

Description

Intrinsically safe pressure transmitter for use in areas with potentially explosive atmosphere.

Target group

Experienced electricians according to the operational safety regulations and properly instructed persons.

Safety instructions

Operate the pressure transmitter properly and in clean condition. Before commissioning, review the values indicated on the nameplate to ensure they meet the requirements for current usage, particularly pressure and temperature values as well as the ex-protection class. The specified IP protection class is only ensured with the proper connection of the cable and plug. No changes may be performed on the product which are not explicitly listed in this manual. For all service on the pressure transmitter, please follow all national safety and accident prevention regulations and the following safety instructions in italics..



Warning: Before installation, commissioning, and operation, ensure that the pressure transmitter is suitable for the application in terms of measuring range, design and environmental conditions. Non-observance can result in serious injury and/or damage to equipment. **Intended use:** This instrument converts pressure into an electrical signal. The instrument has been designed and built solely for the intended use described here and may only be used accordingly. If the equipment is used in a different manner, the protection provided by the equipment may be impaired and Trafag shall not be liable for any claims at all.

Conformity

Directive	Standard	UK Reference
ATEX: 2014/34/EU	EN 60079-0, EN 60079-11 EN 60079-26, EN 50303	S.I. 2016 No. 1107
EMC: 2014/30/EU	EN 61000-6-2 EN 61000-6-3	S.I. 2016 No. 1091
EC-type examination certificate	SEV 11 ATEX 0201 X IECEx SEV 110003 X	Notified body No. 1258
UK-type examination certificate	CML 22UKEX1201X	Approved body No. 2503

Datasheet



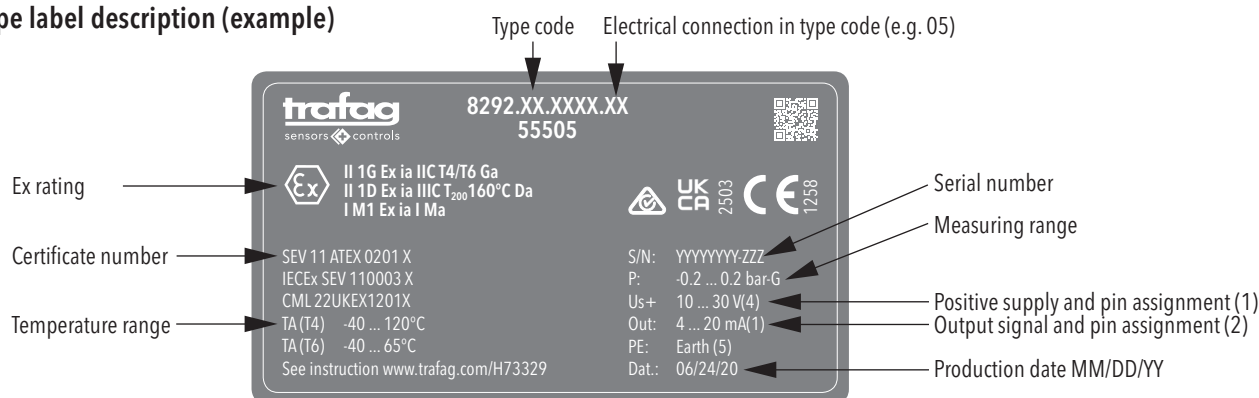
www.trafag.com/H72329

Instruction manual (additional languages)



www.trafag.com/H73329

Type label description (example)



Designation

Devices for Zones	0, 20 (Ga;Da) and Mining (Ma)	 II 1G Ex ia IIC T4/T6 Ga	 II 1D Ex ia IIIC T ₂₀₀ 160°C Da	 I M1 Ex ia I Ma
	0/1,20 (Ga/Gb;Da)	 II 1/2G Ex ia IIC T4/T6 Ga/Gb	 II 1D Ex ia IIIC T ₂₀₀ 160°C Da	

Electrical characteristic values

$U_i \leq 30$ VDC (10...30VDC), $I_i = <100$ mA, $P_i = <1$ W

Maximum effective capacity and inductivity of the pressure transmitter:

$C_i = 23$ nF; $L_i = 0.01$ mH

Maximum permissible capacity and inductivity of the intrinsically safe electrical circuit:

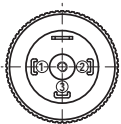
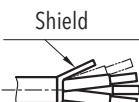
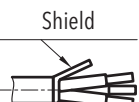
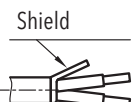
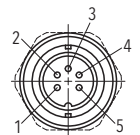
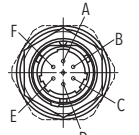
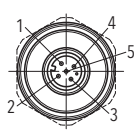
$C_o = 66$ nF; $L_o = 0.5$ mH @ 30V

The following threshold values result for the cable:

$C_c = 43$ nF; $L_c = 0.5$ mH @ 30V, $C_c = 60$ nF; $L_c = 0.5$ mH @ 28 V

Cable type	78	79	80
Material	FDR 4 x 0.5mm ²	XVH 3 x 0.75mm ²	PVC 2 x 0.75mm ²
Ccc (core-core)	122 pF/m	132 pF/m	135 pF/m
Dcs (core shield)	204 pF/m	193 pF/m	185 pF/m
Lc	1.20 uH/m	0.57 uH/m	0.65 uH/m

Electrical connections and temperature range

	Industrial standard EN175301-803A	Cable (4 x 0.5 mm ²)	Cable (3 x 0.75 mm ²)	Cable (2 x 0.75 mm ²)	Binder 723	MIL-C 26482	M12x1 5-pole
							
Order code acc. Type code	05	78	79	80	14	02	35
Protection	IP65	IP67	IP67	IP67	IP65	IP67	IP65
Ambient and media temperature T4	-40 ... +120°C	-40 ... +120°C	-40 ... +120°C	-40 ... +80°C	-30 ... +95°C	-40 ... +120°C	-40 ... +120°C
Ambient and media temperature T6	-40 ... +65°C	-40 ... +65°C	-40 ... +65°C	-40 ... +65°C	-30 ... +65°C	-40 ... +65°C	-40 ... +65°C
For Ex zones	1, 2, 20, 21, 22	0, 1, 2, 20, 21, 22, M1, M2			0, 1, 2, 20, 21, 22, M1, M2		

IP rating only provided with female connector mounted according to instruction.

