

CERTIFICATE

Environmental Testing

According to DIN EN 50155 / DIN EN 50121

Certificate no.	024000
Date of issue	October 12, 2014
Number of pages	2 pages
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 60068-2-1:2007	Passed
2 Damp heat cyclic, 25 °C / 55 °C, 95 % r.H., 2 cycles à 24 h	EN 60068-2-30:2005	Passed
3 Salt mist, 336 h	EN 60068-2-11:1999	Passed
4 Dry heat, 100 °C, 6 h	EN 60068-2-2:2007	Passed
5 EMC		
Electrical fast transient burst +/- 4 KV	EN 61000-4-4:2004	Passed
RF conducted disturbances 10 V RMS	EN 61000-4-6:2009	Passed
SURGE Asymmetrically +/- 1 KV (42 ohm), line to earth	EN 61000-4-5:2006	Passed
Radiated electromagnetic field 80 to 1000 MHz; 20 V/m 1000 to 2700 MHz; 10 V/m	EN 61000-4-3:2006 + A1:2008	Passed
Electrostatic discharge +/- 6 KV contact, +/- 8 KV air	EN 61000-4-2:2009	Passed

continued on next page



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Test	Standard	Result
6 Vibration and shock test		
Half sine puls Acceleration 30 m/s ² , 18 shocks (3 each positive and negative in the corresponding direction)	EN 61373:1999 Cat. 1B	Passed
Simulated lifetime test RMS acceleration 7.9 m/s ² , frequency range 5 Hz ≤ f ≤ 150 Hz, 5 hours per orientation	EN 61373:1999 Cat. 1B	Passed
Broadband noise RMS acceleration 1.0 m/s ² , frequency range 5 Hz ≤ f ≤ 150 Hz, approx. 10 minutes per orientation	EN 61373:1999 Cat. 1B	Passed
7 IP65 (with valve connector, DIN EN 175301-803 Form A)	EN 60529:1991 + A1:2000	Passed
8 Accelerated lifetime test (lifetime: 190,000 h)	Lifetime [h] / 2 ^(temperature increase / 10) = test time [h]	Passed
9 Accelerated ageing 150,000 pressure cycles, 0 to 60 bar, 3 Hz		Passed

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January 19, 2015

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