IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx ULD 19.0023X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2020-06-16) Issue 0 (2020-02-25)
Date of Issue:	2025-02-24		

Applicant: **PHOENIX CONTACT GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany

Equipment: **Safety Relay Modules, PSR-PC51-1NO-1NC-24DC-SC, PSR-PC51-1NO-1NC-24DC-SP, PSR-PC52-1NO-1NC-24DC-SC, PSR-PC52-1NO-1NC-24DC-SP, PSR-PC21-2NO-2NC-24DC-SC, PSR-PC21-2NO-2NC-24DC-SP**

Optional accessory:

Type of Protection: **Increased Safety "ec", Sealed Device "nC"**

Marking: Ex ec nC IIC T4 Gc

Please see Annex for Temperature Ratings

Approved for issue on behalf of the IECEx Certification Body: **Lucy Frieders**

Position: **Staff Engineer**

Signature: (for printed version)

Date: (for printed version) 2025-02-24

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

UL Solutions (Demko)
Borupvang 5A
Ballerup DK-2750
Denmark

IECEx Certificate of Conformity

Certificate No.: **IECEx ULD 19.0023X** Page 2 of 4

Date of issue: 2025-02-24 Issue No: 2

Manufacturer: **PHOENIX CONTACT GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany

Manufacturing locations:

PHOENIX CONTACT Power Supplies GmbH
Oberes Feld 1
33106 Paderborn
Germany

PHOENIX CONTACT Development and Manufacturing, Inc.
586 Fulling Mill Road
Middletown, PA 17057
United States of America

Phoenix Contact GmbH & Co. KG
Dringenauer Straße 30
Bad Pyrmont 31812
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DK/ULD/ExTR19.0024/00 DK/ULD/ExTR19.0024/01 DK/ULD/ExTR19.0024/02

Quality Assessment Reports:

NL/DEK/QAR11.0009/10 NL/DEK/QAR11.0012/06

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Relay Modules Type PSR-PC51, -PC52 and -PC21 are used for galvanic separation and performance adjustment of signals in the process industry / process engineering. It couples digital output signals of e.g. fail-safe control systems to the peripheral and guarantees safe switching in the event of a fault using relay contacts.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:
For Types PSR-PC51-, PSR-PC52- and PSR-PC21-:

- The equipment is intended for installation in an area providing at least pollution degree 2 as defined by IEC 60664-1.
- The device shall be installed in an enclosure (control or distributor box) that fulfills a type of protection of IEC 60079-0 and at least IP54 (IEC 60529) degree of protection.
- The device shall be connected to supply circuits where the rated voltage cannot be exceeded by 140% caused by transient disturbances.
- The device must be installed in accordance with the instructions in the manual document no. 109207_en_01, section 13, regarding the rating and distances between devices.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Models PSR-PC21-2NO-2NC-24DC-S and PSR-PC21-2NO-2NC-24DC-SP are added to the Certification.

Issue 2: Update to Manufacturing Location company name.

Annex:

Annex to IECEx ULD 19.0023X Issue 2.pdf

IECEx Certificate of Conformity

TYPE DESIGNATION

Nomenclature for type PSR- Series:

Type PSR-PC51-1NO-1NC-24DC-SC, Type PSR-PC51-1NO-1NC-24DC-SP
Type PSR-PC52-1NO-1NC-24DC-SC, Type PSR-PC52-1NO-1NC-24DC-SP
Type PSR-PC21-2NO-2NC-24DC-SC, Type PSR-PC21-2NO-2NC-24DC-SP

PSR-	PC51-	1NO-	1NC -	24DC -	SC
I	II	III	IV	V	VI

I. PSR

II. PC51
PC52
PC21

III. Output Configuration Relay Contacts
1NO – One normally open contact
2NO – Two normally open contact

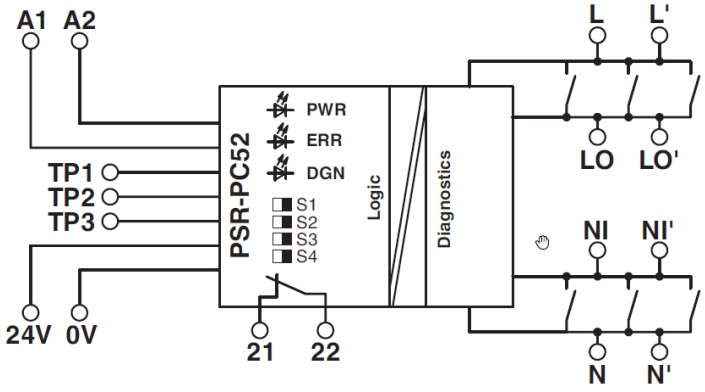
IV. Output Configuration Relay Contacts
1NC – One normally closed contact
2NC – Two normally closed contact

