BECKHOFF New Automation Technology

Documentation | EN

Control Drawing ELX

Connection diagrams, Ex markings and technical data for explosion protection

2023-02-27 | Version: 2.2.0

Table of contents

1 Foreword 5
1.1 Notes on the documentation 5
1.2 Safety instructions 6
1.3 Documentation issue status 7
2 Connection diagrams 8
2.1 Terminals with digital inputs 8
2.1.1 ELX1052 8
2.1.2 ELX1054 9
2.1.3 ELX1058 10
2.2 Terminals with digital outputs 11
2.2.1 ELX2002 11
2.2.2 ELX2008 12
2.2.3 ELX2792 13
2.3 Terminals with analog inputs 14
2.3.1 ELX3152 14
2.3.2 ELX3158 16
2.3.3 ELX3181 17
2.3.4 ELX3184 18
2.3.5 ELX3202 19
2.3.6 ELX3204 22
2.3.7 ELX3252 23
2.3.8 ELX3312 24
2.3.9 ELX3314 25
2.3.10 ELX3351 26
2.4 Terminals with analog outputs 28
2.4.1 ELX4154 28
2.4.2 ELX4181 29
2.5 Terminals for position measurement 30
2.5.1 ELX5151 30
3 Ex markings 31
4 Technical data for explosion protection 34
5 Appendix 38
5.1 EtherCAT AL Status Codes 38
5.2 Specific condition of use 38
5.3 Support and Service 39

1 Foreword

1.1 Notes on the documentation

Intended audience

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with the applicable national standards.
It is essential that the documentation and the following notes and explanations are followed when installing and commissioning these components.
It is the duty of the technical personnel to use the documentation published at the respective time of each installation and commissioning.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

Disclaimer

The documentation has been prepared with care. The products described are, however, constantly under development.

We reserve the right to revise and change the documentation at any time and without prior announcement.

No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.

Trademarks

Beckhoff®, TwinCAT®, TwinCAT/BSD®, TC/BSD®, EtherCAT®, EtherCAT G®, EtherCAT G10®, EtherCAT P®, Safety over EtherCAT®, TwinSAFE®, XFC®, XTS® and XPlanar® are registered trademarks of and licensed by Beckhoff Automation GmbH. Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

Patent Pending

The EtherCAT Technology is covered, including but not limited to the following patent applications and patents: EP1590927, EP1789857, EP1456722, EP2137893, DE102015105702 with corresponding applications or registrations in various other countries.

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Copyright

© Beckhoff Automation GmbH & Co. KG, Germany.
The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization are prohibited.
Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.

1.2 Safety instructions

Safety regulations

Please note the following safety instructions and explanations!
Product-specific safety instructions can be found on following pages or in the areas mounting, wiring, commissioning etc.

Exclusion of liability

All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

Personnel qualification

This description is only intended for trained specialists in control, automation and drive engineering who are familiar with the applicable national standards.

Description of instructions

In this documentation the following instructions are used.
These instructions must be read carefully and followed without fail!

⚠ DANGER

Serious risk of injury! / Risque accru de blessures !

Failure to follow this safety instruction directly endangers the life and health of persons.

Si cette consigne de sécurité n'est pas respectée, il existe une situation de danger imminent pouvant porter atteinte à la vie et à la santé des personnes !

⚠ WARNING

Risk of injury! / Risque de blessures !

Failure to follow this safety instruction endangers the life and health of persons.

Si cette consigne de sécurité n'est pas respectée, il existe une situation de danger pouvant porter atteinte à la vie et à la santé des personnes !

⚠ CAUTION

Personal injuries! / Risque de dommages corporels !

Failure to follow this safety instruction can lead to injuries to persons.

Si cette consigne de sécurité n'est pas respectée, il y a un risque de dommages corporels pour les personnes !

NOTE

Damage to environment/equipment or data loss /
Dommages pour l'environnement/les appareils ou perte de données

Failure to follow this instruction can lead to environmental damage, equipment damage or data loss.

Si cette consigne de sécurité n'est pas respectée, il y a un risque de dommages pour l'environnement, de dommages pour les appareils ou de perte de données.

Tip or pointer / Conseil ou indication

This symbol indicates information that contributes to better understanding.

Ce pictogramme attire l'attention sur des informations qui permettent une meilleure compréhension.

1.3 Documentation issue status

Version	Comment
2.2.0	• ELX2792 and ELX3184 added • Technical data for explosion protection updated
2.1.0	• Technical data for explosion protection extended
2.0.0	• ELX1058, ELX2008, ELX3158, ELX3252 and ELX4154 added • Connection diagrams updated • Chapter *Ex markings* updated
1.0.0	• First release
0.4	• Chapter *Ex markings* added
0.3	• Chapter *Specific condition of use* added • Technical data for explosion protection extended
0.2	• Technical data for explosion protection corrected
0.1	• First preliminary version

2 Connection diagrams

2.1 Terminals with digital inputs

2.1.1 ELX1052

Two-channel digital input terminal for NAMUR sensors, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

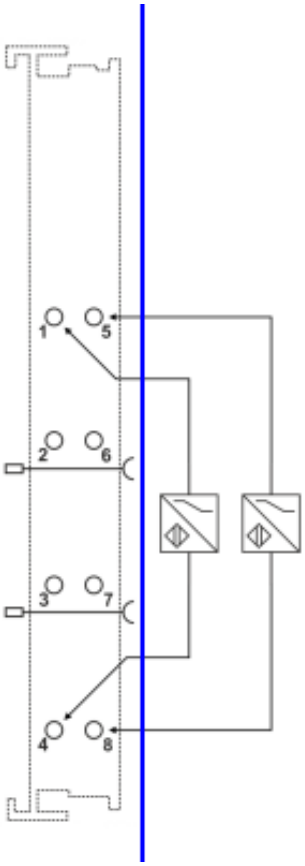

Fig. 1: ELX1052 - Sensor connection

2.1.2 ELX1054

Four-channel digital input terminal for NAMUR sensors, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

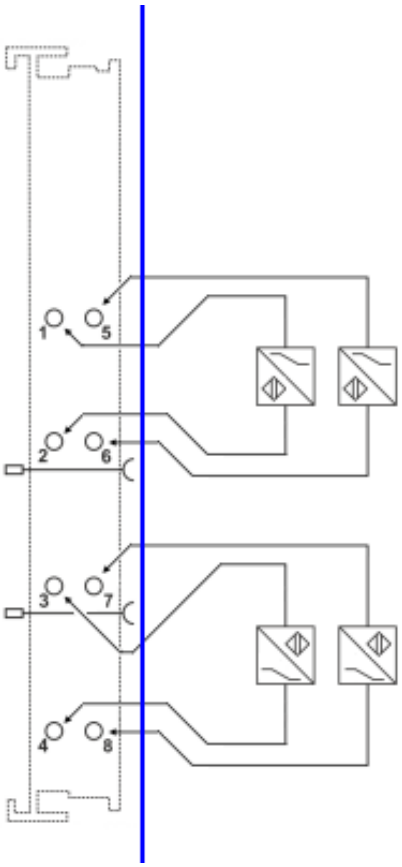

Fig. 2: ELX1054 - Sensor connection

2.1.3 ELX1058

Eight-channel digital input terminal for NAMUR sensors, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