Maximum temperature T4 for hydrogen compatible sensors (33 and 35, see type label) is +85°C.

Connectors 14, 02 and 35: Ventilation via cable end.

Connector 05: Turning of pin insert max. 45°.

Cables 78, 79 and 80: Additional measure against static charges are required for Zone 0 and 20 for these cables (laid with earthed metal braid, metal hose or metal pipe).
DNV marine approval max. 105°C.

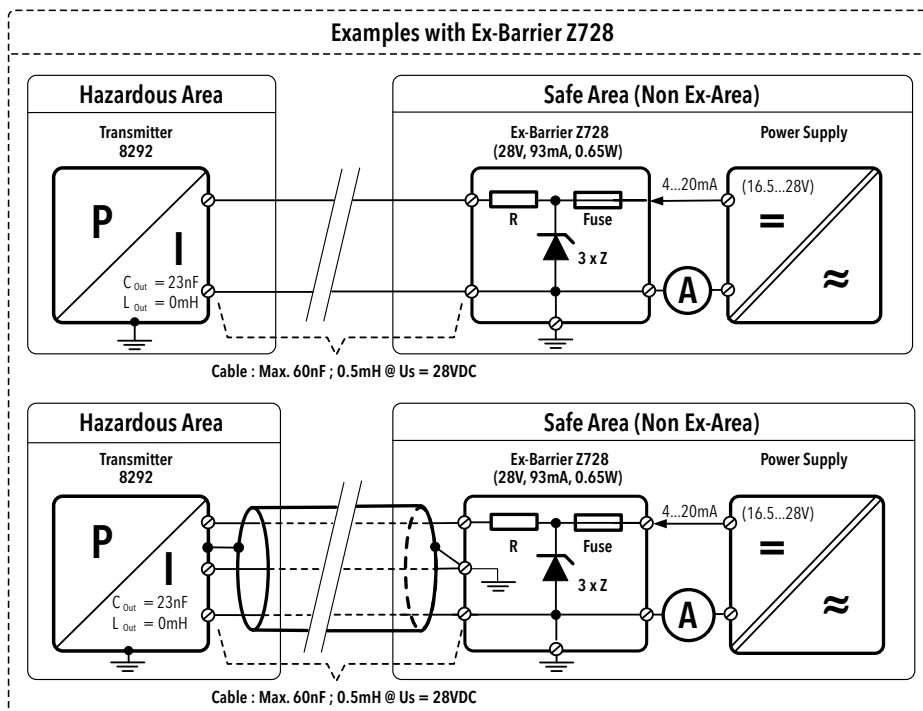
Installation

The device must be installed by especially qualified persons according to the requirements of the installation standard EN60079-14 and the relevant national regulations. The maximum mounting torque for the pressure transmitter 8292 is 30 Nm. Certified,

accompanying operating resources (safety barrier) are to be included for the use of the pressure transmitter. For level measurement applications on ships under certification GL (German Lloyd), the cable of such transmitters must be installed inside the tank only.

Principle schematic with Zener Barrier Z728

Ex-Zone	No Ex-Zone
Pressure-Transmitter (4-20mA) Ex ia IIC T4 $U_i \leq 30V$ $I_i < 100mA$ $P_i < 1W$ $L_i = 0mH$ $C_i \leq 23nF$	Ex Barrier (Example : Z728) (Ex ia) IIC $U_o = 28V$ $I_o = 93mA$ $P_o = 0.65W$ Max Parameters $L_o ; L_c / R_c ; C_o$ $L_o = 3.05mH$ $L_c / R_c = 56$ $C_o = 83nF$
Connection (Cable) $(4 \dots 20mA)$ $C_{Cable} \leq 60nF$ $L_{Cable} \leq 0.5mH$	



Attention!

The intrinsically safe electrical circuit must be limited to surge category I, as specified in IEC 60664-1, or the circuit feed is exclusively via a certified, intrinsically safe power source with a protective level „ia“. Only models with metallic plugs or cable feeder are permitted for device group I (mining) and device group I, Zone 0 and/or 20. This also applies to all IECEx applications. For transmitters with plugs, exclusively use the supplied mating plugs with a gasket. The IP protection class is only ensured with a properly installed plug and gasket. If the transmitter is not connected to the earth via the pressure connector or the housing, earthing must be ensured via the cable shield or the potential pressure equalising line in the connector.

Maintenance

Trafag pressure transmitters are maintenance-free. The provisions of standard EN 60079-17 are to be followed. You should regularly (e.g. annually) check the condition of the plugs and the connection cables for damage. Defective plugs or cables must be replaced immediately. The required intervals must be determined by the operator depending on the application conditions. Only original manufacturer parts may be used for replacement.

Disposal

For disposal please send the pressure transmitter back to the supplier.