V. Control Voltage
24DC – 24Vdc

VI. Terminal Configuration
SC – Screw Terminal
SP – Cage Clamp Terminal

PARAMETERS RELATING TO THE SAFETY

Model Type	PSR-PC51-1NO-1NC-24DC-SC PSR-PC51-1NO-1NC-24DC-SP PSR-PC52-1NO-1NC-24DC-SC PSR-PC52-1NO-1NC-24DC-SP		
Input A1-A2	24 V DC, 75 mA		
Input 24V-0V	24 V DC, 35 mA		
Output	NO-contact		NC-contact
	250 V AC / 24 V DC 3 A, Resistive B300, R300	250 V AC / 24 V DC 1 A, Resistive B300, R300	24 V DC 100 mA Resistive
Ambient Temperature	-25°C to 50°C	-25°C to 60°C	



Terminal	Pin	Label	Pin assignment
X1	1.1	24V	24 V - Diagnostic supply voltage
	1.2	21	Diagnostic current path (floating)
	1.3	22	
X2	2.1	A1	24 V - Safety relay input voltage
	2.2	A2	0 V - Safety relay input voltage
	2.3	0V	Reference ground diagnostic supply voltage
X3	3.1	TP1	Test points for proof test
	3.2	TP2	
	3.3	TP3	
X4	4.1	L	On-load voltage input
	4.2	LO	Load input
	4.3	N'	0 V
X5	5.1	L'	On-load voltage input
	5.2	NI	Load output
	5.3	N	0 V
X6	6.1	LO'	Load input
	6.2	-	-
	6.3	NI'	Load output

Type		PSR-PC21-2NO-2NC-24DC-SC PSR-PC21-2NO-2NC-24DC-SP		
Input	A1/A2 24 V DC, 46mA		A3/A4 24 V DC, 46mA	
Output	13/14 NO-contact	21/22 NC-contact	33/34 NO-contact	41/42 NC-contact
	250V AC, 24V DC 6A Resistive B300, R300	24V DC 100mA Resistive	250V AC, 24V DC 6A Resistive B300, R300	24V DC 100mA Resistive
Ambient Temperature	-40 °C to 65 °C		-40 °C to 65 °C	

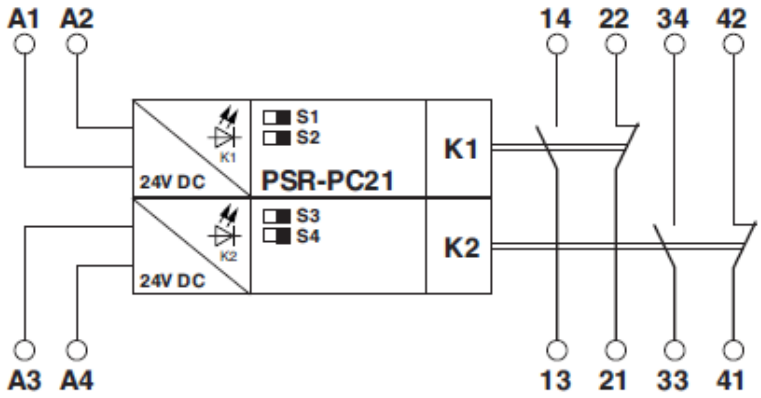


Figure 3 Block diagram

Key:

A1	Chan-nel 1	24 V DC control
A2		0 V control
13/14		Enabling current path (non-delayed, floating)
21/22		Confirmation current path (non-delayed, floating)
A3	Chan-nel 2	24 V DC control
A4		0 V control
33/34		Enabling current path (non-delayed, floating)
41/42		Confirmation current path (non-delayed, floating)
K1/K2	Channel 1/Channel 2	
S1/S2	DIP switches for channel 1	
S3/S4	DIP switches for channel 2	

MARKING

Marking has to be readable and indelible; it has to include the following indications:

PSR-PC51-1NO-1NC-24DC-SC:

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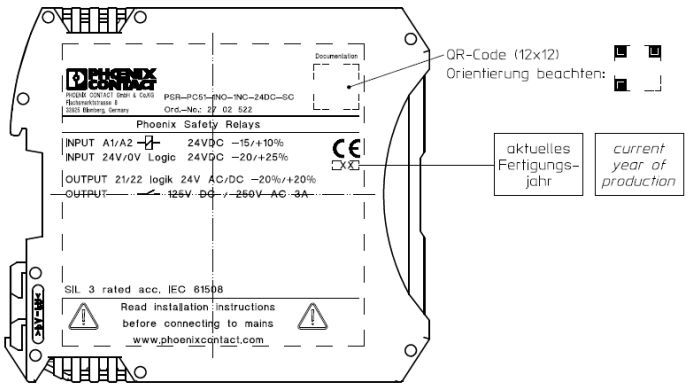

