

PCM8001 v2

TECHNICAL DESCRIPTION

1 GENERAL DESCRIPTION

The PCM8001 v2 is a 8kW 19" subrack compact power core designed as a building block for system integration. It groups all the functions needed to convert AC mains voltage into 48 VDC with battery management interface, and to supply telecom equipment. Integrated into an indoor or outdoor cabinet, it can be connected to up to four battery protections with a direct fault sensing, and 48V valve regulated lead-acid (VRLA) battery strings.

The PCM8001 v2 can house up to four rectifier modules. The associated indoor or outdoor cabinets can be customized for specific applications, simply by adding distribution blocks as required, with the AC breakers and SPD's (Surge protection devices) and / or DC breakers according to customer requirements.



Figure 1: PCM8001 v2 with SMi2000FE/96%

Figure 2: PCM8001 v2 with SMi2000HD/92%

The PCM8001 v2 is fitted with:

- Wiring and locations for up to four rectifier modules (SMi2000HD, or SMi2000FE),
- 2 Rectifier motherboards (4 rectifiers slots),
- 1 ACMi1000HD alarm and control module,
- 1 Interface board,
- 1 Battery and load shunts PCB,
- 1 Low voltage disconnect contactor (LVD : 150A rated),
- Provision for options (LVLD),
- Top cover protection with provision for cables entries to the system,
- 2U front cover removable for maintenance,
- 1 Temperature probe with 2m cable.

The maximum power installed is up to 8kW, as depending on the number of installed rectifier modules, providing the battery charging and the load powering. (Note: the total load power available is 6.5kW max (150A@43.2Vdc).

2 STANDARDS

Safety	CE Low Voltage Directives IEC 60950 / EN60950
EMC	CE EMC Directives
Emission:	
Conducted	EN55022 class B
Radiated	EN55022 class B
Immunity:	
ESD	IEC/EN61000-4-2
Radiated 'E' field	IEC/EN61000-4-3
Fast transient	IEC/EN61000-4-4
Surge	IEC/EN61000-4-5
Conducted RF	IEC/EN61000-4-6
Radiated 'H' Field	IEC/EN61000-4-8
Power Line Dips	IEC/EN61000-4-11
'ANSI' Surge	IEEE C62.41
Harmonics	IEC/EN61000-3-2
Flickers	IEC/EN61000-3-3
Telecom networks	ETSI EN 300 132-2 EN 300 386-2
Environment	ETSI EN 300 019-2 ROHS compliant

3 CHARACTERISTICS

3.1 ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	- 20°C to + 70°C. (start down to – 40°C)
Shipping and storage	- 40°C to + 85°C
Relative humidity	
Operating	5 to 95% RH non-condensing
Storage	5 to 95% RH non-condensing (not exceed 40g water vapor / m ³ of air)
Cooling	Natural convection
Altitude	- 60 m to + 2500 m

3.2 MECHANICAL CHARACTERISTICS

Height	132.5 mm (148.7 mm with cables openings)
Width	448.0 mm (482.6 mm with 19")
Depth	399.0 mm (423 mm with modules front)
Weight	10 kg*
Access	Front and top
Cable entry	Top & bottom
Degree of protection	IP20**

* Typically and without rectifier.

** Except the rear. If needed see back panel option.

3.3 ELECTRICAL CHARACTERISTICS

AC Input	
Nominal Voltage	Single phase 230V AC Three phases + neutral 400V AC
Voltage range:	
Full power	180 to 300V AC
Reduced power	90 to 180V AC
Frequency Range	45 to 66Hz
Leakage current	$3.5 < I < 10 \text{ mA}^*$
Maximum current	See rectifier module technical description
Protection	See rectifier module technical description

* Pending mains configuration and quantity of installed rectifiers

DC Output	
Nominal voltage	48V DC
Output power rating	Depending upon the number rectifier modules installed (see SMi2000HD/SMi2000FE technical description) up to 8kW
Protections:	
Rectifier :	See rectifier technical description
System :	Battery and load MCB protections
Current sharing	$\pm 5\%$ of maximum current from 10% to 100% load

Other specifications	
Dielectric strength	4.2kV DC (3.0kV AC) – Input and output 2.1kV DC (1.5kV AC) – Input and earth 0.7kV DC (0.5kV AC) – Output and earth