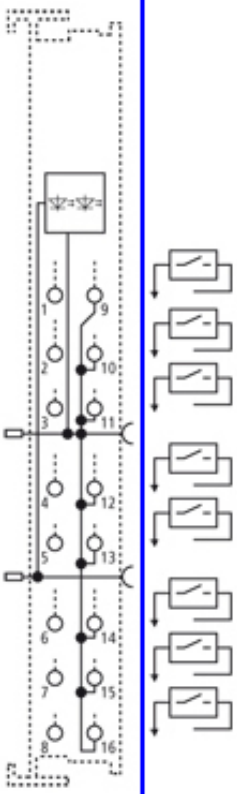

Fig. 3: ELX1058 - Sensor connection

2.2 Terminals with digital outputs

2.2.1 ELX2002

Two-channel digital output terminal, 24 V_{DC}, 40 mA, Ex i

non-hazardous location
or
classified hazardous location
Class I, Div. 2, Group …
or
Zone 2, Group IIC

non-hazardous location
or
classified hazardous location
Class I, Div. 1, Group…
Class II, Div. 1, Group…
or
Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

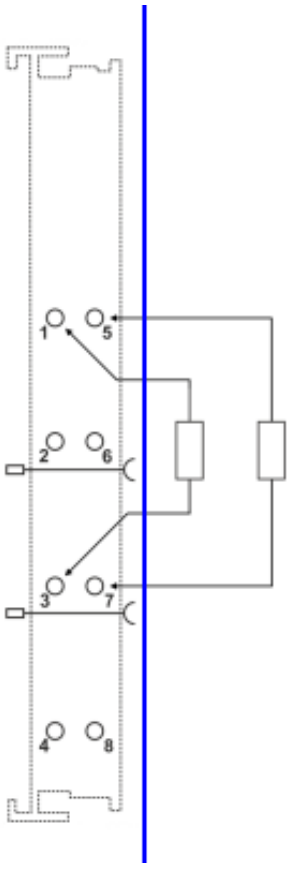

Fig. 4: ELX2002 - Actuator connection

2.2.2 ELX2008

Eight-channel digital output terminal, 24 V_{DC}, 30 mA, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

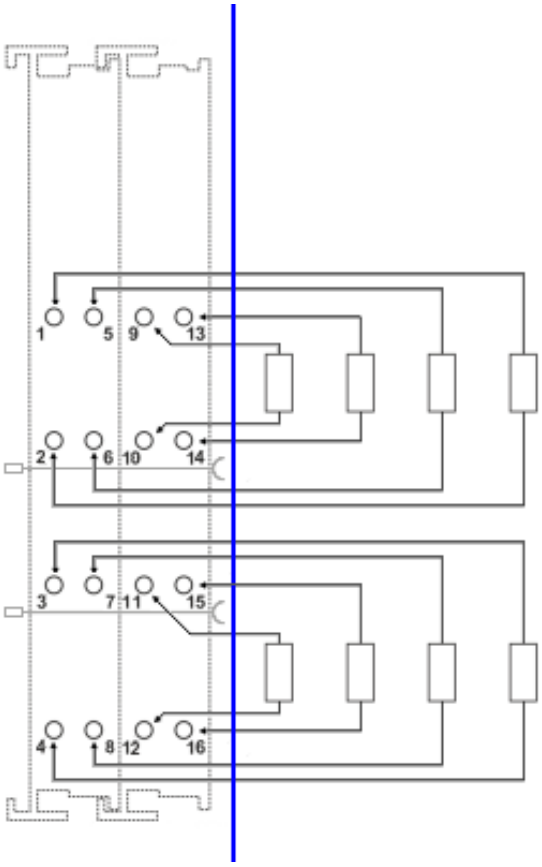

Fig. 5: ELX2008 - Actuator connection

2.2.3 ELX2792

Two-channel solid state relay terminal, potential-free, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

