Safety controller - BPC 9102S

1246285

https://www.phoenixcontact.com/gb/products/1246285

PHŒNIX CONTACT

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PLCnext Control with 3x Ethernet 1000/2500, 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	DRBAAA
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

Insulation characteristics

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

Electrical properties

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

Supply

Supply voltage	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

Interfaces

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	1000/2500 Mbps (1000 Mbps (LAN 2 and LAN 3), 1000/2500 Mbps (LAN 1))

System properties

Processor	Intel® Core™ i7-10700TE 8x 2.4 GHz (Standard)

PROFINET

Device function	PROFINET controller, PROFINET device

Update rate	min. 1 ms

Software

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

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

Safety data: EN ISO 13849

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

Safety data: EN 62061

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

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	max. 3
Probability of a hazardous failure per hour (PFH$_D$)	$1 * 10^{-9}$
Duration of use	300 Months (therefore no restrictions, no maintenance intervals)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
	-20 °C ... 60 °C up to 2000 m above mean sea level

Ambient temperature (operation)	-20 °C ... 55 °C 2000 m to 3000 m above mean sea level
	-20 °C ... 50 °C 3000 m to 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 (according to EN 60068-2-27/IEC 60068-2-27)
Vibration (operation)	3g (according to EN 60068-2-6/IEC 60068-2-6)
Vibration (storage/transport)	3g (according to 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

Approvals

EAC
Approval ID: RU C-DE.A*08.B01708

EAC
Approval ID: RU*-DE*HB.B.00386/20

PROFINET
Approval ID: Z13107

Functional Safety
Approval ID: 01/205/5649.00/18

PROFIsafe
Approval ID: Z20291

UL Listed
Approval ID: FILE E 238705

cUL Listed
Approval ID: FILE E 238705

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27242207
ECLASS-10.0.1	27242207
ECLASS-11.0	27242207

ETIM

ETIM 8.0	EC000236

UNSPSC

UNSPSC 21.0	32151700

Environmental Product Compliance

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

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Accessories

Program / configuration memory

Program / configuration memory - SD FLASH 8GB PLCNEXT MEMORY - 1061701

https://www.phoenixcontact.com/gb/products/1061701

Program and configuration memory for storing the application programs and other files in the file system of the PLC, plug-in, 8 GB.

Program / configuration memory

Program / configuration memory - SD FLASH 2GB PLCNEXT MEMORY - 1043501

https://www.phoenixcontact.com/gb/products/1043501

Program and configuration memory for storing the application programs and other files in the file system of the PLC, plug-in, 2 GB.
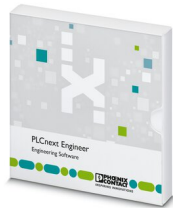
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Programming software

Programming software - PLCNEXT ENGINEER - 1046008

https://www.phoenixcontact.com/gb/products/1046008

Engineering software platform for Phoenix Contact automation controllers. PLCnext Engineer is IEC 61131-3-compliant and is available free of charge under Downloads. Its functionality can be extended using paid add-ins. To do this, open the license configurator via the "Configure" button.

PHOENIX CONTACT Ltd
Halesfield 13, Telford
Shropshire, TF7 4PG
01952 681700
info@phoenixcontact.co.uk