



# IT POWER SOLUTIONS

Innovative products for IT infrastructure

**BACH  
MANN**  
It's electric.

# IT POWER SOLUTIONS

## Passive PDUs

IT PDU Basic 1 HU .....	12
IT PDU Basic > 1 HU .....	16
IT PDU Basic 2 HU .....	18
IT PDU Basic 1 HU vertical .....	20

## Intelligent PDUs

Overview of BACHMANN BlueNet.....	22
BlueNet BN0500 .....	26
BlueNet BN1000 .....	28
BlueNet BN1500 .....	30

Available from 2Q/2017

Available from 2Q/2017



BlueNet BN2000 .....	32
BlueNet BN2000 PLC .....	34
BlueNet BN3000 .....	46
BlueNet BN3500 .....	47
BlueNet BN5000 .....	48
BlueNet BN7000 .....	49
BlueNet BN7500 .....	50
BlueNet BN3000/BN3000 RCM .....	51
BlueNet BN7000/BN7500 RCM .....	52
 Accessories .....	 53

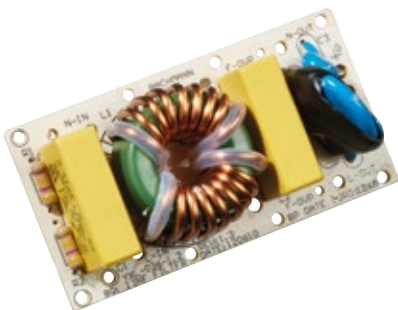


# Various function modules can be integrated ex factory



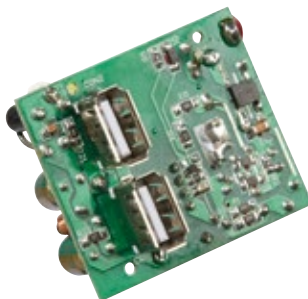
## Overvoltage protection

These days, the failure of electrical and electronic equipment is a real nightmare scenario. It is more important than ever to protect electrical and electronic devices against electrical voltages that are too high. "24/7 availability" is now essential for many users. Don't worry: the BACHMANN strip with built-in overvoltage protection is the answer.



## Mains and frequency filters

Mains and frequency filters ensure effective screening and smoothing of the input voltage. Only "clean" voltage gets through our mains and frequency filters. Voltage stabilisation and the filtering out of disturbance frequencies allows the connected device to run properly and smoothly.



## USB charger

The USB charger component has 2 ports with max. 2.15 A. Integrated in BACHMANN products, the ability to charge mobile devices using the universal USB charger is very convenient and the integrated mains adapter frees up socket outlets, too.



## Residual current circuit breaker/miniature circuit breaker

The residual current circuit breaker/miniature circuit breaker integrated in a BACHMANN strip gives you peace of mind. The user can select between the two circuit breakers. But they can of course be combined, too.

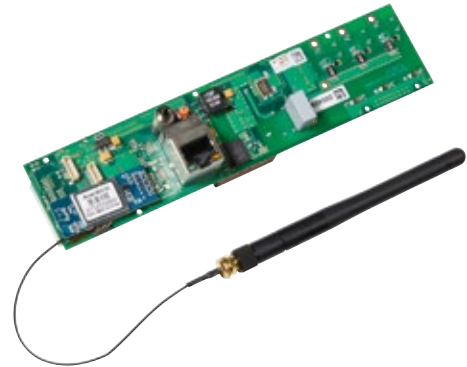
## RCM

RCM is the international abbreviation for Residual Current Monitor. The use of an RCM allows drops in the level of insulation (creepage/leakage currents) of a power supply to be detected during operation before a high residual current causes protective devices to trip.



## Wi-Fi module

The new BlueNet Wi-Fi module provides three separate switching and measuring groups for extended power metering and temperature measuring, the switching of individual socket outlets and complete power strips. The management interface is integrated in the web server and is operated via the web browser in the network or with Dynamic DNS via the Internet. The BlueNet Wi-Fi app is available for mobile end devices. Switching can be performed both manually and automatically using load, temperature or time thresholds which can be set individually.



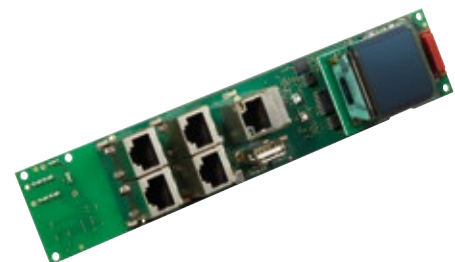
## BlueNet BN2000 PLC

BlueNet BN2000 PLC has a space-saving form factor and state-of-the-art options for monitoring the data centre infrastructure. As well as measuring the current, voltage and power, external sensors can also be used to monitor temperature and air humidity. The values are either queried via an Ethernet interface on every PDU or via the Ethernet interface of the Power Line Concentrator. This in turn queries up to 250 PDUs using Power Line Communication. Savings are made in terms of administrative costs and Ethernet infrastructure.



## BlueNet BN3000

BlueNet BN3000 has an optimised form factor, PDUs that can be cascaded via Modbus and a rotatable OLED display. The data centre's mains supply is monitored and remotely controlled from the comfort of your desk with BlueNet products. BlueNet increases data centre availability, minimises down times and cuts costs. BlueNet monitors current, voltage and power. This allows resources to be planned efficiently and alarms to be issued in the event of faults.



You can also use the product configurator at [www.bachmann.com](http://www.bachmann.com)

# BACHMANN IT POWER SOLUTIONS

## Systematic power distribution

40 years of experience in developing, manufacturing and distributing power distribution solutions. True to this history, BACHMANN is synonymous with high-quality and innovative electronics and high measuring accuracy, packaged in extremely robust aluminium housings.

We provide solutions in IT power distribution. Our intelligent and modular product range provides maximum peace of mind. The Basic power distribution unit (PDU) and BACHMANN's BlueNet products meet all key requirements for future-proofed, highly efficient power distribution, especially for data centres.

BACHMANN power distribution provides various solutions for this sector:

- New and intelligent power distribution systems
- Upgrading of existing power distribution systems
- Combination of existing PDUs and BACHMANN IT POWER SOLUTIONS products



For more information, please visit [www.bachmann.com](http://www.bachmann.com)



# BACHMANN – quality that connects

## Research & development

- Company's sites in Germany and China
- Company's labs for running function and safety tests
- Certification in line with the strictest standards (e.g. DIN EN ISO 9001)
- Strong development network with external partners

## Sales and distribution

### SUBSIDIARIES:

- Bachmann Romania S.R.L., Medias/Romania
- Bachmann Hong Kong Ltd., Hong Kong/China
- Bachmann SARL, Tremblay / France
- Bachmann Electrical Engineering Ltd., Milton Keynes / UK
- Bachmann S.A., Barcelona / Spain

### REPRESENTATIONS:

Spain / Portugal / Switzerland / Belgium / Luxembourg / Netherlands / Italy / France / Sweden / Norway / Denmark / Finland / United Kingdom / Ireland / Austria / Hungary / Russia / Czech Republic / Poland / Asia / Romania

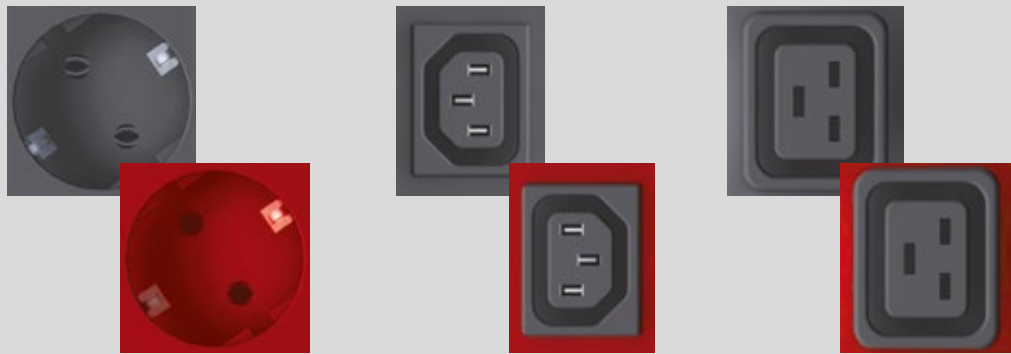
- Close partnership with electrical wholesalers
- Key account managers
- Customer-specific OEM solutions
- Individual project solutions

## Production

- Production sites in Germany, Romania and China
- 100% function testing in production



## Modular PDU inserts



In our IEC60320 C13 power strips, the C14 plugs can be reliably locked with a PVC clip.

## BACHMANN IT POWER SOLUTIONS

For future-proofed, highly efficient power distribution in the

- Data centre
- Server rack
- Network rack



### The benefits at a glance

- Customised solutions in series quality possible
- Country-specific designs possible
- Certified and tested technology
- Extremely compact design
- Very high power density





## Integration of devices installed in series



RCD (residual current protective device)



RCD is the international abbreviation for Residual Current Protective Device.

If an insulation error causes a dangerous contact voltage, RCDs have the job of interrupting all the poles on operating equipment within 0.2 or 0.4 s.

RCM (residual current monitor)



RCM is the international abbreviation for Residual Current Monitor.

The use of an RCM allows drops in the level of insulation (creepage/leakage currents) of a power supply to be detected during operation before a high residual current causes protective devices to trip.

### The benefits at a glance

- Customised solutions in series quality possible
- Integration of up to 2 HP (36 mm) wide devices installed in series
- Selective, extremely compact fusing in the rack possible
- Use of RCD systems (residual current circuit breakers) possible
- Use of RCM systems (residual current monitoring) possible
- Integration of pulsed current meter possible



## BACHMANN IT Power Distribution guarantees a safe connection

### IEC60320 C13, lockable

Two locking clips to secure two connection cables.  
IEC60320 C13 with IEC Lock optionally available.



### IEC60320 C19 with IEC Lock

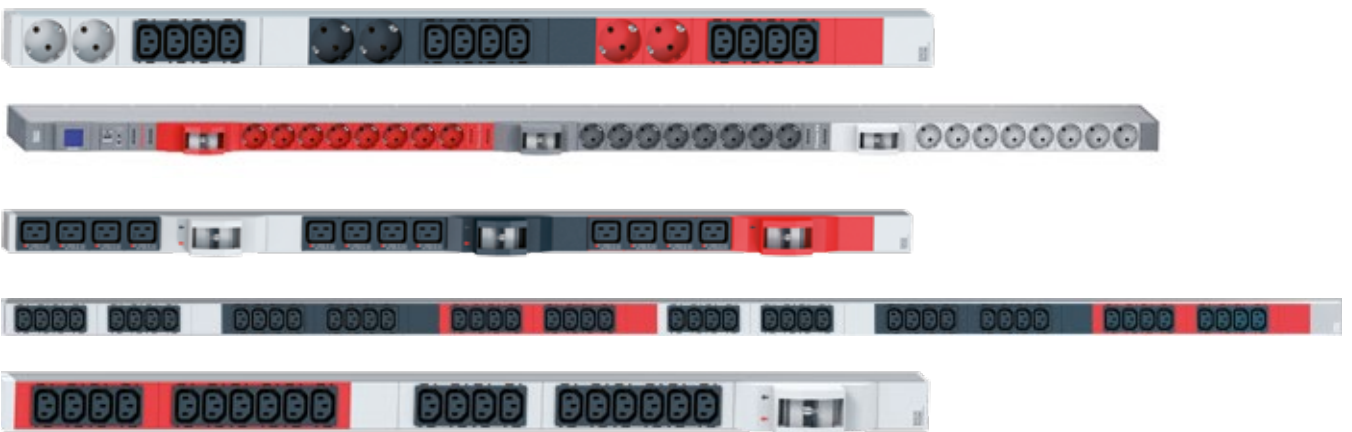
The IEC Lock system protects computers, as servers and electrical equipment can become accidentally disconnected due to vibrations.