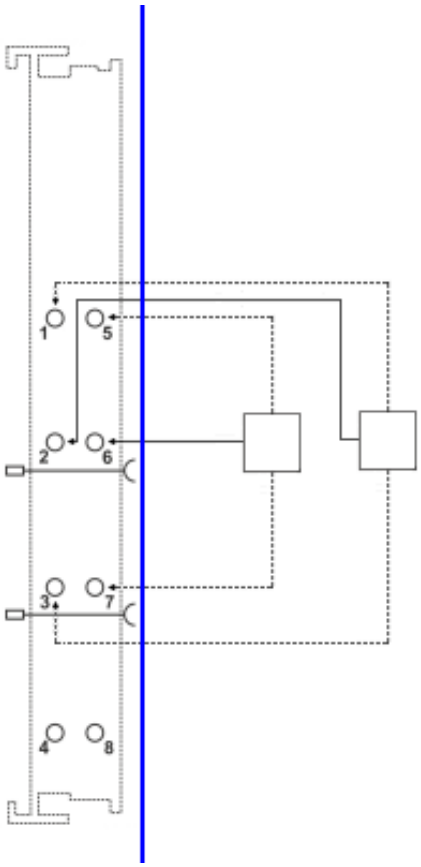

Fig. 6: ELX2792 - Actuator connection

2.3 Terminals with analog inputs

2.3.1 ELX3152

Two-channel analog, output terminal, 0/4…20 mA, single-ended, 16 Bit, Ex i

2-wire

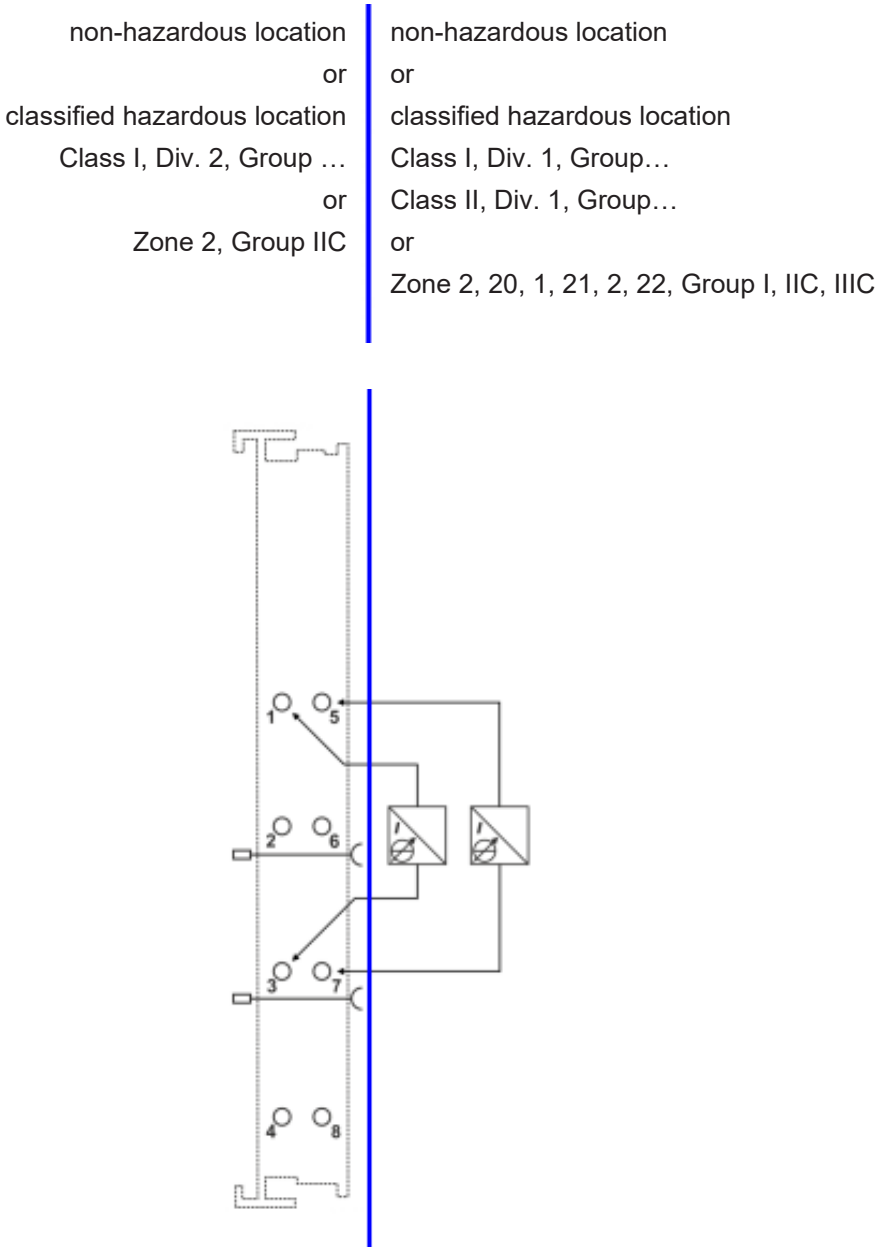

Fig. 7: ELX3152 - Sensor connection (2-wire)

3-wire

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

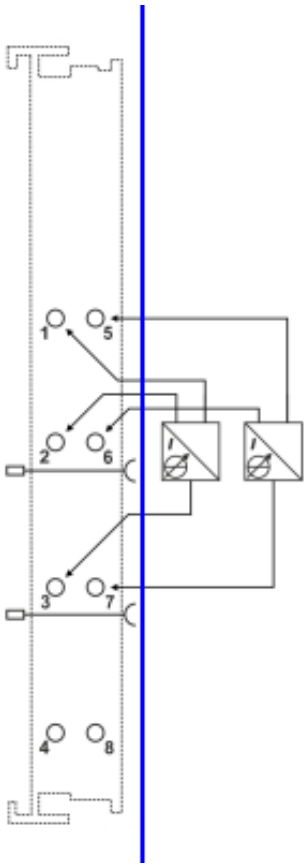

Fig. 8: ELX3152 - Sensor connection (3-wire)

2.3.2 ELX3158

Eight-channel analog input terminal, 4 … 20 mA, single ended, 16 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

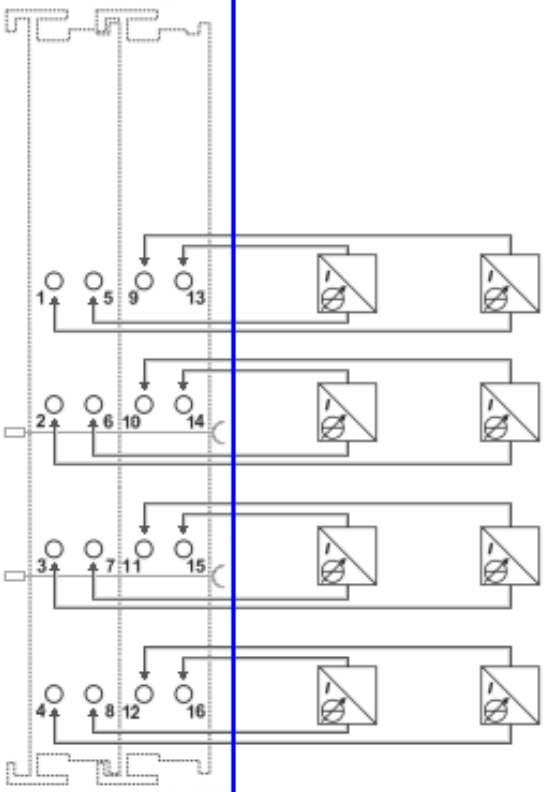

Fig. 9: ELX3158 - Sensor connection

2.3.3 ELX3181

One-channel analog input terminal 4…20 mA, single-ended, 16 bit, HART, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

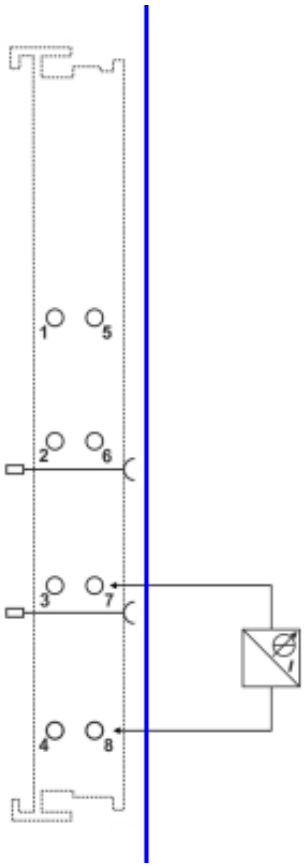

Fig. 10: ELX3181 - Sensor connection

2.3.4 ELX3184

Four-channel analog input terminal 4…20 mA, single-ended, 16 bit, HART, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

