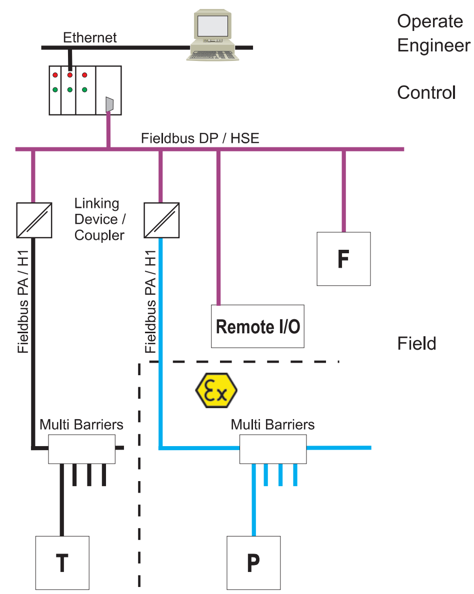
Data Sheet DS/NGB-EN Rev. B

Multi barriers

Measurement made easy



Fieldbus barrier

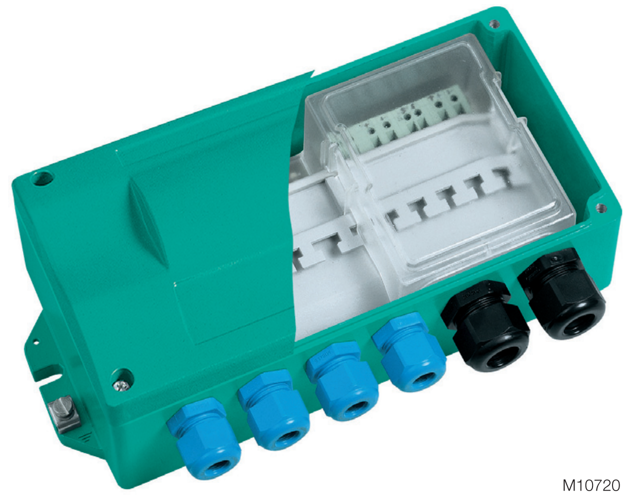
— for PROFIBUS PA

— for FOUNDATION Fieldbus-H1

Multi barriers

NGB900 – Fieldbus barrier

- 4 outputs Ex ia IIC.
- FieldBarrier in Zone 1/Div. 2.
- Instruments in Zone 0...1/Div. 1.
- Short circuit current limitation per output.
- For FOUNDATION Fieldbus H1 and PROFIBUS PA.
- Power, Com, and Error LEDs.
- Supports FISCO and Entity.
- Integrated cable tie-downs.



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The FieldBarrier, a device coupler in an aluminum housing, connects 4 instruments with intrinsic safety (Ex ia/Ex ib) and short circuit current limitation at each output. This ensures proper operation of the segment during faults or hot work at the spur. The F2 housing is made of sturdy cast aluminum for installation in rough environments.

High power on the trunk enables maximum cable lengths and device count in any hazardous area. The integrated fieldbus terminator features high-availability design and is selectable. A choice of fixed screw or spring output terminals connect 1 device each. LEDs simplify troubleshooting and help decrease repair time. Hard and capacitive grounding and shielding concepts can be chosen via jumper.

NGB900 – Fieldbus barrier

Specifications

Fieldbus interface	
Main cable (Trunk)	
Connection	input (Trunk IN): terminals 3+, 4-, 5s output (Trunk OUT): terminals 7-, 8+, 6s
Rated voltage	16 V DC / 32 V DC
Rated current	31 mA / 26 mA (no spur load) 44 mA / 38 mA (at 1x 20 mA spur load) 115 mA / 77 mA (at 4x 20 mA spur load) 221 mA / 122 mA (at 4x 43 mA spur load) 140 mA / 84 mA (at 3x 20 mA & 1x short-circuit) 241 mA / 135 mA (at 4x short-circuit)
Voltage drop	trunk IN to trunk OUT 100 mV max.
Number of barriers	max. 4 per segment
Outputs (Spurs)	
Number of devices per output (Spurs)	1
Connection	output 1: terminals 10+, 11-, 12S shield; output 2: terminals 13+, 14-, 15S shield; output 3: terminals 16+, 17-, 18S shield; output 4: terminals 19+, 20-, 21S shield
Rated voltage	10 … 13 V
Rated current	≤ 43 mA
Short-circuit current	50 mA

