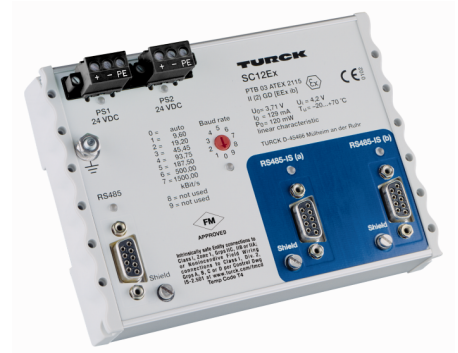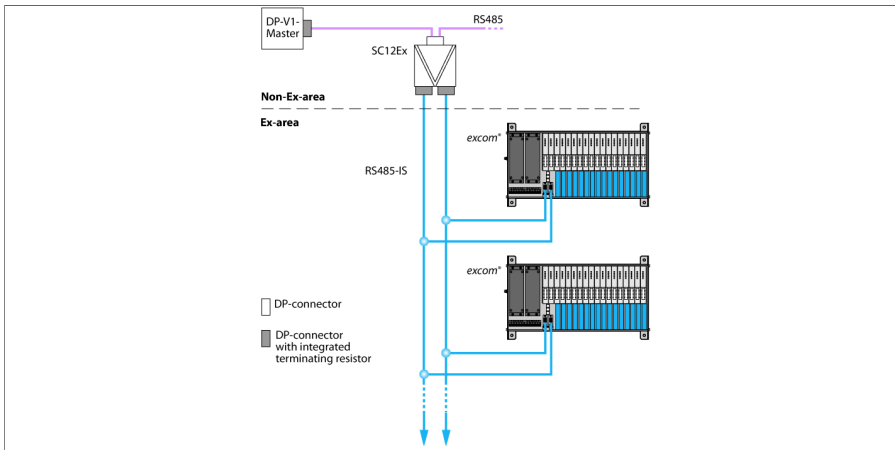# excom I/O System
PROFIBUS-DP – Segment Coupler
(RS485-IS)
SC12EX

The PROFIBUS-DP segment coupler SC12Ex from TURCK has been developed for intrinsically safe PROFIBUS connection.

Equipped with one RS485 and two RS485-IS interfaces, this coupler is suited for many Ex-area applications. The RS485-IS interface is entirely realized according to the PNO PROFIBUS guideline. The coupler can thus supply both lines of the TURCK Ex-Remote-I/O system *excom*® simultaneously (line redundancy). Just one device is required for Ex isolation and line redundancy.

The segment coupler SC12Ex is IP20-rated and is mounted in non-Ex areas. The coupler can be supplied redundantly. Both power supply inputs are decoupled by diodes. The load distribution depends on the level of operating voltage. Operating voltage 18…32 VDC.
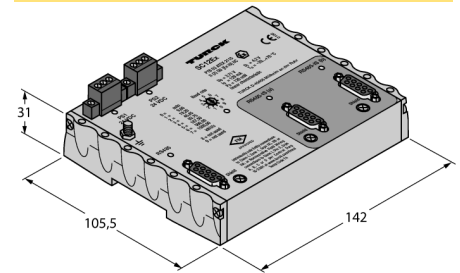
In switch position 0, the coupler identifies the baud rate automatically. For this, the start-delimiter of the PROFIBUS telegrams is evaluated. Three consecutive and valid start-delimiters have to be received before identification locks in.

All received telegrams are checked for plausibility by means of start-delimiter sequences. Baud rate detection is started after reset. If telegrams are not received within 1.7 seconds, baud rate search is activated. Alternatively, the baud rate used can be set via rotary switch.

In order not to limit the number of nodes and cable length of a PROFIBUS-DP segment, amplitude and phase are reproduced in the coupler. The user can choose between capacitive and direct earthing.

- Device for intrinsically safe separation of RS485 and RS485-IS
- Connection of max. 62 bus nodes (31 in redundant mode)
- Redundant power supply
- Automatic baud rate detection

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Hans Turck GmbH & Co.KG ● D-45472 Mülheim an der Ruhr ● Witzlebenstraße 7 ● Tel. 0208 4952-0 ● Fax 0208 4952-264 ● more@turck.com ● www.turck.com1 / 2

Dimensions

Type	SC12EX
ID	6884047
Nominal voltage	24 VDC
Operating voltage	18…32 VDC
Current consumption	200 mA
Galvanic isolation	Complete galvanic isolation acc. to EN 60079-11
Number of channels	2

Transmission rate	9.6 kbps up to 1.5 Mbps

Ex approval acc. to conformity certificate	PTB 03 ATEX 2115
Device designation	⟨Ex⟩　II (2) GD　[Ex ib] IIC

Displays/Operating elements	
Operational readiness	2 × green
State/ Fault	3 × yellow/red
Baud rate detection	1 × yellow

Housing material	Anodized aluminium
Front plate	FR4, gray / blue
Connection mode	snap-fit on DIN rail (DIN 60715)
Protection class	IP20
Ambient temperature	-20…+70 °C
Relative humidity	≤ 93 % at 40 °C acc. to IEC 60068-2-78
Vibration test	Acc. to IEC 60068-2-6
Shock test	Acc. to IEC 60068-2-27
EMC	Acc. to EN 61326-1
	Acc. to Namur NE21
MTTF	106 years acc. to SN 29500 (Ed. 99) 40 °C
Dimensions	142 x 105.5 x 31 mm

Approvals	ATEX
	cFMus
	cFM
	CCC
	INMETRO
	KOSHA
	EAC Ex
	DNV GL
	BV
	LR
	KR
	KCC
	CE

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