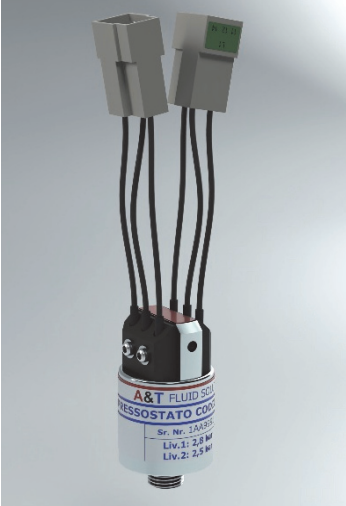


	DATA SHEET	Page 1 of 3	Document ST 5-1648-0-A Edition A Date 18/04/2019
DESCRIPTION	TECHNICAL SPECIFICATION FOR DOUBLE LEVEL PRESSURE SWITCHES TYPE 5-1648-0-*		
1 CONSTRUCTION FEATURES 1.1 BODY IN ANODIZED ALUMINIUM 1.2 BASIS IN STAINLESS STEEL 1.3 SEALING THROUGH GROVE OR 3075 WITH FRONT SEALING 1.4 DOUBLE LEVEL INTERVENTION WITH EXCHANGE CONTACTS 2 APPLICATION FIELD 2.1 SF6 GAS PRESSURE MONITORING 3 TECHNICAL FEATURES 3.1 ENVIRONMENT 3.1.1 OPERATING TEMPERATURE: -25°C ÷ +70°C 3.1.2 STORAGE TEMPERATURE: -40°C ÷ +80°C 3.1.3 SALT MIST RESISTANCE: 96 h in salt mist according to ASTM - B117 3.2 PRESSURE (all values are expressed in relative bar) 3.2.1 CALIBRATION RANGE (according to model): 0,5 ÷ 5 bar 3.2.2 OPERATING PRESSURE LIMIT FOR $p_n \leq 1,5$ bar 3 bar 3.2.3 OPERATING PRESSURE LIMIT FOR $p_n \leq 3$ bar 6 bar 3.2.4 OPERATING PRESSURE LIMIT FOR $p_n \leq 5$ bar 10 bar 3.2.5 MECHANICAL RESISTENCE LIMIT: 30 bar 3.2.6 ADMITTABLE TRANSIENT (MAX 20 ms) x $p_n \leq 1,5$ bar: 6 bar x 20 cycles 3.2.7 ADMITTABLE TRANSIENT (MAX 20 ms) x $p_n \leq 3$ bar: 9 bar x 20 cycles 3.2.8 ADMITTABLE TRANSIENT (MAX 20 ms) x $p_n \leq 5$ bar: 15 bar x 20 cycles 3.3 PRECISION (all values are expressed in relative bar) 3.3.1 MAX HYSTERESIS IN SWITCHING BETWEEN RISE AND DESCENT 0.30 bar 3.3.2 TOLERANCE OF LEVEL INTERVENTION AT 20°C FOR $P_n \leq 1,5$: -0/+ 0,2bar 3.3.3 TOLERANCE OF LEVEL INTERVENTION AT 20°C FOR $P_n \leq 3$: -0/+ 0,4bar 3.3.4 TOLERANCE OF LEVEL INTERVENTION AT 20°C FOR $P_n \leq 5$: -0/+ 0,5bar 3.3.5 MAX LEVELS DERIVATION AT -25°C FOR $P_n \leq 1,5$: ± 0,05 bar 3.3.6 MAX LEVELS DERIVATION AT -25°C FOR $P_n \leq 3$: ± 0,07 bar 3.3.7 MAX LEVELS DERIVATION AT -25°C FOR $P_n \leq 5$: ± 0,10 bar 3.3.8 MAX LEVELS DERIVATION AT +70°C FOR $P_n \leq 1,5$: ± 0,07 bar 3.3.9 MAX LEVELS DERIVATION AT +70°C FOR $P_n \leq 3$: ± 0,10 bar 3.3.10 MAX LEVELS DERIVATION AT +70°C FOR $P_n \leq 5$: ± 0,15 bar			
A	Code 16653 tollerances range changed	<i>R. Corradi</i>	<i>C. Ongis</i> 14/10/2013
EDITION	DESCRIPTION	WRITTEN	APPROVED DATE

