characteristics that allow the elimination of air conditioning used in conventional battery systems. For cooling of the unit itself, the designer can choose between white space installation where use of the IT cooling system can be made and traditional plant room installation.

SPACE SAVING

By replacing batteries with an integrated energy store, up to 75% of the space normally taken up can be saved. Additional building space for battery air conditioning, switchgear and cabling is also eliminated.

The units can be mounted with power distribution units on pre-assembled skids for rapid deployment with minimal on-site commissioning and testing.

MINIMISED SERVICE

The Piller CPM has a very low-level maintenance regime compared with other systems. There are no battery inspections or autonomy tests to perform and major maintenance intervals are much longer than for most other systems. No substantial work is necessary within the first 10 years of service.

INNOVATIVE COOLING

Key elements of the CPM system are cooled by a self-contained heat exchange system that removes heat at the component surface more efficiently and effectively than conventional air cooling.

MODULAR/SCALABLE

CPM units can be configured in a variety of different ways even within the same data centre and systems of units can be extended to meet the increase in data centre loads with time. Scaling up the CPM system is more straightforward than a solution with batteries and requires little in the way of site preparation.

SOFTWARE TECHNOLOGY

A fully controllable and highly responsive power stage and energy store allows operation of the CPM to be optimised according to pre-selection or auto-sensing. Further enhancement of low load efficiency is possible in multi-module systems by use of Enhanced Redundancy Mode (ERM) which optimises the number of units running whilst maintaining required redundancy levels.

COMMUNICATIONS AND MONITORING

In addition to all of the latest communication protocols and interfaces you might expect from Piller, the CPM comes complete with the option to install an Android or iOS App that gives authorised personnel an immediate and secure mobile status report for any CPM system anywhere in the world.**

* IEC Version with efficiencies measured in accordance with IEC 62040-3.
** Subject to network coverage and security settings. OS is a registered trademark of the Apple Corp.



PILLER CPM 300/360

- Reduced Real Estate Requirements
- Increased net IT floor space
- Light touch service
- Battery-Free
- Rapid deployment
- Reduced ancillary assets
- Increased critical power density
- Lower losses overall
- Guaranteed GenSet partnership
- Multiple power configurations
- Skid mounted and Container options

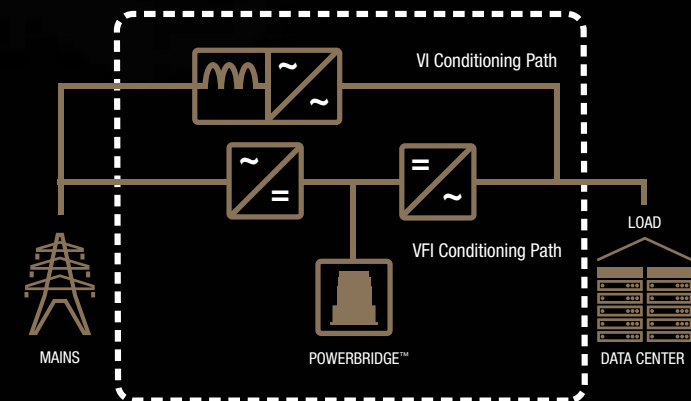
KEY DATA

Voltage	380V-480V
Efficiency	up to 99%*
Frequency	50 & 60Hz
Dimensions (mm)	2450w x 900d x 1900h
Power Rating	300/360kW

OPERATING MODES

		Mains Operation	Generator Operation	Frequency Stabilisation	Voltage Stabilisation	Suppression
Mode 1	(VFI)	■	■	■	■	■
Mode 2*	(VI)	■	■		■	■
Mode 3	(VFD)	■	■			■
Mode 4	(ERM)	Applies to all Modes				

VFI – Voltage & Frequency Independent, VI – Voltage Independent, ECO – Voltage and Frequency Dependent.
*IEC version



Piller CPM simplified schematic.



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STATIC UPS SYSTEMS

STATIC TRANSFER SWITCHES

KINETIC ENERGY STORAGE

AIRCRAFT GROUND POWER SYSTEMS

FREQUENCY CONVERTERS

NAVAL POWER SUPPLIES

SYSTEM INTEGRATION



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Piller CPM 300 (GB) 12 2018/Issue 3. Due to a policy of continued improvement, we reserve the right to change any specification without prior notice.
ERRORS & OMISSIONS EXCEPTED. Printed on a Manroland R700 press.

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