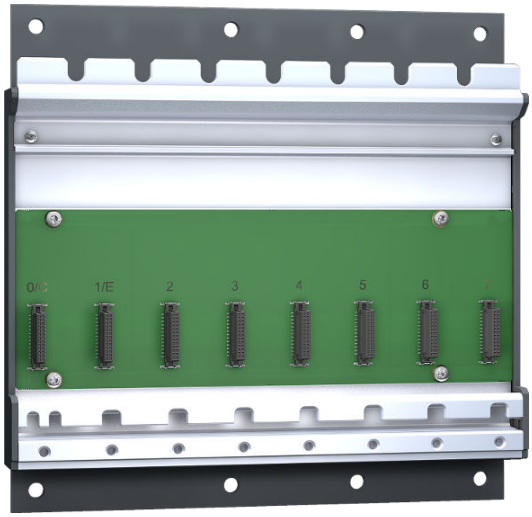

Part type designation	Part number
BPS1nn	00039237-nn
BPS1nn EC	00039238-nn

BPS1nn
Backplane for Direct Screw Mounting

The backplane combines the node adapter and the I/O modules into a mechanically robust EMC compliant unit. Fully assembled I/O stations can thus be pre-tested after mounting and transferred to the application without further modification. This assembly enables individual modules to be exchanged and retrofitted without having to remove the unaffected modules.

The backplane enables real-time communication between modules as well as with the node adapter, provides the power supply to the logic side of the modules and enables module-to-module communication.

Fastening with solid M5 screws makes this variant ideal for environments that are exposed to high shock and vibration loads. The solid metal body and large mounting area on the rear allow high heat dissipation to the support structure. This increases thermal reserves for applications involving high ambient temperatures.

Features

- M100 system backplane for screw mounting
- 4 to 32 slots
- Mechanically robust, self-supporting base for modules
- Module exchange without the removal of other modules
- Enables complete pre-assembly and testing
- Any slots possible as reserve (gaps)
- Enhanced heat dissipation via rear mounting surface

Common properties	
Basic function	Active backplane system for direct screw mounting for mechanical, electrical and data connection of I/O and function modules and a head module
System	Bachmann system M100
Module bus interface	
System	M100
Slot type	1x 0/C, 1x 1/E, m x IO (m = number of slots nn - 2)
Module data rate	33.6 Mbit/s per slot and direction (full duplex) [1]
Bus cycle time, min.	4.5 µs [1]

[1] *Depending on the fieldbus used and the respective configuration, lower data rates and longer cycle times can be expected.*

Diagnostics	
Electronic type plate	Yes (application interface and in the engineering tool)
Machine readable type plate	Yes (QR code with type and part information and internet link)
Diagnostics interface	Yes via head module (USB-C socket)
Diagnostics interface, protocol	Yes via head module (SSH via Serial Port Emulation (COM))
Energy supply	
Supply voltage, nominal	12 V DC internal via head module or power supply module(s) PSI135
Power consumption, continuous, max.	0.97 W internal consumption
Power dissipation	4 to 16 slots: 0.97 W ≥ 20 slots: 1.03 W
Product safety	
Degree of protection acc. IEC 60529	IP40, terminal block IP30
Protection class acc. IEC 61010-1, IEC 61010-2-201	III
Keying of backplane slots	Mechanical keying slot 0/C versus slot 1 to nn
Environmental conditions	
Temperature, operating	-30 °C to +70 °C (standard mounting position)
Temperature, transport and storage	-40 °C to +85 °C
Installation altitude, max.	Up to 2000 m without temperature derating 2000 m to 4500 m: Reduction of the max. ambient temperature by 0.5 °C per 100 m elevation
Air pressure	106 kPa to 58 kPa (0 m to 4500 m)
Relative humidity, operation	Standard: 0 % to 100 % noncondensing Extended Climate: 0 % to 100 % with temporary condensation
Pollution degree acc. IEC 61010-1	Standard: 2, noncondensing Extended Climate: 2
Vibration	6 g (14.1 Hz to 500 Hz) 7.5 mm amplitude (2 Hz to 14.1 Hz) Test duration: 15 h
Shock	45 g max. (test scope 18 shocks) 20 g permanently (test scope 6000 shocks)
Approvals/certificates	
Product safety	CE, UKCA cULus (NRAQ, NRAQ7)
Hazard area operation	ATEX in preparation
Maritime	DNV, LR, ABS, BV, RINA, KR, NK in preparation
Hazardous substances and waste treatment	RoHS, RoHS China, REACH, WEEE
Quality management	ISO 9001 for development and production

Mounting/installation	
Mounting type	Direct screw mounting to flat surface with M5 screws
Number of fixings	4x holes for M5 at BPS104, per 2 additional slots 2 more holes
Ground connection for protection class I	No
Dimensions	
Number of slots	BPS1nn with nn = 04 to 16 in increments of 1; and 20, 24, 28, 32
Size unpacked W × H × D	2 · 23.5 + 24 · (nn - 2) × 184 × 25.3 mm [1)]
Mass unpacked	approx. nn · 70 g [1)]

[1)] *nn stands for the number of slots (incl. slot 0/C), all lengths from 4 to 16 slots are available, as well as 20, 24, 28 and 32 slots.*

Order data

Part type designation	Part number	Description
BPS1nn	00039237-nn	Backplane – direct screw mounted Active backplane system M100: BPS1nn with nn = 04 to 16 slots in increments of 1; as well as 20, 24, 28, 32 slots, for direct screw mounting; delivery without backplane slot covers and without screws
BPS1nn EC	00039238-nn	Like BPS1nn with Extended Climate Range

Accessories

Part type designation	Part number	Description
BPC101	00035559-00	Backplane slot cover Backplane slot cover for 1 slot of backplanes BPR1nn and BPS1nn for system M100, plastic, module housing color, IP40, incl. M4 Phillips PH1 screw