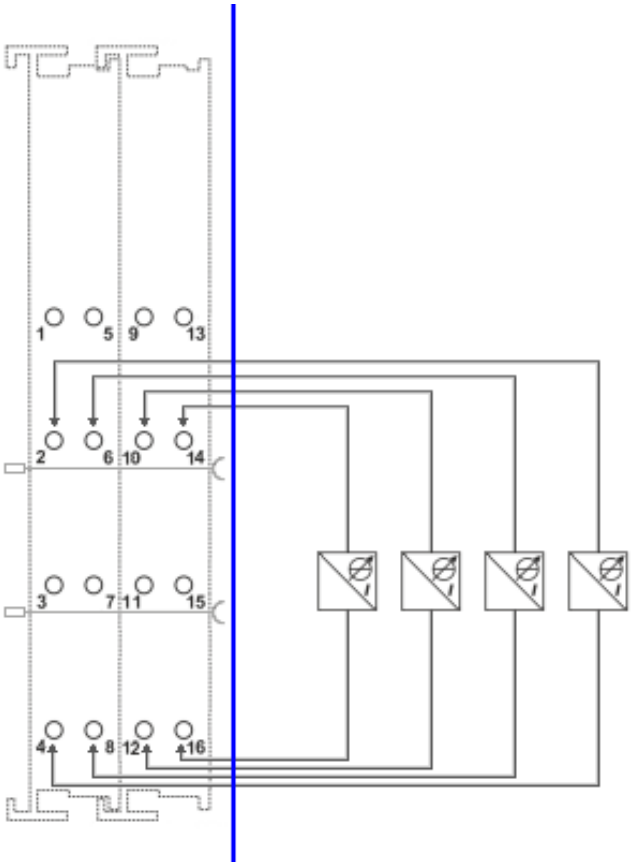

Fig. 11: ELX3184 - Sensor connection

2.3.5 ELX3202

Two-channel analog input terminal, RTD, 16 bit, Ex i

2-wire

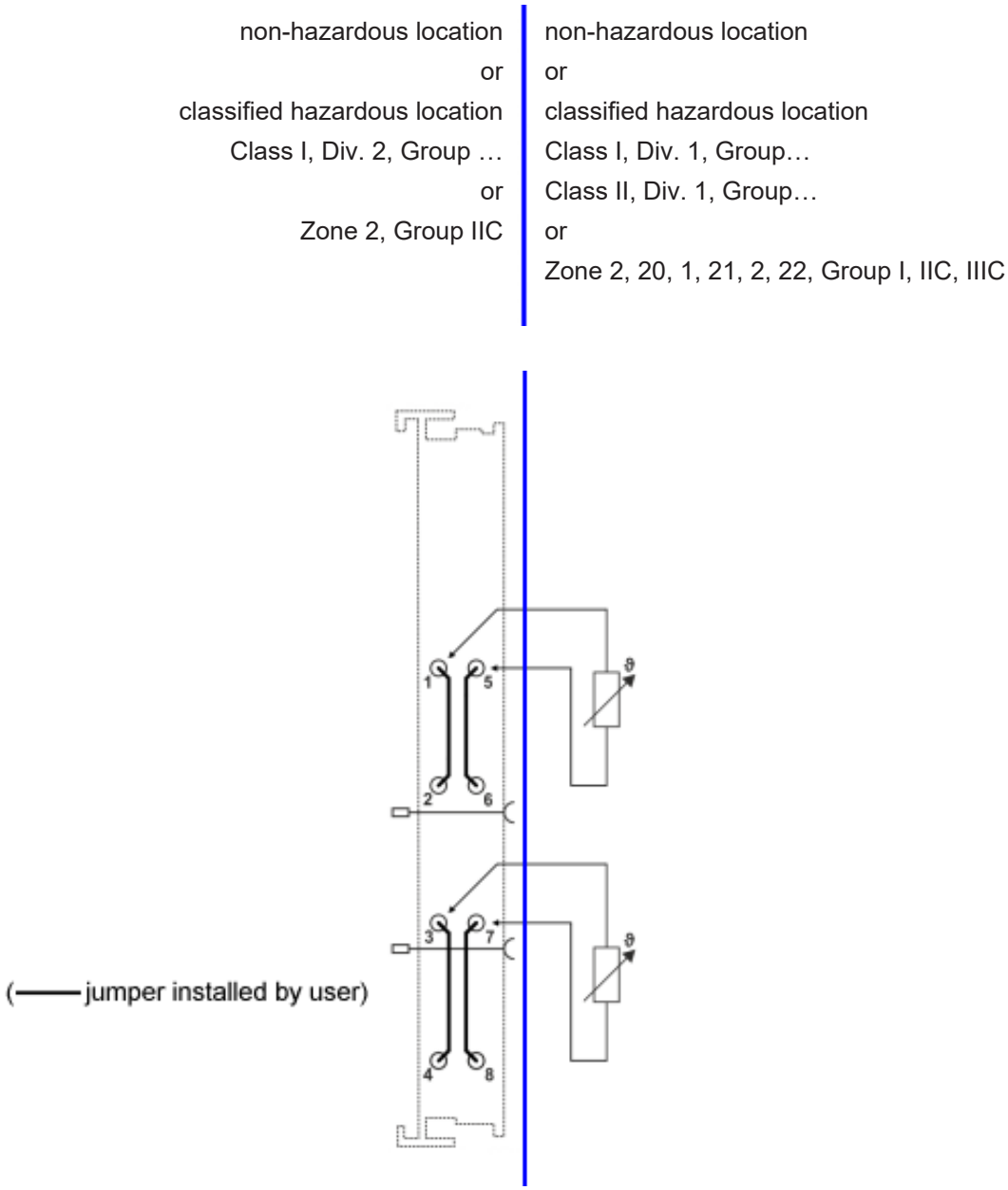

Fig. 12: ELX3202 - Sensor connection (2-wire)

3-wire

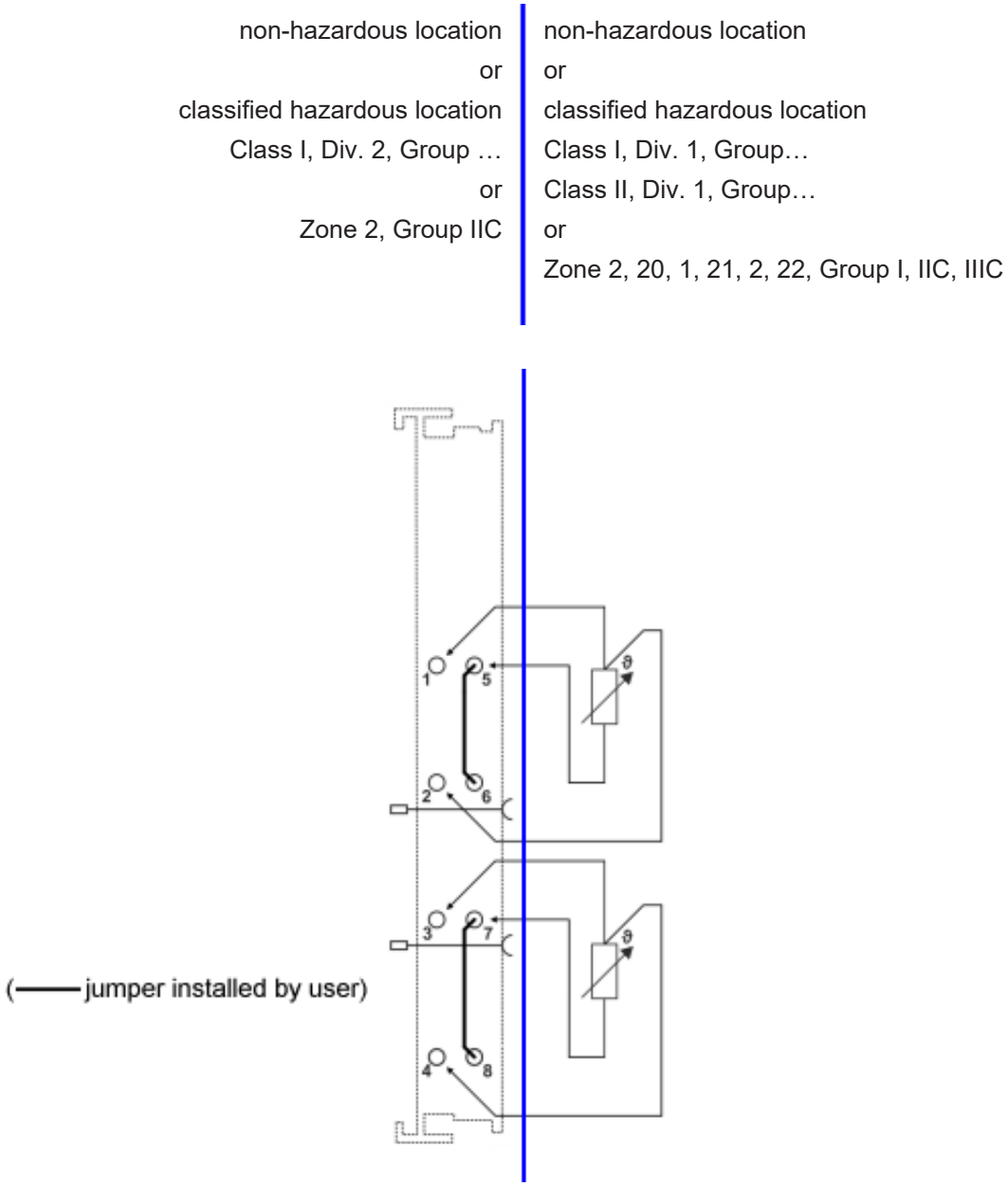

Fig. 13: ELX3202 - Sensor connection (3-wire)

