# PLC-...-EIK 1-SVN 24P/P PLC-...-EIK 1-SVN 24M

PLC Electronic Sensor Terminal Blocks for NAMUR Proximity Sensors

### INTERFACE

Data Sheet 102895\_04\_en

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## Description

The **PLC-...-EIK 1-SVN 24...** electronic sensor terminal block converts the variable resistance of a NAMUR sensor into a digital signal that can be read by a PLC.

In addition, the internal circuitry monitors the sensor side for a short circuit or wire break and indicates these errors via the integrated LED.

Thanks to a corresponding resistance circuit, the PLC-...-EIK 1-SVN 24... can be used to monitor all mechanical switches (N/C or N/O contacts) for short circuits and/or wire breaks. In addition to a high packing density, this switching amplifier features the following:

- Stabilized supply voltage for the NAMUR proximity switch
- Defined recognition and evaluation of the analog sensor signal
- Monitoring of the sensor cable for short circuits and wire breaks; a fault is indicated by the red LED
- Status display (high signal) via green LED
- 24 V/50 mA digital output for directly connecting programmable logic controllers
- Positive or negative error output depending on the version
- Additional output for error messages
- Connection option for PLC V8 adapter
- Bridging and labeling with standard terminal block accessories



Make sure you always use the latest documentation. It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at www.download.phoenixcontact.com/general/7000\_en\_00.pdf.



This data sheet is valid for all products listed on the following page:





# **Ordering Data**

#### PLC Electronic Sensor Terminal Block for NAMUR Proximity Sensors

Description	Туре	Гуре Order No.	
PLC electronic sensor terminal block for NAMUR proximity sensors			
Positive switching, with screw connection	PLC-SC-EIK 1-SVN 24P/P	PLC-SC-EIK 1-SVN 24P/P 2982663	
Positive switching, with spring-cage connection	PLC-SP-EIK 1-SVN 24P/P	2982676	10
Negative switching, with screw connection	PLC-SC-EIK 1-SVN 24M	SVN 24M 2982595	
Negative switching, with spring-cage connection	PLC-SP-EIK 1-SVN 24M	2982605	10
Accessories	Turne	Order No.	Pcs./Pck.
Description	Туре	Order No.	PCS./PCK.
Double-level terminal block, with pre-assembled resistors	UKK 5-2R/NAMUR	2941662	<b>РСЅ./РСК.</b> 50
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For other accessories such as power terminal blocks and plug-in bridges please consult the INTERFACE catalog and www.phoenixcontact.com.

## **Technical Data**

Power Supply	
Nominal input supply voltage U <sub>VN</sub>	24 V DC ±20%
Typical input current at U <sub>VN</sub>	14 mA, approximately
Transmission frequency flimit	350 Hz, approximately
Input circuit	Green LED, protection against polarity reversal, surge protection
Control Circuit	
Non-load voltage	8.2 V DC ±10%
Switching point according to EN 60947-5-6 In conductive state In disabling state In the event of short circuit In the event of wire break	$\ge$ 2.1 mA $\le$ 1.2 mA 20 mA, approximately 12 mA, approximately
Switching hysteresis	0.2 mA, approximately
Internal resistance	1 kΩ, approximately
Protective circuit	Surge protection
Alarm Output	
Operating voltage range (negative switching)	3 V DC 33 V DC
Operating voltage range (positive switching)	U <sub>VN</sub> - 1.5 V
Limiting continuous current	100 mA
Voltage drop at maximum limiting continuous current	≤ 1.5 V
Output circuit	Red LED, surge protection
Signal Output	
Limiting continuous current	50 mA
Voltage drop U <sub>R</sub> at maximum limiting continuous current	≤ 1.5 V
Output voltage (positive switching)	
In conductive state In disabling state	$\leq$ 100 mV U <sub>VN</sub> - U <sub>R</sub>
Output voltage range (negative switching)	3 V DC 33 V DC
Output circuit	Surge protection

#### **General Data**

Rated insulation voltage
Impulse voltage withstand level/insulation
Ambient operating temperature range
Nominal operating mode
Inflammability class according to UL 94 (housing)
Air and creepage distances between circuits
Pollution degree
Surge voltage category
Mounting position
Assembly
Dimensions (W x H x D)
Conductor cross section
With screw connection
With spring-cage connection
Housing motorial

Housing material

## **Block Diagrams**

#### Positive Switching Error Output ERR



Figure 1 Block diagram for terminal blocks with positive switching outputs (P/P): Both +24 V connection terminal blocks are bridged internally

#### Negative Switching Error Output ERR



Figure 2 Block diagram for terminal blocks with negative switching (M) outputs: Both GND connection terminal blocks are bridged internally

50 V DC
0.4 kV/basic insulation
-20°C 50°C
100% operating factor
V0
According to DIN EN 50178
2
Any
Can be aligned without spacing
6.2 mm x 86 mm x 80 mm
0.14 mm <sup>2</sup> 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup>

Polybutylene terephthalate PBT non-reinforced, green

## **Truth Table**

Sensor status	Switching level		LED	
	OUT	ERR	green	red
Conductive	L	L	off	off
Disabling	Н	L	ON	off
Short circuit	L	Н	off	ON
Wire break	L	Н	off	ON

## **Application Examples**





Application with NAMUR sensor





Application with limit switch

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