Proof of intrinsic safety

For intrinsically safe circuits with a supply.

device: **Jellox Analog xx**

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
Krohne Messtechnik	OPTIWAVE 15x0	radar Level sensor	LCIE 25 ATEX 3012 X Issue 1	<Ex> II 1G or II 1/2G Ex ia IIC T4 Ga or Ga/Gb

max. input voltage	Ui [V]=	30	
max. input current	Ii [A]=	0,3	
max. input power	Pi [W]=	1	
max. internal capacity	Ci [nF]=	2	
max. internal inductance	Li [µH]=	0	n.A.

cable + pressure compensation element:

Manufacturer	Type	length [m]	
		1000	pre-assembled on intrinsically safe equipment

cable capacitance [nF/m]		0,042
cable inductance [µH/m]:		0,7

resulting cable capacitance	Cc [nF]=	42
resulting cable inductance	Lc [µH]=	700

safety-related values of the interconnection:

D012-x1***2***05		OPTIWAVE 15x0		Intrinsic safety fulfilled
25,6	**Uo <= Ui**	**30**	V	***YES***
0,082	**Io <= Ii**	**0,3**	A	***YES***
0,523	**Po <= Pi**	**1**	P	***YES***
310	**Co >= Ci + Cc**	**44**	nF / IIB	***YES***
1000	**Lo >= Li + Lc**	**700**	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.

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Document revision

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01v000	26.11.2026	AZ	all	building document

Release

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