

Proof of intrinsic safety

For intrinsically safe circuits with a supply.

device:

Jellox Pro Analog Jellox Elite Analog
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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	U _o [V]=	25,6
max. output current	I _o [A]=	0,082
max. output power	P _o [W]=	0,523
max. external capacity	C _o [nF]=	310
max. external inductance	L _o [μH]=	1000

intrinsically safe equipment:

Manufacturer	Type	Device	EU type examination certificate	ATEX marking
VEGA	VEGABAR 8x	pressure transmitter	TÜV 13 ATEX 131115 X Ausgabe:02	<Ex> II 1/2 G Ex ia IIC T6...T1 Ga/Gb

max. input voltage	U _i [V]=	30
max. input current	I _i [A]=	0,131
max. input power	P _i [W]=	0,983
max. internal capacity	C _i [nF]=	0
max. internal inductance	L _i [μH]=	5

cable + pressure compensation element:

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

Kabelkapazität [nF/m]	0,98
Kabelinduktivität [μH/m]:	3,64

resulting cable capacitance	C _c [nF]=	264,6
resulting cable inductance	L _c [μH]=	982,8

safety-related values of the interconnection:

D012-x1***2***05		VEGABAR 8x		Intrinsic safety fulfilled
25,6	U _o ≤ U _i	30	V	YES
0,082	I _o ≤ I _i	0,131	A	YES
0,523	P _o ≤ P _i	0,983	P	YES
310	C _o ≥ C _i + C _c	264,6	nF / IIB	YES
1000	L _o ≥ L _i + L _c	987,8	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.



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Document revision

version	date	name	change	reason
01v000	27.11.2024	AZ	all	building document

Release

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1	27.11.2024	AZ	created	
2			approved	