



IT POWER SOLUTIONS

Innovative products for the IT infrastructure



Contents:

Basic PDU Vertical..... 5-7

BlueNet 8-11

Intelligent PDUs for metering tasks

Current measurement via local display

BlueNet Metered 12-13

Power metering via local display

BlueNet Metered Plus 12-13

Power metering via local display and network

BlueNet Monitored..... 14-17

BlueNet BN3000 (Master / Slave)..... 18-20

Differential current measurement and power metering via display and network

BlueNet BN3000 (RCM) 21-22

Power metering via local display, network and powerline

BlueNet Monitored PLC 23-26

Intelligent PDUs for metering and switching tasks

Power metering and switching via WLAN / LAN

BlueNet Basic Wifi/LAN Managed 27-30

Power metering via WLAN / LAN

BlueNet Basic Wifi/LAN Monitored..... 31-32

Intelligent distributors for metering (retrofit solutions)

Power metering via local display and network

BlueNet Monitored inline..... 33-34

Power metering via local display, network and powerline

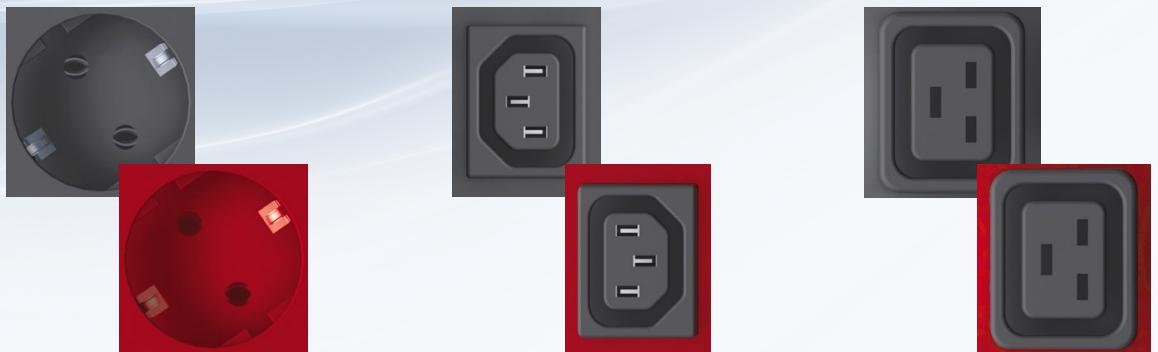
BlueNet Monitored inline PLC..... 35-36

Accessories

37-38



Modular PDU inserts



aprä-optinet IT power distribution

For future-proofed, highly efficient energy distribution in your data centre



The advantages
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 protection device)



RCD is the internationally recognised 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 0.4s.

RCM
(residual current monitor)



RCM is the internationally recognised 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 advantages at a glance

- Customised solutions in series quality possible
- Integration of up to 2 HP (36mm) 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





IEC320 C13 lockable

Two locking clips to secure two power cables.
IEC320 C13 with IEC lock can be supplied.



IEC320 C19 with IEC lock

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

The advantages 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



Basic PDU Vertical

Power distribution units 230 - 400 V / 50 Hz



Development of the IT PDU focused on space-saving PDU integration in the server rack with scope for modular expansion. 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.

The IT PDUs can be linked together by a simple insertion mechanism, allowing various different plug versions to be combined.

The advantages at a glance

- Very high packing density (96 A per side)
- Very good MTTR (mean time to repair)
- Space-saving (depth: 47 mm)
- Maximum availability thanks to total physical and electric separation
- Lockable C13 and C19 sockets
- Phases identified by colour



Basic PDU Vertical

Power distribution units 230 - 400 V / 50 Hz



Article number	Cable type H05VV-F	Length (m)	Plug	Phases	Rated voltage (V)	Current per phase in A	Miniature circuit breaker C16A	C13	C13 IEC lock	C19 IEC lock	SOEC*	Outlets in total	Dimensions (WxHxD) in mm	from stock
19" IT PDU Basic (3 x 16 A / 400 V / 50 Hz)														
921-800-0111	5G 2.5 mm ²	3	CEE	3	400	16		6				6	482.6 x 44 x 47	yes

Zero U-Space IT PDU Basic (16 A / 230 V / 50 Hz)														
921-800-1657	3G 2.5 mm ²	3	CEE	1	230	16		24		3		27	1075 x 44 x 47	yes
Zero U-Space IT PDU Basic (32 A / 230 V / 50 Hz)														
921-800-0119	5G 4 mm ²	3	CEE	1	230	32	2	20				20	778 x 44 x 47	yes

Zero U-Space IT PDU Basic 3x (16 A / 400 V / 50 Hz)														
921-800-0104	5G 2.5 mm ²	3	CEE	3	400	16		18		3		21	821 x 44 x 47	yes
921-800-0105	5G 2.5 mm ²	3	CEE	3	400	16		18				18	821 x 44 x 47	yes
921-800-0107	5G 2.5 mm ²	3	CEE	3	400	16					15	15	821 x 44 x 47	yes
921-800-0109	5G 2.5 mm ²	3	CEE	3	400	16		12			6	18	821 x 44 x 47	yes

921-800-1656	5G 2.5 mm ²	3	CEE	3	400	16		24		3		27	1075 x 44 x 47	yes
921-800-0113	2x5G 2.5 mm ²	2x3	2x CES**	6	400	16		36			12	48	1840 x 44 x 47	yes
921-800-0114	2x5G 2.5 mm ²	2x3	2x CES**	6	400	16		48			48	1840 x 44 x 47	yes	

Zero U-Space IT PDU Basic 3x (32 A / 400 V / 50 Hz)														
921-800-0100	5G 4 mm ²	3	CEE	3	400	32	6			12		12	1075 x 44 x 47	yes
921-800-0101	5G 4 mm ²	3	CEE	3	400	32	6			6		6	820 x 44 x 47	yes
921-800-0102	5G 4 mm ²	3	CEE	3	400	32	6	36				36	1586 x 44 x 47	yes

*SOEC=socket outlet with earthing contact **CES=cable end sleeves



Accessories



Mounting brackets for VM profile variant / Zero U-Space installation

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

Art. no. | Version

1 U mounting brackets

Zero-U Space

921-940-143 | · Mounting brackets left and right



1 U link

Zero-U Space

921-800-0053 | · For connecting two vertically fitted PDUs

Locking clips

921-940-103 | · Red locking clip for IEC 320 appliance socket outlets C13, supplied in packs of 12.



Cables in various colours to distinguish between power supplies

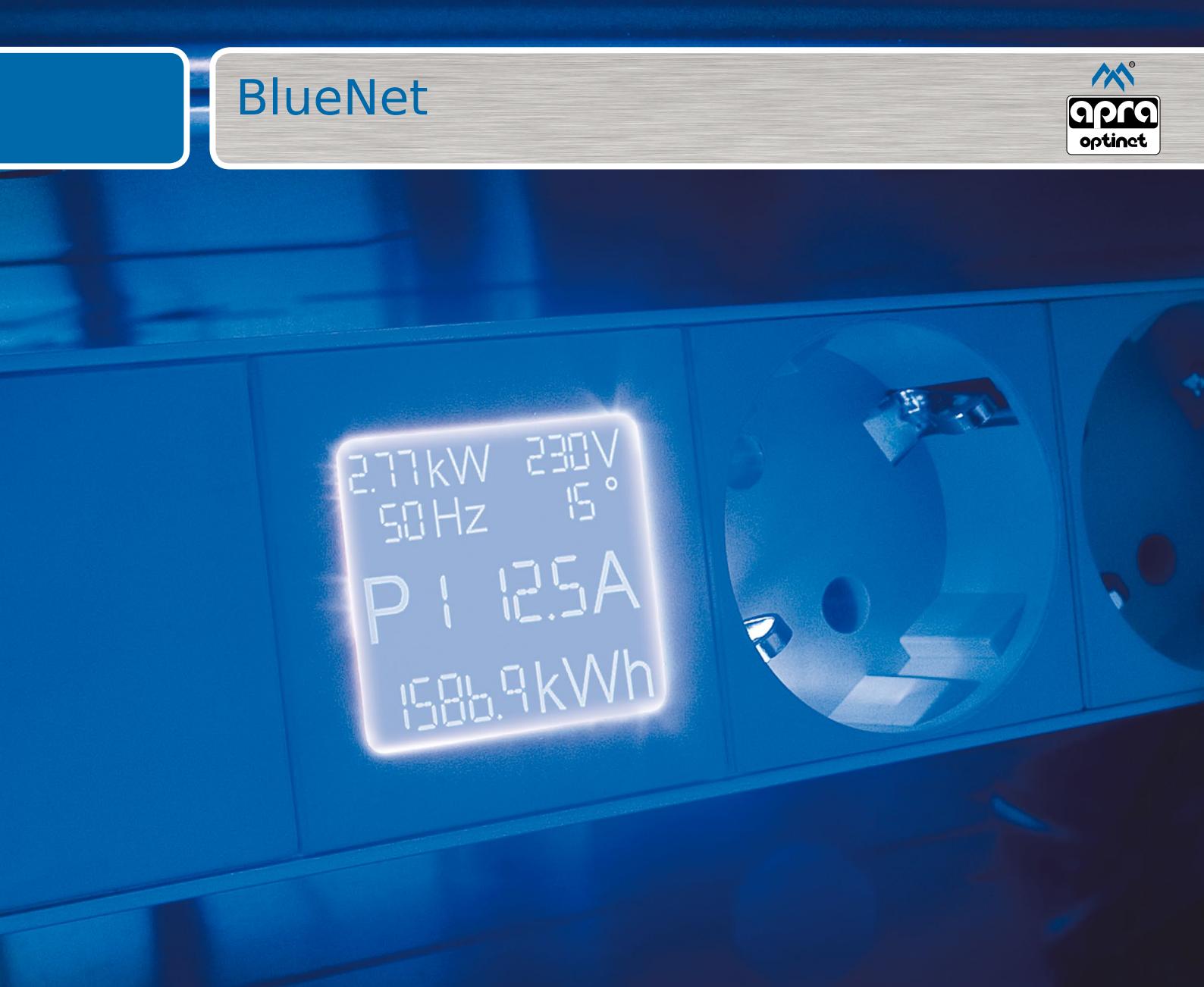
Art. no.	Cable colour	Art. no.	Cable colour	Cable cross-section mm ²	Cable length (m)	Plug	Coupling
921-356-119	black	921-356-900	grey	1.0	0.50	C14	C13
921-356-169	black	921-356-901	grey	1.0	0.75	C14	C13
921-356-120	black	921-356-902	grey	1.0	1.00	C14	C13
921-356-170	black	921-356-903	grey	1.0	1.50	C14	C13
921-356-171	black	921-356-904	grey	1.0	2.00	C14	C13
921-356-172	black	921-356-905	grey	1.5	0.50	ECP*	C13
921-356-1721	black	921-356-906	grey	1.5	0.75	ECP*	C13
921-356-1722	black	921-356-907	grey	1.5	1.00	ECP*	C13
921-356-1723	black	921-356-908	grey	1.5	1.50	ECP*	C13
921-356-1724	black	921-356-909	grey	1.5	2.00	ECP*	C13
921-356-1731	black	921-356-910	grey	1.5	0.50	C20	C19
921-356-1732	black	921-356-911	grey	1.5	0.75	C20	C19
921-356-1733	black	921-356-918	grey	1.5	1.00	C20	C19
921-356-1734	black	921-356-935	grey	1.5	1.50	C20	C19
921-356-1735	black	921-356-936	grey	1.5	2.00	C20	C19
921-356-1971	black	921-356-937	grey	1.5	0.50	ECP*	C19
921-356-1972	black	921-356-938	grey	1.5	0.75	ECP*	C19
921-356-1973	black	921-356-939	grey	1.5	1.00	ECP*	C19
921-356-1974	black	921-356-940	grey	1.5	1.50	ECP*	C19
921-356-1975	black	921-356-941	grey	1.5	2.00	ECP*	C19

