

Proof of intrinsic safety

For intrinsically safe circuits with a supply.

device:

Jellox Pro Analog
Jellox Elite Analog

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	U _o [V]=	25,6	50% rule is to be applied, as C _i > 1% of C _o and/or L _i > 1% of L _o	red. capacity	Co [nF]=	155	
max. output current	Io [A]=	0,082			red. inductance	Lo [μH]=	500
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
SulfiLogger A/S	SulfiLogger X1	Gas Sensing Device	ETL21ATEX0085X	<Ex> II 1G Ex ia IIC T4 Ga

max. input voltage	Ui [V]=	30
max. input current	Ii [A]=	0,1
max. input power	Pi [W]=	0,7
max. internal capacity	Ci [nF]=	22
max. internal inductance	Li [μH]=	100

cable + pressure compensation element:

Manufacturer	Type	length [m]
Lapp	Ölflex EB CY 7x0,75	109

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

resulting cable capacitance	Cc [nF]=	106,82
resulting cable inductance	Lc [μH]=	396,76

safety-related values of the interconnection:

D012-x1***2***05		SulfiLogger X1		Intrinsic safety fulfilled
25,6	U _o ≤ U _i	30	V	YES
0,082	I _o ≤ I _i	0,1	A	YES
0,523	P _o ≤ P _i	0,7	P	YES
155	C _o ≥ C _i + C _c	128,82	nF / IIC	YES
500	L _o ≥ L _i + L _c	496,76	μH / IIC	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:

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

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01v000	13.01.2026	AZ	all	building document

Release

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1	13.01.2026	AZ	created	AZ
2			approved	