#### The benefits at a glance

- Plugs locked using PVC clip or IEC Lock.
- Costs cut through use of server connection cables supplied
- Maximum availability
- No unintentional disconnection of the power supply and therefore the best plug contacts



## BACHMANN IT Power Distribution in high-quality aluminium housing



### The benefits at a glance

- Space-saving integration of PDU in the server rack with scope for modular add-ons
- High-quality and very robust aluminium profile
- Extremely compact dimensions of 44 x 47 mm. This therefore provides plenty of space for data cabling and ventilation for cooling the server rack
- The IT PDUs can be linked together by a simple insertion mechanism using connecting clips, allowing various different plug versions to be combined with ease



## IT PDU Basic 1 HU

Power distribution units, 230 V/50 Hz

With its IT-PDU 1 HU, BACHMANN provides a huge choice of PDUs in a high-quality aluminium profile. With their extremely compact size of just 1 height unit, 44 mm in depth and 19" in width, the PDUs can be easily integrated in your IT rack.

Their multi-functional mounting brackets allow the units to be easily mounted in various ways (e.g. inwardly recessed). Our high quality standards ensure that the contact is reliable.

- Torsionally rigid 1 HU aluminium profile, 19" format
- Up to 9 x socket inserts in the 19" format
- Flexible positioning and universal attachment options
- The modular platform allows individual solutions to be project-planned

### Versions available:

- Anodised profiles in black or grey
- End caps riveted or rewirable
- Earthing contact and IEC60320 sockets
- Various country versions
- Illuminated 2-pole switch
- Locking of IEC60320 plugs
- 3-way and 12-way variants (no 19" format)
- Overvoltage protection 6.5 kA
- Mains and frequency filters
- Protection with miniature fuse
- 30 mA residual current device
- Miniature circuit breaker
- Master + slave function
- Socket outlets set at 35°

19" IT PDU Basic (230 V/50 Hz)

Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	B16A miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	C13	C19	CEE 7/3	Outlets in total	Profile colour*
<b>19" IT PDU Basic</b>															
333.401	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	9	9	gr
333.506	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	9	9	bk
333.539	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	9	-	-	9	gr
333.616	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	12	-	-	12	gr
333.815	3G 1.50 mm <sup>2</sup>	2.0	C20	1	230	16	-	-	-	-	8	-	-	8	gr
800.2332	3G 1.50 mm <sup>2</sup>	2.0	C20	1	230	16	-	-	-	-	8	3	-	11	gr
800.2333	3G 1.50 mm <sup>2</sup>	2.0	C20	1	230	16	-	-	-	-	-	3	6	9	gr
333.416	-	-	Terminal	1	230	16	-	-	-	-	-	-	8	8	gr
333.830	-	-	Terminal	1	230	16	-	-	-	-	12	-	-	12	gr
333.400	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	8	8	gr
333.505	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	8	8	bk

<b>19" IT PDU Basic with overvoltage protection</b>															
333.404	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	8	8	gr
333.534	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	8	8	bk
333.405	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	7	7	gr
333.535	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	7	7	bk

<b>19" IT PDU Basic with overvoltage protection + mains and frequency filters</b>															
333.402	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	6	6	gr
333.536	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	6	6	bk
333.403	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	5	5	gr
333.537	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	-	-	5	5	bk

<b>19" IT PDU Basic mains and frequency filters</b>															
333.406	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	7	7	gr

<b>19" IT PDU Basic with fuse</b>															
333.410	3G 1.50 mm <sup>2</sup>	2.0	C14	1	230	16	-	-	10	-	-	-	8	8	gr
333.538	3G 1.50 mm <sup>2</sup>	2.0	C14	1	230	16	-	-	10	-	-	-	8	8	bk
800.2284	3G 1.50 mm <sup>2</sup>	2.0	C14	1	230	16	-	-	10	-	12	-	-	12	gr
333.408	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	10	-	8	-	-	8	gr
800.2331	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	10	-	12	-	-	12	gr
333.540	3G 1.00 mm <sup>2</sup>	2.0	C14	1	230	16	-	-	10	-	8	-	-	8	gr
333.411	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	x	-	-	-	-	6	6	gr
333.412	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	x	-	-	-	-	-	6	6	gr



IT PDU Basic (230 V/50 Hz)



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	C13	C19	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>IT PDU Basic</b>															
333.413	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	12	12	565x44x44



<b>IT PDU Basic with overvoltage protection</b>															
800.2334	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	12	12	608x44x44



<b>10" IT PDU Basic</b>															
333.417	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	3	3	208x44x44
333.0122	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	4	4	208x44x44

19" IT PDU Basic Master + Slave (230 V/50 Hz)

- Automatically isolates the master unit and all slave units from the supply once the master unit is shut down/switched off
- Automatically switches on the master unit and all slave units once the master unit has been switched on
- Integral LED indicates switching status



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	C13	C19	CEE 7/3	Outlets in total
<b>19" IT PDU Master + Slave</b>														
333.407	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	-	-	1+4	5



19" fuse box (32 A/400 V/50 Hz)

- Space-saving option of splitting a 32 A/400 V infeed between two 16 A/400 V infeeds
- 6 x 16 A miniature circuit breaker, characteristic C

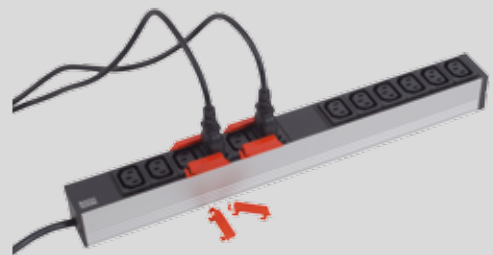
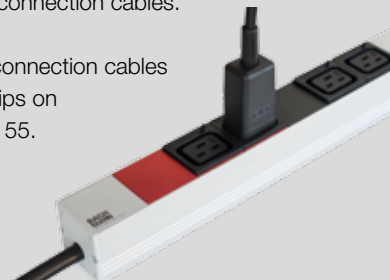
Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	C13	C19	CEE 7/3	CEE	Outlets in total
<b>19" IT PDU fuse box</b>															
800.0120	5G 4.0 mm <sup>2</sup>	2.0	3 x CEE 32 A	3	400	32	6xC16	-	-	-	-	-	-	6 x 16 A	6



**IEC60320 C13, lockable**

Two locking clips to secure two connection cables. Optimum interlocking only provided with BACHMANN connection cables.

You can find connection cables and locking clips on pages 53 and 55.



**IEC60320 C19 with IEC Lock**

The IEC Lock system protects computers, as servers and electrical equipment can become accidentally disconnected due to vibrations.

IT PDU Basic Switzerland



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Switch	Thermal protection in A	T13	T23	Outlets in total
<b>19" IT PDU Basic Switzerland</b>											
800.1259	3G 1.0 mm <sup>2</sup>	2.0	T12	1	230	10	-	10	8	-	8
800.1262	3G 1.5 mm <sup>2</sup>	3.0	T23	1	230	16	-	-	-	8	8
800.1263	3G 1.0 mm <sup>2</sup>	2.0	T12	1	230	10	x	10	7	-	7
800.1264	3G 1.5 mm <sup>2</sup>	3.0	T23	1	230	16	x	-	-	7	7
<b>19" IT PDU Basic overvoltage protection Switzerland</b>											
800.1260	3G 1.0 mm <sup>2</sup>	2.0	T12	1	230	10	-	10	7	-	7
800.1258	3G 1.5 mm <sup>2</sup>	3.0	T23	1	230	16	-	-	-	7	7
<b>19" IT PDU Basic overvoltage protection + mains and frequency filters Switzerland</b>											
800.1261	3G 1.0 mm <sup>2</sup>	2.0	T12	1	230	16	-	10	5	-	5
800.1265	3G 1.5 mm <sup>2</sup>	3.0	T23	1	230	16	-	-	-	5	5



1 HU

IT PDU Basic UK



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Switch	UK	Outlets in total
<b>19" IT PDU Basic UK</b>									
333.804	3G 1.5 mm <sup>2</sup>	2.0	UK	1	230	13	-	7	7
333.805	3G 1.5 mm <sup>2</sup>	2.0	UK	1	230	13	x	6	6



IT PDU Basic France



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Switch	UTE	Outlets in total
<b>19" IT PDU Basic France</b>											
333.418	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	9	9
333.819	3G 1.5 mm <sup>2</sup>	2.0	Terminal	1	230	16	-	-	-	8	8
333.419	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	x	8	8
<b>19" IT PDU Basic overvoltage protection France</b>											
333.4061	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	8	8
333.838	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	x	7	7
<b>19" IT PDU Basic overvoltage protection + mains and frequency filters France</b>											
333.4063	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	6	6
333.840	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	x	5	5
<b>19" IT PDU Basic with fuse France</b>											
333.4065	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	x	-	6	6
333.4066	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	B16	-	-	6	6



# IT PDU Basic > 1 HU ALU

## Power distribution units

- Torsionally rigid profile > 1 HU (52 mm), profile depth 44 mm
- Modular socket outlet design
- Standard socket colour white; other colours black, yellow, red, brown, blue and green also available
- Optionally includes illuminated 2-pole switch
- High-quality electronics components built in, e.g. overvoltage protection, mains and frequency filters
- Mounting brackets included

End caps riveted and do not open



Power input: 2.0 m, H05VV-F 3G 1.50 mm<sup>2</sup>, grey, with moulded right-angled earthing contact plug with double earthing contact system, white socket outlets, set at 35°, including fixing brackets



Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>PDU's &gt; 1 HU ALU</b>													
333.001	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	8	8	440x52x44
333.000	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	7	7	440x52x44
333.004	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	7	7	440x52x44
333.005	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	6	6	440x52x44
333.002	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	5	5	440x52x44
331.0202	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	4	4	440x52x44



# IT PDU Basic > 1 HU PVC

## Power distribution units

- Torsionally rigid profile > 1 HU (52 mm) in high-quality PVC, profile depth 44 mm
- Optionally includes illuminated 2-pole switch
- High-quality electronics components built in, e.g. overvoltage protection, mains and frequency filters
- Mounting brackets included