Terminating impedance	100 Ω switchable

Indicators / operating means	
LED voltage Fieldbus	green: on, bus voltage existent
LED status output	red flashing: short-circuit

General specification	
Design / Mounting	Outside installation

Conformity	
Degree of protection	EN 60529
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6

Ambient conditions	
Ambient temperature	see table 2
Storage temperature	-40 … 85 °C (-40 … 185 °F)

Mechanical specifications	
Enclosure cover	detachable cover with retaining screws
Degree of protection	IP 67
Cable entry	cable gland and stopping plug options see separate table
Material	
Housing	ALSI12 (Cu) DIN1725 (Si 1.2%), anodized
Surface	painted green
Seal	silicone, one piece
Mass	3350 g
Dimensions	see figure 2 and see table 2
Mounting	thru-holes Ø6.5 mm
Grounding	M5 threading for grounding bolt

NGB900 – Fieldbus barrier

Ex relevant specifications

Data for application in connection with Ex-areas	
EC-Type Examination Certificate	PTB 02 ATEX 2086
Group, category, type of protection, temperature class	II 2 (1)G Ex e mb [ia Ga] IIC T4 Gb II 2 G (1D) Ex e mb [ia IIIC Da] IIC T4 Gb
Declaration of conformity	CERT-3315
Group, category, type of protection, temperature class	II 3 D Ex tc IIIC T135°C Dc
Directive conformity	
Directive 94/9/EC	EN 60079-0:2012 EN 60079-7:2007 EN 60079-11:2012 EN 60079-18:2009 EN 60079-31:2009

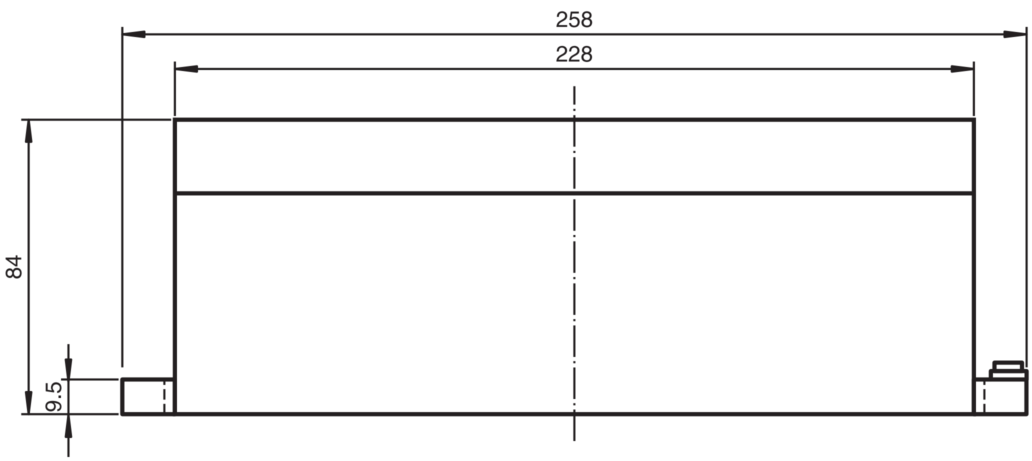
International approvals	
FM approval	CoC 3015728
Control drawing	No. 116-0226
Approved for	Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, AEx nA [ia] IIC T4
CSA approval	CoC 1592754
Control drawing	116-0266
Approved for	Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, Ex nA [ia] IIC T4
IECEx approval	IECEx PTB 03.0003
Approved for	Ex me [ia] IIC T4

Certificates and approvals	
FOUNDATION Fieldbus	FF-846
Marine approval	DNV A-14038

General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable.

