

CERTIFICATE

Environmental Testing

According to EN 50155:2017

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Applicants name JUMO GmbH & Co. KG
Address Moritz-Juchheim-Straße 1, 36039 Fulda, Germany

Manufacturer JUMO GmbH & Co. KG
Address Moritz-Juchheim-Straße 1, 36039 Fulda, Germany

Product description Pressure sensor JUMO MIDAS S19 R / 401008
Trademark JUMO
Model and/or type list Railway application

Applied tests to JUMO MIDAS S19 R / 401008		
Test	Standard	Result
1 Cold, - 50 °C, 2 h	EN 60068-2-1	Passed
2 Damp heat cyclic, 25 °C / 55 °C, 95 % r.H., 2 cycles à 24 h	EN 60068-2-30	Passed
3 Salt mist, 336 h	EN 60068-2-11	Passed
4 Dry heat, 100 °C, 6 h	EN 60068-2-2	Passed
5 EMC	EN 50121-3-2:2016	
Electrical fast transient burst +/- 4 kV	EN 61000-4-4	Passed
RF conducted disturbances 10 V RMS	EN 61000-4-6	Passed
SURGE Asymmetrically +/- 1 kV (42 ohm), line to earth	EN 61000-4-5	Passed
Radiated electromagnetic field 80 to 1000 MHz, 20 V/m 1000 to 6000 MHz, 10 V/m	EN 61000-4-3	Passed
Electrostatic discharge +/- 6 kV contact, +/- 8 kV air	EN 61000-4-2	Passed

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6	Vibration and shock test	EN 61373:2010 Cat. 1B	
	Half sine puls Acceleration 30 m/s ² , 18 shocks (3 each positive and negative in the corresponding direction)		Passed
	Simulated lifetime test RMS acceleration 7.9 m/s ² , frequency range 5 Hz ≤ f ≤ 150 Hz, 5 hours per orientation		Passed
	Broadband noise RMS acceleration 1.0 m/s ² , frequency range 5 Hz ≤ f ≤ 150 Hz, approx. 10 minutes per orientation		Passed
7	IP protection type	EN 60529:1991+A1:2000 +A2:2013	
	valve connector, DIN EN 175301-803 Form A IP 65		Passed
	round plug connector, M12x1 IP 66/67		Passed
	bayonet connector, VG 95234A - 10SL IP 66/67		Passed
8	Accelerated lifetime test (lifetime: 190,000 h)	Lifetime [h]/ 2 ^Δ (temperature increase /10) = test time [h]	Passed
9	Accelerated ageing 150,000 pressure cycles, 0 to 60 bar, 3 Hz		Passed

JUMO GmbH & Co. KG
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 Product Management Sensors