End caps riveted and do not open



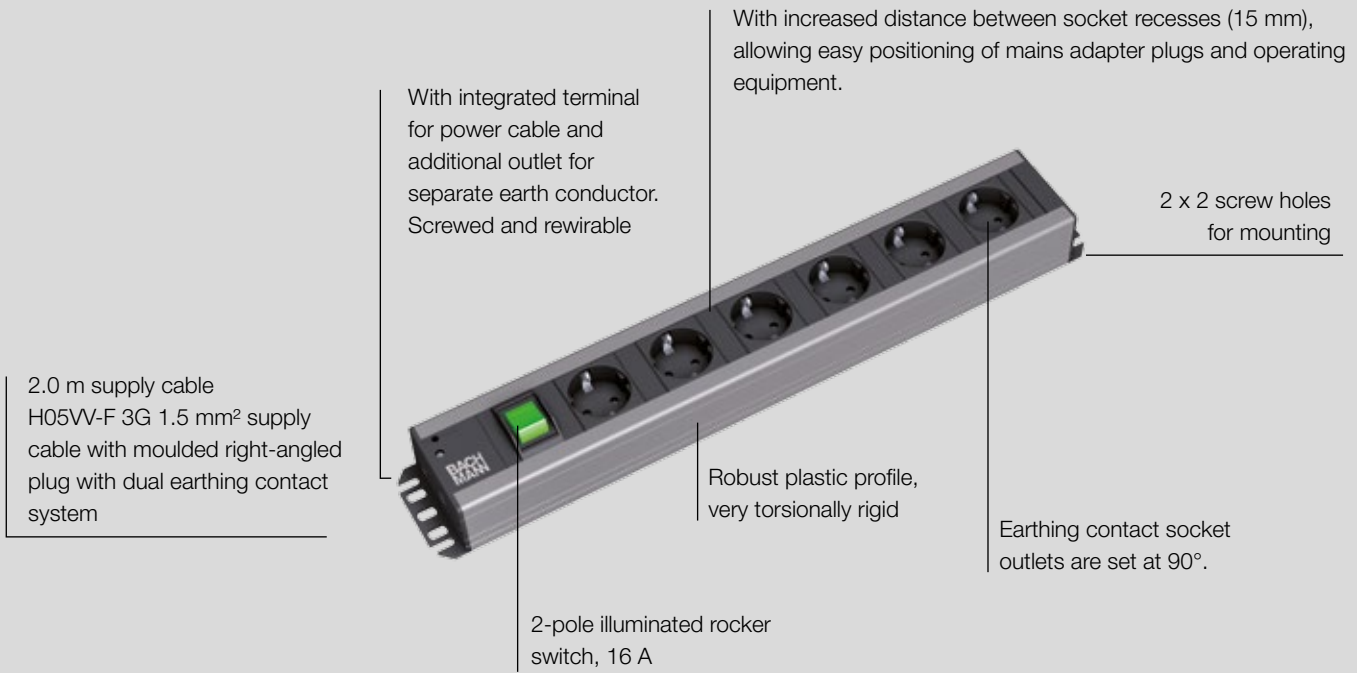
Power input: 2.0 m, H05VV-F 3G 1.50 mm<sup>2</sup>, grey, with similarly moulded right-angled plug with dual earthing contact system, light grey sockets similar to RAL7035, set at 35°, fixing brackets included

Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>PDU's &gt; 1 HU PVC</b>													
333.601	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	8	8	440x52x44
333.600	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	7	7	440x52x44
333.604	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	7	7	440x52x44
333.605	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	6	6	440x52x44
333.602	3G 1.5 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	5	5	440x52x44



### Stainless steel mounting bracket:

Fitted at various heights and angles by fastening in the slots of the end cap.



## IT PDU Basic 2 HU

### Power distribution units

**With increased distance between socket recesses, allowing easy positioning of mains adapter plugs and operating equipment.**



#### The benefits at a glance

- End caps with additional screw holes for mounting in data racks
- Additional earth conductor can be connected without opening the housing
- PDUs in 19" dimensions available
- Modern, technical design

2 HU PDU set at 90°



- Supply cable: 2.0 m H05VV-F 3G 1.50 mm<sup>2</sup>, black, with right-angled earthing contact plug
- Socket inserts, black, 15 mm spacing between sockets

Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>Power strip 90°</b>													
300.000	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	6	6	approx. 445 x 74 x 45
300.001	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	9	9	approx. 617 x 74 x 45
300.002	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	12	12	approx. 790 x 74 x 45
300.003	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	6	6	approx. 445 x 74 x 45
300.004	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	9	9	approx. 617 x 74 x 45
300.005	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	12	12	approx. 790 x 74 x 45
300.011	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	6	6	approx. 490 x 74 x 45
300.012	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	6	6	approx. 575 x 74 x 45



2 HU

**Overvoltage protection with filter**

Overvoltage protection – conforms to EN 61643-1:2005, EN 61643-11:2002 + A11:2007, type 3, discharge current 6.5 kA, response time < 25 nS. Suitable for 16 A (miniature fuse on request) with varistors, temperature fuse, gas discharge arrester, visual LED function and failure indicator (acoustic signalling also available on request).

Mains and frequency filters conforming to VDE 0565-3:05-2006, damping diagram on data sheet.

2 HU PDU set at 35°



- Supply cable: 2.0 m H05VV-F 3G 1.50 mm<sup>2</sup>, black
- Screwing dimension 465 mm, socket outlets set at 35°

Article number	Cable type H05VV-F	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker	RCD 30 mA	Thermal protection in A	Switch	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>Power strip 90°</b>													
300.006	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	-	8	8	approx. 483 x 74 x 45
300.007	3G 1.50 mm <sup>2</sup>	2.0	CEE 7/7	1	230	16	-	-	-	x	7	7	approx. 483 x 74 x 45





## IT PDU Basic 1 HU Vertical

Power distribution units 230-400 V/16-32 A/3.6 – 22 kW/50 Hz

**For future-proofed, highly efficient power distribution in data centres, server racks and network racks.**

The high-quality and very robust aluminium profile measures a compact 44 x 47 mm.

The space-saving design therefore provides space for data cabling and ventilation for cooling the server rack.



### IEC60320 C19 with IEC Lock

The IEC Lock system protects computers, as servers and electrical equipment can become accidentally disconnected due to vibrations.

### IEC60320 C13, lockable

Two locking clips to secure two connection cables.  
IEC60320 C13 with IEC Lock optionally available.



### The benefits at a glance

- Space-saving integration of PDU in the server rack with scope for modular add-ons
- High-quality and very robust aluminium profile
- Phases identified by colour
- PDU with single or double infeed to increase performance or map redundancies, up to 96 A per PDU
- Customised and country-specific solutions in series quality on request

## IT PDU Basic 1 HU Vertical

Power distribution units 230 – 400 V/50 Hz

Article number	Cable type H05VV-F-	Cable length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker C16A	C13	C19	CEE 7/3	Outlets in total	Dimensions (WxHxD) in mm
<b>19" IT PDU Basic (16 A/400 V/50 Hz)</b>												
800.0111*	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	-	6	-	6	482.6 x 44 x 47

<b>IT PDU Basic (16 A/230 V/50 Hz)</b>												
800.1657*	3G 2.5 mm <sup>2</sup>	3	CEE	1	230	16	-	24	3	-	27	1075 x 44 x 47
800.2335	3G 2.5 mm <sup>2</sup>	3	CEE	1	230	16	-	16	-	4	20	735 x 44 x 47

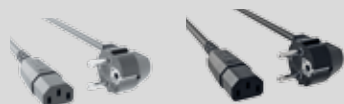
<b>IT PDU Basic (32 A/230 V/50 Hz)</b>												
800.0119	3G 4 mm <sup>2</sup>	3	CEE	1	230	32	2	20	-	-	20	778 x 44 x 47
800.2336	3G 4 mm <sup>2</sup>	3	CEE	1	230	32	2	20	4	-	24	1119 x 44 x 47

<b>IT PDU Basic (16 A/400 V/50 Hz)</b>												
800.0104*	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	18	3	-	21	821 x 44 x 47
800.0105	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	18	-	-	18	821 x 44 x 47
800.0107	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	-	-	15	15	821 x 44 x 47
800.0109	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	12	-	6	18	821 x 44 x 47
800.1656*	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	24	3	-	27	1075 x 44 x 47
800.0113	2 x 5G 2.5 mm <sup>2</sup>	2 x 3	2 x ES**	6	400	16	-	36	-	12	48	1840 x 44 x 47
800.0114	2 x 5G 2.5 mm <sup>2</sup>	2 x 3	2 x ES**	6	400	16	-	48	-	-	48	1840 x 44 x 47
800.2337	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	18	-	3	21	734 x 44 x 47
800.2282	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	24	6	-	30	1116 x 44 x 47
800.2339	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	24	-	6	30	1203 x 44 x 47
800.2283	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	24	6	6	36	1457 x 44 x 47
800.1453	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	36	6	6	48	1713 x 44 x 47
800.2341	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	36	6	-	42	1457 x 44 x 47
800.2342	5G 2.5 mm <sup>2</sup>	3	CEE	3	400	16	-	36	-	6	42	1458 x 44 x 47

<b>IT PDU Basic (32 A/400 V/50 Hz)</b>												
800.0100*	5G 4 mm <sup>2</sup>	3	CEE	3	400	32	6	-	12	-	12	1075 x 44 x 47
800.0101*	5G 4 mm <sup>2</sup>	3	CEE	3	400	32	6	-	6	-	6	820 x 44 x 47
800.0102	5G 4 mm <sup>2</sup>	3	CEE	3	400	32	6	36	-	-	36	1586 x 44 x 47
800.2338	5G 4 mm <sup>2</sup>	3	CEE	3	400	32	6	24	6	-	30	1586 x 44 x 47
800.2340	5G 4 mm <sup>2</sup>	3	CEE	3	400	32	6	24	-	6	30	1586 x 44 x 47

#### Locking clips

940.103 | · Red locking clip for IEC60320 non-heating appliance sockets C13, supplied in packs of 12.



IEC60320 and earthing contact plug connecting cables available in grey/black to distinguish from power supply (A/B) and in short cable lengths from 0.5 m.



## BlueNet

### The intelligent, modular energy management system

**BlueNet**  
Efficient Power Management

BlueNet offers a complete solution for structuring, controlling and monitoring IT power networks. It captures consumption and output data and provides the user with relevant data and control options for modern energy management.

#### **Energy management**

Monitor energy costs with BlueNet. All data is illustrated using the software and display. Loads can be distributed so that failures caused by overloaded circuits can be prevented and so that messages are automatically triggered by means of variable threshold values. Restarts controlled by web link also increase availability and flexibility. The BlueNet technology can also be easily integrated into superordinate infrastructure software solutions using extensive, integrated interfaces.

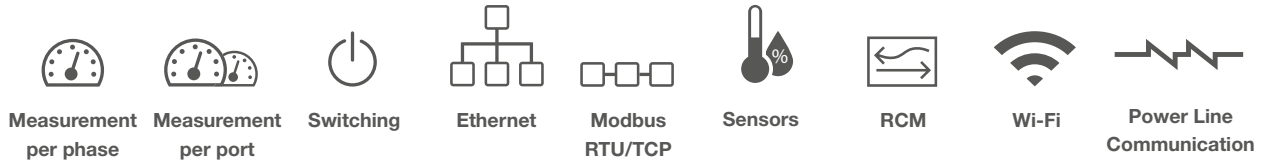
#### **Safety**

Every BACHMANN PDU is tested and documented during production one port at a time using a computer-based test program. Electronic components are continually subjected to "stress tests" to guarantee consistent quality. BlueNet is therefore only integrated into compact, very robust yet weight-optimised aluminium housings. Most of the requirements in relevant standards and guidelines are exceeded.

#### **Energy efficiency**

BACHMANN BlueNet PDUs save energy. The technology used has some of the lowest operating consumption levels for intelligent measurement systems in the world. The modular structure of the BlueNet PDUs guarantees maximum packing density. The tiny amount of space needed by the PDUs leaves room for cabling and air conditioning in the rack. The BlueNet series is one of the most compact power metering solutions with integrated network and sensor interface anywhere in the world.