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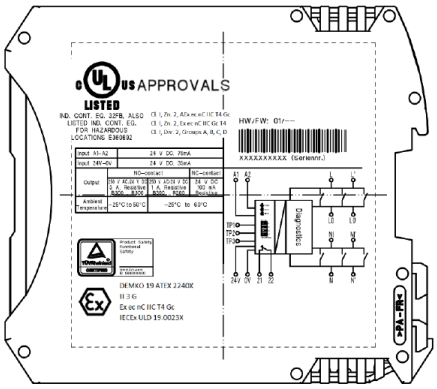

PSR-PC51-1NO-1NC-24DC-SP:

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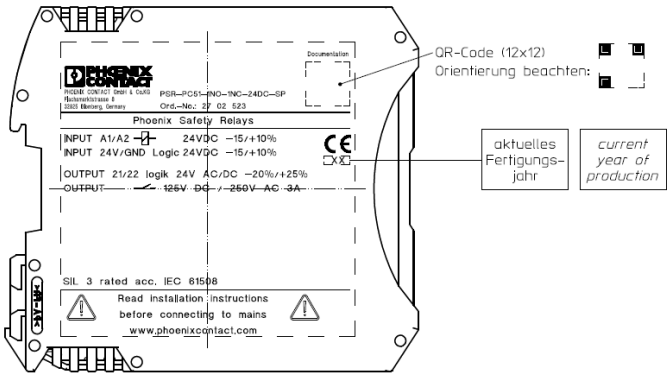

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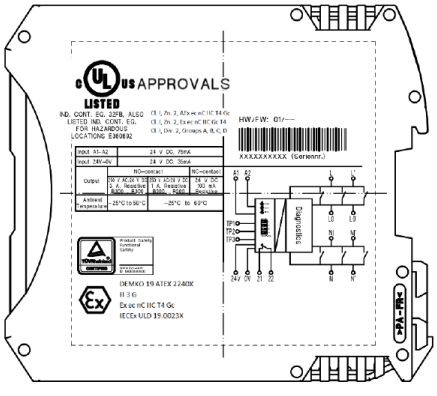

PSR-PC52-1NO-1NC-24DC-SC:

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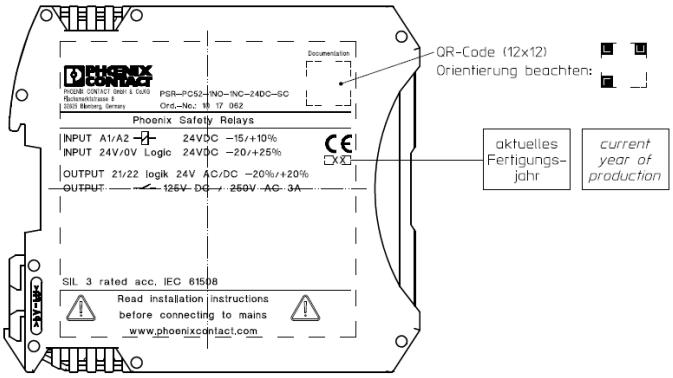

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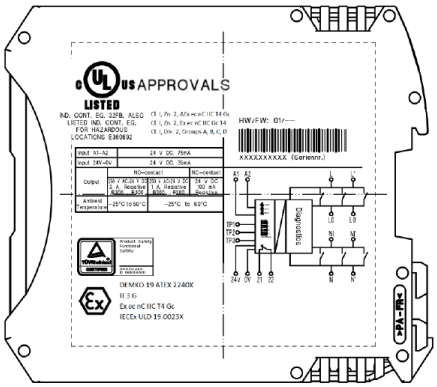

PSR-PC52-1NO-1NC-24DC-SP:

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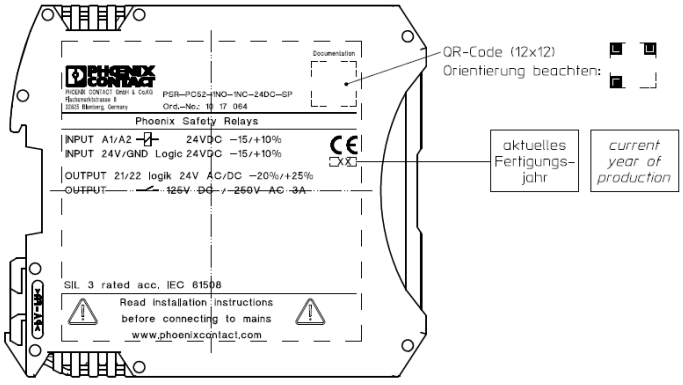

