

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	50% rule is to be applied, as Ci > 1% of Co and/or Li > 1% of Lo	red. capacity Co [nF]= 155 red. inductance Lo [μH]= 500
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
Endress & Hauser	transmitter Liquiline Compact CM72/CM82	transmitter	TÜV 18 ATEX 8194 X Issue 02	<Ex> II 1G Ex ia IIC T4/T6 Ga

max. input voltage	Ui [V]=	30
max. input current	Ii [A]=	0,1
max. input power	Pi [W]=	0,75
max. internal capacity	Ci [nF]=	7
max. internal inductance	Li [μH]=	20

cable + pressure compensation element:

Manufacturer	Type	length [m]
		15

permanently mounted on intrinsically safe equipment

cable capacitance [nF/m] n.A.
 cable inductance [μH/m]: n.A.

resulting cable capacitance Cc [nF]= 0 values in Ci included
 resulting cable inductance Lc [μH]= 0 values in Li included

safety-related values of the interconnection:

D012-x1***2***05		r Liquiline Compact C		Intrinsic safety fulfilled
25,6	Uo ≤ Ui	30	V	YES
0,082	Io ≤ Ii	0,1	A	YES
0,523	Po ≤ Pi	0,75	P	YES
155	Co ≥ Ci + Cc	7	nF / IIB	YES
500	Lo ≥ Li + Lc	20	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	04.02.2025	AZ	all	building document

Release

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1	04.02.2025	AZ	created	
2			approved	