# Overview of BlueNet features



	Measurement per phase	Measurement per port	Switching	Ethernet	Modbus RTU/TCP	Sensors	RCM	Wi-Fi	Power Line Communication
BN7500	•	•	•	•	•	•	(•)		
BN7000	•		•	•	•	•	(•)		
BN5000			•	•	•	•			
BN3500	•	•		•	•	•	(•)		
BN3000	•			•	•	•	(•)		
BN2000	•			•		•			(•)
BN1500	•		•	•		•		•	
BN1000	•			•		•		•	
BN0500	•								

(•) The indicated feature is optionally available

# Overview of BlueNet features

	BN0500	BN1000	BN1500	BN2000	BN2000 PLC	BN3000	BN3500	BN5000	BN7000	BN7500
<b>Measurement</b>										
Current	•	•	•	•	•	•	•		•	•
Voltage	•	•	•	•	•	•	•		•	•
Phase angle	•	•	•	•	•					
Frequency	•	•	•	•	•	•	•		•	•
Effective power	•	•	•	•	•	•	•		•	•
Reactive power		•	•	•	•	•	•		•	•
Apparent power		•	•	•	•	•	•		•	•
Energy meter	•	•	•	•	•	•	•		•	•
Power factor		•	•	•	•	•	•		•	•
Neutral conductor monitoring				•	•	•	•		•	•
Measurement per phase	•	•	•	•	•	•	•		•	•
Measurement per socket outlet							•			•
Optional residual current measurement (type B)						•	•		•	•
Measurement accuracy	2%	2%	2%	1%	1%	1%	1%		1%	1%
<b>Display</b>										
Type	LCD	TFT*	TFT*	TFT	TFT	OLED	OLED	OLED	OLED	OLED
Display can be rotated using software				•	•	•	•	•	•	•
<b>Sensors</b>										
Connections for external sensors		1	1	2	2	2	2	2	2	2
<b>Switching</b>										
Socket outlets can be switched			•					•	•	•
Switching with bistable relays								•	•	•
Timer function			•							
Threshold value switching function			•							

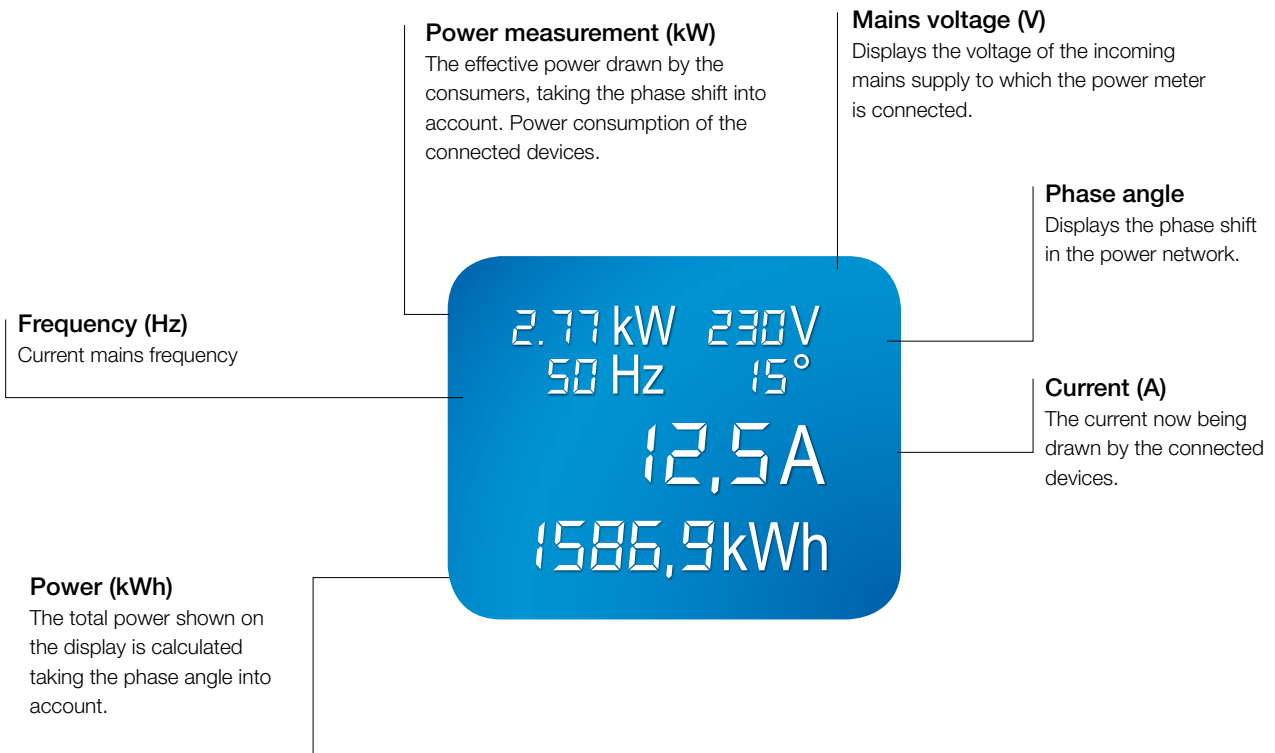


	BN0500	BN1000	BN1500	BN2000	BN2000 PLC	BN3000	BN3500	BN5000	BN7000	BN7500
<b>Communication</b>										
Ethernet (10/100 Mbit/s)		•	•	•	•	•	•	•	•	•
IPv4		•	•	•	•	•	•	•	•	•
IPv6						•	•	•	•	•
Wi-Fi 802.11 b/g/n		•	•							
Powerline Communication					•					
Modbus TCP						•	•	•	•	•
Master/Slave (Modbus RTU)						•	•	•	•	•
HTTP		•	•	•	•	•	•	•	•	•
HTTPS		•	•			•	•	•	•	•
SSH						•	•	•	•	•
DHCP		•	•	•	•	•	•	•	•	•
SMTP		•	•			•	•	•	•	•
SNMPv2		•	•	•	•	•	•	•	•	•
SNMPv3						•	•	•	•	•
SNMP trap		•	•	•	•	•	•	•	•	•
Syslog				•	•	•	•	•	•	•
NTP		•	•	•	•	•	•	•	•	•
<b>Operation</b>										
Web browser		•	•	•	•	•	•	•	•	•
Smartphone app		•	•							
Local	•			•	•	•	•	•	•	•



## BlueNet BN0500

### Current and power metering via local display



#### The benefits at a glance

- Integrated measurement of current, effective power, voltage, frequency, phase angle and power
- Indication on illuminated LCD
- Energy meter which can be reset (value is stored even if there is no power supply)
- Measurement accuracy +/- 2%

Article no.	C13	C19	CEE 7/3	Outlets in total	Dimensions
-------------	-----	-----	---------	------------------	------------

**16 A/230 V** (2.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with right-angled earthing contact plug)

800.2054	-	-	8	8	482.6 x 44 x 44
800.2055	12	-	-	12	482.6 x 44 x 44

**16 A/230 V** (3.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with CEE plug)

800.2395	16	4	-	20	746.0 x 44 x 44
800.2396	16	-	4	20	746.0 x 44 x 44
800.2397	24	4	-	28	958.0 x 44 x 44

**16 A/400 V** (3.0 m H05VV-F 5G 2.5 mm<sup>2</sup>, black, with CEE plug)

800.2398	18	3	-	21	978.0 x 44 x 44
800.2399	18	-	3	21	978.0 x 44 x 44
800.2400	24	6	-	30	1360.5 x 44 x 44
800.2401	24	-	6	30	1360.5 x 44 x 44
800.2402	24	6	6	36	1786.1 x 44 x 44
800.2403	36	6	-	42	1615.5 x 44 x 44
800.2404	36	-	6	42	1615.5 x 44 x 44

**32 A/230 V** (3.0 m H05VV-F 3G 4 mm<sup>2</sup>, black, with CEE plug)



800.2405	16	4	-	20	915.3 x 44 x 44
800.2406	16	-	4	20	915.3 x 44 x 44
800.2407	24	4	-	28	1085.3 x 44 x 44

**32 A/400 V** (3.0 m H05VV-F 5G 4 mm<sup>2</sup>, black, with CEE plug)

800.2408	24	6	-	30	1786.1 x 44 x 44
800.2409	24	-	6	30	1786.1 x 44 x 44
800.2410	36	6	-	42	2041.1 x 44 x 44



800.2395

-  **Measurement per phase**
-  **Measurement per port**
-  **Switching**
-  **RCM**
-  **Sensors**

**MODULARITY**

On request, all BlueNet BN1000 products are also available with RCDs, RC circuit breakers, miniature circuit breakers, complete device protection or, for example, a thermal fuse.

**MEASURING**

3 measuring groups of 16 A each

**WI-FI ANTENNA**

The BlueNet BN1000 module is available with an internal or external antenna.

**COMMUNICATION**

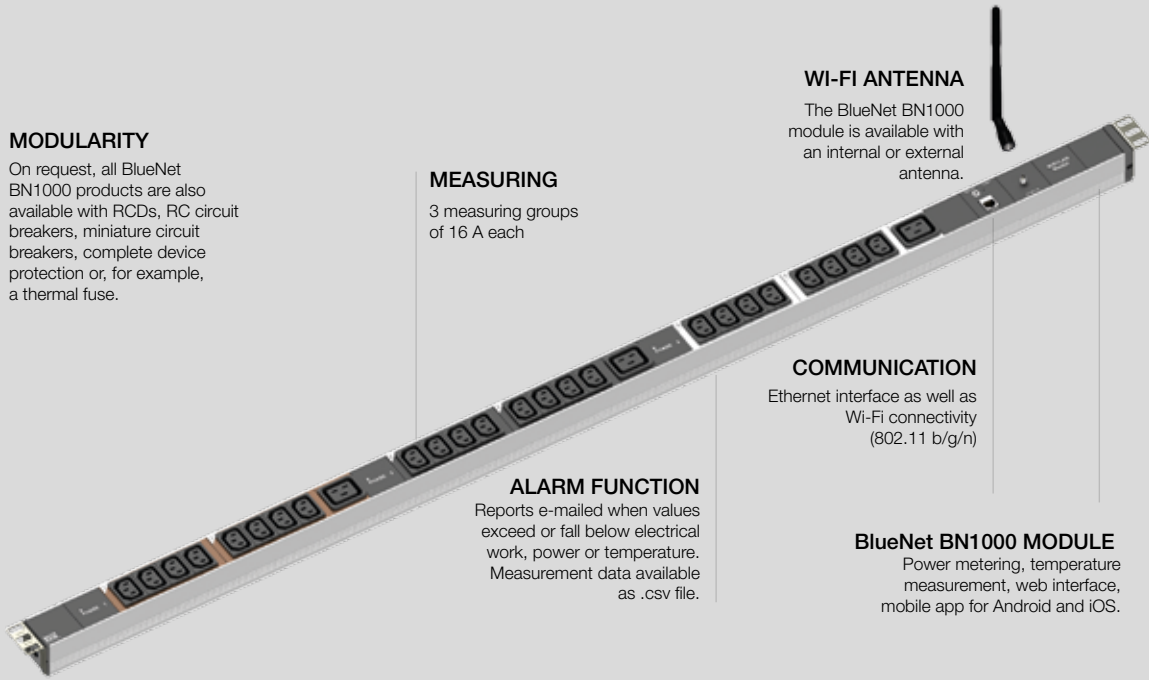
Ethernet interface as well as Wi-Fi connectivity (802.11 b/g/n)

**ALARM FUNCTION**

Reports e-mailed when values exceed or fall below electrical work, power or temperature. Measurement data available as .csv file.

