

# INTRINSICALLY SAFE TWO-STAGE SEPARATOR **SID-3**



Catalogue card



## DESCRIPTION

Intrinsically safe Two-Stage Separator SID-3 is a stationary device designed for transmitting two-stage information between intrinsically safe circuits. It is used for separation of intrinsically safe circuits in class "ia" or "ib" in any combination. The separator system is supplied by non-intrinsically safe voltage 42 or 230 VAC and buffer from inbuilt battery. The separator is a two-channel device, each channel has one input and two independent, separated outputs, which simulate "diode contact" or "contact". The inputs circuit recognize the "diode contact" stage and generate at the outputs a signal analogous to the input signal. Output no 2 of each channel can be controlled by input state or by power state. The output circuits may also be used as contacts for resistor dividers in the parameterized line circuits. The separator can be connected to six independent, separated intrinsically safe circuits.

The application of the separator in energy blocking and cut-off systems will cause the outputs action (cut-off) in the following instances:

- shorting in the input circuit,
- breaking in the input circuit,
- exceeding of permissible input circuit resistance,
- battery discharge (after 24h from disconnection from AC power supply),
- AC power failure (for output no 2 of each channel by selecting the appropriate function on "WY2" button).

### Basic version

Setting the "WY2" switch in the "WE" position sets the given channel of the device into a mode in which the two outputs work synchronously and are dependent on the state of the input. Setting the "WY2" switch in the "ZAS" position changes the functionality of the output of the second given channel. It then operates depending on the state of the power line. The output is on when the device is supplied with AC voltage. The first output always works according to the input state.

Switch „WY2”	Power AC	Input	Output 1	Output 2
"WE:"	-	gape	0	0
		short circuit	0	0
		diode	1	1
"ZAS"	1	gape	0	1
		short circuit	0	1
		diode	1	1
	0	gape	0	0
		short circuit	0	0
		diode	1	0

*Output states depending on the state of the input, power supply and switch - basic version*

Additional functionality has been introduced for the Output 2 contact in the V2 version

### Version V2

Setting the "WY2" switch to the "WE" position sets the device channel into a mode in which the two outputs work synchronously and are dependent on the input state. Setting the "WY2" switch in the "ZAS" position changes the functionality of the output of the second given channel to the opposite one. The second output state is then the negation of the input state.

Switch „WY2”	Power AC	Input	Output 1	Output 2
"WE:"	-	gape	0	0
		short circuit	0	0
		diode	1	1
"ZAS"	-	gape	0	1
		short circuit	0	0
		diode	1	0

*Output states depending on the state of the input, power supply and switch - version "V2"*

# TECHNICAL SPECIFICATIONS

## Intrinsically safe Two-Stage Separator SID-3

Power supply	type 42 type 230	Un = 42 V AC ±20% , In = 53 mA Un = 230 V AC ±10% , In = 12 mA
Working temperatures	from -10°C to + 40°C	
Working humidity range	from 15% to 99% without condensation	
External dimensions	185 x 220 x 67 mm	
Weight	2,3 kg	
Protection index cover	IP-54	
Position during work	any	
Battery working time	24h	

### Inputs

Open input's voltage	5 V
Closed input's current	5 mA
Max resistance of input circuit	400 Ω
Line check mode	diode in series

### Outputs

Max. voltage	24V
Max power	100 mA

## EXPLOSION-PROOF MARK

External power supply:  I M2 Ex e mb [ia Ma] I Mb    Battery power:  I M1 Ex ia I Ma

EC type examination certificate: FTZU 12 ATEX 0090