4-wire

non-hazardous location or classified hazardous location Class I, Div. 2, Group … or Zone 2, Group IIC	non-hazardous location or classified hazardous location Class I, Div. 1, Group… Class II, Div. 1, Group… or Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

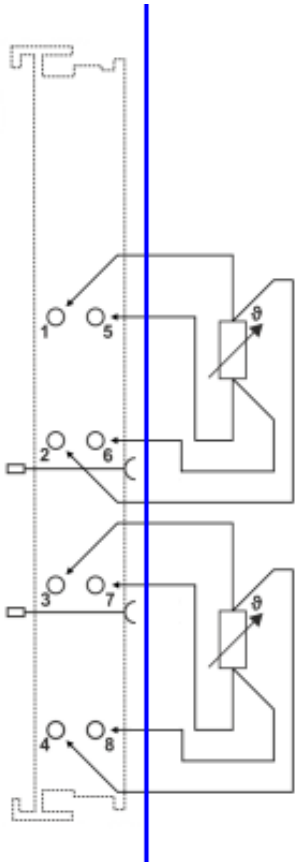

Fig. 14: ELX3202 - Sensor connection (4-wire)

2.3.6 ELX3204

Four-channel analog input terminal, RTD, 16 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

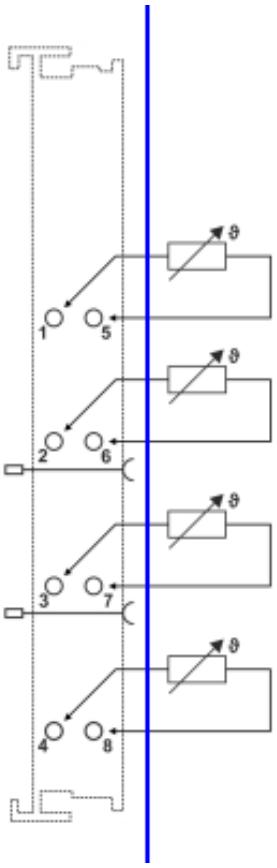

Fig. 15: ELX3204 - Sensor connection

2.3.7 ELX3252

Two-channel analog input terminal for potentiometers, 16 Bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

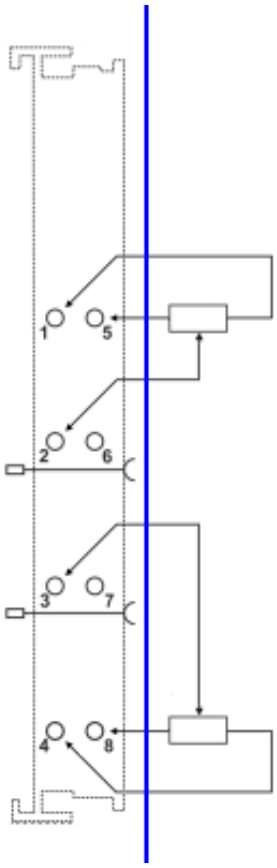

Fig. 16: ELX3252 - Connection of potentiometers

2.3.8 ELX3312

Two-channel analog input terminal for thermocouples, 16 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

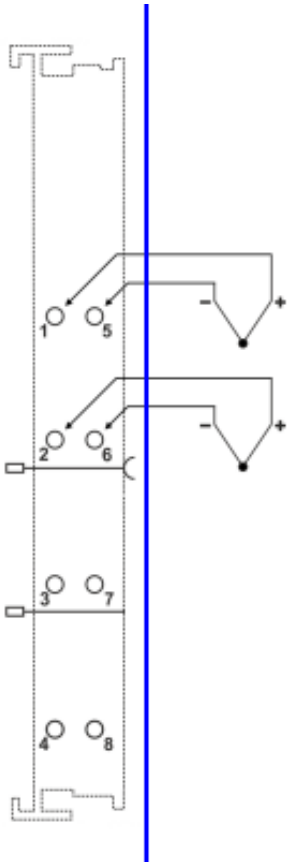

Fig. 17: ELX3312 - Connection of thermocouples

2.3.9 ELX3314

Four-channel analog input terminal for thermocouples, 16 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