**BlueNet BN1000 MODULE**

Power metering, temperature measurement, web interface, mobile app for Android and iOS.



Available from 2Q/2017

## BlueNet BN1000

The complete solution for small and mid-sized IT network applications

**BlueNet**  
Efficient Power Management

The BlueNet BN1000 technology offers comprehensive power metering to monitor your IT infrastructure. An external temperature sensor allows the ambient temperature to be determined. The optional TFT display is used to display measured values and the IP address on the PDU. Additional administrative peace of mind is offered in the form of SSL-encrypted e-mail alerts for load, amperage and temperature threshold values which can be set individually. Along with an Ethernet port, BN1000 products are also equipped with an RP-SMA antenna connection. You simply choose your preferred connection type, whether Ethernet or Wi-Fi.

### The benefits at a glance

- Three measuring groups of 16 A each
- Temperature measurement and power metering
- Load management and cost control
- Management via web interface, SNMPv2c and smartphone app (BlueNet Wi-Fi app)
- Wi-Fi (802.11 b/g/n) and Ethernet connectivity
- Optionally with TFT display

BlueNet BN1000 PDU

Includes mounting bracket, temperature sensor, network cable and external Wi-Fi antenna

Article number	C13	C19	CEE 7/3	UTE	T23	Outlets in total
----------------	-----	-----	---------	-----	-----	------------------

**16 A/230 V** (2.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with right-angled earthing contact plug)

820.034	-	-	4	-	-	4
820.036	-	-	-	4	-	4

**16 A/230 V** (2.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with right-angled T23 plug)

820.038	-	-	-	-	4	4
---------	---	---	---	---	---	---


**16 A/230 V** (2.0 m H05VV-F 3G 2.5 mm<sup>2</sup>, black, with CEE plug)


820.100	16	4	-	-	-	20
820.101	16	-	4	-	-	20


**16 A/400 V** (2.0 m H05VV-F 5G 2.5 mm<sup>2</sup>, black, with CEE plug)


820.102	18	3	-	-	-	21
820.103	18	-	3	-	-	21
820.104	24	6	-	-	-	30
820.105	24	-	6	-	-	30
820.106	24	6	6	-	-	36
820.107	36	6	-	-	-	42
820.108	36	-	6	-	-	42


**Measurement per phase**


**Measurement per port**


**Switching**


**RCM**


**Sensors**

**MODULARITY**

On request, all BlueNet BN1500 products are also available with RCDs, RC circuit breakers, miniature circuit breakers, complete device protection or, for example, a thermal fuse.

**MEASURING + SWITCHING**

3 switching groups of 16 A each, can be switched manually or automatically depending on load, temperature and time. Optional permanent socket outlets.

**WI-FI ANTENNA**

The BlueNet BN1500 module is available with an internal or external antenna.

**COMMUNICATION**

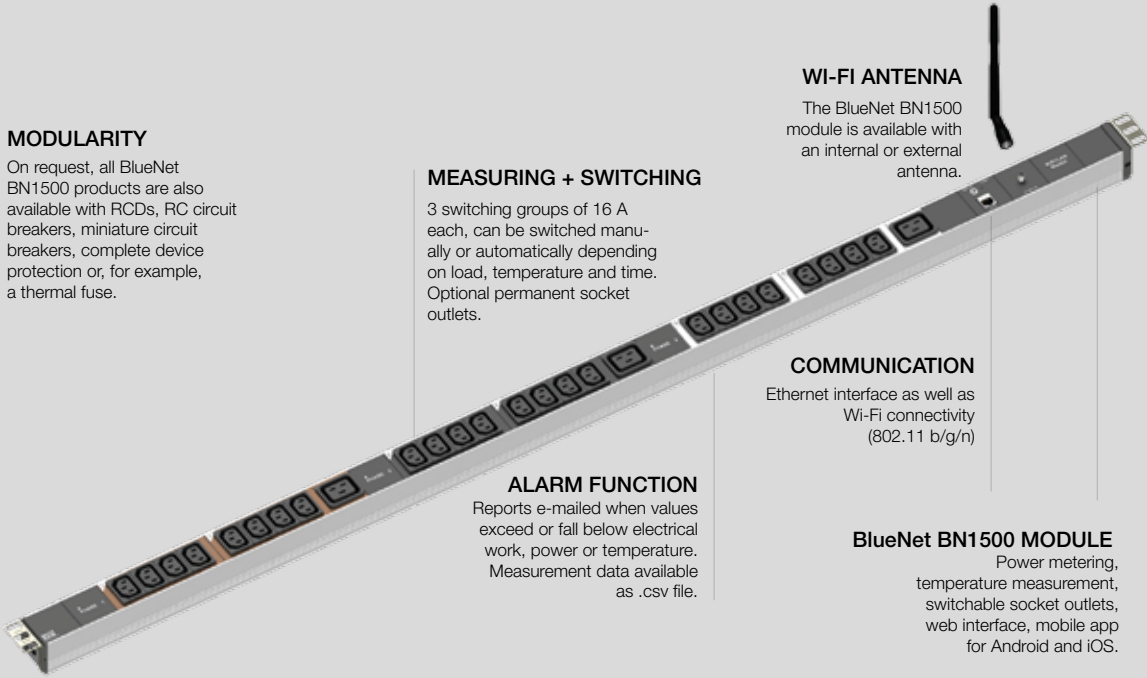
Ethernet interface as well as Wi-Fi connectivity (802.11 b/g/n)

**ALARM FUNCTION**

Reports e-mailed when values exceed or fall below electrical work, power or temperature. Measurement data available as .csv file.

**BlueNet BN1500 MODULE**

Power metering, temperature measurement, switchable socket outlets, web interface, mobile app for Android and iOS.



Available from 2Q/2017

## BlueNet BN1500

The complete solution for small and mid-sized IT network applications

**BlueNet**  
Efficient Power Management

The BlueNet BN1500 combines the range of functions of BN1000 technology with the option of connecting or switching off three groups in one compact overall concept. Switching can be performed both manually and automatically using load, amperage, temperature or time thresholds which can be set individually. In this case, the maximum switching power is a full 16 A per switching group – optionally also with 3 phases in 400 V operation. The optional TFT display is used to display measured values and the IP address.

### The benefits at a glance

- Three measuring and switching groups of 16 A each
- Temperature measurement and power metering
- Load management and cost control
- Management via web interface, SNMPv2c and smartphone app (BlueNet Wi-Fi app)
- Wi-Fi (802.11 b/g/n) and Ethernet connectivity
- Optionally with TFT display

BlueNet BN1500 PDU

Includes mounting bracket, temperature sensor, network cable and external Wi-Fi antenna

Article number	C13	C19	CEE 7/3	UTE	T23	Outlets in total
----------------	-----	-----	---------	-----	-----	------------------

**16 A/230 V** (2.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with right-angled earthing contact plug)

820.028	-	-	4	-	-	4
820.030	-	-	-	4	-	4

**16 A/230 V** (2.0 m H05VV-F 3G 1.5 mm<sup>2</sup>, black, with right-angled T23 plug)

820.032	-	-	-	-	4	4
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**16 A/230 V** (2.0 m H05VV-F 3G 2.5 mm<sup>2</sup>, black, with CEE plug)

820.109	16	4	-	-	-	20
820.110	16	-	4	-	-	20

**16 A/400 V** (2.0 m H05VV-F 5G 2.5 mm<sup>2</sup>, black, with CEE plug)

820.111	18	3	-	-	-	21
820.112	18	-	3	-	-	21
820.113	24	6	-	-	-	30
820.114	24	-	6	-	-	30
820.115	24	6	6	-	-	36
820.116	36	6	-	-	-	42
820.117	36	-	6	-	-	42



**Measurement per phase**



**Measurement per port**



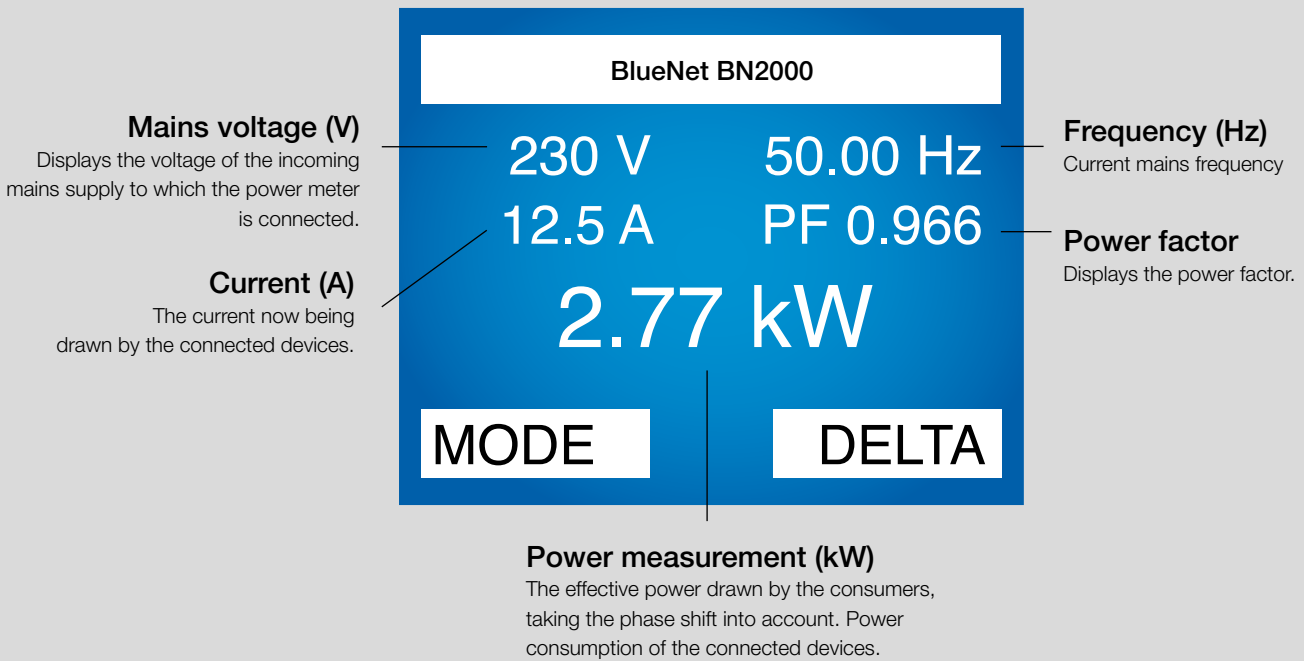
**Switching**



**RCM**



**Sensors**



## BlueNet BN2000

### 16-32 A/230-400 V/50 Hz

**BlueNet**  
Efficient Power Management

The BlueNet 2000 is available in 1-phase and 3-phase versions with an output range of 3.6-22 kW. Colour-coded phase assignment for the socket outlet with earthing contact and the IEC60320 socket inserts simplifies the handling of the PDU, which is overall very compact with a 1 HU profile (44 mm x 47 mm). As a whole, the BN2000 impresses with its easy handling: an integrated temperature sensor guarantees self-monitoring. Operation is possible both locally and using the web browser and an Ethernet port. And protocols are available as HTTP, SNMP, SNMP traps, Ethernet 10/100 Mbit/s, DHCP and NTP.

