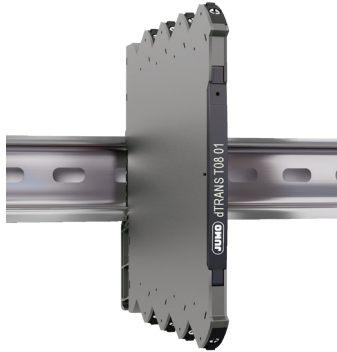


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JUMO dTRANS T08 01 Eco thermocouple transmitter (J, K)

707101

- 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 707101 temperature converter measures standard TC J and K temperature sensors, and provides an analog voltage or current output.
- The 707101 can be mounted in the safe area or in Zone 2 / Division 2 areas.
- Approved for marine applications.

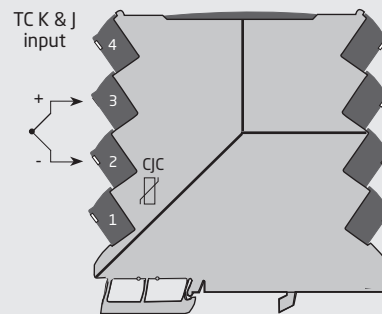
Technical characteristics

- Flexibly powered by 24 VDC (±30%) 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 707101 provides top measurement performance in harsh EMC environments.
- The device meets the NAMUR NE43 standard defining out of range and sensor error output values.
- A visible green LED indicates operational status of the unit and the input sensor.
- All terminals are protected against overvoltage and polarity error.
- Excellent signal/noise ratio of > 60 dB.

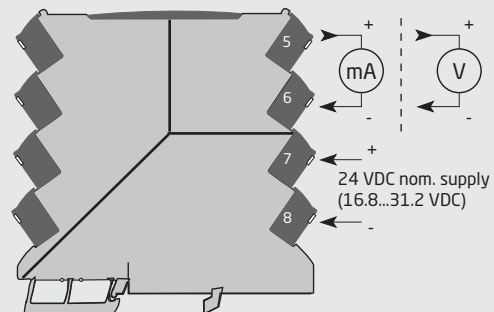
Mounting / installation / programming

- 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) |
|--------|--------------------|-------------------------------------|--------------------------|
| 707101 | JUMO dTRANS T08 01 | Eco thermocouple transmitter (J, K) | 00697442 |

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 ² / 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 | 16.8...31.2 VDC |
| Max. required power..... | 0.52 W |
| Max. power dissipation..... | 0.52 W |

Response time

| | |
|---|------------------------------------|
| Response time (0...90%, 100...10%)..... | < 30 ms / 300 ms (selectable) |
| Signal / noise ratio | Min. 60 dB |
| Programming | DIP-switches |
| Signal dynamics, input..... | 23 bit |
| Signal dynamics, output | 18 bit |
| Accuracy..... | Better than 0.1% of selected range |

| | |
|--|-------------------------------------|
| EMC immunity influence..... | < ±0.5% of span |
| Extended EMC immunity: NAMUR NE21, A criterion, burst..... | < ±1% of span |
| Incorrect DIP-switch setting identification..... | 0 V / 0 mA output; LED 0.5 s / 1 Hz |

Input specifications

TC input

| | |
|--|---------------------------------|
| Temperature range, TC J..... | -100...+1200°C |
| Temperature range, TC K..... | -180...+1372°C |
| Min. measurement range (span) - TC J & K..... | 50°C |
| Accuracy: the greater of | Better than 0.1% of span or 1°C |
| Temperature coefficient: the greater of..... | 0.1°C/°C or ≤ ±0.01%/°C |
| Sensor cable resistance | < 5 kΩ per wire |
| Cold junction compensation (CJC): Accuracy @ internal CJC..... | Better than ±2.5°C |
| Internal CJC error detection | Yes |
| Open Thermocouple detection | Yes - selectable via DIP-switch |

Output specifications

Common output specifications

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

Current output

| | |
|--|---|
| Signal range | 0...23 mA |
| Programmable signal ranges..... | 0 / 4...20 mA |
| Sensor error indication (0...20 mA)..... | 0 mA or 23 mA / OFF |
| Sensor error indication (4...20 mA)..... | 3.5 mA or 23 mA / acc. to NAMUR NE43 or OFF |
| Load (@ current output) | ≤ 600 Ω |
| Load stability..... | ≤ 0.01% of span / 100 Ω |
| Current limitation @ low output load | < 60 mA peak / < 4 mA average |

Voltage output

| | |
|---------------------------------|---------------------------------|
| Programmable signal ranges..... | 0/1...5 and 0/2...10 V |
| Sensor error indication | 0 V / 10% above the max. / none |
| Load (@ voltage output)..... | ≥ 10 kΩ |
| Open output..... | < 18 V |

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 |