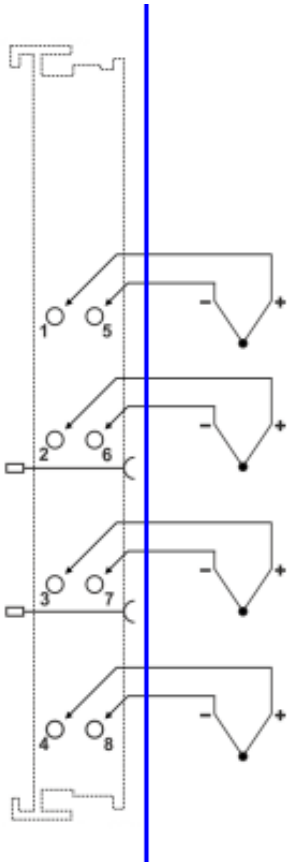

Fig. 18: ELX3314 - Connection of thermocouples

2.3.10 ELX3351

One-channel analog input terminal for strain gauge, 16 bit, Ex i

4-wire

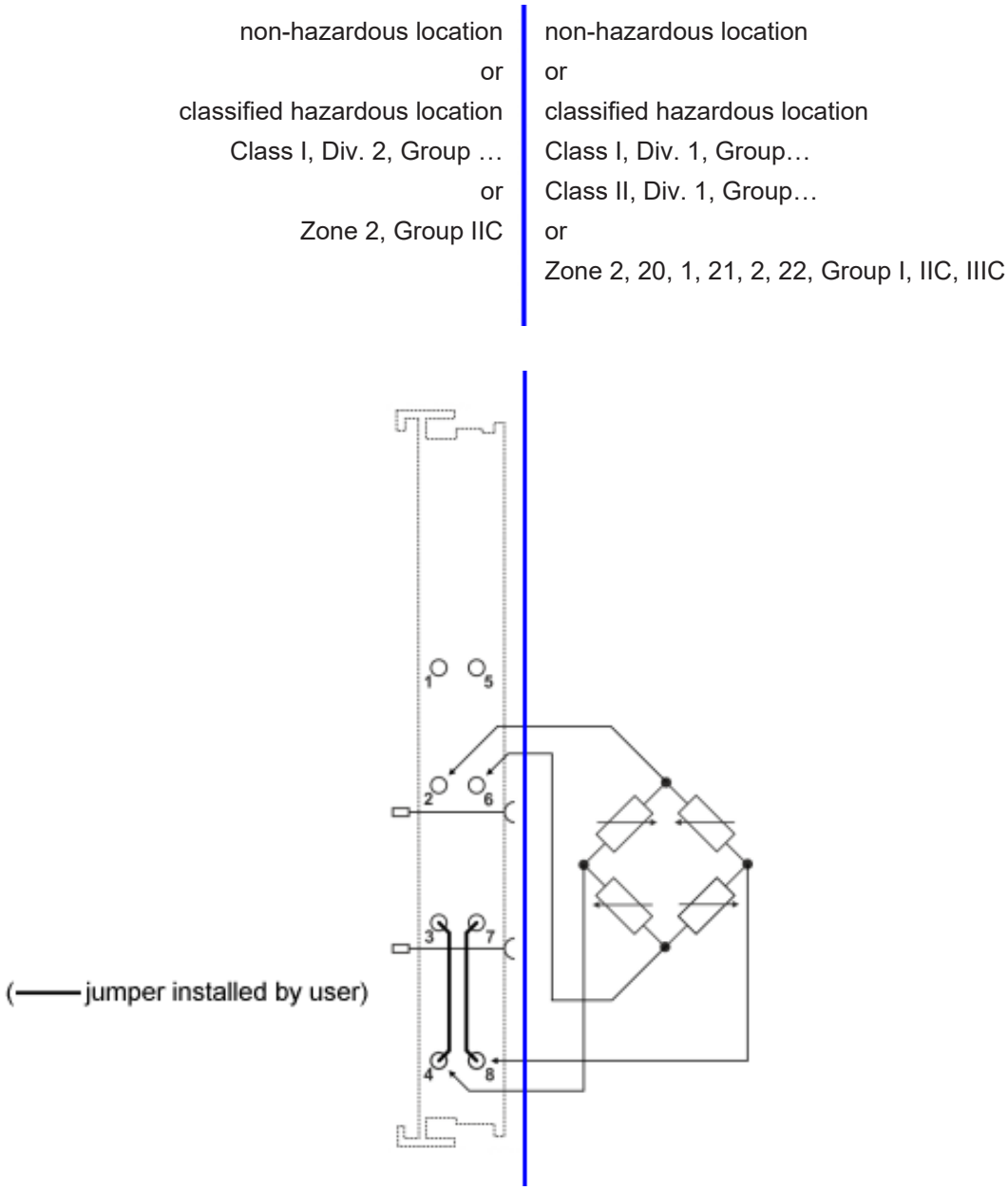

Fig. 19: ELX3351 - Connection of strain gauge (4-wire)

6-wire

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

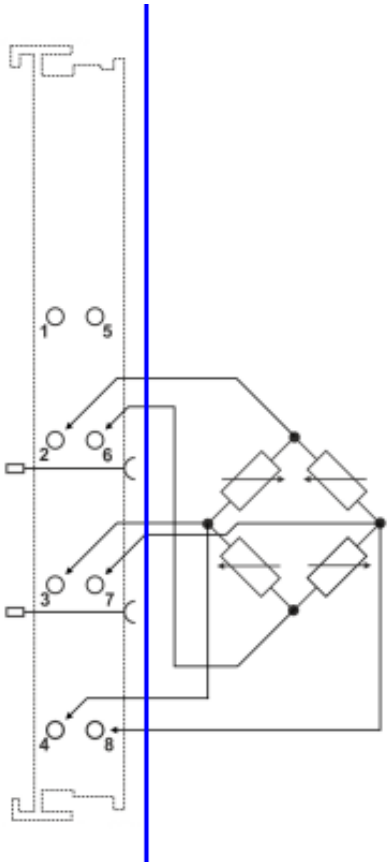

Fig. 20: ELX3351 - Connection of strain gauge (6-wire)

2.4 Terminals with analog outputs

2.4.1 ELX4154

Four-channel analog output terminal, 0/4…20 mA, single ended, 16 Bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

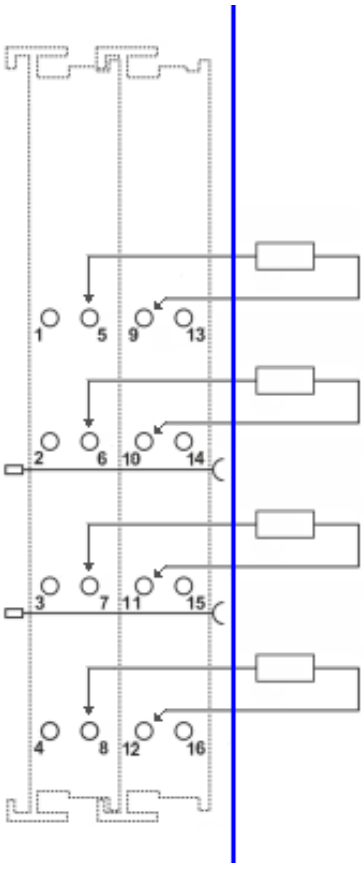

Fig. 21: ELX4154 - Actuator connection

2.4.2 ELX4181

One-channel analog output terminal 0/4…20 mA, single-ended, HART, 16 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

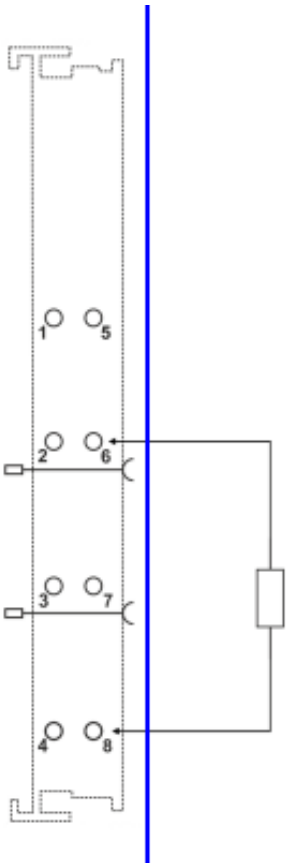

Fig. 22: ELX4181 - Actuator connection

2.5 Terminals for position measurement

2.5.1 ELX5151

One-channel incremental encoder interface, NAMUR, 32 bit, Ex i

non-hazardous location	non-hazardous location
or	or
classified hazardous location	classified hazardous location
Class I, Div. 2, Group …	Class I, Div. 1, Group…
or	Class II, Div. 1, Group…
Zone 2, Group IIC	or
	Zone 2, 20, 1, 21, 2, 22, Group I, IIC, IIIC