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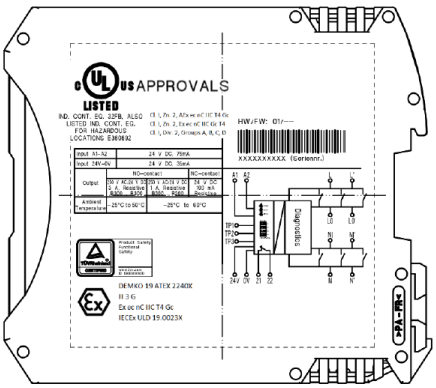
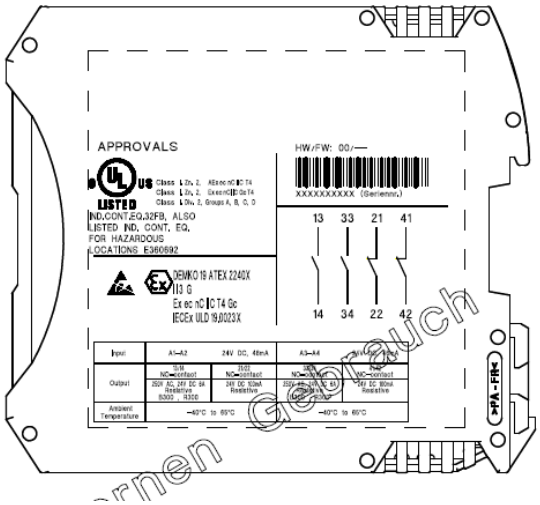
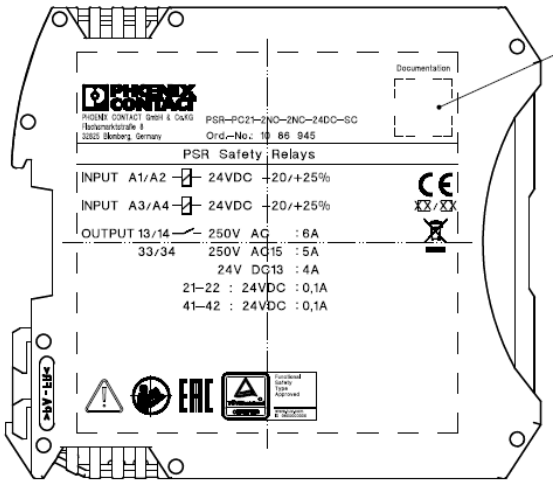


PSR-PC21-2NO-2NC-24DC-SC:





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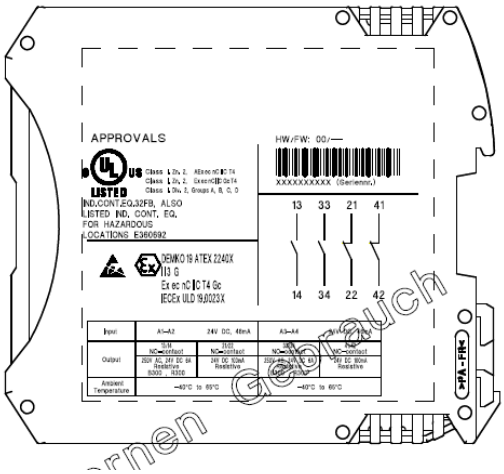

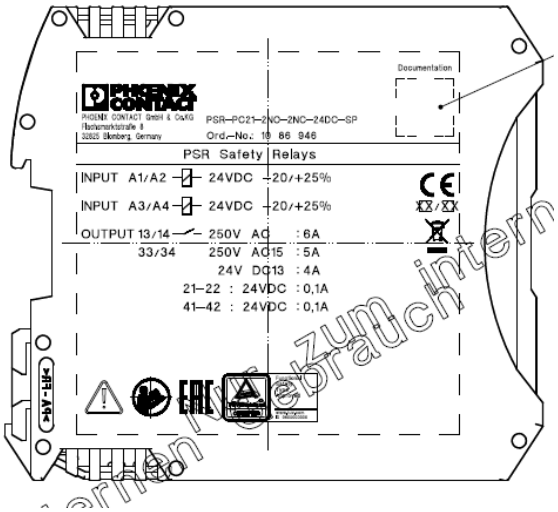

ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed; before delivery:

Between the power supply terminals with Relay terminals all suitable for 230 V ac/ 250 V dc working voltage and the terminals suitable for less than 90 V ac, with a test voltage derived from the applicable industrial standard or with 1500 V ac +5% or 2100 V dc +5 % for 1 minute or with 1.2 times of the test voltage for ≥ 100 millisecond.

Because the creepage and clearance dimensions are rigidly controlled by tooling in the manufacturing process, the routine tests will be performed on a statistical basis in accordance with ISO 2859-1 with an acceptance quality limit (AQL) of 0.04.