#### The benefits at a glance

- Integrated measurement of current per phase and in total, power per phase and in total
- (Effective, apparent and reactive power)
- Power, voltage, frequency, power factor, N conductor
- 2 additional sensors (temperature/humidity) can be connected – if a combined sensor is connected, then additionally up to 2 x temperature and 2 x humidity measurement possible
- High-resolution 2" TFT display, display can be rotated
- Measurement accuracy +/- 1%
- Internal consumption < 1 W



BlueNet BN2000 PDU

Article number	Cable type	Cable cross-section mm <sup>2</sup>	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max. power in kVA	C13	C19 IEC Lock	CEE 7/3	C19	C16A miniature circuit breaker	Outlets in total	Length (mm)
329.3009	H05VV-F	1.5	2	CEE 7/3	1	230	16	3.7	-	-	6	-	-	6	439
329.3010	H05VV-F	1.5	2	CEE 7/3	1	230	16	3.7	8	-	-	-	-	8	439
329.3012	H05VV-F	1.5	3	CEE	3	400	16	11.0	36	-	6	-	-	42	1758
329.3013	H05VV-F	1.5	3	CEE	3	400	16	11.0	36	-	-	6	-	42	1758
329.3056	H05VV-F	4	3	CEE	1	230	32	7.4	24	4	-	-	2	28	1331
329.3057	H05VV-F	2.5	3	CEE	1	230	16	3.7	24	3	-	-	-	27	1033
329.3058	H05VV-F	4	3	CEE	3	400	32	22.1	24	6	-	-	3	30	1883
329.3059	H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6	-	-	-	30	1373



329.3009



329.3010

BlueNet BN2000 accessories

Article no.	Description
<b>BlueNet BN2000 accessories</b>	
329.3104	· Combined temperature and humidity sensor 2.0 m cable



329.3104



Ethernet 10/100 Mbps



## BlueNet BN2000 PLC (Powerline Communication) 16-32 A/230-400 V

BlueNet PLC (Powerline Communication) allows the energy requirements to be monitored via the existing mains supply without any additional network infrastructure. The BlueNet PLC Concentrator is at the heart of this innovative power monitoring concept. It aggregates the data from all BN2000 PLC PDUs through the mains supply, logs them and makes them available through its Ethernet interface via HTTP, SNMP, SNMP trap, CSV and more.

The power data is recorded using compact BN2000 PLC PDUs. Alongside the integrated, high-precision power measuring unit, they also feature two connections for temperature and air humidity sensors. The measured values can also be read out locally on the large colour display. The additionally integrated Ethernet interface allows data to be accessed in parallel to the PLC technology. This is appropriate for operation in colocation data centres, to name one example.

### The benefits at a glance

- Energy monitoring without additional network structure
- Rotating, 2-inch colour TFT display
- Energy requirements simultaneously visible via PLC (operator) and Ethernet (customer)
- Saves costs and energy (1 watt)
- Operating temperature up to 60 °C

## Save costs with a lean infrastructure

Reducing running costs in data centres is one of the most challenging tasks faced by data centre operators. BlueNet BN2000 PLC can make a considerable contribution to those efforts. The cost of installing, providing and maintaining an IP port in a data centre can very easily add up to €100 per year. By saving on additional IP ports for intelligent PDUs, the costs for energy monitoring can be substantially reduced.

### CALCULATION EXAMPLE

#### Intelligent PDUs with Ethernet/IP port

Example of cost per IP port in the data centre = **€100**  
 PDUs with Ethernet connection = **200 units**

#### Running costs p.a. = €20,000

With Ethernet-based energy monitoring, this equates to running costs of €20,000 per year to provide the IP ports for the intelligent PDUs.

#### Intelligent PDUs with PLC

Example of cost per IP port in the data centre = **€100**  
 PDUs with Ethernet connection = **0 units**  
 PLC Concentrator with IP port: **1 unit**

#### Running costs p.a. = €100

If BlueNet PLC technology is used, all 200 IP ports for the PDUs are omitted, leaving just one remaining for the PLC Concentrator. This equates to running costs of €100 per year and a saving of €19,900 in the first year alone.

## The BlueNet PLC system

### BlueNet PLC Concentrator

- Pre-installed energy monitoring software  
 Management and monitoring of all PLC PDUs without additional cabling
- Monitoring of up to 250 PDUs  
 Plug-and-play solution, no additional software or server hardware required
- Industry-standard Powerline Communication (PLC)
- OLED display
- Low power requirement (3 watts)
- No fan
- Internal flash memory and card slot for SD cards  
 Two infeeds, each with 3 phases or 1 phase, for monitoring the A and B supply



### BlueNet BN2000 PLC PDUs

The BlueNet BN2000 PLC PDUs are used to precisely measure current, voltage, output, etc., and feature integrated options to record and store kWh and kVAR.

Various configuration variants are available depending on requirements.



## BlueNet Powerline Concentrator

The BlueNet Powerline Concentrator collects the data from the PLC PDUs and supplies it to the network via the Ethernet interface.



Article no. | Version

### BlueNet Concentrator with Powerline communication module

19" housing

329.3117 | · 2 x 3-phase/400 V

## BlueNet BN2000 accessories



Article no. | Description

### BlueNet BN2000 accessories

2.0 m cable

329.3104 | · Combined temperature and air humidity sensor

## BN2000 Inline PLC PDU

16-32 A/230-400 V/50 Hz

Measurement  
per phase



Measurement  
per port



Switching



RCM



Sensors



Article number	Phases	Voltage (V)	Current (A)	Power (kVA)	Dimensions (mm)
329.3060	1	230	16	3.7	232 x 104 x 102
329.3061	3	400	16	11.0	232 x 104 x 102
329.3062	1	230	32	7.4	232 x 104 x 102
329.3063	3	400	32	22.1	232 x 104 x 102



329.3060



329.3061

BN2000 PLC PDU

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Article number	C-13	C-19	CEE 7/3	Outlets in total	Dimensions
----------------	------	------	---------	------------------	------------

**16 A/230 V**

329.3143	16	4	-	20	863 x 44 x 44
329.3144	16	-	4	20	863 x 44 x 44
329.3145	24	4	-	28	1033 x 44 x 44

**16 A/400 V**

329.3146	18	3	-	21	1076 x 44 x 44
329.3147	18	-	3	21	991 x 44 x 44
329.3148	24	6	-	30	1374 x 44 x 44
329.3149	24	-	6	30	1374 x 44 x 44
329.3150	24	6	6	36	1660 x 44 x 44
329.3111	36	-	-	36	1458 x 44 x 44
329.3151	36	6	-	42	1629 x 44 x 44
329.3152	36	-	6	42	1629 x 44 x 44

**32 A/230 V**


329.3153	16	4	-	20	1076 x 44 x44
329.3154	16	-	4	20	1076 x 44 x44
329.3155	24	4	0	28	1246 x 44 x 44


**32 A/400 V**


329.3156	24	6	-	30	1799 x 44 x 44
329.3157	24	-	6	30	1829 x 44 x 44
329.3158	36	6	-	42	2054 x 44 x 44





329.3155

 **Measurement per phase**

 **Measurement per port**

 **Switching**

 **RCM**

 **Sensors**



## The new BlueNet generation

Little characterises our industrial progress more than information technology. And high-performance data centres form the core of any business.

Those wishing to meet the highest data centre standards must pay equal attention to structuring, management and monitoring. At BACHMANN, this approach is deeply rooted in the company philosophy.

We support your company with smart solutions for modern energy management. Using professional engineering and modern process management, we give everything to ensure that you can benefit from the latest and most advanced technologies, both now and in the future. To do this, we develop standardised and customised products and systems.

### **BN3000 – BN7500**

The new generation of our BlueNet products is synonymous with state-of-the-art technology – whether in the form of power distribution units (PDUs) that can be cascaded via Modbus, integrated, universal-current-sensitive residual current monitoring, command line tools or the rotating OLED display.

And there's more: Our features represent safety and efficiency; and can be integrated in DCIM systems. From a single workstation, you can monitor and control your data centre's complex power network locally or remotely.

# Rapid identification

To distinguish between PDUs in the data centre faster and with greater ease, the new BlueNet PDUs are available in ten different colours. Users can quickly distinguish between A and B supply, 16 and 32 A or single- and three-phase systems. Different areas in the data centre can also be equipped with different-coloured PDUs.

Available colours





## Cascading using the master-slave concept

### A secure and cost-effective control chain

When an intelligent brain thinks and controls, you can be sure of efficiency throughout. This is the principle behind the BlueNet Master PDU concept.

Central intelligence is especially important when many network ports are installed in a distributed manner. Precise, secure and reliable control of a wide range of ports can only be achieved with a stable system. BlueNet Master PDUs are the first choice here.

#### Smart master-slave concept

BlueNet Master PDUs can communicate with up to ten BlueNet Slave PDUs via Modbus connection, thereby saving space and costs. The PDUs are connected via a standard CAT5e network cable. This makes the use of special cables a thing of the

past. It is possible to make the connection very lean and to create it in the rack row with no patch panel cabling.

The data for all connected Slave PDUs is easy to display and read via the IP address of the Master PDUs. No special configuration of the network switches is required. The master-slave concept therefore also ensures the necessary and very detailed transparency of consumption, load and relevant statuses.





## Customer-specific PDUs

Your needs are our standard

A professional and homogeneous data centre power supply requires PDUs that adapt to your needs and not vice versa. That's why, in the area of custom-built PDUs, the BlueNet series offers tailor-made units that extend far beyond the standard product range – whether for one single unit or many.

Some racks may need a variety of sockets but very little power, depending on the data centre. Others, however, need a great deal of power and additional safety equipment, but fewer sockets. Furthermore, power supply sockets may be required right next to sockets for non-heating appliances.

Due to the high level of integration, you also have the option in a custom-built version to control and connect your cost-intensive network ports centrally via BlueNet. All custom-built PDUs are equally compact.



## BlueNet residual current monitoring

### Maximum availability and safety

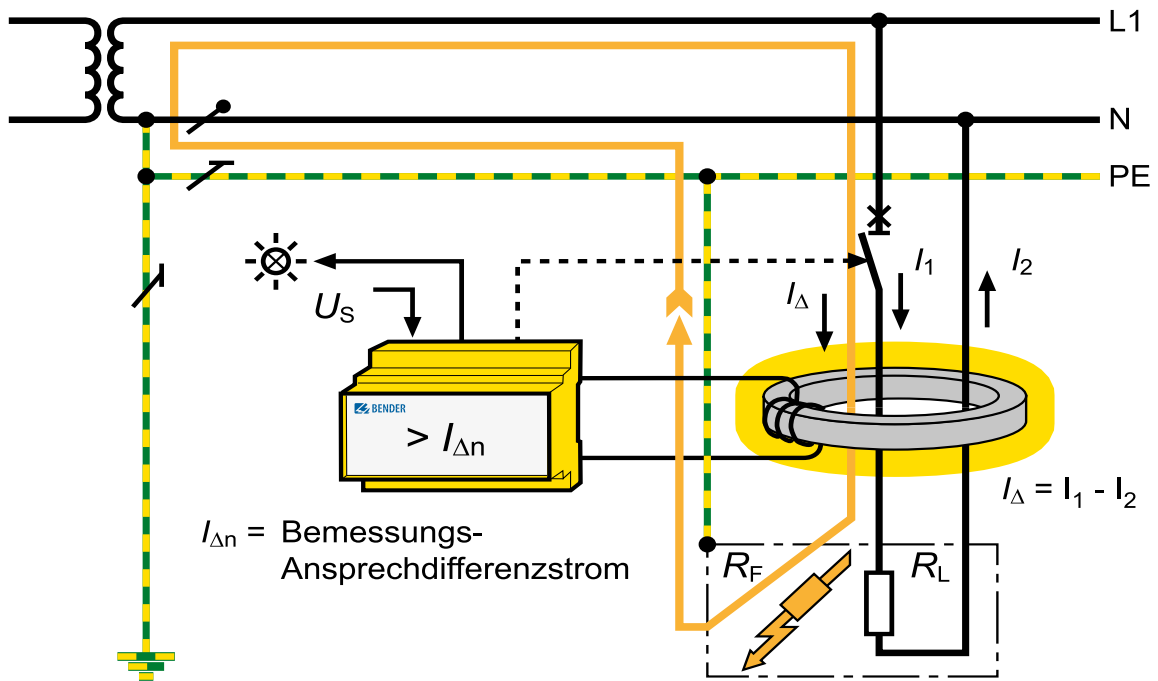
Using residual current monitoring allows changes in the level of insulation to be detected at an early stage, before protective devices are tripped by a high residual current that puts people at risk and involves the risk of fire.