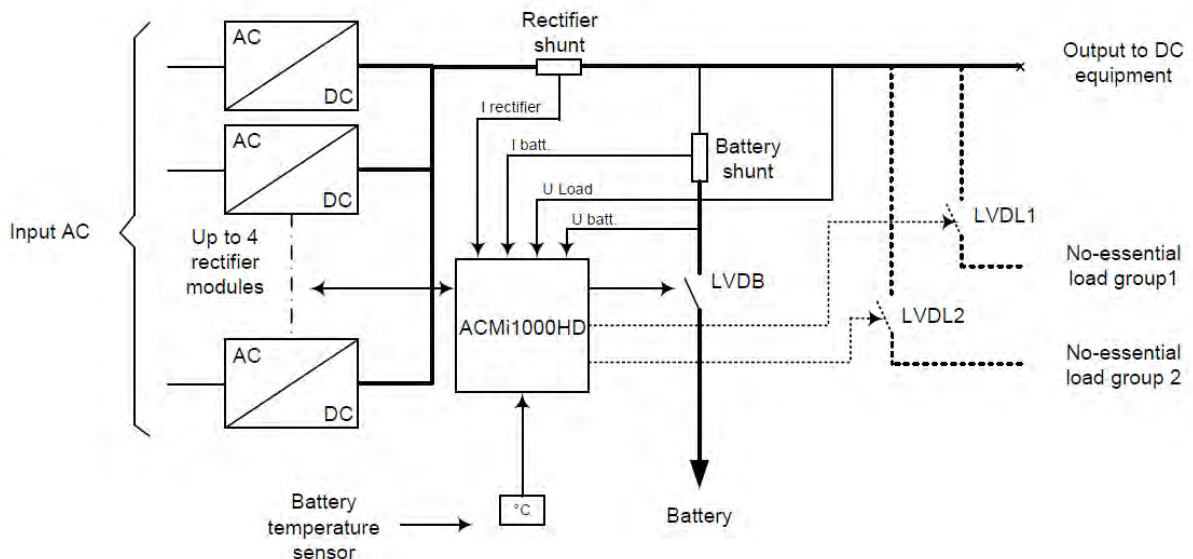
Monitoring	
Controller unit	See ACMi1000HD technical description
Main functionalities	Control and monitoring of digital rectifier module Battery charging process Battery test Battery protection Load management Alarm detection and reporting Communication for monitoring and configuration Local Man / Machine Interface for monitoring and configuration.
Local	Menu managed by joystick and LCD display
Visual indications: Rectifier module System	See SMi2000HD/SMi2000FE technical description See ACMi1000HD technical description
Digital input spare	2
Alarm relays	3 configurable relays
Measurements	Load current Battery current Ambient temperature Load voltage Battery voltage
Alarms	Low or high Mains voltage alarm Rectifier alarm Load protection alarm Battery protection alarm Low battery voltage alarm Very low battery voltage alarm Outage no-priority load alarm Test battery alarm Temperature alarm Sensor alarm

4 OPTIONS

The PCM8001 v2/ 8kW 19" subrack can have the following options installed. The available options are differentiated by their class.

Class	Equipment	Designation
DC output	Non-Priority Load group 1 Disconnect (LVDL1)	Non-Priority Load disconnect contactor
	Non-Priority Load group 2 Disconnect (LVDL2)	Non-Priority Load disconnect contactor
Battery	Low Voltage Battery disconnect override (LVDB) system	Low Voltage Battery Disconnect override switch
Temperature	Temperature probe	Second temperature probe
Metalwork	Back cover	3U back panel protection

5 SYNOPTIC



6 PACKAGING AND PRODUCT REFERENCE

6.1 PACKAGING

Deliver in carton, grouping two PCM8001 v2/19" 8kW core.

6.2 PACKING TABLE

2 off x PCM8001 v2 / 19" 8kW Core - packed dimensions and weight		
W x D x H	mm	580 x 540 x 433
Gross Weight	kg	22
Volume	m ³	0.136

6.3 PRODUCT REFERENCE

Product reference	AEG's Part No.
PCM8001 v2 / 19" 8kW Core	B05376710000

6.4 ASSOCIATED PRODUCTS

Designation	AEG's Part No.
3U back panel protection	3TN20566AAAA
LVL D 150A/PCM8001 v2 Kit	3TN20586AAAA

7 SUPPLIER

Find the contact details of your nearest AEG Power Solutions location on our Website:

www.aegps.com

AEG Power Solutions offers installation, customization and technical support services.
Contact your local re-seller.

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PCM8001 v2 / 19" 8KW POWER CORE TECHNICAL DESCRIPTION

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