NEW



*ECP=earthing contact plug

**SOEC=socket outlet with earthing contact



2.77kW 230V
50Hz 15°
P 1 125A
1586.9kWh

A close-up photograph of a blue power distribution unit. A digital display on the front shows various power parameters: 2.77kW, 230V, 50Hz, 15°, P 1 125A, and 1586.9kWh.

BlueNet

The intelligent, modular power management system.

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

Blu=Net
Efficient Power Management

Energy management

Monitor energy costs with BlueNet. All data, such as current, voltage, power, is depicted by the software and display.

Loads can then be distributed so well that failures due to circuit overloads no longer occur. Messages can be triggered automatically by means of adjustable threshold valves. Restarts controlled by web link further increase availability and flexibility.

The BlueNet technology can be easily integrated in superordinate infrastructure software solutions using extensive, integrated interfaces.

Safety

Every apra-optinet PDU is tested and documented one port at a time using a computer-based test program during production.

Electronic components are continually subject to stress tests to guarantee consistent quality.

BlueNet is only integrated in compact, very robust, yet weight-optimised aluminium housings.

Most of the requirements in relevant standards and guidelines are exceeded.

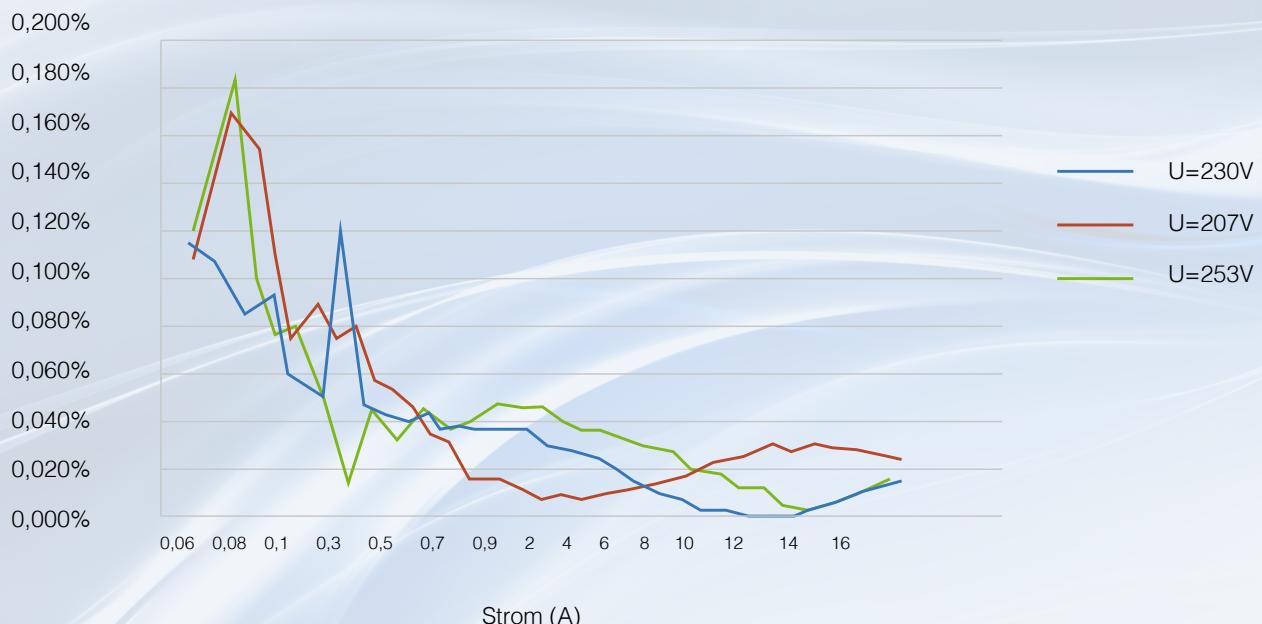
Measurement accuracy deviations of less than 1% (see diagram below).

Energy efficiency

apra-optinet BlueNet PDUs save energy. The technology used has some of the lowest consumption levels for intelligent measurement systems during operation 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 Basic Monitored series is one of the most compact power metering solutions with integrated network and sensor interface anywhere in the world.

Genauigkeit der Wirkleistung bei PF =1f=50Hz



BlueNet product matrix



AVAILABLE SINCE
JANUARY 2015

	Metered	Monitored	Monitored PLC	Monitored Inline	Monitored Inline PLC	WiFi Managed	BN3000
MEASUREMENT							
Current	x	x	x	x	x	x	x
Voltage	x	x	x	x	x	x	x
Phase angle	x	x	x	x	x		x
Frequency	x	x	x	x	x		x
Effective power	x	x	x	x	x	x	x
Reactive power		x	x	x	x		x
Apparent power		x	x	x	x	x	x
Energy meter	x	x	x	x	x	x	x
Power factor		x	x	x	x	x	x
Neutral conductor monitoring		x	x	x	x		x
Measurement per phase	x	x	x	x	x	x	x
Measurement accuracy	1%	1%	1%	1%	1%	1%	1%
DISPLAY							
Type	LCD	TFT	TFT	TFT	TFT	-	OLED
Display can be rotated using software		x	x	x	x		x
SENSORS							
Connections for external sensors		2	2	2	2	1	2
Socket outlets can be switched						x	
Switching status check						x	





AVAILABLE SINCE
JANUARY 2015

	Metered	Monitored	Monitored PLC	Monitored Inline	Monitored Inline PLC	WiFi Managed	BN3000
SWITCHING							
Timer function						x	
Threshold value switching function						x	
COMMUNICATION							
Ethernet (10/100 Mbit/s)		x	x	x	x	x	x
W-LAN 802.11 b/g/n						x	
Powerline Communication			x		x		
ModBus RTU							x
ModBus TCP							x
HTTP		x	x	x	x	x	x
HTTPS						x	x
SSH							x
DHCP		x	x	x	x	x	x
SMTP						x	x
SNMPv2		x	x	x	x		x
SNMPv3							x
SNMP Trap							x
Syslog		x	x	x	x		x
NTP		x	x	x	x	x	x
DDNS						x	
OPERATION							
Web browser		x	x	x	x	x	x
Smartphone app						x	
Local		x	x	x	x		x



BlueNet Metered & Metered Plus

Current and power metering via local display



BluNet
Metered
Series



Frequency (Hz)
Current mains frequency

Phase indicator (P)
Shows the phase (1, 2 or 3) currently being measured. Display moves automatically through the phases showing their respective measured values.

Power metering (kW)

The effective power drawn by the consumers, taking the phase angle into account. Power consumption of the connected devices.

Mains voltage (V)

Displays the voltage of the incoming mains supply to which the power meter is connected.

