

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	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
Nivus GmbH	i-Series Sensor	Ultraschall Füllstandsmessung	TRAC12ATEX0030X	<Ex> II 1G Ex ia IIC T4 Ga

max. input voltage	Ui [V]=	28
max. input current	Ii [A]=	0,162
max. input power	Pi [W]=	1,03
max. internal capacity	Ci [nF]=	0
max. internal inductance	Li [µH]=	0

cable + pressure compensation element:

Hersteller	Type	Länge [m]
Lapp	Ölflex EB CY 7x0,75	
		100

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

resulting cable capacitance	Cc [nF]=	98
resulting cable inductance	Lc [µH]=	364

safety-related values of the interconnection:

D012-x1***2***05		i-Series Sensor		Intrinsic safety fulfilled
25,6	Uo ≤ Ui	28	V	YES
0,082	Io ≤ Ii	0,162	A	YES
0,523	Po ≤ Pi	1,03	P	YES
310	Co ≥ Ci + Cc	98	nF / IIB	YES
1000	Lo ≥ Li + Lc	364	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:

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	16.08.2024	AZ	all	building document
01v001	09.10.2024	AZ	all	update configuration recommendation

Release

number	date	name	activity	signature
1	09.10.2024	AZ	created	
2			approved	