



Certificate / Certificat Zertifikat / 合格証

JUMO 2203088 C001

exida hereby confirms that the:

**Pressure transmitters JUMO dTRANS p20
DELTA (Type 403022), JUMO dTRANS p20
DELTA Ex d (Type 403023), JUMO dTRANS p20
(Type 403025) and JUMO dTRANS p20 Ex d
(Type 403026)**

SW Versions 236.02.01 and 236.03.01

**JUMO GmbH & Co. KG
Fulda, Germany**

Have been assessed per the relevant requirements of:

IEC 61508: 2010 Parts 1-3

and meets requirements providing a level of integrity to:

Systematic Capability: SC 2 (SIL 2 Capable)

Random Capability: Type B Element

Low demand: SIL 2 @ HFT = 0; Route 2_H

High demand: SIL 2 @ HFT = 1; Route 2_H

**PFD_{avg}, PFH and Architecture Constraints
must be verified for each application**

Safety Function:

The pressure transmitters will transmit the measured pressure value within safety accuracy of +/-2% via a 4-20mA output current.

Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

The manufacturer
may use the mark:



Revision 3.0 September 1, 2025

Surveillance Audit Due
September 30, 2028



C. Krupke
Evaluating Assessor

Peter L.
Certifying Assessor

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must be verified for each application**

Systematic Capability:

The product has met the systematic capability through a detailed proof of proven-in-use data provided by JUMO GmbH & Co. KG. and the creation of a detailed safety case against the requirements of IEC 61508. These are intended to prove sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This element meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT

Variant	λ_S	λ_{DD}	λ_{DU}
JUMO dTRANS p20 DELTA (Type 403022), JUMO dTRANS p20 DELTA Ex d (Type 403023)	319	265	124
JUMO dTRANS p20 (Type 403025), JUMO dTRANS p20 Ex d (Type 403026)	346	311	193

- FIT = 1 failure / 10⁹ hours
- λ_S corresponds to fail low/high and encloses internal failures which are not detected by the transmitter itself.

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: JUMO 22-03-088 R005, V3R0

Safety Manual: Safety Manual of JUMO dTRANS p20 (DELTA), Doc..No. 00668077 Rev.3.00 or later



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