RFC 4072S - Safety controller

1051328

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Safety controller (SPS), 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™ i5-6300U, 2x 2.4 GHz (Standard).

Product description

The RFC 4072S is the first high-performance 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

Commercial data

Item number	1051328
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR09
Product key	DRADBA
GTIN	4055626673400
Weight per piece (including packing)	3,250 g
Weight per piece (excluding packing)	2,850 g
Customs tariff number	85371091
Country of origin	DE

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https://www.phoenixcontact.com/us/products/1051328

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)
Pollution degree	2 (when installed in a control cabinet or housing with IP54 degree of protection or higher)

Display

Diagnostics display	yes

System properties

Trusted Platform Module	TPM 1.2
Retentive data storage	2 Mbyte

IEC 61131 runtime system

Program memory	16 Mbyte
Data storage system	32 Mbyte

PROFINET

Device function	PROFINET controller, PROFINET device
Update rate	min. 1 ms
Conformance Class	B
Number of supported devices	max. 256
Supported functions	Topology detection
	Automatic device replacement
	Parameterizable alarm and startup behavior
Vendor ID	$00B0_{hex}$ / 176_{dez}

Function

Diagnostics display	yes
Redundancy function	no
Safety function	yes

Functionality

Programming languages supported	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. 25 W (Without fan module)
	max. 35 W (With fan module)
Maximum power dissipation for nominal condition	max. 35 W (With fan module)
	typ. 25 W (Without fan module)

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
Typical current consumption	1 A

Real-time clock	
Realtime clock	integrated (capacitive buffering)
Description realtime clock	1.73 s/day = 20 ppm at 25 °C

Connection data

Tightening torque	0.5 ... 0.6 Nm

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	4
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and auto crossing, auto polarity exchange
Transmission speed	10/100/1000 Mbps (LAN 1/LAN 2, half duplex or full duplex)
	10/100 Mbps (LAN3.1/LAN3.2 (internally switched), half duplex or full duplex)

Dimensions

External dimensions

Width / Height / Depth	122 mm / 182 mm / 173 mm (without fan module)
	122 mm / 220 mm / 173 mm (With fan module)

Material specifications

Color	gray (RAL 7042)

Characteristics

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 (Manufacturers declaration, not evaluated by UL)
Ambient temperature (operation)	0 °C ... 60 °C up to 2000 m above mean sea level (from 40 °C only with fan module)
	0 °C ... 55 °C 2000 m ... 3000 m above mean sea level (With fan module only)
	0 °C ... 50 °C 3000 m ... 4000 m above mean sea level (With fan module only)
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Shock (operation)	20g (in accordance with EN 60068-2-27/IEC 60068-2-27)
Shock (storage/transport)	20g (in accordance with EN 60068-2-27/IEC 60068-2-27)
Vibration (operation)	1g (in accordance with EN 60068-2-6/IEC 60068-2-6)
Vibration (storage/transport)	1g (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)
Resistance to gases that may endanger the functions, in acc.	Use of the device in these ambient conditions is prohibited.

with DIN 40046-36, DIN 40046-37	

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conformance with EMC directives	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electrostatic discharge (ESD)EN 61000-4-2/IEC 61000-4-2 Criterion B, ±6 kV contact discharge, ±8 kV air discharge
	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fieldsEN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst)EN 61000-4-4/IEC 61000-4-4 Criterion B, Supply lines: ±2 kV, Signal/data lines: ±2 kV
	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge)EN 61000-4-5/IEC 61000-4-5 Criterion B, supply lines: ±0.5 kV, signal/data cables: ±1 kV
	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interferenceEN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4

Mounting

Mounting type	DIN rail mounting

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1051328

PROFINET
Approval ID: Z13529

PROFINET
Approval ID: Z13529

TÜV SÜD Type tested
Approval ID: IITS2 029429 0027

PROFIsafe
Approval ID: Z20352

PROFIsafe
Approval ID: Z20352

PROFINET
Approval ID: Z13530

PROFIsafe
Approval ID: Z20353

PROFIsafe
Approval ID: Z20353

PROFINET
Approval ID: Z13530

TÜV SÜD Type tested
Approval ID: IITS2 029429 0027

Cybersecurity Certificate
Approval ID: 968 CSP 1037.00 25

	cULus Listed
	Approval ID: E238705

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	Approval ID: E238705

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

Classifications

ECLASS

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

ETIM

ETIM 9.0	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-50
	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.)	Lead(CAS: 7439-92-1)
SCIP	1a5f8f12-b6b0-49c6-a37e-9530122266de

EF3.0 Climate Change

CO2e kg	263.2 kg CO2e

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