- 3.3.11 MIN DIFFERENTIAL BETWEEN LEVELS IN DESCENT FOR $P_n \leq 1,5$: 0,1 bar
- 3.3.12 MIN DIFFERENTIAL BETWEEN LEVELS IN DESCENT FOR $P_n \leq 3$: 0,15 bar
- 3.3.13 MIN DIFFERENTIAL BETWEEN LEVELS IN DESCENT FOR $P_n \leq 5$: 0,20 bar
- 3.3.14 MAX REPEATIBILITY AFTER ONE OR MORE TESTS FOR $P_n \leq 1,5 \pm 0,05$ bar
- 3.3.15 MAX REPEATIBILITY AFTER ONE OR MORE TESTS FOR $P_n \leq 3$: $\pm 0,07$ bar
- 3.3.16 MAX REPEATIBILITY AFTER ONE OR MORE TESTS FOR $P_n \leq 5$: $\pm 0,10$ bar

3.4 PRESSURE SEALING (all values are expressed in relative bar)

- 3.4.1 MAX ADMITTED HELIUM LEAKAGE: 6×10^{-9} mbar x l/sec
- 3.4.2 RESISTANCE IN VACUUM FOR 1 HOUR: 10^{-3} bar

3.5 INSTALLATION

- 3.5.1 MAX ADMITTABLE COUPLING TORQUE 25 Nm

4 ELECTRICAL FEATURES

4.1 INSULATION

- 4.1.1 INSULATION TENSION TO GROUND 50 Hz: 2 Kv x 1'
- 4.1.2 INSULATION TENSION BETWEEN MICRO SWITCHES 50 Hz: 2 Kv x 1'
- 4.1.3 INSULATION TENSION TO GROUND IMPULSE: 5 Kv x 1.2/50 μ s
- 4.1.4 INSULATION TENSION BETWEEN MICRO SWITCHES IMPULSE: 5 Kv' x 1.2/50 μ s
- 4.1.5 INSULATION TENSION BETWEEN CONTACTS (C - NO): 1 Kv x 1'
- 4.1.6 INSULATION TENSION BETWEEN CONTACTS (C - NO) IMPULSE: 2.5 Kv x 1.2/50 μ s

4.2 BREAKING POWER ACCORDING TO IEC 60947.5.1

- 4.2.1 THE VALUES INDICATED MUST BE GUARANTEED FOR 100 CYCLES

NOMINAL TENSION	CHARGE IN OHM	INDUCTIVE CHARGE
250V 50 Hz	5 A	5 A $\cos \phi$ 0,3
UNTIL 250V DC	0,25 A	0,2 A L/R = 15 ms
UNTIL 125V DC	0,50 A	0,32 A L/R = 15 ms
UNTIL 75V DC	0,75 A	0,75 A L/R = 15 ms
UNTIL 50V DC	1 A	1,0 A L/R = 15 ms
UNTIL 30V DC	5 A	3,0 A L/R = 15 ms
According to EN 60730-1 and/or EN 60947-1		

5 IDENTIFICATION

5.1 THE SCHEME BELOW SHOWS THE RATING FEATURES OF EVERY DIFFERENT MODEL
THE SWITCHING VALUES MUST BE INTENDED IN THE PRESSURE DESCENT PHASE

CODE	EXT. REF	RATING L1	RATING L2	TOLERANCE L1 AND L2
5-1648-0-E	16655	2,1 bar	1,8 bar	-0/+ 0,4bar
5-1648-0-F	16654	2,8 bar	2,5 bar	-0/+ 0,4bar
5-1648-0-I	16653	3,8 bar	3,5 bar	+/- 0,2bar
5-1648-0-P	1VCM000509	2,6 bar	2,3 bar	-0/+ 0,4bar
5-1648-0-Q	1VCM000384	3,1 bar	2,8 bar	-0/+ 0,4bar