

# 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



AutoSync Technology  
Designed by PHOENIX CONTACT

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 640589
GTIN	4046356640589

## 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
	124 mm

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## Technical data

### Dimensions

Height	185 mm
	210 mm
Depth	190 mm
	190 mm
Note on dimensions	without fan module
	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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### 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

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## Technical data

### Data interfaces

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

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
	1,2-dimethoxyethane, ethylene glycol dimethyl ether (EGDME) 110-71-4
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
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## Classifications

### eCl@ss

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 8.0	27242207
eCl@ss 9.0	27242207

### ETIM

ETIM 2.0	EC000236
ETIM 3.0	EC000236
ETIM 4.0	EC000236
ETIM 5.0	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

## Approvals

### Approvals

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Approvals

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

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Ex Approvals

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### Approval details

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## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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EAC			EAC-Zulassung
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EAC			RU *- DE.A*30.B.00238
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cULus Listed			
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## Accessories

### Accessories

#### Data cable preassembled

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

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### Accessories

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



Assembled FO cable, break out cable, multimode fiberglass 50/125  $\mu\text{m}$  (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  $\mu\text{m}$  (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  $\mu\text{m}$  (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 2 m

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



Assembled fiber optic cable, break-out cable, fiberglass single mode 9/125  $\mu\text{m}$  (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.

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### Accessories

Software - PC WORX UA SERVER-PLC 80 - 2402686



OPC UA server for communication with a maximum of 200 controllers

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### Fan

Fan - RFC DUAL-FAN - 2730239



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

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### Parameterization memory

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

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Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

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Memory - CF FLASH 256MB APPLIC A - 2988793



Program and configuration memory, plug-in, 256 MB with license key for function block libraries, e.g., for SNMP, SQL, wireless, motion functions, etc.

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### Accessories

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.

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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.

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### Programming

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

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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

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### SFP module

Media module - FL SFP SX - 2891754



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

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## Controller - RFC 460R PN 3TX - 2700784

### Accessories

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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Media module - FL SFP LH - 2989912



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

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### Storage medium

USB memory stick - USB FLASH DRIVE - 2402809



USB memory stick, 8 GB

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### Necessary add-on products

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

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Memory - CF FLASH 256MB APPLIC A - 2988793



Program and configuration memory, plug-in, 256 MB with license key for function block libraries, e.g., for SNMP, SQL, wireless, motion functions, etc.

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## Controller - RFC 460R PN 3TX - 2700784

### Accessories

Memory - CF FLASH 2GB - 2701185



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

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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.

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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.

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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.

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