Phase angle

Displays the phase shift in the power network.

Current (A)

The current now being drawn by the connected devices.

Total energy consumption (kWh)

The total energy consumption shown on the display is calculated taking the phase angle into account.

The advantages at a glance

- Current measurement
- Voltage measurement
- Phase angle measurement
- Effective power calculated with regard to phase angle
- Frequency measurement
- BlueNet display
- Accuracy class 1

BlueNet Metered (16 A / 230 V / 50 Hz)

- Integrated current measurement for up to 32 A (depending on version)
- 3-digit current readout on illuminated LCD
- Measurement accuracy +/- 1%
- End caps riveted and do not open
- Includes mounting brackets and screws
- Plastic light grey, aluminium profile silver



Art. no.	Version	Dimensions (L x W x H)
BlueNet Metered		
	integrated ammeter, 2.0 m H05VV-F 3G 1.50 mm ² , black, with right angle plug with earthing contact	
921-333-808	7 socket outlets with earthing contact	approx. 482.6 x 44 x 58
921-333-810	8 IEC320 sockets C13	approx. 482.6 x 44 x 58
921-333-862	7 IEC320 C19 sockets	approx. 482.6 x 44 x 58
921-333-864	7 UTE socket outlets	approx. 482.6 x 44 x 58
integrated ammeter, 2.0 m H05VV-F 3G 1.00 mm ² , black, with CH plug type 12		
921-333-0422	7 CH socket outlets type 13	approx. 482.6 x 44 x 58



BlueNet Metered Plus (16 A / 230 V / 50 Hz)

- Integrated measurement of:
- current, effective power, voltage, frequency, phase angle and energy
- Indication on illuminated LCD
- Energy meter which can be reset (value is stored even if there is no power supply)
- Measurement accuracy +/- 1%
- End caps riveted and do not open
- Includes mounting brackets and screws
- Plastic light grey, aluminium profile silver



Art. no.	Version	Dimensions (L x W x H)
BlueNet Metered Plus		
	integrated power metering, 2.0 m H05VV-F 3G 1.50 mm ² , black, with right angle plug with earthing contact	
921-329-213	6 socket outlets with earthing contact	approx. 482.6 x 44 x 58
921-329-214	8 IEC320 sockets C13	approx. 482.6 x 44 x 58
921-329-215	6 IEC320 C19 sockets	approx. 482.6 x 44 x 58
integrated power metering, 2.0 m H05VV-F 3G 1.50 mm ² , black, with right angle plug with earthing contact		
921-800-1658	24 x IEC320 C13; 4 x IEC320 C19 with IEC lock	approx. 1076 x 44 x 58



BlueNet Metered Plus (16A / 400V / 50 Hz)

Art. no.	Version	Dimensions (L x W x H)
BlueNet Metered Plus		
	integrated power metering, 3.0 m H05VV-F 5G 2.50 mm ² , black, with CEE plug	
921-800-1659	24 x IEC320 C13; 3 x IEC320 C19 with IEC lock	approx. 1546 x 44 x 58



921-329-213



921-329-214



921-329-215



BlueNet Monitored

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



Mains voltage (V)

Displays the voltage of the incoming mains supply to which the power meter is connected.

Current (A)

The current now being drawn by the connected devices.

BlueNet Monitored

230 V 50.00 Hz

12.5 A PF 0.966

2.77 kW

MODE

DELTA

Frequency (Hz)

Current mains frequency

Power factor

Displays the power factor.

Power metering (kW)

The effective power drawn by the consumers, taking the phase angle into account. Power consumption of the connected devices.

BlueNet Monitored as vertical variant for monitoring racks with high packing and power density

- Robust aluminium housing
- 1-phase and 3-phase versions
- 3.6 KW - 22 KW power range
- Extremely compact PDU power metering in 1 U profile (44 mm x 47 mm)
- Coloured phase assignment of socket outlet with earthing contact and IEC320 socket inserts
- Measurement of: current per phase & in total, power per phase & in total (effective, apparent and reactive power)
- Energy consumption, voltage, frequency, power factor, N conductor, current
- Integrated temperature sensor also for self-monitoring
- Two more sensors (temp./humidity) can be connected. If combi sensor is connected, up to an extra
- 2x temp. + 2x humidity measurements possible
- Operated locally or using web browser via Ethernet port
- Protocols: HTTP, SNMP, Ethernet 10/100 MBit/s, DHCP, NTP
- High-resolution 2" TFT display, display can be rotated
- Measurement accuracy +/- 1%
- Internal consumption < 1 W

The advantages at a glance



Combined temperature and air humidity sensor which can be easily secured to the rack using the integrated magnet.



BlueNet Monitored as 19" variant for monitoring the network and distributor racks

BlueNet Monitored

- [Home](#)
- [Analyzer](#)
- [Settings](#)
- [Users](#)
- [Maintenance](#)
- [Password](#)
- [About](#)

Channels			
	Active Energy (kWh)	Active Power (W)	Current (A)
CH1 L1	28.663	0	0.00
CH2 L2	197.921	15	0.15
CH3 L3	11.338	1	0.00
CH4 N			0.16

Groups			
	Active Energy (kWh)	Active Power (W)	Current (A)
Pre-defined			
Total CH1-3	237.921	16	0.16

Environment	
	Temperature (°C)
Internal Sensor	20.9
External Sensor 1	23.1

- Overview of the system
- Display of effective energy meter, load and current
- Display of internal and external environmental sensors

BlueNet Monitored

- [Home](#)
- [Analyzer](#)
- [Settings](#)
- [Users](#)
- [Maintenance](#)
- [Password](#)
- [About](#)

Analyzer						
	P (W)	Q (var)	S (VA)	U (V)	I (A)	PF
CH1 L1	0	0	0	231.1	0.00	0.000
CH2 L2	15	-15	36	231.2	0.15	0.438
CH3 L3	1	0	1	231.1	0.00	0.000
CH4 N						50.00

Groups				
	P (W)	Q (var)	S (VA)	I (A)
Pre-defined				
Total CH1-3	16	-15	36	0.16

- Detailed view of the three phases and neutral conductor
- Display of effective, apparent and reactive power, voltage, current, power factor and frequency





Article number	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	C13	C19 IEC LOCK	SOEC*	C19	C16A miniature circuit-breaker	Outlets in total	from stock	Length (mm)
921-329-3009	H05VV-F	1.5	2	ECP*	1	230	16	3.7			6			6	x	438.5
921-329-3010	H05VV-F	1.5	2	ECP*	1	230	16	3.7	8					8	x	438.5
921-329-3012	H05VV-F	1.5	3	CEE	3	400	16	11.0	36		6			42	x	1757.7
921-329-3013	H05VV-F	1.5	3	CEE	3	400	16	11.0	36		6			42	x	1757.7
NEW 921-329-3056	H05VV-F	4	3	CEE	1	230	32	7.4	24	4			2	28	x	1330.7
NEW 921-329-3057	H05VV-F	2.5	3	CEE	1	230	16	3.7	24	3				27	x	1032.6
NEW 921-329-3058	H05VV-F	4	3	CEE	3	400	32	22.1	24	6			3	30	x	1883
NEW 921-329-3059	H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6				30	x	1373

BlueNet Monitored accessories



Art. no.	Description
BlueNet Monitored accessories	
921-329-3102	Temperature sensor for cable, 2.0m cable
921-329-3104	Combined temperature and humidity sensor for 2.0m cable
921-329-3105	USB cable for connecting PDU directly to PC



Accessories



Mounting brackets for VM profile variant / Zero U-Space installation

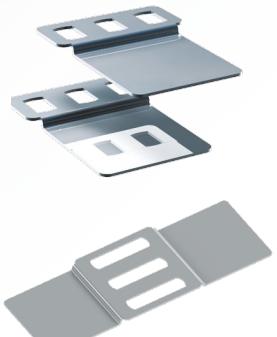
- Power strip is fixed by insertion into the profile groove provided.
- No additional screws required.

Art. no. | Version

1 U mounting brackets

Zero-U Space

921-940-143 | · Mounting brackets left and right



1 U link

Zero-U Space

921-800-0053 | · For connecting two vertically fitted PDUs



Locking clips

921-940-103 | · Red locking clip for IEC 320 appliance socket outlets C13, supplied in packs of 12.

Cables in various colours to distinguish between power supplies

Art. no.	Cable colour	Art. no.	Cable colour	Cable cross-section mm ²	Cable length (m)	Plug	Coupling
921-356-119	black	921-356-900	grey	1.0	0.50	C14	C13
921-356-169	black	921-356-901	grey	1.0	0.75	C14	C13
921-356-120	black	921-356-902	grey	1.0	1.00	C14	C13
921-356-170	black	921-356-903	grey	1.0	1.50	C14	C13
921-356-171	black	921-356-904	grey	1.0	2.00	C14	C13
921-356-172	black	921-356-905	grey	1.5	0.50	ECP*	C13
921-356-1721	black	921-356-906	grey	1.5	0.75	ECP*	C13
921-356-1722	black	921-356-907	grey	1.5	1.00	ECP*	C13
921-356-1723	black	921-356-908	grey	1.5	1.50	ECP*	C13
921-356-1724	black	921-356-909	grey	1.5	2.00	ECP*	C13
921-356-1731	black	921-356-910	grey	1.5	0.50	C20	C19
921-356-1732	black	921-356-911	grey	1.5	0.75	C20	C19
921-356-1733	black	921-356-918	grey	1.5	1.00	C20	C19
921-356-1734	black	921-356-935	grey	1.5	1.50	C20	C19
921-356-1735	black	921-356-936	grey	1.5	2.00	C20	C19
921-356-1971	black	921-356-937	grey	1.5	0.50	ECP*	C19
921-356-1972	black	921-356-938	grey	1.5	0.75	ECP*	C19
921-356-1973	black	921-356-939	grey	1.5	1.00	ECP*	C19
921-356-1974	black	921-356-940	grey	1.5	1.50	ECP*	C19
921-356-1975	black	921-356-941	grey	1.5	2.00	ECP*	C19

NEW



*ECP=earthing contact plug





BlueNet BN3000 (Master / Slave)

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



AVAILABLE SINCE
JANUARY 2015

Measurement

Current, power (effective, apparent and reactive power), energy consumption, voltage, frequency, power factor, N conductor

Integrated display

The most important measured values at rack level at a glance.



