RFC 4072S - Safety controller

1051328

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PLCnext Control with 4 x 10/100/1000 Ethernet, PROFINET controller with integrated PROFIsafe safety controller, PROFINET device, IP20 degree of protection, pluggable parameterization memory

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

- Integrated PROFINET controller and PROFINET device
- Support for PROFIsafe Profile V2.6.1
- System networking M2M with OPC UA
- 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 IntelR Core™ i5 dual-core processor and two powerful processors based on Arm architecture enables one of the best performance capabilities on the market
- Cybersecurity in accordance with IEC 62443

Commercial data

Item number	1051328
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR09
Product key	DRADBA
Catalog page	Page 11 (C-6-2019)
GTIN	4055626673400
Weight per piece (including packing)	3,257 g
Weight per piece (excluding packing)	2,000 g
Customs tariff number	85371091
Country of origin	DE

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

Display

Diagnostics display	yes

System properties

Processor	Intel® Core™ i5-6300U 2x 2.4 GHz (Standard)
	Arm® Cortex®-A9, 800 MHz (CPU1)
	Arm® Cortex®-A8, 600 MHz (CPU2)
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
Controller redundancy	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. 24 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
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. with DIN 40046-36, DIN 40046-37	Use of the device in these ambient conditions is prohibited.

EMC data

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
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

Mounting

Mounting type	DIN rail 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

China RoHS	Environmentally Friendly Use Period = 10;
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com