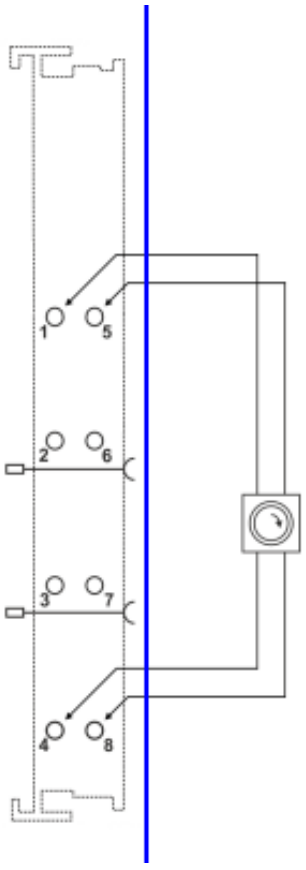

Fig. 23: ELX5151 - Encoder connection

3 Ex markings

Ex markings on ELX signal terminals

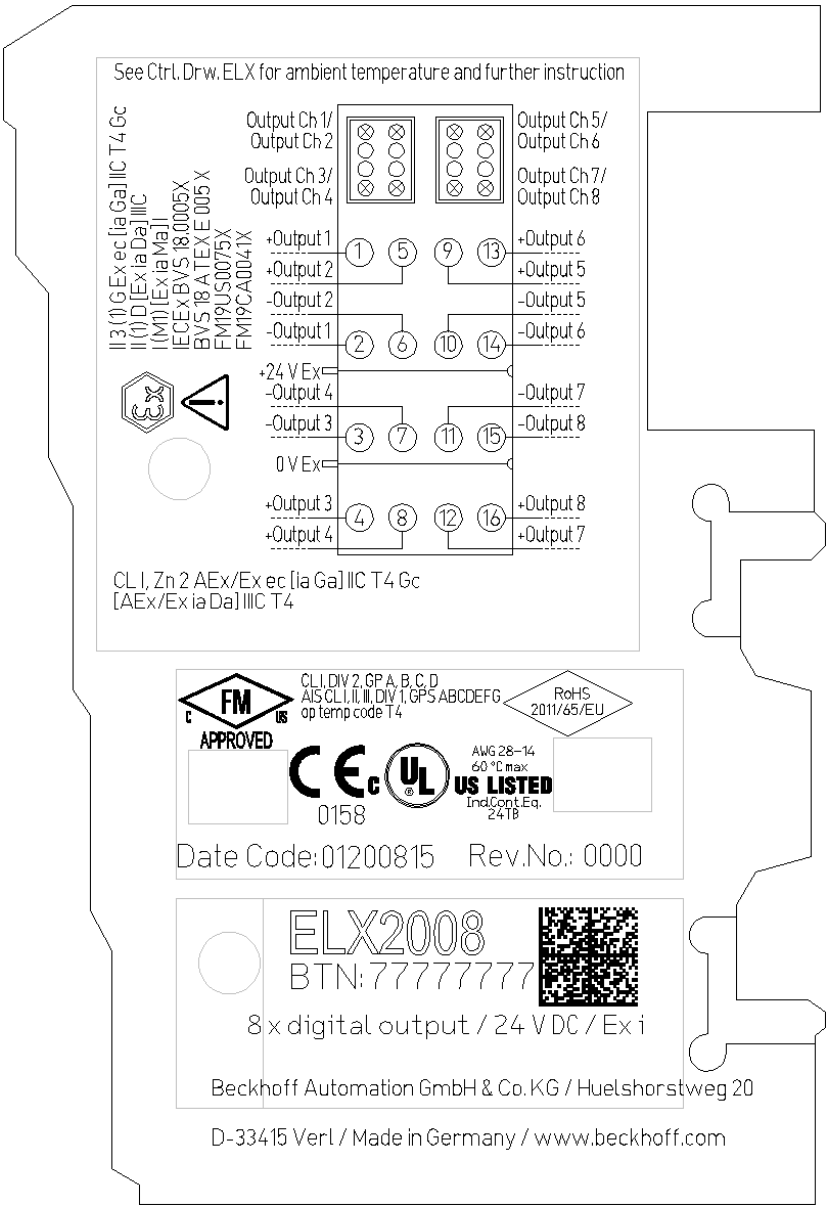

Fig. 24: ELX2008 with Ex marking

The Ex marking in this Figure is identical on all ELX signal terminals, that includes ELX1052, ELX1054, ELX1058, ELX2002, ELX2008, ELX2792, ELX3152, ELX3158, ELX3181, ELX3184, ELX3202, ELX3204, ELX3252, ELX3312, ELX3314, ELX3351, ELX4154, ELX4181 and ELX5151.

Ex markings on ELX power supply terminals

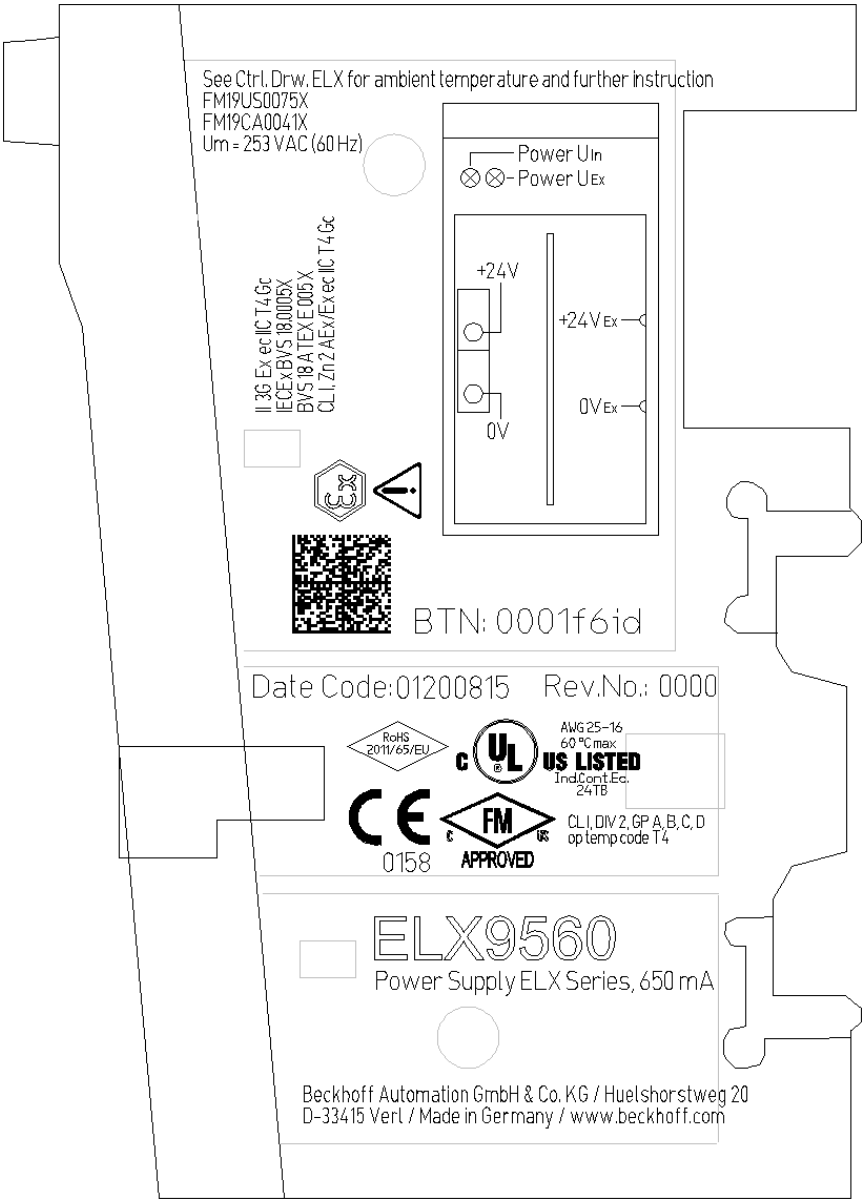

Fig. 25: ELX9560 with Ex marking

The Ex marking in this figure is identical on ELX9410 and ELX9560.

Ex markings on ELX bus end cover

Fig. 26: ELX9012 with Ex marking

4 Technical data for explosion protection

Parameters of intrinsically safe switching circuits

ELX Terminal	Connection	Nominal switching voltage / current	P_i [mW]	U_i [V]	I_i [mA]	L_i [mH]	C_i [nF]
ELX2792	see page [▶ 13]	≤ 30 $V_{AC/DC}$ ≤ 0.5 A_{AC} ≤ 1 A_{DC}	internally limited	30.0	internally limited	negligible	0.9

Hardware version (HW) of the ELX9560

The technical data for explosion protection of the following ELX terminals depend on the hardware version of the ELX9560 power supply terminal used.