This time advantage allows countermeasures to be planned and contributes to the high availability of the power supply and therefore the system. Thanks to the BACHMANN BlueNet PDU, this residual current monitoring isn't just undertaken at central measuring points, but on the socket outlets of every consumer. This standard-compliant residual current technology,

the result of a joint development with Bender, provides a high physical granularity, maximum safety and high availability. This AC/DC sensitive technology monitors all kinds of residual current in modern power supplies with switching power supplies. The new BlueNet residual current PDU is therefore particularly suited to use in IT.

#### The benefits at a glance

- Early detection of data loss and network failure
- Preventative safety to protect people from the hazards caused by electric current
- Permanent monitoring of systems and operating equipment
- Monitoring of the TN-S systems for additional unwanted N-PE bridges
- Adjustment of the inspection intervals to actual circumstances with insulation measurement using permanent residual current monitoring (§5 of the DGUV accident prevention regulations, rule 3)
- Minimisation of faults and unexpected operational interruptions of sensitive equipment and expensive technician call-outs
- Residual currents posing a fire hazard are recognised as they arise



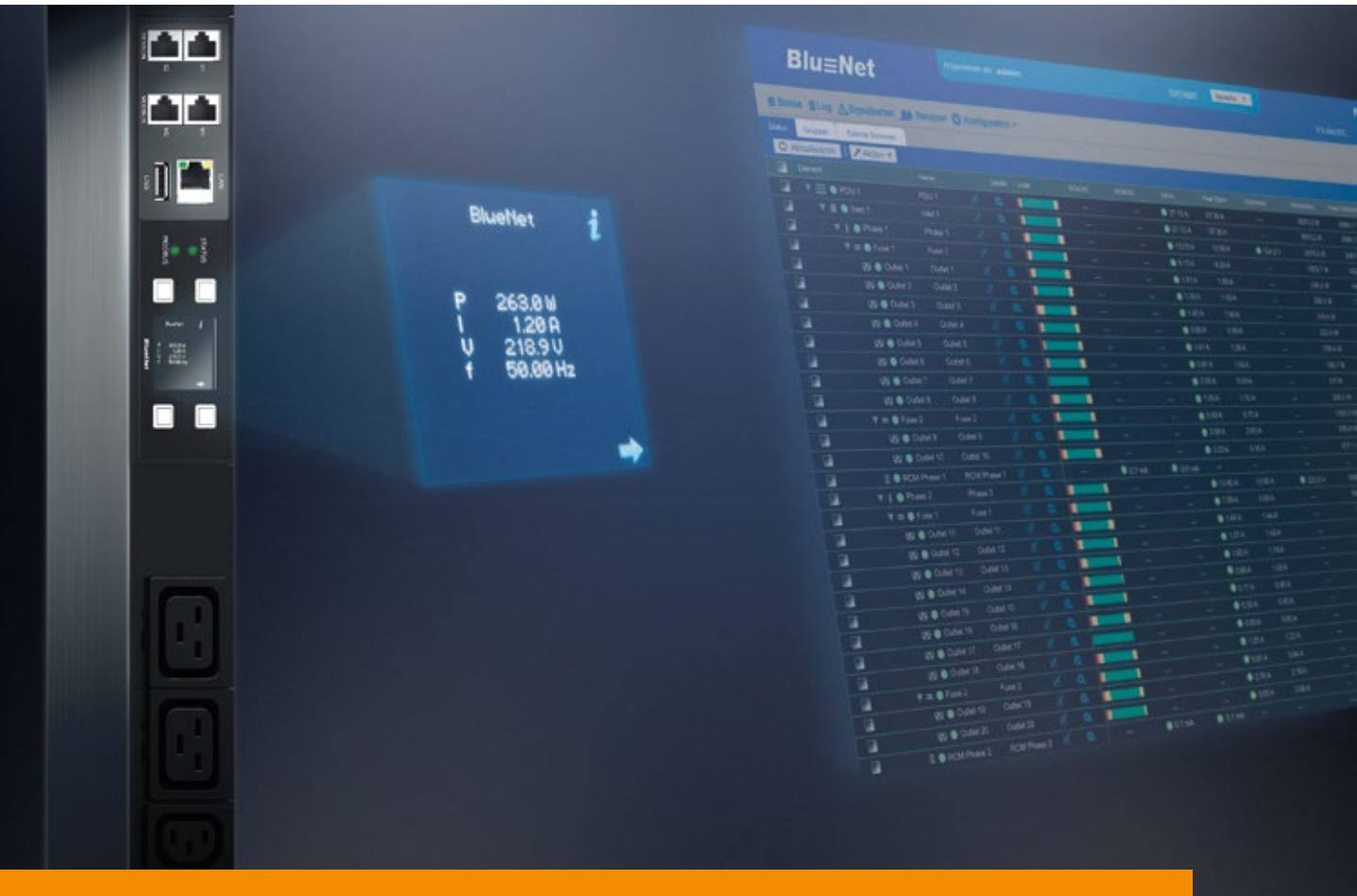
Circuit with residual current monitoring

Permanent monitoring is absolutely essential in modern information technology. Continuous monitoring equipment reduces the work involved in statutory repeat testing. In accordance with accident prevention regulations (DGUV, rule 3), the testing dates for measuring insulation can be adapted to suit actual circumstances and optimise costs using permanent RCM.

The BlueNet residual current monitor is able to record residual currents of 5 mA and higher. Residual current activation values can be set in the BlueNet software. The BlueNet software reliably signals instances where these values are exceeded.

All measured values are transferred to superordinate monitoring systems via the Ethernet interface. A local display in the PDU also provides information about all important measured values. This setup ensures that the availability of the power supply has absolute priority at all times and that the system is not unexpectedly shut down in the event of errors.

The BlueNet technology also allows a master-slave network to be installed, saving installation costs and minimising the administration work involved.



## Energy management

### The latest in efficiency

With intelligent functionality, the PDUs contribute to higher system availability and lower energy consumption. Whether by means of data to optimize power usage effectiveness or high packing density, efficiency is paramount at BlueNet.

#### Accurate measurement and billing

Precise measurements and transparency for correct allocation of power consumption support you in the analysis and identification of heavy consumers.

A holistic appraisal of your data centre enables you to initiate optimisation measures quickly.

#### High billing grade accuracy

This high measuring accuracy of the PDUs and the software used is an important quality feature of the BlueNet series. The PDUs have an accuracy of  $\pm 1\%$  across the entire measuring range. This means that measurement at 32A deviates by a maximum of 320 mA. This is called "billing grade accuracy", i.e. a level of measuring accuracy acceptable for billing purposes. You will receive all measured power consumption data in digital form and can bill this to your business or departmental areas. This significantly conserves your budget as an internal data centre service provider.

## Safe connections

BlueNet provides various ways of safely connecting servers with PDUs. In addition to slide-on locking clips, which secure two C13 ports, there is also the height-adjustable universal interlock, which can be used to lock both C13 and C19 ports. With the

aid of SecureSleeves, the plugs can not only be secured, but also colour-coded – without additional, special cables having to be bought.



Locking clips



Universal interlock C19




Universal interlock C13





SecureSleeves


BlueNet BN3000


3.0 m H05VV-F supply cable with CEE plug/including mounting set

**Measurement per phase** 

**Measurement per port** 

**Switching** 

**RCM** 

**Sensors** 

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

**16 A/230 V**

802.3004	802.3004-S	16	4	-	20	1102 x 44 x 65 mm
802.3006	-	16	-	4	20	1102 x 44 x 65 mm
802.3041	-	24	4	-	28	1533 x 44 x 65 mm

**16 A/400 V**

802.3010	-	18	3	-	21	1234 x 44 x 65 mm
802.3011	-	18	-	3	21	1234 x 44 x 65 mm
802.3012	802.3012-S	24	6	-	30	1533 x 44 x 65 mm
802.3014	-	24	-	6	30	1533 x 44 x 65 mm
802.3016	-	24	6	6	36	1762 x 44 x 65 mm
802.3018	802.3018-S	36	6	-	42	1873 x 44 x 65 mm
802.3020	-	36	-	6	42	1873 x 44 x 65 mm

**32 A/230 V**

802.3005	802.3005-S	16	4	-	20	1234 x 44 x 65 mm
802.3007	-	16	-	4	20	1234 x 44 x 65 mm
802.3042	-	24	4	-	28	1533 x 44 x 65 mm

**32 A/400 V**

802.3013	802.3013-S	24	6	-	30	1762 x 44 x 65 mm
802.3015	-	24	-	6	30	1817 x 44 x 65 mm
802.3019	802.3019-S	36	6	-	42	2037 x 44 x 65 mm

46 HU



802.3004



802.3005



802.3010



802.3012



802.3013



802.3018

BlueNet BN3500

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

16 A/230 V

802.3500	802.3500-S	18	4	0	22	1234 x 44 x 65 mm
802.3502	-	18	-	4	22	On request
802.3519	-	24	4	-	28	1533 x 44 x 65 mm

16 A/400 V

802.3504	-	-	6	-	6	On request	<b>46 HU</b>
802.3506	-	18	3	-	21	1234 x 44 x 65 mm	
802.3507	-	18	-	3	21	On request	
802.3508	802.3508-S	24	6	-	30	1533 x 44 x 65 mm	
802.3510	-	24	-	6	30	On request	
802.3514	802.3514-S	36	6	-	42	1945 x 44 x 65 mm	

32 A/230 V

802.3501	802.3501-S	16	4	-	20	1234 x 44 x 65 mm
802.3503	-	16	-	4	20	On request
802.3520	-	24	4	-	28	1533 x 44 x 65 mm

32 A/400 V

802.3505	-	-	6	-	6	On request
802.3509	802.3509-S	24	6	-	30	1762 x 44 x 65 mm
802.3511	-	24	-	6	30	On request



802.3500



802.3501



802.3506



802.3508



802.3509



802.3514

Measurement per phase

Measurement per port


Switching


RCM


Sensors


BlueNet BN5000


3.0 m H05VV-F supply cable with CEE plug/including mounting set

Measurement per phase 

Measurement per port 

Switching 

RCM 

Sensors 

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

16 A/230 V

802.5001*	-	-	-	6	6	On request
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16 A/400 V

802.5002	-	18	3	-	21	On request
802.5003	-	24	6	-	30	On request
802.5005	-	36	6	-	42	On request