Overview

Shows the measured values of all phases in an overview.

Display can be rotated

The display can be rotated in 90° steps so it is easier to read.



Scrolling

The keys on the front can be used to scroll through the various measured values.

BlueNet BN3000 is the next generation of BlueNet products. An optimised shape factor, PDUs that can be cascaded via Modbus and a rotatable OLED display create the ideal basis for the energy monitoring system of the future.

The data centre's mains supply is monitored and remotely controlled from the comfort of your desk with BlueNet Network 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.

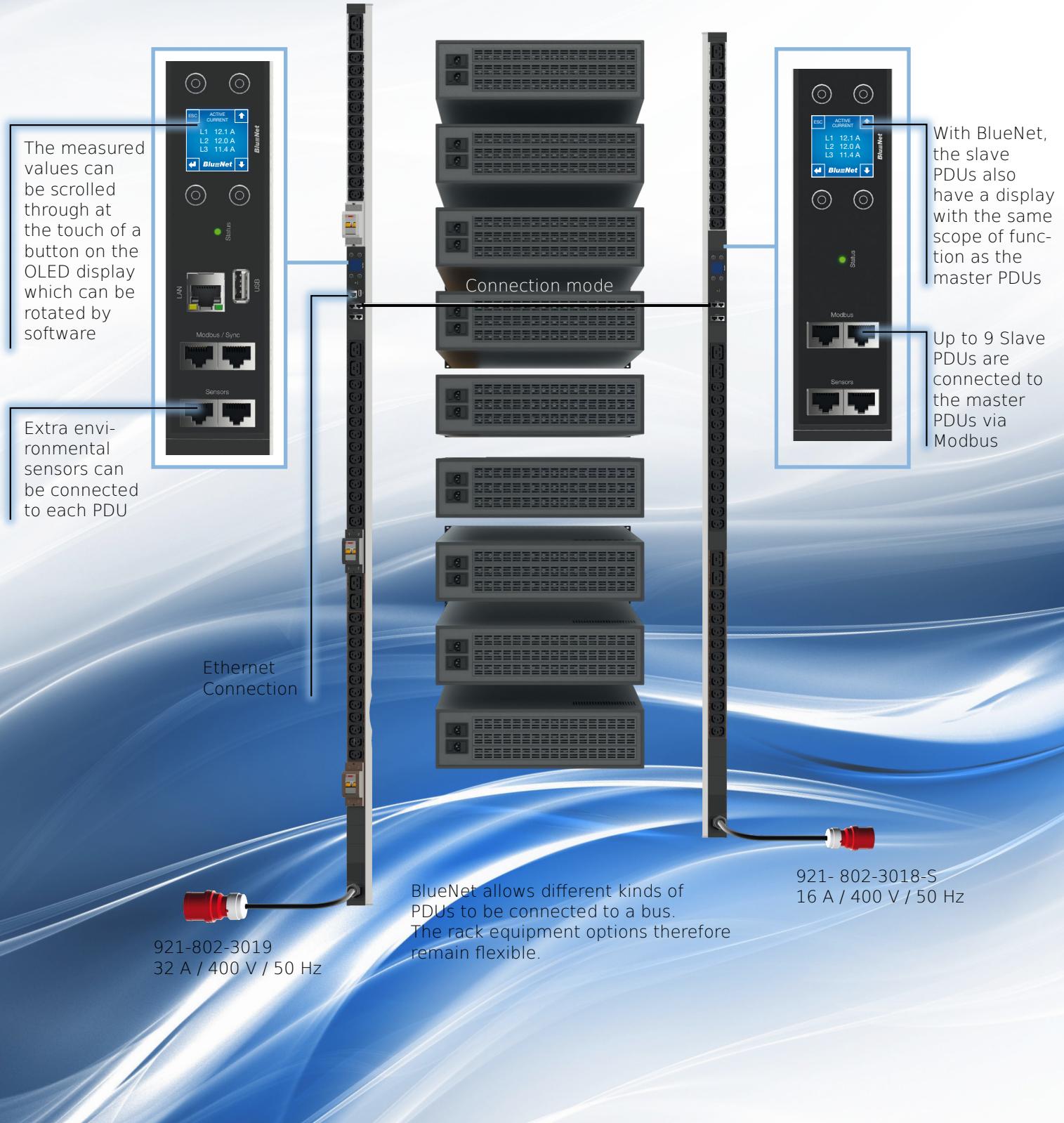
The advantages at a glance

- PDUs can be cascaded via Modbus, just one Ethernet connection is needed for 10 PDUs
- Extremely compact design (1U wide x 60mm deep)
- OLED display can be rotated
- Robust housing made from torsionally rigid aluminium profile
- 1-phase and 3-phase versions
- 3.6 kW - 22 kW power range
- Coloured phase assignment of socket inserts
- Measurement of: Current, power (effective, apparent and reactive power), energy consumption, voltage, frequency, power factor, N conductor
- Measurement per phase
- Option for connecting external sensors (temperature / air humidity)
- Operated locally or using web browser via Ethernet port
- Protocols: HTTP, v SNMP, Ethernet 10/100 MBit/s, DHCP, NTP
- Measurement accuracy +/- 1%
- Internal consumption < 4 W



BlueNet BN3000 (Master / Slave)

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



BlueNet BN3000 (Master / Slave)

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

NEW

Article number	Article number for slave variant	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	C13	C19	SOEC**	Outlets in total	from stock
921-802-3004	921-802-3004-S	H05VV-F	2.5	3	CEE	1	230	16	3.7	16	4	0	20	OR
921-802-3005	921-802-3005-S	H05VV-F	4	3	CEE	1	230	32	7.4	16	4	0	20	OR
921-802-3006		H05VV-F	2.5	3	CEE	1	230	16	3.7	16	0	4	20	OR
921-802-3007		H05VV-F	4	3	CEE	1	230	32	7.4	16	0	4	20	OR
921-802-3008		H05VV-F	2.5	3	CEE	3	400	16	11.0	0	6	0	6	OR
921-802-3009		H05VV-F	4	3	CEE	3	400	32	22.1	0	6	0	6	OR
921-802-3010		H05VV-F	2.5	3	CEE	3	400	16	11.0	18	3	0	21	OR
921-802-3011		H05VV-F	2.5	3	CEE	3	400	16	11.0	18	0	3	21	OR
921-802-3012	921-802-3012-S	H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6	0	30	OR
921-802-3013	921-802-3013-S	H05VV-F	4	3	CEE	3	400	32	22.1	24	6	0	30	OR
921-802-3014		H05VV-F	2.5	3	CEE	3	400	16	11.0	24	0	6	30	OR
921-802-3015		H05VV-F	4	3	CEE	3	400	32	22.1	24	0	6	30	OR
921-802-3016		H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6	6	36	OR
921-802-3017		H05VV-F	4	3	CEE	3	400	32	22.1	24	6	6	36	OR
921-802-3018	921-802-3018-S	H05VV-F	2.5	3	CEE	3	400	16	11.0	36	6	0	42	OR
921-802-3019	921-802-3019-S	H05VV-F	4	3	CEE	3	400	32	22.1	36	6	0	42	OR
921-802-3020		H05VV-F	2.5	3	CEE	3	400	16	11.0	36	0	6	42	OR
921-802-3021		H05VV-F	4	3	CEE	3	400	32	22.1	36	0	6	42	OR



**SOEC=socket outlet with earthing contact OR = on request



Maximum availability and safety with BlueNet RESIDUAL CURRENT MONITORING (RCM)



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 gain in time allows countermeasures to be planned and contributes to the high availability of the power supply and therefore the system. Thanks to the aprä-optinet 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. The new BlueNet residual current PDU is therefore particularly suited to use in IT.

Permanent monitoring is absolutely essential in modern information technology. Continuous monitoring equipment reduces the work involved in statutory repeat tests. In accordance with accident prevention guidelines (BGV A3), the testing dates for measuring insulation can be adapted to suit actual circumstances and optimise costs using permanent RCM. DIN VDE 0100-410 (Protective measures – protection from electric shock) is also applied as prescribed by law for final circuits of up to 20 A without use of an RCD, which may result in undesired switching off.

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. 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 cut off 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.



