

**JUMO GmbH & Co. KG**Moritz-Juchheim-Straße 1  
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**MORE THAN SENSORS  
AND AUTOMATION**

# Certificate

## Railway application According to EN 50155:2021

|                                              |                                                                                 |
|----------------------------------------------|---------------------------------------------------------------------------------|
| <b>Manufacturer Address</b>                  | <b>JUMO GmbH &amp; Co. KG</b><br>Moritz-Juchheim-Straße 1, 36039 Fulda, Germany |
| <b>Product description Model and/or type</b> | <b>Pressure transmitter</b><br>401008 + extra code 950 railway application      |

| Classification                          |         |                                       |     |
|-----------------------------------------|---------|---------------------------------------|-----|
| <b>Nominal voltage:</b>                 | DC 24 V | <b>Fast temperature change class:</b> | H1  |
| <b>Power supply interruption class:</b> | S1      | <b>PCB coating class:</b>             | PC1 |
| <b>Power supply switching class:</b>    | C1      | <b>Mechanical category/class:</b>     | 1/B |
| <b>Operation temperature class:</b>     | OT6     | <b>Lifespan:</b>                      | L1  |
| <b>Switching temperature class:</b>     | ST0     | <b>Altitude class:</b>                | A1  |

| Tests performed |                                                                                                                            |                                                  |        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------|
|                 | Test and requirements                                                                                                      | Standard                                         | Result |
| 1               | Visual inspection                                                                                                          | EN 50155:2021                                    | Passed |
| 2               | Performance Test                                                                                                           | EN 50155:2021                                    | Passed |
| 3               | DC power supply test<br>$0.6 \cdot U_{Nenn}$<br>$1.4 \cdot U_{Nenn}$                                                       | EN 50155:2021<br>EN 61000-4-29:2000              | Passed |
| 4               | Low temperature test<br>$-40\text{ }^{\circ}\text{C}$ , 2 h                                                                | EN 50155:2021<br>EN 60068-2-1:2007               | Passed |
| 5               | Dry heat test<br>$+85\text{ }^{\circ}\text{C}$ , 8 h                                                                       | EN 50155:2021<br>EN 60068-2-2:2007               | Passed |
| 6               | Low temperature storage test                                                                                               | Test on inquiry                                  | ---    |
| 7               | Insulation test<br>DC 500 V, $R > 20\text{ MOhm}$<br>AC 500 V, 1 min<br>Additionally increased limits:<br>AC 1250 V, 1 min | EN 50155:2021                                    | Passed |
| 8               | Cyclic damp heat test<br>$+25/+55\text{ }^{\circ}\text{C}$ , 93 % r.h., 2x24h                                              | EN 50155:2021<br>EN 60068-2-30:2005              | Passed |
| 9               | Electromagnetic compatibility test (EMC)                                                                                   | EN 50121-3-2:2016                                | Passed |
|                 | EMC: Emission                                                                                                              | EN 50121-3-2:2016<br>EN 61000-6-4:2007 + A1:2011 | Passed |
|                 | EMC: Immunity ESD<br>$\pm 6\text{ kV Contact}$ ; $\pm 8\text{ kV Air}$                                                     | EN 50121-3-2:2016<br>EN 61000-4-2:2009           | Passed |

1) For electrical connection DIN EN 175301-803 Form A

2) For electrical connection M12x1

3) For electrical connection Bayonett VG95234A -10L

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| #  | Test and requirements                                                                                                   | Standard                                                      | Result |
|----|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------|
| 9  | EMC: Immunity RF-Field<br>80-1000 MHz, 20 V/m,<br>1400-2000 MHz, 10 V/m<br>2000-2700 MHz, 5 V/m<br>5100-6000 MHz, 3 V/m | EN 50121-3-2:2016<br>EN 61000-4-3:2006 + A1:2008<br>+ A2:2010 | Passed |
|    | EMC: Immunity Burst<br>±2 kV, 5 kHz                                                                                     | EN 50121-3-2:2016<br>EN 61000-4-4:2012                        | Passed |
|    | EMC: Immunity Surge<br>±1 kV Line-Earth                                                                                 | EN 61000-4-5:2014                                             | Passed |
|    | EMC: Immunity Conducted-RF<br>0.15-80 MHz, 10 V                                                                         | EN 50121-3-2:2016<br>EN 61000-4-6:2014                        | Passed |
| 10 | Shock and vibration test                                                                                                | EN 61373:2010                                                 | Passed |
|    | Broadband random noise<br>5-150 Hz, 1.01 m/s <sup>2</sup> , ASD 0.03 (m/s <sup>2</sup> )/Hz, 10 min                     | EN 61373:2010<br>EN 60068-2-64:2008                           | Passed |
|    | Simulated Lifetime<br>5-150 Hz, 5.72 m/s <sup>2</sup> , ASD 0.964 (m/s <sup>2</sup> )/Hz, 5 h                           | EN 61373:2010<br>EN 60068-2-64:2008                           | Passed |
|    | Shock<br>±30 m/s <sup>2</sup> , 24 ms, 3 Shocks                                                                         | EN 61373:2010<br>EN 60068-2-27:2009                           | Passed |
| 11 | Enclosure protection test (IP-Code)<br>IP66 <sup>1)</sup> , IP66/67 <sup>2)3)</sup>                                     | EN 60529:1991 +<br>A2:2013/AC:2019                            | Passed |
| 12 | Stress screening test                                                                                                   | Test on inquiry                                               | ---    |
| 13 | Rapid temperature variation test                                                                                        | Test on inquiry                                               | ---    |
| 14 | Salt mist test<br>35 °C, 48 h<br>Additionally increased exposure:<br>35 °C, 336 h                                       | EN 50155:2021<br>EN 60068-2-11:2021                           | Passed |
| 15 | Fire behaviour of materials<br>HL1 to HL3, burning mass ≤ 100 g / ≤ 400 g                                               | EN 45545-1:2013<br>EN 45545-2:2020                            | Passed |
| 16 | Accelerated lifetime test<br>+115 °C, 1.250 h                                                                           | ---                                                           | Passed |
| 17 | Accelerated aging test<br>0/60 bar, 150.000 pressure cycles, 3 Hz                                                       | ---                                                           | Passed |

| Test laboratories used:                         | for test no.: |
|-------------------------------------------------|---------------|
| Internal laboratory JUMO                        | 1, 2, 11-17   |
| Internal accredited laboratory JUMO (IEC 17025) | 3-10          |
| External accredited laboratory (IEC 17025)      | ---           |

| JUMO GmbH & Co. KG, Moritz-Juchheim-Strasse 1, 36039 Fulda, Germany |                                                                                                                                         |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Date                                                                | Signature                                                                                                                               |
| Fulda, May 20, 2026                                                 | <div> <div>Signiert von:</div> <div>B4F6DC77AEAA44F...</div> </div> <div> <div>Signiert von:</div> <div>8C03B1EB815A48B...</div> </div> |
|                                                                     | <div>o.b.o.<br/>Dr.-Ing Jan-Florian Höfinghoff<br/>Test laboratory</div> <div>o.b.o.<br/>Matthias Halsch<br/>Product management</div>   |

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