NGB900 – Fieldbus barrier

Mounting dimensions



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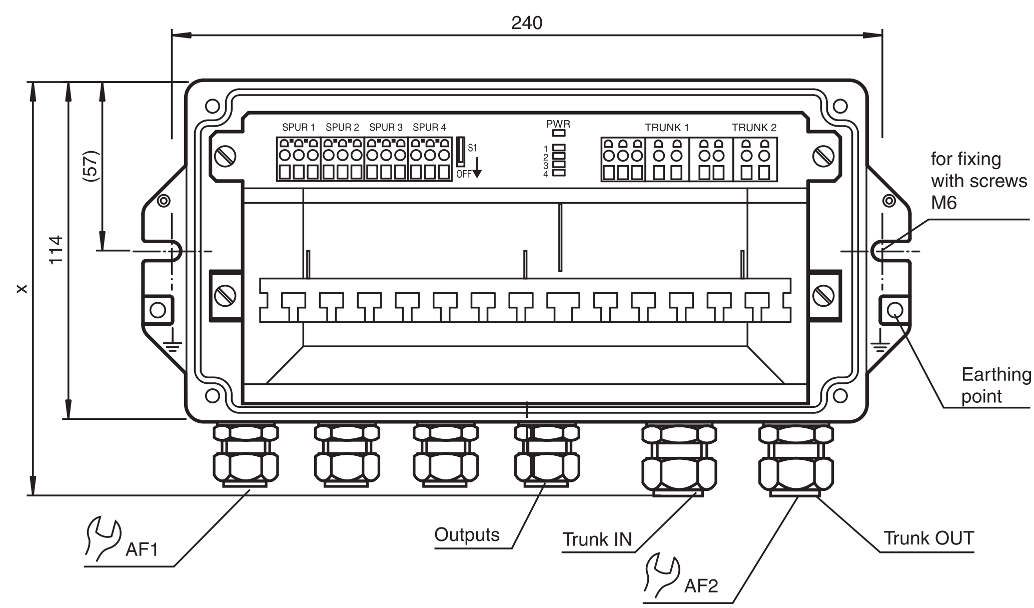

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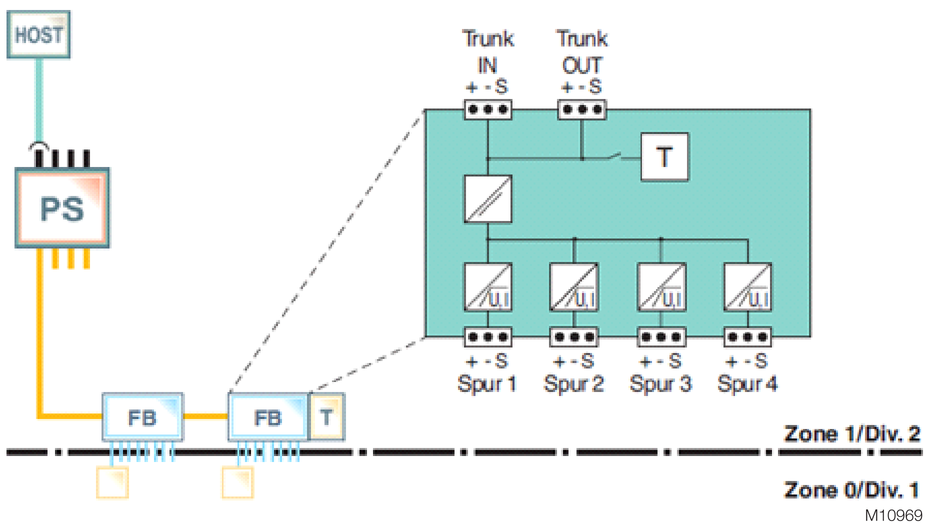
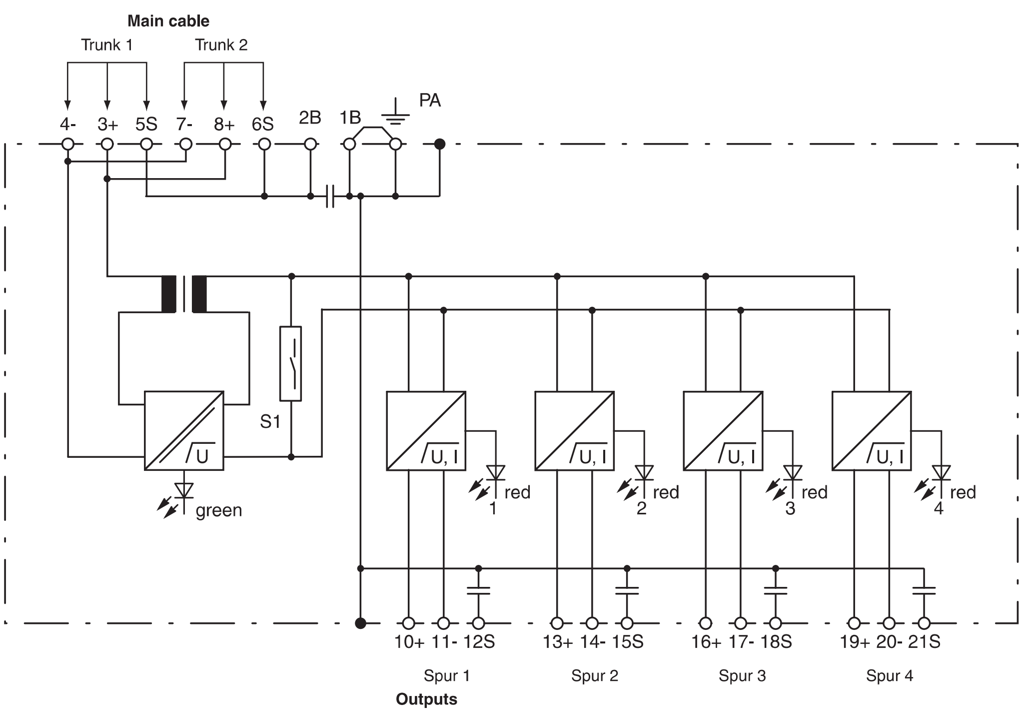
Fieldbus barrier with aluminium housing, connection variants and dimensions see table 2 ... 3

