

Controller - RFC 460R PN 3TX - 2700784

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High-availability Remote Field Controller with redundancy function, 3 x 10/100 Ethernet, PROFINET controller, IP20 protection, plug-in parameterization memory

Product Description

High-availability Remote Field Controller for PROFINET networks


When it comes to high-availability, distributed, and modular automation, Remote Field Controllers (RFCs) with IEC 61131 control intelligence, redundancy technology, and network connection are the ideal solution. Thanks to the integrated fiber optic-based redundancy function, you can reduce system downtimes, work cost-effectively, and also avoid potential hazards, e.g., in tunnels or at airports.

Your advantages

- ✔ The RFC 460R PN 3TX features:
- ✔ Fast startup and automatic configuration of all redundancy functions, thanks to AutoSync technology
- ✔ Uninterrupted process in the event of failure or when a controller is replaced
- ✔ Optimum device integration, thanks to PROFINET standards; redundancy for your future-proof Ethernet network
- ✔ High-resolution display for displaying status and error messages in plain text
- ✔ Uninterrupted visualization - thanks to redundancy-capable OPC server
- ✔ A distance of up to 80 km between the controllers via fiber optics; cost-optimized thanks to plug-in SFP modules



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 640589
GTIN	4046356640589
Weight per Piece (excluding packing)	2,120.000 g
Custom tariff number	85371091
Country of origin	Germany

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	124 mm
Height	185 mm
Depth	190 mm
Note on dimensions	without fan module
Width	124 mm
Height	210 mm
Depth	190 mm
Note on dimensions	With fan module

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	0 °C ... 55 °C (from 45°C only with fan module)
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	5 % ... 90 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 90 % (non-condensing)
Air pressure (operation)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3000 m above sea level)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	1g, Criterion 1, according to IEC 60068-2-6

Control system

Engineering tool	PC WORX
Programming languages supported	Programming in acc. with IEC 61131-3
Diagnostics tool	DIAG+, version 2.00 or higher

IEC 61131 runtime system

Engineering tool	PC WORX
Program memory	typ. 8 Mbyte
Mass storage	16 Mbyte
Retentive mass storage	120 kByte (NVRAM)
Number of control tasks	1
Realtime clock	Integrated (battery backup)

Fieldbus function

Program memory	typ. 8 Mbyte
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Technical data

Data interfaces

Interface	Ethernet
Number	3
Connection method	RJ45 jack
Transmission speed	10/100 Mbps
Interface	Synchronization interface
Number	1
Connection method	SFP port
Transmission speed	1 Gbps
Interface	USB 2.0
Number	2
Connection method	USB type A, socket

PROFINET

Device function	PROFINET-Controller
Specification	Version 1.1
Update rate	min. 1 ms

Power supply

Power supply connection	Screw terminal blocks, plug-in
Typical current consumption	1 A
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including ripple)
Power dissipation	max. 24 W

Mechanical design

Weight	1870 g
Note on weight specifications	without fan module
Weight	2010 g
Note on weight specifications	with fan module
Diagnostics display	yes
Controller redundancy	yes
Safety function	No

General data

Processor	Intel® Celeron® 927 UE 1.5 GHz
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Standards and Regulations

Vibration (storage/transport)	1g, Criterion 1, according to IEC 60068-2-6
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	1g, Criterion 1, according to IEC 60068-2-6

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Environmental Product Compliance

REACH SVHC	1,2-dimethoxyethane,ethylene glycol dimethyl ether (EGDME) 110-71-4
	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Classifications

eCl@ss

eCl@ss 10.0.1	27242207
eCl@ss 11.0	27242207
eCl@ss 4.0	27240600
eCl@ss 4.1	27240600
eCl@ss 5.0	27242700
eCl@ss 5.1	27242700
eCl@ss 6.0	27242200
eCl@ss 7.0	27242207
eCl@ss 9.0	27242207

ETIM

ETIM 2.0	EC000236
ETIM 3.0	EC000236
ETIM 4.0	EC000236
ETIM 6.0	EC000236
ETIM 7.0	EC000236

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	39122114
UNSPSC 18.0	39122114
UNSPSC 19.0	39122114
UNSPSC 20.0	39122114
UNSPSC 21.0	39122114

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Approvals

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UL Listed / cUL Listed / EAC / EAC / UL Listed / cUL Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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EAC			RU*DE*08.B.00529/19
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EAC			RU*DE*08.B.00529/19
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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Accessories

Accessories

Data cable preassembled

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Accessories

FO patch cable - FL MM PATCH 1,0 LC-LC - 2989158



Assembled FO cable, break out cable, multimode fiberglass 50/125 μm (OM2), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