The advantages at a glance

Greater safety for people, operations and systems:

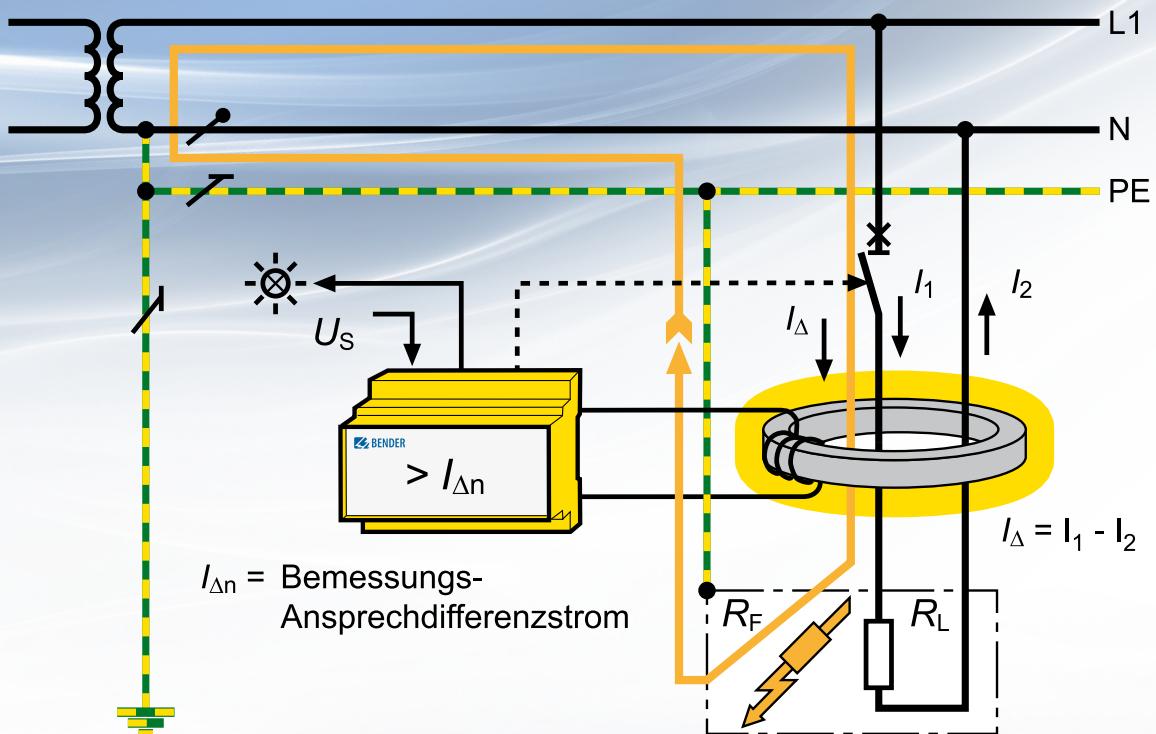
- Early detection of data loss and network failure
- DIN VDE 0100-410 is applied as prescribed by law for final circuits of up to 20 A without use of an RCD
- Recording of residual currents at the consumer socket outlet directly for the fastest possible error localisation
- Preventative safety to protect people from the hazards caused by electric current
- Faults and unexpected interruptions to the operation of sensitive equipment are minimised
- Insulation errors in newly installed systems and devices are detected immediately
- Permanent monitoring of systems and operating equipment
- TN-S systems are monitored for additional unwanted N-PE bridges

More cost-effective

- Continuous monitoring equipment reduces the work involved in repeat tests. In accordance with §5 of the accident prevention guidelines BGV A3, the testing dates for measuring insulation can be adapted to suit actual circumstances using permanent RCM.
- No expensive and unscheduled system downtimes and service interventions

Greater fire protection

- Combustible residual currents are recognised as they arise.



Article number	Article number Slave variant	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	C13	C19	SOEC*	Outlets in total	from stock
921-802-3022		H05VV-F	2.5	3	CEE	3	400	16	11.0	18	3	0	21	OR
921-802-3023		H05VV-F	2.5	3	CEE	3	400	16	11.0	18	0	3	21	OR
921-802-3024	921-802-3024-S	H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6	0	30	OR
921-802-3025	921-802-3025-S	H05VV-F	4	3	CEE	3	400	32	22.1	24	6	0	30	OR
921-802-3026	921-802-3026-S	H05VV-F	2.5	3	CEE	3	400	16	11.0	36	6	0	42	OR



921-802-3022



921-802-3024



921-802-3025



921-802-3026





BlueNet Monitored PLC (Power Line Communication)

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



The advantages
at a glance

- Robust aluminium housing
- 1-phase and 3-phase versions
- 3.6 KW - 22 KW power range
- Extremely compact PDU power metering in 1 U profile (44 mm x 47 mm)
- Coloured phase assignment of socket outlet with earthing contact and IEC320 socket inserts
- Measurement of: Current per phase & in total, power per phase & in total (effective, apparent and reactive power)
- Energy consumption, voltage, frequency, power factor, N conductor, current
- Integrated temperature sensor also for self-monitoring
- Two more sensors (temp./humidity) can be connected. If combi sensor is connected, up to an extra
• 2x temp. + 2x humidity measurements possible
- Operated locally or using web browser via Ethernet port
- Protocols : HTTP; SNMP, Ethernet 10/100 MBit/s, DHCP, NTP
- High-resolution 2" TFT display, display can be rotated
- Measurement accuracy +/- 1%
- Internal consumption < 1 W
- Transmission of all data via Ethernet and powerline (SNMP protocol)



Benefits of Power Line technology

- The PLC module can be combined with all BlueNet Monitored products
- Narrowband Powerline Communication (PLC) with high availability and not susceptible to disturbances
- Data from any number of PDUs is managed centrally using a concentrator
- Optimisation of investment and operating costs through reduction in network cabling, patch cabling, IP addresses and switch ports
- No additional space needed in the PDU for the PLC module
- No cable-lined radiation / disturbances in the network
- 95-125 kHz according to Cenelec B
- Internal consumption 0.2 W

BlueNet Monitored modules with PLC

Keep an eye on costs with monitored power consumption and power factor

- Each device has a unique serial number, which appears in the SNMP tree via a central unit
- Connection and disconnection without interrupting data communication.
- Each unit has a unique serial number.
- 7 units are queried per second.
Around 300 units a minute can be queried in parallel with one central unit.
- If the units are supplied by different three-phase power systems, one central unit must be used per system.
- Alarms are issued in real time. Individual nodes can be selected and therefore queried every second.

PLC Concentrator

- Very compact Power Line Concentrator
- (35mm DIN rail (type O) can be fitted on top hat rails)
- All data is recorded centrally by the data concentrator (3 phases) and therefore managed centrally too.
- All SNMP-capable management software can read the data from the data concentrator
- No moving parts (no fans, has passive cooling, industrial-strength Flash memory)
- Serial connection for maintenance and updates
- 10/100 Mbps Ethernet interface
- Status LEDs



BlueNet PDU Basic PLC Monitored

Mains voltage (V)

Displays the voltage of the incoming mains supply to which the power meter is connected.

Current (A)

The current now being drawn by the connected devices.

230 V 50.00 Hz

12.5 A PF 0.966

2.77 kW

MODE

DELTA

Frequency (Hz)

Current mains frequency

Power factor

Displays the power factor.

Power metering (kW)

The effective power drawn by the consumers, taking the phase angle into account. Power consumption of the connected devices.



BlueNet Monitored PLC

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

NEW

Article number	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	C13	C19 IEC LOCK	C16A miniature circuit-breaker	Outlets in total	on request	Length (mm)
921-329-3111	H05VV-F	2.5	3	CEE	3	400	16	11.0	36			36	x	1458
921-329-3112	H05VV-F	4	3	CEE	1	230	32	7.4	24	4	2	28	x	1330.7
921-329-3113	H05VV-F	2.5	3	CEE	1	230	16	3.7	24	3		27	x	1032.6
921-329-3114	H05VV-F	4	3	CEE	3	400	32	22.1	24	6	6	30	x	1883
921-329-3115	H05VV-F	2.5	3	CEE	3	400	16	11.0	24	6		30	x	13.773



BlueNet Power Line Concentrator

The BlueNet Power Line Concentrator collects the data from the Power Line PDUs and supplies it to the network via the Ethernet interface



Art. no. | Version

BlueNet Concentrator with Power Line communications module

Assembly on 35mm DIN rail (type 0) / top hat rail

921-329-3016 | 1 phase / 230 V

921-329-3017 | 3 phases / 400 V

BlueNet Monitored accessories



Art. no. | Description

BlueNet Monitored accessories

921-329-3102 | Temperature sensor 2.0m cable

921-329-3104 | Combined temperature and humidity sensor 2.0m cable

921-329-3105 | USB cable for connecting PDU directly to PC



Accessories



Mounting brackets for VM profile variant / Zero U-Space installation

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

Art. no. | Version

1 U mounting brackets

Zero-U Space

921-940-143 | · Mounting brackets left and right



1 U link

Zero-U Space

921-800-0053 | · For connecting two vertically fitted PDUs

Locking clips

921-940-103 | · Red locking clip for IEC 320 appliance socket outlets C13, supplied in packs of 12.

