

## Safety controller - RFC 470S PN 3TX - 2916794

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Remote field controller with 3 x 10/100 Ethernet, INTERBUS master, PROFINET controller with integrated PROFIsafe safety controller, PROFINET device, IP20 protection, plug-in parameterization memory

### Your advantages

- Engineering with PC Worx (IEC 61131-3)
- Numerous protocols supported such as: HTTP, FTP, SNTP, SNMP, SMTP, SQL, MySQL, etc.
- Integrated PROFINET controller and PROFINET device
- Integrated Ethernet interface
- Complete fieldbus master (8192 I/O points)
- Flash file system
- FTP server
- Integrated web server for visualization with WebVisit
- Safe analog value processing with SAFE AI and other components



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 436045
GTIN	4046356436045
Weight per Piece (excluding packing)	2,360.000 g
Custom tariff number	85371091
Country of origin	Germany

### Technical data

#### Note

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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)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3000 m above sea level)

### 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	240 kByte (NVRAM)
Number of control tasks	16
Realtime clock	Integrated (battery backup)

### Fieldbus function

Amount of process data	max. 8192 Bit (INTERBUS)
Number of supported devices	max. 512 (of which 254 are remote bus devices/bus segments)
Number of devices with parameter channel	max. 126
Program memory	typ. 8 Mbyte

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## Technical data

### Data interfaces

Interface	INTERBUS (Master)
Number	1
Connection method	D-SUB-9 female connector
Transmission speed	500 kBaud / 2 MBaud (can be switched)
Interface	Parameterization/operation/diagnostics
Number	1
Connection method	D-SUB 9 plug
Interface	Ethernet
Number	3
Connection method	RJ45 jack
Transmission speed	10/100 Mbps

### PROFINET

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

### Direct I/Os

Input name	Digital inputs
Number of inputs	5
Connection method	14-pos. FLK pin strip
Connection technology	FLK cable connector (14-pos.)
Output name	Digital outputs
Number of outputs	3
Connection method	14-pos. FLK pin strip
Connection technology	FLK cable connector (14-pos.)

### 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	2000 g
Note on weight specifications	without fan module
Weight	2200 g
Note on weight specifications	with fan module

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## Technical data

### Mechanical design

Diagnostics display	yes
Controller redundancy	No
Safety function	yes

### General data

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

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

### 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	27240400
eCl@ss 4.1	27240400
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
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### Classifications

#### UNSPSC

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

Functional Safety / UL Listed / cUL Listed / Functional Safety / EAC / cULus Listed

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#### Ex Approvals

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#### Approval details

Functional Safety		IFA 1003001
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
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
Functional Safety		IFA 1001017
EAC		RU*DE*08.B.00529/19

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### Approvals

cULus Listed



### Accessories

Accessories

Adapter

Adapter - PSM-AD-D9-NULLMODEM - 2708753



V.24 (RS-232) zero modem connector

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### Documentation

Quick start guide - UM QS DE SAFETYPROG - 2888628



Quick Start Guide, German, for SafetyProg

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Quick start guide - UM QS EN SAFETYPROG - 2888631



Quick Start Guide, English, for SafetyProg

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### Drivers and interfaces

## Safety controller - RFC 470S PN 3TX - 2916794

### Accessories

Software - AX OPC SERVER - 2985945



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

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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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### Interface module

Passive module - FLKMS 14/ 8IM/LA/PLC - 2284536



VARIOFACE sensor module, for connecting 8 p-n-p sensors, with LED

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### Parameterization memory

Memory - CF FLASH 256MB - 2988780



Program and configuration memory, plug-in, 256 MB

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### Accessories

#### 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.

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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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### Programming

#### Software - PC WORX DEMO - 2985725



Software package for PC-based automation solutions. PC WORX DEMO contains all 5 IEC languages with MSFC compiler. Max. 16 bytes of input and output data can be used with the demo version. It is available free of charge and does not require a license key. It is part of the AUTOMATIONWORX Software Suite, which you can download under "Downloads".

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#### 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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### Accessories

#### 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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#### 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

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#### Software - SAFETYPROG BASIC - 2700443



Programming software for INTERBUS-Safety systems and PROFIsafe controllers from Phoenix Contact, with graphical user interface according to IEC 61131-3 in function block diagram (FBD), ladder diagram (LD), and structured text (ST). One of the libraries from the corresponding PLCopen libraries (Basic\_SF, MatHandling\_SF, Muting\_SF, SafeMode\_SF, and TwoHand\_SF) can be used per project.

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#### Software - SAFETYPROG ADVANCED - 2700441



Programming software for INTERBUS-Safety systems and PROFIsafe controllers from Phoenix Contact, with graphical user interface according to IEC 61131-3 in function block diagram (FBD), ladder diagram (LD), and structured text (ST). Three of the libraries from the corresponding PLCopen libraries (Basic\_SF, MatHandling\_SF, Muting\_SF, SafeMode\_SF, and TwoHand\_SF) can be used per project.

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#### Software - SAFETYPROG PROFESSIONAL - 2700442



Programming software for INTERBUS-Safety systems and PROFIsafe controllers from Phoenix Contact, with graphical user interface according to IEC 61131-3 in function block diagram (FBD), ladder diagram (LD), and structured text (ST). All of the libraries from the corresponding PLCopen libraries (Basic\_SF, MatHandling\_SF, Muting\_SF, SafeMode\_SF, and TwoHand\_SF) can be used per project.

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### Programming cable

## Safety controller - RFC 470S PN 3TX - 2916794

### Accessories

Connecting cable - IBS PRG CAB - 2806862



Connection cable, to connect the controller boards to the PC (RS-232-C), length 3 m

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### Software library

Function block - SAFETYPROG2.X PLCOPEN BASIC - 2876067



Software library PLCopen Basic, PLCopen-conforming function block library to support the basic functionalities of safety engineering.

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Software - SAFETYPROG2.X PLCOPEN TWOHAND - 2916846



Software library PLCopen TwoHand, PLCopen-compliant function block library, supports two-handed applications in safety engineering

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Function block - SAFETYPROG 2.X MATHANDLING SF - 2985932



Function blocks for the conveying technology with the INTERBUS Safety system.

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Software - SAFETYPROG2.X PLCOPEN MUTING - 2916862



Software library PLCopen Muting, PLCopen-conforming function block library to support the functionality of Muting of the safety engineering.

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### Accessories

Software - SAFETYPROG2.X PLCOPEN OSSD - 2916859



Software library PLCopen OSSD, PLCopen-conforming function block library, supports the electro-sensitive safety equipment in safety engineering

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Software - SAFETYPROG2.X PLCOPEN SAFEMODE - 2916875



Software library PLCopen SafeMode, PLCopen-conforming function block library to support the functionality of SafeMode in safety engineering.

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Function block - SAFE AI - 2400057



Function block library for safety-related analog value acquisition with standard I/O modules. Please contact the safety hotline (+49 5281 9-462777) before ordering the SAFE AI article.

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Software add-on - PC WORX TARGET FOR SIMULINK - 2400041



Software add-on for integration and execution of MATLAB/Simulink models on Remote Field and Axioline controllers

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Storage medium

USB memory stick - USB FLASH DRIVE - 2402809



USB memory stick, 8 GB

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## Safety controller - RFC 470S PN 3TX - 2916794

### Accessories

#### System cable

Cable - FLK 14/EZ-DR/ 200/KONFEK - 2288930



Round cable set; connection 1: IDC/FLK socket strip (1x 14-position); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 2 m

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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 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.

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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.

## Safety controller - RFC 470S PN 3TX - 2916794

### Accessories

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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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