FO patch cable - FL MM PATCH 2,0 LC-LC - 2989255



Assembled FO cable, break out cable, multimode fiberglass 50/125 μm (OM2), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 2 m

FO patch cable - FL MM PATCH 5,0 LC-LC - 2901799



Assembled FO cable, break out cable, multimode fiberglass 50/125 μm (OM2), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 5 m

FO patch cable - FL SM PATCH 1,0 LC-LC - 2989187



Assembled fiber optic cable, break-out cable, fiberglass single mode 9/125 μm (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

FO patch cable - FL SM PATCH 2,0 LC-LC - 2989284



Assembled fiber optic cable, break-out cable, fiberglass single mode 9/125 μm (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 2 m

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Accessories

FO patch cable - FL SM PATCH 5,0 LC-LC - 2901826



Assembled fiber optic cable, break-out cable, fiberglass single mode 9/125 µm (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 5 m

Drivers and interfaces

Software - AX OPC SERVER - 2985945



AX OPC SERVER, communication interface for OPC-capable visualization with PC WORX-based controls.

Software - PC WORX UA SERVER-PLC 80 - 2402686



OPC UA server for communication with a maximum of 200 controllers

Fan

Fan - RFC DUAL-FAN - 2730239



Fan module for Remote Field Controllers RFC 430 ETH-IB / RFC 450 ETH-IB

Parameterization memory

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Accessories

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

Memory - CF FLASH 256MB APPLIC A - 2988793



Program and configuration memory for extending the internal Flash memory, plug-in, 256 MB with license key for function block libraries. For licensed function blocks, please refer to the documentation.

Memory - CF FLASH 256MB PDPI BASIC - 2700549



Program and configuration memory, plug-in, 256 MB with license key for licensing the PDPI - BASIC function block for precise multi-channel controllers with self-optimization, additional functions: e.g., for heating and cooling functions or hydraulic movements.

Memory - CF FLASH 256MB PDPI PRO - 2700550



Program and configuration memory, plug-in, 256 MB with license key for licensing the PDPI - PRO function block for precise multi-channel controllers with self-optimization, additional functions: e.g., for setpoint processing, for heating and cooling functions.

Programming

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Accessories

Software - PC WORX BASIC LIC - 2985275



Software package for PC-based automation solutions, PC WORX BASIC license, contains all 5 IEC languages, without MSFC compiler, max. 2048 byte input and output data, version-specific license key

Software - PC WORX PRO LIC - 2985385



Software package for PC-based automation solutions, PC WORX PRO license, contains all 5 IEC languages, with MSFC compiler, max 128 kB input and output data, version-specific license key

Software - PC WORX PRO-MSFC LIC - 2985495



Software package for PC-based automation solutions, PC WORX PRO-MSFC license, contains all 5 IEC languages and MSFC compiler, max. 64 Kbytes IN, 64 Kbytes OUT, version-specific license key

SFP module

Media module - FL SFP SX - 2891754



Gigabit SFP module for transmission up to 1 km with a wavelength of 850 nm.

Media module - FL SFP LX - 2891767



Gigabit SFP module for transmission up to 30 km with a wavelength of 1310 nm.

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Accessories

Media module - FL SFP LH - 2989912



Gigabit SFP module for transmission up to 80 km with a wavelength of 1,550 nm.

Storage medium

USB memory stick - USB FLASH DRIVE - 2402809



USB memory stick, 8 GB

Necessary add-on products

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

Memory - CF FLASH 256MB APPLIC A - 2988793



Program and configuration memory for extending the internal Flash memory, plug-in, 256 MB with license key for function block libraries. For licensed function blocks, please refer to the documentation.

Memory - CF FLASH 2GB - 2701185



Program and configuration memory, plug-in, 2 Gbytes.

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Accessories

Memory - CF FLASH 2GB APPLIC A - 2701189



Program and configuration memory, plug-in, 2 Gbytes with license key for function block libraries, e.g., for: SNMP, SQL, wireless, motion functions, etc.

Memory - CF FLASH 256MB PDPI BASIC - 2700549



Program and configuration memory, plug-in, 256 MB with license key for licensing the PDPI - BASIC function block for precise multi-channel controllers with self-optimization, additional functions: e.g., for heating and cooling functions or hydraulic movements.

Memory - CF FLASH 256MB PDPI PRO - 2700550



Program and configuration memory, plug-in, 256 MB with license key for licensing the PDPI - PRO function block for precise multi-channel controllers with self-optimization, additional functions: e.g., for setpoint processing, for heating and cooling functions.