The hardware version of the ELX9560 can be found on the front side of your power supply terminal from hardware version 04 onwards.

Parameters of intrinsically safe output circuits when used with an ELX9560 up to HW04

ELX Terminal	Connection	P_0 [mW]	U_0 [V]	I_0 [mA]	Group	L_0 [mH]	C_0 [µF]
ELX1052-**-****	see page [▶ 8]	33	10.75	12	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX1054-**-****	see page [▶ 9]	28	10.72	10.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX1058-**-****	see page [▶ 10]	28	10.72	10.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX2002-**-****	see page [▶ 11]	768	27.7	111	A, B	0.094	0.085
					C, E	9.2	0.663
					D, F, G	16	2.2
ELX2008-**-****	see page [▶ 12]	773	27.7	111	A, B	0.094	0.085
					C, E	9.2	0.663
					D, F, G	16	2.2
ELX3152-**-****	see page [▶ 14]	565	27.7	85	A, B	2	0.085
					C, E	18	0.663
					D, F, G	30	2.2
ELX3158-**-****	see page [▶ 16]	565	27.7	85	A, B	2	0.085
					C, E	18	0.663
					D, F, G	30	2.2
ELX3181-**-****	see page [▶ 17]	565	27.7	85	A, B	2	0.085
					C, E	18	0.663
					D, F, G	30	2.2
ELX3184-**-****	see page [▶ 18]	561	27.7	81	A, B	2.4	0.085
					C, E	20	0.663
					D, F, G	34	2.2
ELX3202-**-****	see page [▶ 19]	15	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3204-**-****	see page [▶ 22]	15	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3252-**-****	see page [▶ 23]	16	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3312-**-****	see page [▶ 24]	0.5	4.94	0.5	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3314-**-****	see page [▶ 25]	0.5	4.94	0.5	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3351-**-****	see page [▶ 26]	214	11.76	146	A, B	1.7	1.5
					C, E	6.6	9.9
					D, F, G	13.3	39
ELX4154-**-****	see page [▶ 28]	565	27.7	85	A, B	2	0.085
					C, E	18	0.663
					D, F, G	30	2.2
ELX4181-**-****	see page [▶ 29]	565	27.7	85	A, B	2	0.085
					C, E	18	0.663
					D, F, G	30	2.2
ELX5151-**-****	see page [▶ 30]	33	10.72	12.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66

Parameters of intrinsically safe output circuits when used with an ELX9560 from HW05

ELX Terminal	Connection	P_0 [mW]	U_0 [V]	I_0 [mA]	Group	L_0 [mH]	C_0 [µF]
ELX1052-**-****	see page [▶ 8]	33	10.75	12	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX1054-**-****	see page [▶ 9]	28	10.72	10.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX1058-**-****	see page [▶ 10]	28	10.72	10.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66
ELX2002-**-****	see page [▶ 11]	730	27.0	109	A, B	0.47	0.09
					C, E	9.9	0.705
					D, F, G	17	2.33
ELX2008-**-****	see page [▶ 12]	735	27.0	109	A, B	0.47	0.09
					C, E	9.9	0.705
					D, F, G	17	2.33
ELX3152-**-****	see page [▶ 14]	540	27.0	80	A, B	2.8	0.09
					C, E	21	0.705
					D, F, G	35	2.33
ELX3158-**-****	see page [▶ 16]	535	27.0	80	A, B	2.8	0.09
					C, E	21	0.705
					D, F, G	35	2.33
ELX3181-**-****	see page [▶ 17]	535	27.0	80	A, B	2.8	0.09
					C, E	21	0.705
					D, F, G	35	2.33
ELX3184-**-****	see page [▶ 18]	534	27.0	79	A, B	3	0.09
					C, E	20	0.705
					D, F, G	36	2.33
ELX3202-**-****	see page [▶ 19]	15	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3204-**-****	see page [▶ 22]	15	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3252-**-****	see page [▶ 23]	16	4.94	12	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3312-**-****	see page [▶ 24]	0.5	4.94	0.5	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3314-**-****	see page [▶ 25]	0.5	4.94	0.5	A, B	100	100
					C, E	100	1000
					D, F, G	100	1000
ELX3351-**-****	see page [▶ 26]	214	11.76	146	A, B	1.7	1.5
					C, E	6.6	9.9
					D, F, G	13.3	39
ELX4154-**-****	see page [▶ 28]	535	27.0	80	A, B	2.8	0.09
					C, E	21	0.705
					D, F, G	35	2.33
ELX4181-**-****	see page [▶ 29]	535	27.0	80	A, B	2.8	0.09
					C, E	21	0.705
					D, F, G	35	2.33
ELX5151-**-****	see page [▶ 30]	33	10.72	12.4	A, B	100	2.14
					C, E	100	15
					D, F, G	100	66

NOTE	
	Installation, parameterization, programming etc. Further information on installation, parameterization, programming etc. can be found in the terminal-specific documentation, which is provided for download by the respective product page on www.beckhoff.com/ELXxxxx

5 Appendix

5.1 EtherCAT AL Status Codes

For detailed information please refer to the EtherCAT system description.

5.2 Specific condition of use

⚠ WARNING

Please note!

- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1!
- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0!
- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment!
- The circuits shall be limited to overvoltage Category II as defined in IEC 60664-1!
- The Terminal system is suitable for use in a temperature range of -25°C to +60°C.
- Do not disconnect energized terminals!
- The last terminal of each segment is to be covered by a bus end cover ELX9012, unless two ELX9410 terminals are installed in direct succession for continuing the same terminal segment with standard Beckhoff EtherCAT terminals (e.g. EL/ES/EK).
- An additional ELX9560 power supply terminal, followed by further ELX signal terminals can be connected to the right side of the ELX9410.

5.3 Support and Service

Beckhoff and their partners around the world offer comprehensive support and service, making available fast and competent assistance with all questions related to Beckhoff products and system solutions.

Beckhoff's branch offices and representatives

Please contact your Beckhoff branch office or representative for local support and service on Beckhoff products!

The addresses of Beckhoff's branch offices and representatives round the world can be found on her internet pages: www.beckhoff.com

You will also find further documentation for Beckhoff components there.

Support

The Beckhoff Support offers you comprehensive technical assistance, helping you not only with the application of individual Beckhoff products, but also with other, wide-ranging services:

- support
- design, programming and commissioning of complex automation systems
- and extensive training program for Beckhoff system components

Hotline:	+49 5246 963 157
e-mail:	support@beckhoff.com
web:	www.beckhoff.com/support

Service

The Beckhoff Service Center supports you in all matters of after-sales service:

- on-site service
- repair service
- spare parts service
- hotline service

Hotline:	+49 5246 963 460
e-mail:	service@beckhoff.com
web:	www.beckhoff.com/service

Headquarters Germany

Beckhoff Automation GmbH & Co. KG

Hülshorstweg 20
33415 Verl
Germany

Phone:	+49 5246 963 0
e-mail:	info@beckhoff.com
web:	www.beckhoff.com

More Information:
www.beckhoff.com/elx

Beckhoff Automation GmbH & Co. KG
Hülshorstweg 20
33415 Verl
Germany
Phone: +49 5246 9630
info@beckhoff.com
www.beckhoff.com