BPC 9102S - Safety controller

1246285

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PLCnext Control with 3x Ethernet 1000/2000 Mbps, PROFINET controller with integrated PROFIsafe safety controller, PROFINET device, IP20 degree of protection, pluggable parameterization memory

Product description

The BPC 9102S is the most performant Remote Field Controller based on PLCnext Technology. It is also possible to use applications with the highest safety requirements in accordance with SIL 3 or PLe. Standard and safety programming in only one engineering tool, thanks to PLCnext Engineer.

Your advantages

- Integrated PROFINET controller and PROFINET device
- Support for PROFIsafe Profile V2.6.1
- Safety: highest level of safety of machinery, thanks to diversified processors and the support of up to 300 PROFIsafe devices
- PLCnext Technology for preferred programming languages and programming environments, open-source software, apps, PROFICLOUD, and soon, also PLCnext Store with real-time execution
- Performance: Use of one Intel® Core™ i7 octacore processor and two powerful processors based on ARM architecture enables one of the best performance capabilities on the market.
- 3 independent Ethernet interfaces
- Optional pluggable fan module allows reliable operation, even under challenging ambient conditions.

Commercial data

Item number	1246285
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR12
Product key	DRBAAA
GTIN	4063151346836
Weight per piece (including packing)	6,700 g
Weight per piece (excluding packing)	4,772 g
Customs tariff number	85371091
Country of origin	DE

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Technical data

Product properties

Type	Stand-Alone
Product type	Controller
Product family	PLCnext Control

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

System properties

Processor	Intel® Core™ i7-10700TE 8x 2 GHz (Standard)
	Arm® Cortex®-A9, 800 MHz (CPU1)
	Arm® Cortex®-A8, 600 MHz (CPU2)
Trusted Platform Module	TPM 1.2
Retentive data storage	4 Mbyte
RAM	16384 Mbyte DDR4-2400

IEC 61131 runtime system

Program memory	32 Mbyte
Data storage system	64 Mbyte

PROFINET

Device function	PROFINET controller, PROFINET device
Update rate	min. 1 ms
Conformance Class	B
Number of supported devices	max. 256

Function

Safety function	yes

Functionality

Programming languages supported	Instruction list (IL)
	Symbolic flowchart (SFC)
	Ladder diagram (LD)
	Function block diagram (FBD)
	Structured text (ST)
	C++
	C#
	Java
	Python®
	Simulink®

System requirements

Engineering tool	PLCnext Engineer
	Eclipse®

	Visual Studio®
	MATLAB®/ Simulink®
Application interface	OPC UA®

Electrical properties

Power consumption	typ. 50 W
	max. 55 W
Maximum power dissipation for nominal condition	max. 55 W

Supply

Supply voltage (DC)	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including ripple (3.6 V_{PP}))
Power supply connection	Screw terminal blocks, plug-in
Max. current consumption	2.3 A
Typical current consumption	2.1 A

Real-time clock

Realtime clock	Integrated (battery backup)

Connection data

COMBICON connector

Conductor cross section, rigid	0.2 mm² ... 2.5 mm²
Conductor cross section, flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12

Interfaces

Web server	yes

USB

Number of interfaces	1
Connection method	USB type A, male connector

Ethernet

Bus system	RJ45
Number of interfaces	3
Connection method	RJ45 jack
Transmission speed	1000/2000 Mbps (1000 Mbps (LAN 2 and LAN 3), 1000/2000 Mbps (LAN 1))

Dimensions

External dimensions

Width / Height / Depth	218 mm / 250 mm / 135 mm (without fan module)
	218 mm / 285 mm / 135 mm (With fan module)

Characteristics

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Safety data: EN ISO 13849

Category	max. 4
Performance level (PL)	max. e

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	max. 3

Safety data: EN IEC 62061

Safety Integrity Level Claim Limit (SIL CL)	max. 3

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	0 °C ... 60 °C up to 2000 m above mean sea level
	0 °C ... 55 °C 2000 m ... 3000 m above mean sea level
	0 °C ... 50 °C 3000 m ... 4000 m above mean sea level
Ambient temperature (storage/transport)	-30 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Shock (operation)	15g (according to IEC 61131-2)
Shock (storage/transport)	20g (in accordance with EN 60068-2-27/IEC 60068-2-27)
Vibration (operation)	3g (in accordance with EN 60068-2-6/IEC 60068-2-6)
Vibration (storage/transport)	3g (in accordance with EN 60068-2-6/IEC 60068-2-6)
Air pressure (operation)	60 kPa ... 108 kPa (up to 4000 m above mean sea level)
Air pressure (storage/transport)	58 kPa ... 108 kPa (up to 4500 m above mean sea level)

Mounting

Mounting type	Wall mounting
Mounting type	Wall mounting

Classifications

ECLASS

ECLASS-11.0	27242207
ECLASS-12.0	27242207
ECLASS-13.0	27242207

ETIM

ETIM 9.0	EC000236

UNSPSC

UNSPSC 21.0	32151700

Environmental product compliance

REACh SVHC	Lead 7439-92-1
	4,4'-isopropylidenediphenol (BPA) 80-05-7