

Proof of intrinsic safety

For intrinsically safe circuits with a supply.

device:

myDatalogEASY IoT ATEX

associated equipment:

Manufacturer	Type	Device	EU type examination certificate	ATEX marking
Microtronics	Zenerbarriere 167	myDatalogEasyIoT ATEX	SIQ 22 ATEX 184 X SIQ 22 ATEX 185 U	<Ex> II 3(1)G Ex ec nC [ia Ga] IIC T4 Gc <Ex> II 3(1)G Ex ec [ia Ga] IIC Gc

max. output voltage	Uo [V]=	26,25
max. output current	Io [A]=	0,084
max. output power	Po [W]=	0,549
max. external capacity	Co [nF]=	48,5
max. external inductance	Lo [μH]=	2530

intrinsically safe equipment:

Manufacturer	Type	Device	EU type examination certificate	ATEX marking
VEGA	VEGASON S6x	ultrasonic sensor	KEMA 06ATEX0232 X Ausgabe Nr.1	<Ex> II 1G, 1/2G, 2G EEx ia IIC T6

max. input voltage	Ui [V]=	30	
max. input current	Ii [A]=	0,131	
max. input power	Pi [W]=	0,983	
max. internal capacity	Ci [nF]=	0	n.A.
max. internal inductance	Li [μH]=	0	n.A.

cable + pressure compensation element:

Manufacturer	Type	length [m]
Lapp	Ölflex EB CY 7x0,75	
		49

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

resulting cable capacitance	Cc [nF]=	48,02
resulting cable inductance	Lc [μH]=	178,36

safety-related values of the interconnection:

Zenerbarriere 167		VEGASON S6x		Intrinsic safety fulfilled
26,25	Uo ≤ Ui	30	V	YES
0,084	Io ≤ Ii	0,131	A	YES
0,549	Po ≤ Pi	0,983	P	YES
48,5	Co ≥ Ci + Cc	48,02	nF / IIC	YES
2530	Lo ≥ Li + Lc	178,36	μH / IIC	YES

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/mydatalogeasy-iot-atex/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
01v001	24.08.2023	AZ	all	update parameters
01v002	14.11.2024	AZ	all	update configuration recommendation

Release

number	date	name	activity	signature
1	14.11.2024	AZ	created	
2			approved	