

# CERTIFICATE

## Environmental Testing

### According to DIN EN 50155:2007

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**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 DP10  
**Trademark** JUMO  
**Model and/or type list** Railway application

#### Applied tests to JUMO MIDAS DP10 / 401050

Test	Standard	Result
1 Damp heat cyclic 25 °C / 55 °C, 95 % r.H., 2 cycles à 24 h	EN 60068-2-30:2005	Passed
2 Cold, -25 °C, 96 h	EN 60068-2-1:2007	Passed
3 Dry heat, 70 °C, 96 h	EN 60068-2-2:2007	Passed
4 EMC		
Electrical fast transient burst +/- 2 KV, 5/50 ns, 5 kHz	EN 61000-4-4:2004	Passed
RF conducted disturbances 10 V RMS, 0.15 to 80 MHz, 80 % AM 1 Hz	EN 61000-4-6:2009	Passed
Electrostatic discharge +/- 6 KV contact, +/- 8 KV air	EN 61000-4-2:2009	Passed
Radiated electromagnetic field 80 to 2800 MHz; 20 V/m	EN 61000-4-3:2006 + A1:2008	Passed
Transient emissions 30 to 230 MHz; 40 dB (µV/m) 230 MHz to 1 GHz; 47 dB (µV/m)	EN 55011:2009 +A1:2010	Passed

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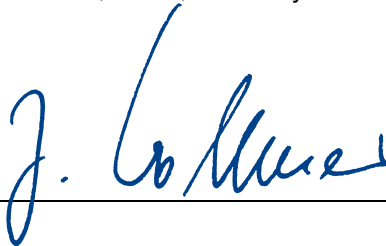
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Test	Standard	Result
5 Insulation test, 500 V DC	EN 50155:2007	Passed
6 Electric strength, 500 V AC, 50 Hz, 1 min.	EN 50155:2007	Passed
7 Vibration and shock test		
Half sine pulse Acceleration 50 m/s <sup>2</sup> , 24 ms, 18 shocks (3 each positive and negative in the corresponding direction)	EN 61373:2010 Cat. 1B	Passed
Simulated lifetime test RMS acceleration 5.72 m/s <sup>2</sup> , frequency range 5 Hz ≤ f ≤ 150 Hz, 5 hours per orientation	EN 61373:2010 Cat. 1B	Passed
Broadband noise RMS acceleration 1.0 m/s <sup>2</sup> , frequency range 5 Hz ≤ f ≤ 150 Hz, approx. 10 minutes per orientation	EN 61373:2010 Cat. 1B	Passed
8 IP67 (M12 circular connector according to IEC 61067-2-101)	EN 60529:1991 + A1:2000	Passed

**JUMO GmbH & Co. KG**  
Moritz-Juchheim-Straße 1, Fulda, Germany

October 17, 2014



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Product Management Sensors