



# C E R T I F I C A T E

**Certificate no.** 18-SIL-0010027-01-TIC

WE HEREBY CERTIFY THAT

**Product description** SOLDOTM MICRO SWITCH BOXES  
**Series** SS, SF, SB, SA, SC, SD, SG, HW, HI, HN, SX, SW, SY, SH, SI, CS, CA, XA, SK, SQ, SE, ST, ES, SP, SM

**Manufacturer** Rotork Instruments Italy S.r.l. **rotork**  
 Viale Europa 17 – 20090 Cusago MI **Instruments**

IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARDS

**IEC 61508 Parts 1–7:2010**

AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION SET OUT IN THE ABOVE-MENTIONED STANDARDS

**Summary Report no.** RC-0219-SIL-TIC-PC-0010027-18-02

**Expiry date** 13.02.2022

**Note**

This certificate is issued upon the request of the manufacturer as voluntary certification; it does not include the production surveillance.  
 This certificate does not allow the manufacturer to use the safety mark of TÜV INTERCERT.

Reggio Emilia, 14.02.2019



*F. Feridoon*  
 Dipl. Ing. Feridoon Sergizzarea

TÜV INTERCERT Certification Body



# C E R T I F I C A T E

## ANNEX to Certificate no. 18-SIL-0010027-01-TIC

Type	A			
HFT	0			
Safety functions	1. Give an output signal to indicate that the actuator has moved from the "normal position" 2. Give an output signal to indicate that the actuator has reached the "safe position"			
Mode of operation	Low Demand Mode			
<b>Random failure rates</b>				
Configuration	Safety function	$\lambda_D$ [1/h]	$\lambda_S$ [1/h]	SFF [%]
With Pepperl+Fuchs NAMUR sensors, standard NAMUR amplifier	1 / 2	9,6E-09	1,6E-08	> 60% > 99% including PST
With Pepperl+Fuchs NAMUR sensors, standard NAMUR amplifier, redundant configuration	1 / 2	<1,0E-09	<1,0E-08	> 90% > 99% including PST
With Pepperl+Fuchs NAMUR sensors, fail-safe interface	1 / 2	7,0E-11	2,5E-08	> 99%
With Pepperl+Fuchs sensor model NBB2-V3-E2	1 / 2	1,28E-08	1,93E-08	> 60% > 99% including PST
With Soldo™ REED and Nova V3 sensors, or micromechanical switches	1 / 2	9,6E-09	1,6E-08	> 60% > 99% including PST
With Soldo™ REED and Nova V3 sensors, or micromechanical switches, redundant configuration	1 / 2	<1,0E-09	<1,0E-08	> 90% > 99% including PST
Systematic capability	3 (Route 1 <sub>S</sub> applied)			
Architectural constraints	Route 1 <sub>H</sub> :	Applied	Route 2 <sub>H</sub> :	Applied
	The product can be used in: <ul style="list-style-type: none"> <li>single channel configuration:             <ul style="list-style-type: none"> <li>up to SIL 2 without external diagnostic tests</li> <li>up to SIL 3 considering external diagnostic tests</li> </ul> </li> <li>double channel configuration: up to SIL 3</li> </ul>			
Remarks:	<ul style="list-style-type: none"> <li>Micro switch boxes series SS, SF, SB, SA, SC, SD, SG, HW, HI, HN, SX, SW, SY, SH, SI, CS, CA, XA, SE, ST include the "Line-Monitoring" option.</li> <li>For further details, including environmental conditions, limitations of use, lifetime, failure rates traceability, mean repair times, common cause factors and systematic capability constraints, make reference to Safety Manual IOM00069_04.</li> </ul>			

END OF CERTIFICATE

Reggio Emilia, 14.02.2019

  
 Dipl. Ing. Feridoon Sergizzeza  
 TÜV INTERCERT Certification Body

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