Cables in various colours to distinguish between power supplies

Art. no.	Cable colour	Art. no.	Cable colour	Cable cross-section mm ²	Cable length (m)	Plug	Coupling
921-356-119	black	921-356-900	grey	1.0	0.50	C14	C13
921-356-169	black	921-356-901	grey	1.0	0.75	C14	C13
921-356-120	black	921-356-902	grey	1.0	1.00	C14	C13
921-356-170	black	921-356-903	grey	1.0	1.50	C14	C13
921-356-171	black	921-356-904	grey	1.0	2.00	C14	C13
921-356-172	black	921-356-905	grey	1.5	0.50	ECP*	C13
921-356-1721	black	921-356-906	grey	1.5	0.75	ECP*	C13
921-356-1722	black	921-356-907	grey	1.5	1.00	ECP*	C13
921-356-1723	black	921-356-908	grey	1.5	1.50	ECP*	C13
921-356-1724	black	921-356-909	grey	1.5	2.00	ECP*	C13
921-356-1731	black	921-356-910	grey	1.5	0.50	C20	C19
921-356-1732	black	921-356-911	grey	1.5	0.75	C20	C19
921-356-1733	black	921-356-918	grey	1.5	1.00	C20	C19
921-356-1734	black	921-356-935	grey	1.5	1.50	C20	C19
921-356-1735	black	921-356-936	grey	1.5	2.00	C20	C19
921-356-1971	black	921-356-937	grey	1.5	0.50	ECP*	C19
921-356-1972	black	921-356-938	grey	1.5	0.75	ECP*	C19
921-356-1973	black	921-356-939	grey	1.5	1.00	ECP*	C19
921-356-1974	black	921-356-940	grey	1.5	1.50	ECP*	C19
921-356-1975	black	921-356-941	grey	1.5	2.00	ECP*	C19

NEW



*ECP=earthing contact plug





WiFi/LAN module

The complete solution for small and mid-sized IT applications



MODULARITY

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

METERING + SWITCHING

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

WIFI ANTENNA

The WiFi/LAN module is available with an internal or external antenna.

ALARM FUNCTION

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

COMMUNICATION

Ethernet interface as well as WiFi connectivity (802.11 b/g/n) and DDNS support.

WIFI/LAN MODULE

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

The new BlueNet WiFi/LAN module provides three separate switching and measuring groups for extended power metering and temperature measuring, and 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 WiFi app is available for mobile end devices.

The maximum switching capacity is a full 16 A per switching group. Switching can be performed both manually and automatically using load, temperature or time thresholds which can be set individually.

The WiFi/LAN module can be integrated in virtually all apra-optinet products. External temperature sensors are available as accessories in lengths of 3, 10 and 20m.

An external RP-SMA antenna connection is provided for all apra-optinet's IT WiFi/LAN products.

External WiFi antennas are also available as accessories.

Thanks to its compact design, the WiFi/LAN module can be integrated in the modular apra-optinet system and combined with connector systems, basic products and other components.

Manual switching

The WiFi/LAN module is accessed by Internet browser or mobile app. A static or dynamic IP address of the local network is assigned to the WiFi/LAN module. A dynamic DNS is fully supported and allows access (including remote access) to connected WiFi/LAN products with all functions, such as switching the switching outputs and monitoring of temperature and power data at any time. Depending on product variant, can also be switched using local buttons.

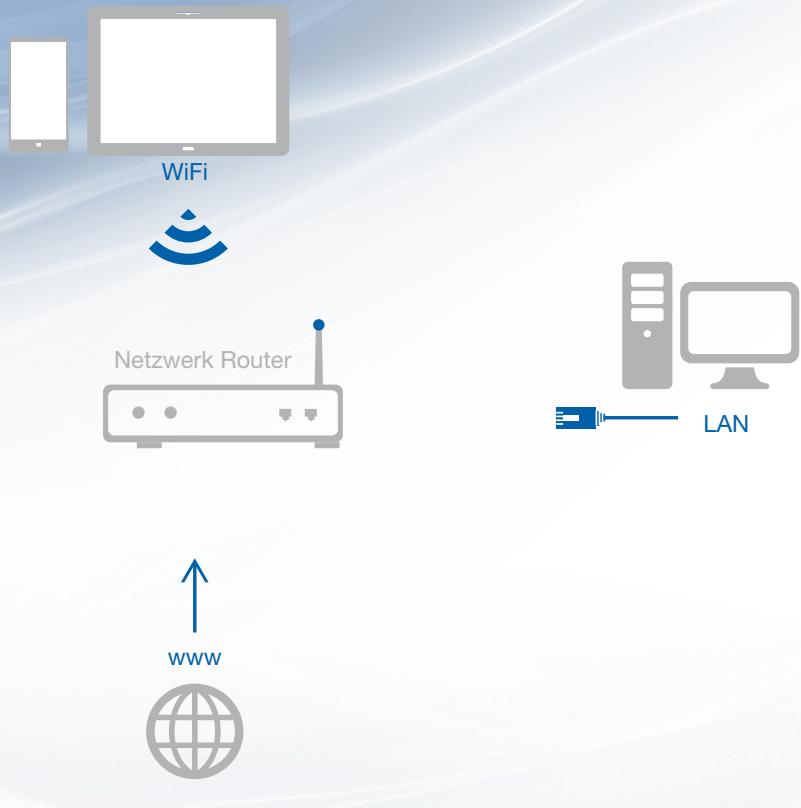
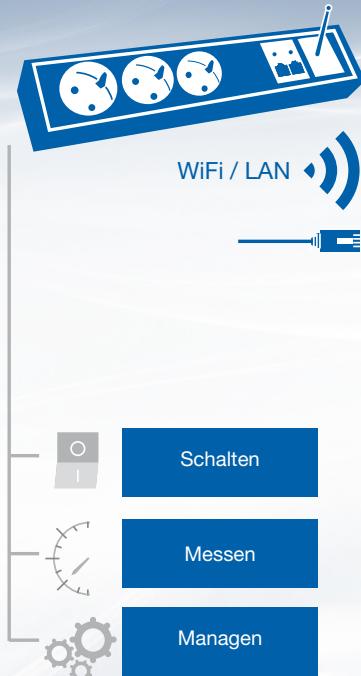
The advantages at a glance

- Three switching groups of 16 A each
- Temperature measurement and power metering
- Load management and cost control
- Management via web interface and smartphone app
- Remote online access via Dynamic DNS
- WiFi (802.11 b/g/n) and Ethernet connectivity



Technologie

WiFi / LAN Modul



Time-controlled switching

The WiFi/LAN module provides convenient programming of the timer via the web browser. Only the time is entered during daily switching (on/off). The socket outlet's system time can be automatically synchronised via the Internet on a daily basis. The days of the week can be set for weekly switching processes. The switching actions (on/off) are selected individually for each time. All settings are saved in an individual profile. Up to four profiles can be created with the WiFi/LAN module.

Temperature monitoring, threshold value alarms and temperature-dependent switching

The ambient temperature is measured using the connected temperature sensor and displayed directly in the web browser and app. If values exceed or fall below personally defined threshold values, e-mails are sent automatically. Limit values, at which the selected switching groups are switched automatically, allow e.g. an air conditioning device or a heating fan to function in a particular temperature range with the aid of WiFi/LAN technology.

Power metering, issuing of threshold value alarms and load-dependent switching

Within the WiFi/LAN module, the present electrical power of the three switching groups is measured and visualised via a web interface or app. Again automatic switching is possible following a freely definable effective power threshold value per switching group. E-mails can also be sent automatically if values exceed or fall below the measured power or electrical work.

Key facts

- Measurement of: Temperature, voltage (V), current (A), cos Φ , effective power (W), apparent power (VA), work (kWh) and costs (€)
- Switching function: manual, by power, temperature or time; three switching groups of 16A each
- Communication: WiFi (802.11 b/g/n, Ethernet 10/100), supports DDNS
- SSL-encrypted e-mail messages when values exceed or fall below threshold values
- Integrated web server with graphic management interface
- Client applications for Android and iOS
- With internal or external antenna as an option
- Measurement accuracy +/- 1%



App for smartphones or tablet PCs

The app is available from the Play Store (for Android) or the App Store (for iOS) by searching for BlueNet WiFi. The present temperature, current switching statuses and current power metering data are displayed. The socket outlets can be switched on and off. If a Dynamic DNS address is entered, this entire functional scope can be accessed remotely via 3G or 4G.



Smartphone interface



Tablet interface



Website interface

A screenshot of the BlueNet WiFi website's configuration page for temperature control. It shows a table for setting temperature thresholds for three sockets. The first row has "Temperaturwert 1" set to 22°C and "Temperaturwert 2" to 0°C. The second row has "Temperaturwert 1" set to 0°C and "Temperaturwert 2" to 16°C. The third row has "Temperaturwert 1" set to 44°C and "Temperaturwert 2" to 28°C. Below the table, there are checkboxes for "obensteht" (upper limit) and "untensteht" (lower limit) for each socket, with detailed descriptions of what each setting does.

A screenshot of the BlueNet WiFi website's monitoring and energy consumption section. It includes a "Überwachung" (Monitoring) tab with fields for "E-Mail nach Systemstart" and "Temperaturüberwachung" (Temperature monitoring) for two temperature ranges. It also includes sections for "Arbeitsüberwachung" (Work monitoring) and "Leistungsüberwachung" (Power monitoring) with checkboxes for kWh and W. At the bottom, there is a graph titled "Temperaturverlauf der letzten 24 Stunden" (Temperature trend over the last 24 hours) showing temperature fluctuations over time.

