BPC 9102S - Safety controller

1246285

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Safety controller (PROFINET), PLCnext Control; Programming: High-level language and IEC 61131-3; Operating system: Yocto/Linux® (real-time); Programming tool: PLCnext Engineer, Eclipse®, Visual Studio®, MATLAB®/ Simulink®; Processor: Intel® Core™ i7-10700TE, 8x 2 GHz (Standard).

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

- Real-time-capable Linux operating system for deterministic and reliable execution of time-critical processes
- Supports numerous protocols such as: HTTP, HTTPS, FTP, OPC UA, SNTP, SNMP, SMTP, SQL, MySQL, DCP, etc. – for smooth communication with IT systems
- Direct connection to the Proficloud, the PLCnext Store and any cloud platforms – for seamless IoT integration of your applications
- Support for numerous fieldbus protocols (PROFINET, Modbus TCP/RTU, Ethernet/IP, etc.) for easy integration into existing automation technology systems and installations
- Maximum design freedom thanks to the combination of classic PLC programming with modern high-level languages such as C++, C#, or Python
- Meets the highest security requirements of industrial automation – for the protection of your applications and data

ELEKTROGERÄTE RÜCKNAHME

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	TW

Technical data

Notes

Note on application

Note on application	Only for industrial use

Product properties

Product type	Controller
Product family	PLCnext Control
Type	Stand-alone

Insulation characteristics

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

System properties

Operating system	Yocto/Linux® (real-time)
Processor	Arm® Cortex®-A9 800 MHz (CPU1)
	Arm® Cortex®-A8 600 MHz (CPU2)
	Intel®Core™ i7-10700TE, 8x 2 GHz (Standard)
Trusted Platform Module	fTPM 1.2 (Encryption Technology not Chinese)
RAM	16384 Mbyte DDR4-2400

IEC 61131 runtime system

Program memory	32 Mbyte
Retentive data storage	4 Mbyte
Data storage system	64 Mbyte
Number of control tasks	128 (16 per processor core)

PROFINET

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

Function

Safety function	yes

Functionality

Programming tool	PLCnext Engineer
	Eclipse®
	Visual Studio®
	MATLAB®/ Simulink®
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

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

Real-time 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)

Material specifications

Color (Housing)	gray (RAL 7042)
	black (RAL 9005)

Characteristics

Safety data: EN ISO 13849

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 (10 Hz ... 55 Hz) (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	Panel mounting

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/1246285

PROFINET
Approval ID: Z13531

PROFIsafe
Approval ID: Z20291

PROFINET
Approval ID: Z13532

cULus Listed
Approval ID: E238705

PROFIsafe
Approval ID: Z20354

Cybersecurity Certificate
Approval ID: 968 CSP 1037.00 25

Functional Safety
Approval ID: 01/205/5649.01/23

FS Thermoprocess
Approval ID: 968 INS 799.01 25

Classifications

ECLASS

ECLASS-13.0	27242207
ECLASS-15.0	27242207
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 10.0	EC000236

UNSPSC

UNSPSC 21.0	32151700

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-15
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	4,4'-isopropylidenediphenol(CAS: 80-05-7)
	Lead(CAS: 7439-92-1)
SCIP	7ffeb066-39aa-4355-a5e8-4f354a29e242

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