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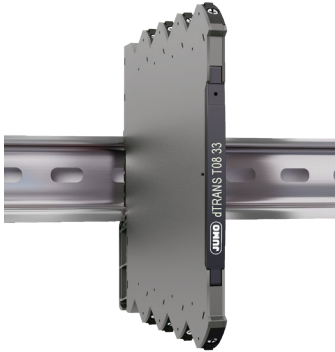
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Data Sheet 707133



## JUMO dTRANS T08 33 Two-wire transmitter (Pt100)

**707133**

- High accuracy, better than 0.1% of span
- Slimline housing of 6 mm
- Excellent EMC performance and 50/60 Hz noise suppression
- Selectable < 30 ms / 300 ms response time
- Pre-calibrated temperature ranges selectable via DIP-switches

**Application**

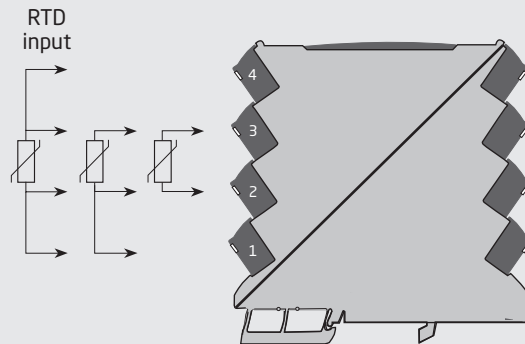
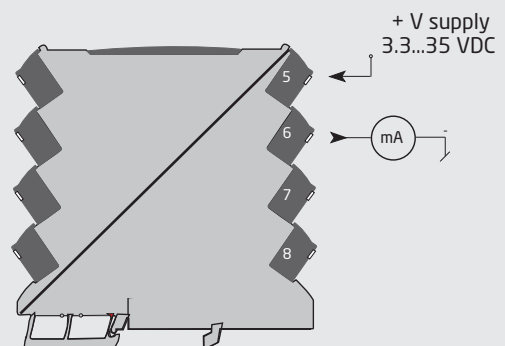
- The 707133 temperature converter measures a standard 2-, 3- or 4-wire Pt100 temperature sensor, and provides a passive analog current output signal.
- The 707133 can be mounted in the safe area or in Zone 2 / Division 2 areas.
- Approved for marine applications.

**Technical characteristics**

- Flexibly loop powered by 3.3...35 VDC via connectors.
- < 30 ms fast response time with simultaneous sensor error detection when selected.
- Selectable 300 ms response time when signal dampening is needed.
- High conversion accuracy in all available ranges, better than 0.1% of span.
- Meeting the NAMUR NE21 recommendations, the 707133 provides top measurement performance in harsh EMC environments.
- The device meets the NAMUR NE43 standard defining out of range and sensor error output values.
- All terminals are protected against overvoltage and polarity error.
- Excellent signal/noise ratio of > 60 dB.

**Mounting / installation / programming**

- Selectable DIP-settings for easy configuration of more than 1000 factory calibrated measurement ranges.
- The narrow 6 mm housing allows up to 165 units to be mounted per meter of DIN rail, without any air gap between units.
- Wide ambient temperature range of -25...+70°C.

**Applications****Safe Area or Zone 2 & Cl. 1, Div. 2, gr. A-D**

## Order

| Type   | Product name       | Description                  | Part no./TN (order code) |
|--------|--------------------|------------------------------|--------------------------|
| 707133 | JUMO dTRANS T08 33 | Two-wire transmitter (Pt100) | 00697479                 |

## Environmental Conditions

|                               |                                                        |
|-------------------------------|--------------------------------------------------------|
| Operating temperature .....   | -25°C to +70°C                                         |
| Storage temperature .....     | -40°C to +85°C                                         |
| Calibration temperature ..... | 20...28°C                                              |
| Relative humidity .....       | < 95% RH (non-cond.)                                   |
| Protection degree .....       | IP20                                                   |
| Installation in .....         | Pollution degree 2 & measurement / overvoltage cat. II |

