

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
Alicat Scientific	Alicat IS-Max/Pro	Pressure and Flow Monitor	DEKRA 22ATEX0075X	<Ex> II 1G Ex ia IIC T4 Ga

max. input voltage	Ui [V]=	28
max. input current	Ii [A]=	0,093
max. input power	Pi [W]=	0,651
max. internal capacity	Ci [nF]=	0
max. internal inductance	Li [µH]=	0

cable + pressure compensation element:

Manufacturer	Type	length [m]
Alicat	Pre-fabricated moulded cable	
		560

cable capacitance [nF/m]	0,55
cable inductance [µH/m]:	1

resulting cable capacitance	Cc [nF]=	308
resulting cable inductance	Lc [µH]=	560

safety-related values of the interconnection:

D012-x1***2***05		Alicat IS-Max/Pro		Intrinsic safety fulfilled
25,6	Uo ≤ Ui	28	V	YES
0,082	Io ≤ Ii	0,093	A	YES
0,523	Po ≤ Pi	0,651	P	YES
310	Co ≥ Ci + Cc	308	nF / IIB	YES
1000	Lo ≥ Li + Lc	560	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	07.03.2025	AZ	all	building document

Release

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1	07.03.2025	AZ	created	
2			approved	