A screenshot of the BlueNet WiFi website's advanced monitoring and reporting section. It includes a "Überwachung" tab with "Temperaturüberwachung" settings. It also includes sections for "Arbeitsüberwachung" and "Leistungsüberwachung". At the bottom, there is a "Leistungsmeldung" (Power report) section with checkboxes for "W" and "kWh" for three different power levels (Arbeit 1, Arbeit 2, Arbeit 3) and a "Leistung (gesamt)" (Total power) section with a "Text" input field.



WiFi/LAN power metering (BlueNet Basic WiFi/LAN)

- Power metering
- Temperature monitoring
- Threshold value alarms



Article number	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	C13	C19 IEC LOCK	SOEC**	UTE	T13	Outlets in total	from stock	Dimensions (LxWxH)
921-820-034	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			3			3	yes	437 x 44.4 x 46.2
921-820-036	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			3			3	yes	437 x 44.4 x 46.2
921-820-038	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			3			3	yes	437 x 44.4 x 46.2
921-820-035	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			6			6	yes	607 x 44.4 x 46.2
921-820-037	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			6			6	yes	607 x 44.4 x 46.2
921-820-039	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7			6			6	yes	437 x 44.4 x 92.4
921-820-040	H05VV-F	3G 1.5	2	CEE 16	1	230	16	3.7	24	3				27	yes	1245 x 44.4 x 46.2
921-820-041	H05VV-F	3G 1.5	2	CEE 16	3	400	16	11.0	24	3				27	no	1245 x 44.4 x 46.2

*ECP=earthing contact plug

**SOEC=socket outlet with earthing contact



WiFi/LAN power metering & switching (BlueNet Basic WiFi/LAN Managed)

- Power metering
- Temperature monitoring
- Issuing of threshold value alarms
- Remote switching
- Time-controlled switching
- Temperature-dependent switching



Article number	Cable type	Cable cross-section mm ²	Cable length (m)	Plug	Phase(s)	Rated voltage (V)	Current (A)	Max power in kVA	SOEC**	UTE	T13	Outlets in total	from stock	Dimensions (LxWxH)
921-820-028	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7	3			3	yes	437 x 44.4 x 46.2
921-820-030	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7		3		3	yes	522 x 44.4 x 46.2
921-820-032	H05VV-F	3G 1.5	2	T12	1	230	16	3.7			3	3	yes	437 x 44.4 x 46.2
921-820-029	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7	6			6	yes	522 x 44.4 x 46.2
921-820-031	H05VV-F	3G 1.5	2	ECP*	1	230	16	3.7		6		6	yes	607 x 44.4 x 46.2
921-820-033	H05VV-F	3G 1.5	2	T12	1	230	16	3.7			9	9	yes	522 x 44.4 x 46.2

*ECP=earthing contact plug

**SOEC=socket outlet with earthing contact



WiFi/LAN accessories



Art. no.	Description
BlueNet Monitored accessories	
921-820-045	External temperature sensor 3.0 m; jack plug 2.5 mm; measuring range of sensor max. -50°C to 110°C
921-820-046	External temperature sensor 10 m; jack plug 2.5 mm; measuring range of sensor max. -50°C to 110°C; water-tight IP88
921-820-047	External temperature sensor 20 m; jack plug 2.5 mm; measuring range of sensor max. -50°C to 110°C; water-tight IP88
921-820-048	RP-SMA WiFi antenna; with pivoted joint; 802.11 b/g/n; boosting 2dBi
921-820-049	RP-SMA WiFi antenna; with pivoted joint; 802.11 b/g/n; boosting 5dBi
921-820-050	RP-SMA WiFi antenna; magnetic and rubberised supporting foot; can be tilted into 3 positions; Antenna cable 1m; 802.11 b/g/n; boosting 6dBi
921-820-051	SMA-RP extension 2.0m; end 1: SMA-RP plug; end 2: SMA-RP socket; black
921-820-052	SMA-RP extension 5.0m; end 1: SMA-RP plug; end 2: SMA-RP socket; black

Cables in various colours to distinguish between power supplies

Art. no.	Cable colour	Art. no.	Cable colour	Cable cross-section mm ²	Cable length (m)	Plug	Coupling
921-356-119	black	921-356-900	grey	1.0	0.50	C14	C13
921-356-169	black	921-356-901	grey	1.0	0.75	C14	C13
921-356-120	black	921-356-902	grey	1.0	1.00	C14	C13
921-356-170	black	921-356-903	grey	1.0	1.50	C14	C13
921-356-171	black	921-356-904	grey	1.0	2.00	C14	C13
921-356-172	black	921-356-905	grey	1.5	0.50	ECP*	C13
921-356-1721	black	921-356-906	grey	1.5	0.75	ECP*	C13
921-356-1722	black	921-356-907	grey	1.5	1.00	ECP*	C13
921-356-1723	black	921-356-908	grey	1.5	1.50	ECP*	C13
921-356-1724	black	921-356-909	grey	1.5	2.00	ECP*	C13
921-356-1731	black	921-356-910	grey	1.5	0.50	C20	C19
921-356-1732	black	921-356-911	grey	1.5	0.75	C20	C19
921-356-1733	black	921-356-918	grey	1.5	1.00	C20	C19
921-356-1734	black	921-356-935	grey	1.5	1.50	C20	C19
921-356-1735	black	921-356-936	grey	1.5	2.00	C20	C19
921-356-1971	black	921-356-937	grey	1.5	0.50	ECP*	C19
921-356-1972	black	921-356-938	grey	1.5	0.75	ECP*	C19
921-356-1973	black	921-356-939	grey	1.5	1.00	ECP*	C19
921-356-1974	black	921-356-940	grey	1.5	1.50	ECP*	C19
921-356-1975	black	921-356-941	grey	1.5	2.00	ECP*	C19

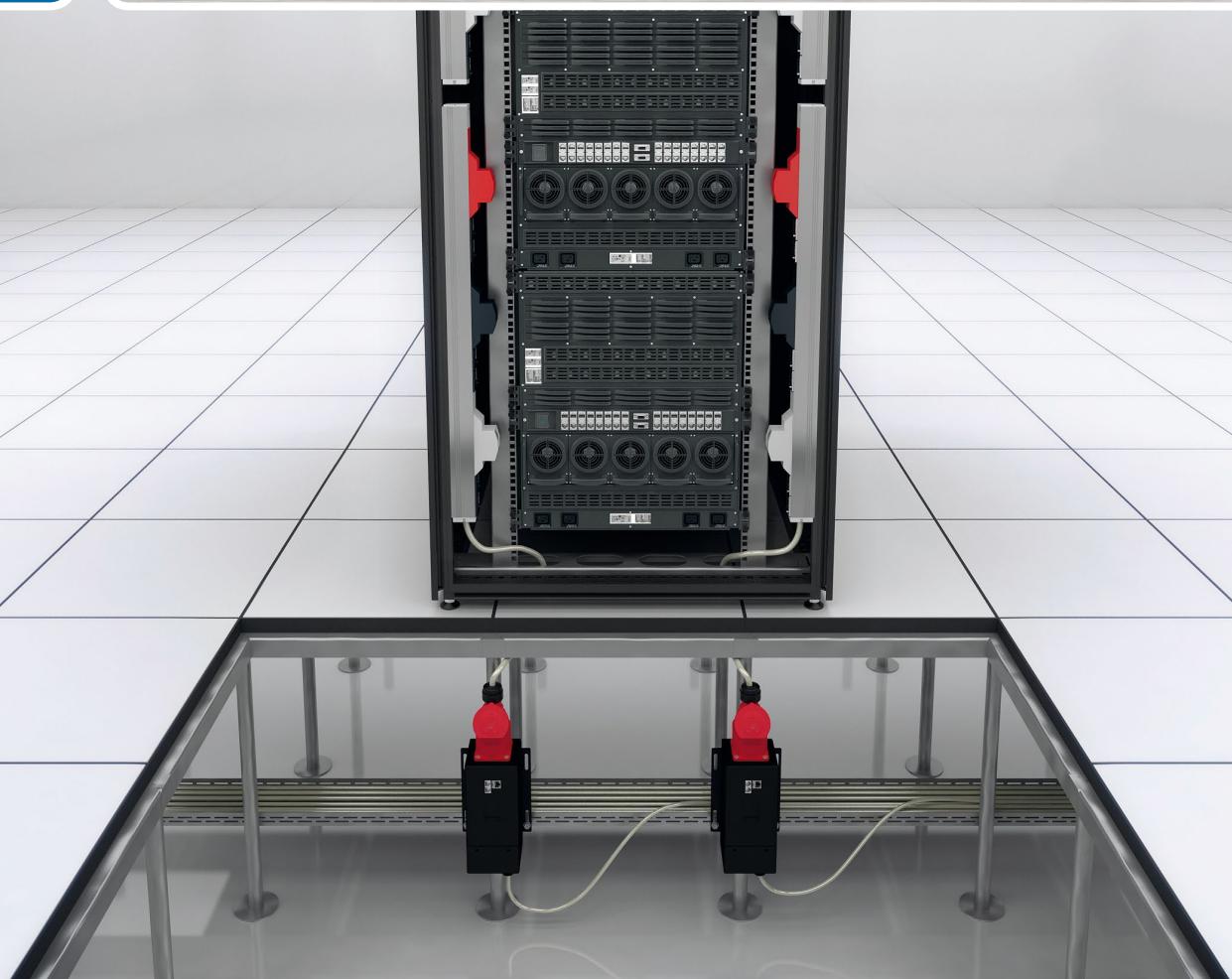


*ECP=earthing contact plug



BlueNet Monitored Inline

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



The BlueNet Monitored Inline is an easy-to-install intelligent system for monitoring and displaying energy use. The product is particularly suited to data centres and industrial applications. The BlueNet Monitored Inline can be quickly and cheaply integrated in existing and new infrastructures using the integrated terminal block or the connection cable that has already been fitted.