## Mechanical specifications

|                             |                                                        |
|-----------------------------|--------------------------------------------------------|
| Dimensions (HxWxD) .....    | 113 x 6.1 x 115 mm                                     |
| Weight approx .....         | 70 g                                                   |
| DIN rail type .....         | DIN EN 60715/35 mm                                     |
| Wire size .....             | 0.13 x 2.5 mm <sup>2</sup> / AWG 26...12 stranded wire |
| Screw terminal torque ..... | 0.5 Nm                                                 |
| Vibration .....             | IEC 60068-2-6                                          |
| 2...25 Hz .....             | ±1.6 mm                                                |
| 25...100 Hz .....           | ±4 g                                                   |

## Common specifications

### Supply

|                                  |               |
|----------------------------------|---------------|
| Supply voltage .....             | 3.3...35 VDC  |
| Max. required power .....        | 0.80 W        |
| Internal power dissipation ..... | 12 mW...0.8 W |

### Response time

|                                          |                               |
|------------------------------------------|-------------------------------|
| Response time (0...90%, 100...10%) ..... | < 30 ms / 300 ms (selectable) |
|------------------------------------------|-------------------------------|

|                                                             |                 |
|-------------------------------------------------------------|-----------------|
| Voltage drop .....                                          | 3.3 VDC         |
| Signal / noise ratio .....                                  | Min. 60 dB      |
| Programming .....                                           | DIP-switches    |
| Signal dynamics, input .....                                | 23 bit          |
| Signal dynamics, output .....                               | 18 bit          |
| EMC immunity influence .....                                | < ±0.5% of span |
| Extended EMC immunity: NAMUR NE21, A criterion, burst ..... | < ±1% of span   |
| Incorrect DIP-switch setting identification .....           | 3.5 mA          |

## Input specifications

### RTD input

|                                                  |                                   |
|--------------------------------------------------|-----------------------------------|
| Temperature range, Pt100 .....                   | -200...+850°C                     |
| Min. measurement range (span) .....              | 10°C                              |
| Accuracy: the greater of .....                   | Better than 0.1% of span or 0.2°C |
| Temperature coefficient: the greater of .....    | 0.02°C/°C or ≤ ±0.01%/°C          |
| Sensor current .....                             | < 150 µA                          |
| Sensor cable resistance .....                    | < 50 Ω per wire                   |
| Effect of sensor cable resistance (3-/4-wire) .. | < 0.002 Ω / Ω                     |
| Sensor error detection .....                     | Yes - selectable via DIP-switch   |
| Broken sensor detection .....                    | > 800 Ω                           |
| Shorted sensor detection .....                   | < 18 Ω                            |

## Output specifications

### Common output specifications

|                     |       |
|---------------------|-------|
| Updating time ..... | 10 ms |
|---------------------|-------|

### Current output

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| Programmable signal ranges ..... | 4...20 and 20...4 mA                      |
| Load (@ current output) .....    | ≤ (V <sub>supply</sub> - 5.5) / 0.023 [Ω] |
| Load stability .....             | ≤ 0.01% of span / 100 Ω                   |

|                               |                                             |
|-------------------------------|---------------------------------------------|
| Sensor error indication ..... | 3.5 mA or 23 mA / acc. to NAMUR NE43 or OFF |
|-------------------------------|---------------------------------------------|

## I.S. / Ex marking

|             |                        |
|-------------|------------------------|
| ATEX .....  | II 3 G Ex nA IIC T4 Gc |
| IECEx ..... | Ex nA IIC T4 Gc        |

## Observed authority requirements

|            |            |
|------------|------------|
| EMC .....  | 2014/30/EU |
| LVD .....  | 2014/35/EU |
| RoHS ..... | 2011/65/EU |

## Approvals

|                       |                    |
|-----------------------|--------------------|
| ATEX 2014/34/EU ..... | DEKRA 18ATEX0007 X |
| IECEx .....           | DEK 18.0006 X      |
| DNV-GL Marine .....   | DNVGL-CG-0339      |
| UL .....              | E201387            |