NGB900 – Fieldbus barrier

Electrical connections



Connections for the non-intrinsically safe fieldbus segment



Connections for intrinsically safe fieldbus devices

S1: Fieldbus terminator, switchable

NGB900 – Fieldbus barrier

Table 1: Connection of terminals

Terminals	Functions
10+, 13+, 16+, 19+	Spur Ex ia +
11-, 14-, 17-, 20-	Spur Ex ia -
12s, 15s, 18s, 21s	Spur shield
3+	Trunk 1, Ex e +
4-	Trunk 1, Ex e -
5s	Trunk 1, shield
7-	Trunk 2, Ex e -
8+	Trunk 2, Ex e +
6s	Trunk 2, shield
1B	Spur, shield bridge
2B	Trunk, shield bridge
PA	Potential equalization

The terminals 5s and 6s are connected internally with terminal 2B.

The terminals 12s, 15s, 18s and 21s are connected internally with terminal 1B.

The terminal PA is connected to the housing grounding point (versions with field housing only).

Capacitive grounding is delivery standard for the cable shields. By bridging 1B and 2B the trunk shields can be hard grounded.

Table 2: Variations of cable connections, housing types and temperature ranges

Type of connection, identification F, G	Type of cable connection	F2 housing, outside dimension "X" (mm)	SW1 (mm)	SW2 (mm)	Temperature range (°C)
CG	Terminals, cable glands plastic	140	20	24	-30 ... 70

Table 3: Cable diameter depending on cable gland

Type of connection, identification F, G	Output cable diameter (mm)	Trunk cable diameter (mm)
CG	5 ... 10	7 ... 12

Ordering information

Fieldbus barriers for PA / H1 segments		Catalog No.
NGB900 Fieldbus barrier in an aluminium housing 4x [Ex ia/Ex ib] and 2x (Ex e) cable bushing plastic (shielding capacitive!), switchable bus termination IP 67, Zone 1 / Div. 2	(204715-0001)	3KXN611900L0010

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max. 42 cents/minute from mobiles.

3KXN611000R1001

Sales Service

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