Verification of intrinsic safety for the ELX system

BECKHOFF New Automation Technology

General information

Project name:		**Issuer:**	
Project manager:		**Date of issue:**	

Series
ELX ◯ EPX ◯

Classification of atmosphere
I ◯ IIA ◯ IIB/III ◯ IIC ◯

Associated equipment

Identification	Channel	Manufacturer	Schematic reference	Ex marking	Certificate number	Uo [V]	Io [mA]	Po [mW]	Lo [mH]	Co [nF]
		Beckhoff Automation GmbH & Co. KG								

Intrinsically safe electrical equipment

Identification	Description	Manufacturer	Ex marking	Certificate number	Ui [V]	Ii [mA]	Pi [mW]	Li [mH]	Ci [nF]

Cable inductance and capacity

Identification	Description	Manufacturer	Cable length [m]	Cable inductance Lc [mH/km]	Cable capacity Cc [nF/km]	Resulting Lc [mH]	Resulting Cc [nF]

Total inductance Li + Lc [mH]	
Total capacity Ci+ Cc [nF]	

Intrinsic safety check

Intrinsic safety condition	Associated equipment		Intrinsically safe electrical equipment	Intrinsic safety fulfilled
Uo ≤ Ui		≤		
Io ≤ Ii		≤		
Po ≤ Pi		≤		
Lo > Li + Lc		≥		
Co > Ci + Cc		≥		

Save form

Print form

Reset form

Version 2.4.1

Place, Signature: _____

All statements without guarantee

Instructions

This proof of intrinsic safety has been developed for intrinsically safe circuits which include an ELX EtherCAT terminal or EPX EtherCAT box from Beckhoff Automation GmbH & Co. KG.

For the intended use of the form, please fill out all fields marked in red or select the appropriate option. The form then automatically checks your inputs with regard to the intrinsic safety conditions. All conditions must be fulfilled in order to proof the intrinsic safety.

This form is only an aid provided to you. Therefore, no liability can be accepted for all information and calculations.

Normative regulations

The proof of intrinsic safety is based on the standards EN 60079-11, EN 60079-14 and EN 60079-25 and works with the safety-related maximum values for U, I, P, L and C of the intrinsically safe and associated equipment. These values can be found in the EU-Type Examination Certificate resp. the IECEx Certificate of Conformity or in the Operating Instructions of the respective equipment. The regulations for cables and wires of EN 60079-14 must be observed for the used cable.