32 A/400 V

802.5004	-	24	6	-	30	On request
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802.5002



802.5003



802.5004



802.5005

\* = 3.0 m H05VV-F supply cable with earthing contact plug



BlueNet BN7000

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

**16 A/230 V**

802.7000	802.7000-S	18	4	-	22	1234 x 44 x 65 mm
802.7002	-	18	-	4	22	On request
802.7021	-	24	4	-	28	1533 x 44 x 65 mm

**16 A/400 V**

802.7004	-	0	6	-	6	On request
802.7006	-	18	3	-	21	1533 x 44 x 65 mm
802.7007	-	18	-	3	21	On request
802.7008	802.7008-S	24	6	-	30	1533 x 44 x 65 mm
802.7010	-	24	-	6	30	On request
802.7014	802.7014-S	36	6	-	42	1943 x 44 x 65 mm <b>46 HU</b>

**32 A/230 V**

802.7001	802.7001-S	16	4	-	20	1234 x 44 x 65 mm
802.7003	-	16	-	4	20	1234 x 44 x 65 mm
802.7022	-	24	4	-	28	1533 x 44 x 65 mm

**32 A/400 V**

802.7005	-	-	6	-	6	On request
802.7009	802.7009-S	24	6	-	30	1762 x 44 x 65 mm
802.7011	-	24	0	6	30	On request



802.7000



802.7001



802.7006



802.7008



802.7009



802.7014



Measurement per phase



Measurement per port



Switching




RCM



Sensors

BlueNet BN7500

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Measurement per phase 

Measurement per port 

Switching 

RCM 

Sensors 

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

16 A/230 V

802.7500	802.7500-S	18	4	-	22	1234 x 44 x 65 mm
802.7502	-	18	-	4	22	On request
802.7523	-	24	4	-	28	1533 x 44 x 65 mm

16 A/400 V

802.7504	-	-	6	-	6	On request
802.7506	-	18	3	-	21	1533 x 44 x 65 mm
802.7507	-	18	-	3	21	On request
802.7508	802.7508-S	24	6	-	30	1533 x 44 x 65 mm
802.7510	-	24	-	6	30	On request
802.7514	802.7514-S	36	6	-	42	1943 x 44 x 65 mm

46 HU

32 A/230 V

802.7501	802.7501-S	16	4	-	20	1234 x 44 x 65 mm
802.7503	-	16	-	4	20	On request
802.7524	-	24	4	-	28	1533 x 44 x 65 mm

32 A/400 V

802.7505	-	-	6	-	6	On request
802.7509	802.7509-S	24	6	-	30	1762 x 44 x 65 mm
802.7511	-	24	-	6	30	On request



802.7500



802.7501



802.7506



802.7508



802.7509



802.7514

BlueNet BN3000 RCM

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

Residual current monitoring per supply cable

16 A/400 V

802.3030	802.3030-S	24	12	-	36	1762 x 44 x 65 mm
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32 A/400 V

802.3031	802.3031-S	24	12	-	36	2037 x 44 x 65 mm	<b>46 HU</b>
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Residual current monitoring per phase

16 A/230 V

802.3032	-	12	2	-	14	891 x 44 x 65 mm
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16 A/400 V

802.3022	-	18	3	-	21	1234 x 44 x 65 mm
802.3023	-	18	-	3	21	1533 x 44 x 65 mm
802.3024	802.3024-S	24	6	-	30	1533 x 44 x 65 mm

32 A/400 V

802.3025	802.3025-S	24	6	-	30	1817 x 44 x 65 mm
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BlueNet BN3500 RCM

3.0 m H05VV-F supply cable with CEE plug/including mounting set

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

Residual current monitoring per phase

16 A/400 V

802.3522	802.3522-S	24	6	-	30	1762 x 44 x 65 mm
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Measurement per phase



Measurement per port



Switching



RCM



Sensors

BlueNet



Measurement per phase



Measurement per port



Switching








RCM



Sensors

BlueNet BN7000 RCM

3.0 m H05VV-F supply cable with CEE plug/including mounting set

- 
**Measurement per phase**
- 
 Measurement per port
- 
**Switching**
- 
**RCM**
- 
**Sensors**

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------






32 A/400 V/residual current monitoring per group

802.7018	-	18	6	-	24	1846 x 44 x 65 mm
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Other product configurations available on request

BlueNet BN7500 RCM

3.0 m H05VV-F supply cable with CEE plug/including mounting set

- 
**Measurement per phase**
- 
 Measurement per port
- 
**Switching**
- 
**RCM**
- 
**Sensors**

Article number	Article number Slave variant	C13	C19	CEE 7/3	Outlets in total	Dimensions
----------------	------------------------------	-----	-----	---------	------------------	------------

16 A/230 V/residual current monitoring per supply line

802.7519	-	18	4	-	22	1234 x 44 x 65 mm
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Other product configurations available on request

White paper on monitoring residual currents in data centres



For operators and managers, outages, operational faults and interruptions to a data centre are nightmare scenarios. Potential avoidable triggers such as residual currents can be promptly detected with BlueNet RCM PDUs. More information on the topic of residual currents in data centres and how to avoid them can be found in our white paper.

Download it for free at [www.bachmann.com/downloads](http://www.bachmann.com/downloads)

# Accessories

## BlueNet BN3000 – BN7500 sensors

Including 2.0 m CAT 5e supply cable with RJ45 plug on both ends

Article no.	Designation
802.0101	Temperature sensor
802.0102	Temperature/air humidity sensor



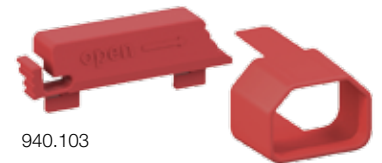
802.0101



802.0102

## Plug interlocks

Article no.	Designation
940.103	Locking clips, C13, 2-way (set for 12 C13 outlets)
802.0010	Interlock C13/C19 universal height (6 x)
940.191	SecureSleeve C14 red (6 x)
940.192	SecureSleeve C14 black (6 x)
940.193	SecureSleeve C20 red (6 x)
940.194	SecureSleeve C20 black (6 x)



940.103



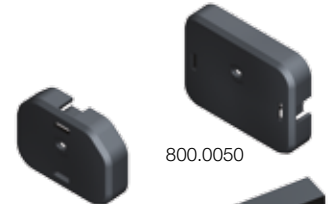
802.0010

940.191

940.192

## Locking cap IEC60320 C13 & C19

Article no.	Designation
800.0050	C19 locking caps, 10 items incl. unlocking tool
800.0051	C13 locking caps, 10 items incl. unlocking tool
800.0052	Unlocking tool for locking cap



800.0050



800.0051



800.0052

## RackFix tool-free mounting on 19" rail

· Self-locking fixing connector for tool-free fastening of PDUs in 19" rack

Article no.	Designation
940.166	Fixing clip, supplied in packs of 50
940.167	Disassembly tool for fixing clip



940.166



940.167

## Shift inhibitor

· To protect against unintentional actuation of miniature or residual current circuit breakers

Article no.	Designation
940.140	Actuation lock for circuit breakers and switches, 1 pole, to protect against unauthorised or dangerous activation of the switch lever



940.140

# Accessories

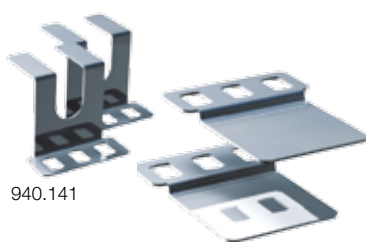
## Mounting kits for IT PDUs



940.142

- The brackets are screwed to the PDU end cap using a screw connection (screws provided).

Article no.	Designation
940.142	Fixing brackets left and right (1 HU)
940.096	Fixing brackets left and right (>1 HU)



940.141

940.143



800.0053

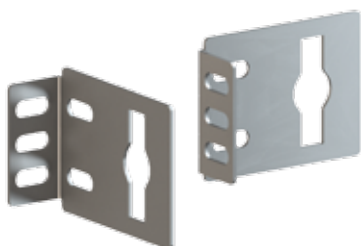
## Fixing brackets for VM profile variants/universal installation

- Power strip is fixed by inserting into the profile groove provided
- No additional screws required

Article no.	Designation
940.141	Mounting brackets left and right (1 HU)
940.143	Mounting brackets left and right (1 HU)
800.0053	Link for connecting two vertically fitted PDUs (1 HU)

## Replacement mounting accessories (BN3000 – BN7500)

All mounting sets are included in the scope of delivery for the PDUs



802.0001



802.0002



802.0003

Article no.	Designation
802.0001	Universal mounting set
802.0002	Mounting set, rear
802.0003	Mounting set, side

## Mounting options



802.0001



802.0002



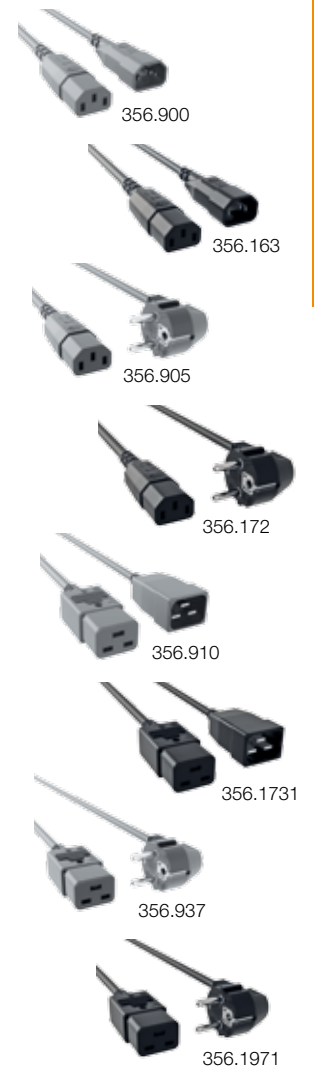
802.0003

## Connection cable

Cable cross-section mm <sup>2</sup>	Cable length (m)	Plug	Coupler
1.0	0.50	C14	C13
1.0	0.75	C14	C13
1.0	1.00	C14	C13
1.0	1.50	C14	C13
1.0	2.00	C14	C13
1.5	0.50	CEE 7/7	C13
1.5	0.75	CEE 7/7	C13
1.5	1.00	CEE 7/7	C13
1.5	1.50	CEE 7/7	C13
1.5	2.00	CEE 7/7	C13
1.5	0.50	C20	C19
1.5	0.75	C20	C19
1.5	1.00	C20	C19
1.5	1.50	C20	C19
1.5	2.00	C20	C19
1.5	0.50	CEE 7/7	C19
1.5	0.75	CEE 7/7	C19
1.5	1.00	CEE 7/7	C19
1.5	1.50	CEE 7/7	C19
1.5	2.00	CEE 7/7	C19

Article number	Cable colour
356.119	black
356.169	black
356.120	black
356.127	black
356.171	black
356.172	black
356.1721	black
356.1722	black
356.1723	black
354.127	black
356.1731	black
356.1732	black
356.1733	black
356.183	black
356.1735	black
356.1971	black
356.1972	black
356.1973	black
356.1974	black
356.1975	black

Article number	Cable colour
356.900	grey
356.901	grey
356.902	grey
356.903	grey
356.904	grey
356.905	grey
356.906	grey
356.907	grey
356.908	grey
356.909	grey
356.910	grey
356.911	grey
356.918	grey
356.935	grey
356.936	grey
356.937	grey
356.938	grey
356.939	grey
356.940	grey
356.941	grey



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