

## Proof of intrinsic safety

For intrinsically safe circuits with a supply.

device: 

Jellox Analog xx
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### associated equipment:

Manufacturer	Type	Device	EU type examination certificate	ATEX marking
Microtronics	D012-x1***2***05	Rugged GW Analog	SIQ 24 ATEX 212 X	<Ex> II 2G Ex ib IIB T3 Gb

max. output voltage	Uo [V]=	25,6
max. output current	Io [A]=	0,082
max. output power	Po [W]=	0,523
max. external capacity	Co [nF]=	310
max. external inductance	Lo [µH]=	1000

### intrinsically safe equipment:

Manufacturer	Type	Device	EU type examination certificate	ATEX marking
R.Stahl	9164/13-20-06 9164/13-20-08	mA-Isolating Repeater	BVS 15 ATEX E 068 X	<Ex> II 2(1)G Ex e mb [ia Ga] IIC T4 Gb <Ex> II 2(1)G Ex ib [ia Ga] IIC T4 Gb

max. input voltage	Ui [V]=	30
max. input current	Ii [A]=	0,15
max. input power	Pi [W]=	1
max. internal capacity	Ci [nF]=	0
max. internal inductance	Li [µH]=	0

### cable + pressure compensation element:

Manufacturer	Type	length [m]
Lapp	Ölflex EB CY 7x0,75	270

cable capacitance [nF/m]	0,98
cable inductance [µH/m]:	3,64

resulting cable capacitance	Cc [nF]=	264,6
resulting cable inductance	Lc [µH]=	982,8

### safety-related values of the interconnection:

D012-x1***2***05		9164/13-20-06 9164/13-20-08		Intrinsic safety fulfilled
25,6	Uo ≤ Ui	30	V	YES
0,082	Io ≤ Ii	0,15	A	YES
0,523	Po ≤ Pi	1	P	YES
310	Co ≥ Ci + Cc	264,6	nF / IIB	YES
1000	Lo ≥ Li + Lc	982,8	µH / IIB	YES

For use in EPL  
"Gb" (category  
2G) and group  
IIB

Special conditions in the type examination certificate or in the manual of the associated / intrinsically safe equipment must be observed.

The proof of intrinsic safety is based on the safety-related maximum values. These were taken from the manual or the EC type examination certificates for the equipment.

## Configuration recommendation:

The recommendation refers to the configuration of your Jellox product. You can make the settings in the platform.

Please refer to the table at <https://support.microtronics.com/jellox-analog/compatible-sensors> for the configuration recommendation.



The recommendation refers to the configuration of your Jellox product. You can make the settings in the platform.

### Document revision

version	date	name	change	reason
01v000	14.05.2025	AZ	all	building document

### Release

number	date	name	activity	signature
1	14.05.2025	AZ	created	
2			approved	