RS4/PROFIsafe

Safety laser scanner type 3 with integrated PROFIsafe

The RS4/PROFIsafe laser scanner is an active optoelectronic protective device (AOPD) of type 3 in acc. to IEC 61496-1. It is directly connected to PROFIBUS-DP (RS485), which can work up to 12 MBd, with a safety PLC to which it supplies safety-related data or receives data from the controller. A function block in the S7-300 or S7-400 PLC system, known as the Proxy-FB, is an optional feature, and allows it to carry out an automatic adjustment of parameters when the RS4 parameters are altered or components are replaced.

⚠ The RS4/PROFIsafe is intended exclusively for connection to PROFI-BUS-DP together with a safety PLC and must not be used with any other applications.

Appropriate use of the RS4/PROFIsafe shall entail the knowledge of the contents of the Connecting and Operating Instructions for the RS4-4 and RS4/PROFIsafe.

Please pay attention to the information about safety precautions and intendend use of the RS4-4 in the RS4-4 Connecting and Operating Instructions.

Please note the following differences from the RS4-4 Connecting and Operating Instructions:
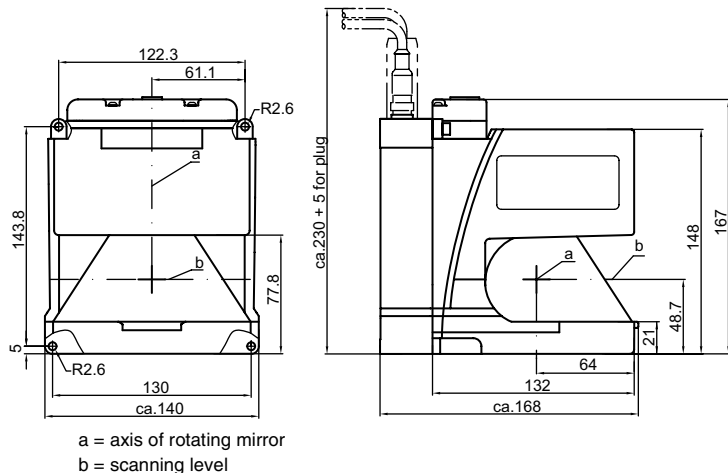
- The RS4soft software, the technical description and software user manual are not included with the RS4/ PROFIsafe, but a separate start-up set is available.
- Deviations from the RS4-4 Connecting and Operating Instructions that need to be observed during the assembly, connection and commissioning of the RS4/PROFIsafe described in the supplementary information on the RS4/PROFIsafe which is part of the RS4-4 Connecting and Operating Instructions.

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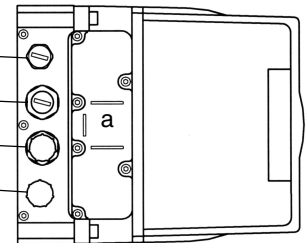e-mail: info@leuze.de
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Features

- Direct connection to PROFIBUS -DP with M12 plug and socket
- Laser-supported two-dimensional sampling of the protected area
- Four/eight pairs of protective fields that can be programmed and switched-over
- Protective field radius 4 m, warning field radius 15 m
- Supports data transfer at 9.6 KBd to 12 MBd
- Local connection of the restart button and 24 V DC power supply by M12 plug
- Cyclical input and output data, acyclical READ and WRITE commands
- Device exchange with automatic parametrization by Proxy-FB
- Infrared interface for setting the protective field parameters and diagnosis
- Small dimensions (168 x 167 x 140 mm)

Dimensional drawings

a = axis of rotating mirror
b = scanning level

Electrical connections

Function	PIN1	PIN2	PIN3	PIN4	PIN5
Restart		+24VDC		Restart	
Bus output	VP	RxD/TxD-N	DGND	RxD/TxD-P	Shield
Bus input		RxD/TxD-N		RxD/TxD-P	Shield
Supply	+24VDC		0VDC		

a = optical PC Interface

Technical data

Safety category	Type 3 in acc. to EN IEC 61496-1
Supply voltage of Us transmitter and receiver	+ 24 V DC, + 20 % / - 30%
Supply current with 28.8 V ... 24 V ... 16.8 V	320 mA ... 350 mA ... 500 mA
Protection class (VDE* 106)	2
Type of protection	IP65
PROFIBUS data transfer rate	9,6 kBd .. 12 MBd
PROFIBUS connection	M12- plug, b-coded
PROFIsafe adapter reaction time (add. to RS4)	10 ms
Length of power supply cable, shielded	50 m
Length of restart cable, shielded	25 m

* Verband Deutscher Elektrotechniker: Assiciation of German Electricians

Notes on Ordering

RS4-4/P1	580012
RS4 start-up set RS4-SWC	970078
CB-PCO-3000 optical PC adapter	520072
PROFIBUS bus terminator AC-M12-PBT1	147500