The advantages at a glance

- Integrated measurement of current, voltage, frequency, effective, apparent and reactive power and power factor
- Integrated Ethernet connection
- Operated via web browser
- Protocols: HTTP, SNMP, Ethernet 10/100 MBit/s, DHCP, NTP
- Indication on illuminated, rolling LCD
- Integrated temperature sensor
- Up to two sensors can be connected (see page 55)
- Robust enclosure in steel plate
- High-resolution TFT display
- Software can be used to turn the display to make it easier to read
- Can be reconnected with terminal block
- Removable mounting plate for cable ducts or wall mounting





Designed for use in production, the BlueNet Monitored Inline series is ideal for production facilities.

BlueNet Monitored Inline

Art. no.	Phases	Voltage V	Current A	Power in kVA	from stock	Dimensions (mm)
921-329-3032	1	230	16	3.7	yes	232 x 104 x 102
921-329-3033	3	400	16	11.0	yes	232 x 104 x 102
921-329-3036	1	230	32	7.4	OR	232 x 104 x 102
921-329-3037	3	400	32	22.1	yes	232 x 104 x 102



921-329-3032



921-329-3033

BlueNet Monitored accessories

Art. no.	Description
BlueNet Monitored accessories	
921-329-3102	Temperature sensor 2.0 m cable
921-329-3104	Combined temperature and humidity sensor 2.0 m cable
921-329-3105	USB cable for connecting PDU directly to PC



OR = on request



NEW

BlueNet Monitored PLC (Power Line Communication)

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



Mains voltage (V)
Displays the voltage of the incoming mains supply to which the power meter is connected.

Current (A)
The current now being drawn by the connected devices.

BlueNet Monitored Inline PLC

230 V 50.00 Hz

12.5 A PF 0.966

2.77 kW

MODE

DELTA

Frequency (Hz)
Current mains frequency

Power factor
Displays the power factor.

Power metering (kW)

The effective power drawn by the consumers, taking the phase angle into account. Power consumption of the connected devices.

The BlueNet Monitored Inline is an easy-to-install intelligent system for monitoring and displaying energy use. The product is particularly suited to data centres and industrial applications. The BlueNet Monitored Inline can be quickly and cheaply integrated in existing and new infrastructures using the integrated terminal block or the connection cable that has already been fitted.

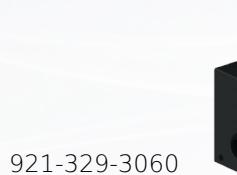
The advantages at a glance

- Integrated measurement of current, voltage, frequency, effective, apparent and reactive power and power factor
- Integrated Ethernet connection
- Operated via web browser
- Protocols: HTTP, SNMP, Ethernet 10/100 MBit/s, DHCP, NTP
- Indication on illuminated, rolling LCD
- Integrated temperature sensor
- Up to two sensors can be connected (see page 199)
- Robust enclosure in steel plate
- High-resolution TFT display
- Software can be used to turn the display to make it easier to read
- Can be reconnected with terminal block
- Removable mounting plate for cable ducts or wall mounting
- Other mounting plates available on request.
- Powerline Communication allows measurement data to be queried via the mains supply without an Ethernet connection



BlueNet Monitored Inline PLC

Art. no.	Phases	Voltage V	Current A	Power in kVA	from stock	Dimensions (mm)
921-329-3060	1	230	16	3.7	OR	232 x 104 x 102
921-329-3061	3	400	16	11.0	OR	232 x 104 x 102
921-329-3062	1	230	32	7.4	OR	232 x 104 x 102
921-329-3063	3	400	32	22.1	OR	232 x 104 x 102



BlueNet Power Line Concentrator

- The BlueNet Power Line Concentrator collects the data from the Power Line PDUs and supplies it to the network via the Ethernet interface

Art. no.	Version	from stock
BlueNet Concentrator with Power Line communications module		
Assembly on 35mm DIN rail (type 0) / top hat rail		
921-329-3016	1 phase / 230 V	OR
921-329-3017	3 phases / 400 V	OR



BlueNet Monitored accessories

Art. no.	Description
BlueNet Monitored accessories	
921-329-3102	Temperature sensor 2.0m cable
921-329-3104	Combined temperature and humidity sensor 2.0m cable
921-329-3105	USB cable for connecting PDU directly to PC



OR = on request



Accessories



Mounting brackets for standard 1 U profile

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



Art. no. | Version

1 U mounting brackets

19", Zero-U Space

921-940-142 | · Mounting brackets left and right

> 1 U mounting brackets

19", Zero-U Space

921-940-096 | · Mounting brackets left and right

Mounting brackets for VM profile variant / Zero U-Space installation

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



Art. no. | Version

1 U mounting brackets

19", Zero-U Space

921-940-141 | · Mounting brackets left and right

1 U mounting brackets

Zero-U Space

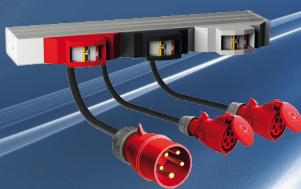
921-940-143 | · Mounting brackets left and right

1 U link

Zero-U Space

921-800-0053 | · For connecting two vertically fitted PDUs

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 breakers, characteristic C

Art. no. | Version

19" IT PDU fuse box

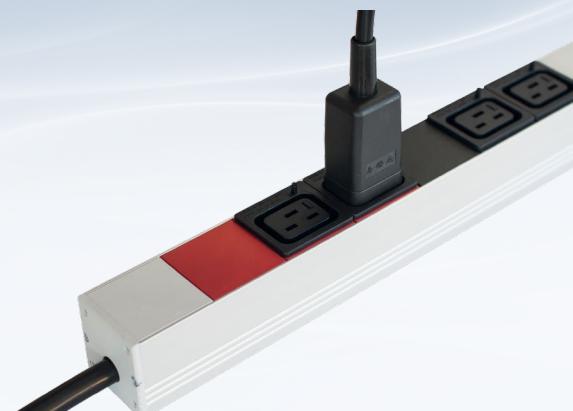
Input: 32 A / 400 V CEE plug outlet: 2 x 16 A / 400 V coupling

921-800-0120 | 6 x 16 A miniature circuit breakers, characteristic C

available from stock

IEC320 C13 lockable

Two locking clips to secure two power cables.
Optimum interlocking only provided with apra-opti-net power cables.



IEC320 C19 with IEC lock

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

Locking clip



Art. no.	Version
Locking clips	
921-940-103	<ul style="list-style-type: none"> Red locking clip for IEC 320 appliance socket outlets C13, supplied in packs of 12.



Locking cap IEC320 C13 & C19

Art. no.	Version
Connecting cable for interlock	
921-800-0050	C19 locking caps, 10 items incl. unlocking tool
921-800-0051	C13 locking caps, 10 items incl. unlocking tool
921-800-0052	Unlocking tool for locking cap

RackFix tool-free mounting on 19" rail

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



Shift inhibitor

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

Art. no.	Version
Shift inhibitor	
921-940-140	Actuation lock for circuit breakers and switches, 1 pole, to protect against unauthorised or dangerous activation of the switch lever





Die apra-gruppe · The apra-group · Le groupe apra

apra-optinet Sp. z o.o.

ul. Cygana 4a · PL-45-131 Opole
 Tel.: 0048 (0) 77 415 0 107
 Fax: 0048 (0) 77 415 0 161
 sales@apra-optinet.pl
 www.apra-optinet.pl



apra-norm Elektromechanik GmbH

Gewerbegebietstraße · D-54552 Mehren/Vulkaneifel
 Tel.: +49 (0) 65 92 20 4-0 · Fax: +49 (0) 65 92 20 4-100
 vertrieb@apra.de · www.apra.de



apra-norm Elektromechanik GmbH

- Abteilung radaplast: Spritzguss und Werkzeugbau -
 Hamsterweg 7 · D-54550 Daun-Pützborn
 Tel.: +49 (0) 65 92 20 4-0 · Fax: +49 (0) 65 92 20 4-100
 vertrieb@apra.de · www.apra.de



apraNET Geschäftsbereich Netzwerktechnik der apra-norm Elektromechanik GmbH

Gewerbegebietstraße · D-54552 Mehren/Vulkaneifel
 Tel.: +49 (0) 65 92 95 12-0 · Fax: +49 (0) 65 92 95 12-50
 vertrieb@apranet.de · www.apranet.de

apra-norm Elektromechanik GmbH

- Abteilung Elektromontage -
 D-54550 Daun-Boverath

apra-norm s.n.c.

ZA de l'aérodrome
 4, rue Clément Ader · F-67500 Haguenau
 Tel.: 00 33 (0) 3 88 93 96 96 · Fax: 00 33 (0) 3 88 93 96 92
 commercial@apra-norm.fr · www.apra-norm.fr