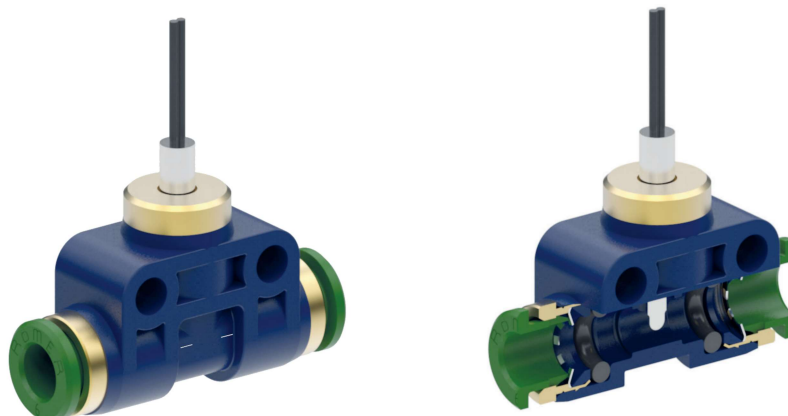


Temperature Sensors Type ITS POM

Inline Temperature Sensor

ITS the new inline temperature sensor from AVS Römer



Inline temperature sensor for measuring temperature of fluids and gaseous medium.

The temperature sensor made of stainless steel combined with the proven ELSA push-in connections made of POM.

Other features:

- fast response time
- minimal dead space

Variations / options:

- other hose connections
- other materials for seal

CHARACTERISTICS

GENERAL

| | |
|-------------------------|---|
| Constructional design | Temperature measuring cell in stainless steel design |
| Product name | Temperature sensor |
| Product type | ITS-958P-... |
| Nominal diameter | 2.5 DN or DN 4 |
| Connection | ELSA push-in connectors for pipe/tube OD 4 or OD 6 |
| Ambient temperature | 0 °C to +60 °C |
| Medium temperature | 0 °C to +80 °C |
| Thermal time constant | t63 <= 2.0s (still water, higher flow velocities favor the response time) |
| Body material | POM |
| Sensor housing material | 1.4301 |
| O-ring material | FKM / EPDM |

PNEUMATIC - HYDRAULIC

| | |
|------------------|---|
| Nominal pressure | PN 16 |
| Pressure range | Technical vacuum up to maximum allowable operating pressure OP in accordance with the specification table |
| Flow rate | Kv-value in accordance with the specification table |
| Medium | Gases or fluids which do not corrode the materials specified |

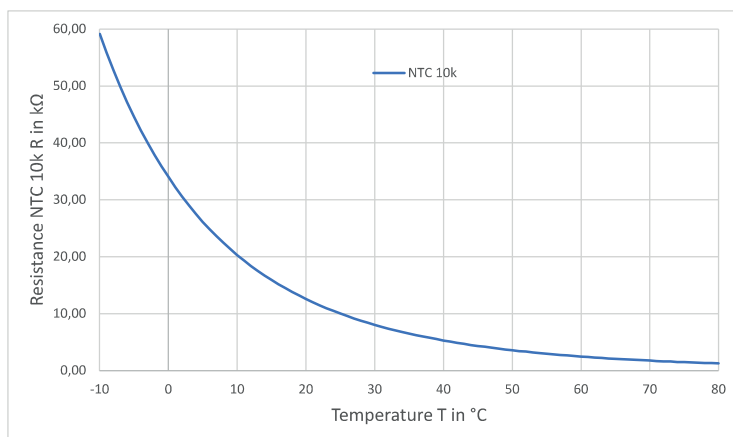
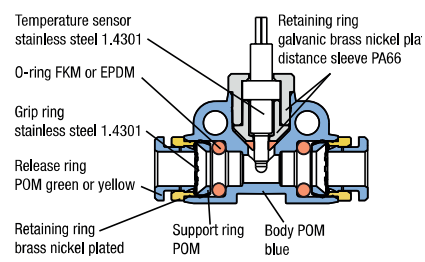
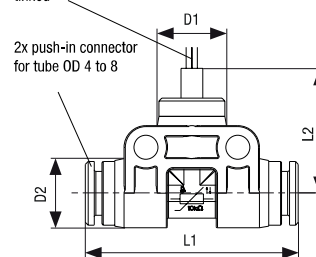
ELECTRIC

| | |
|-----------------------|--|
| Electrical Connection | 2-pin PVC ribbon cable AWG 30, 0.20 m, 300 V, 105 °C, strand ends pre-tinned |
|-----------------------|--|

Temperature Sensor - Type ITS POM

 Price group **721** PN 16 Max. Allow. OP at ambient temp.
 $T_{min} 0\text{ }^{\circ}\text{C}$, $T_{max} +60\text{ }^{\circ}\text{C}$
Plastic POM

| for tube OD | DN | Allow. OP [bar] at medium temp. | | | Kv-value water [l/min] | L1 | L2 | D1/D2 | Sensor-type | Nominal resistance NTC at 25 °C | R Tolerance | B value R25/85 | B Tolerance | Sealant material | Type | Order number |
|-------------|-----|---------------------------------|-------|-------|------------------------|------|------|-------|-------------|---------------------------------|-------------|----------------|-------------|------------------|-----------------------|--------------|
| | | 20 °C | 60 °C | 80 °C | | | | | | | | | | | | |
| 4 | 2.5 | 16 | 16 | 12 | 2.4 | 37.2 | 22.4 | 12.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | FKM | ITS-958P-4F-X01-NTC10 | 390538 |
| 4 | 2.5 | 16 | 16 | 12 | 2.4 | 37.2 | 22.4 | 12.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | EPDM | ITS-958P-4P-X01-NTC10 | 390540 |
| 6 | 4 | 16 | 12 | 10 | 8.1 | 38.2 | 22.4 | 12.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | FKM | ITS-958P-6F-X01-NTC10 | 390539 |
| 6 | 4 | 16 | 12 | 10 | 8.1 | 38.2 | 22.4 | 12.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | EPDM | ITS-958P-6P-X01-NTC10 | 390541 |
| 8 | 6 | 16 | 12 | 10 | 19 | 44.2 | 22.7 | 14.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | FKM | ITS-958P-8F-X01-NTC10 | 390535 |
| 8 | 6 | 16 | 12 | 10 | 19 | 44.2 | 22.7 | 14.4 | NTC | 10 kOhm | ±3% | 3984 K | ±0.5% | EPDM | ITS-958P-8P-X01-NTC10 | 390537 |

Characteristic Curve -10 °C to +100 °C 0-60 kΩ

Illustration

 Cable length approx. 0.2m
 strand ends stripped,
 tinned


Temperature Sensors Type ITS PVDF

Inline Temperature Sensor

ITS the new inline temperature sensor from AVS Römer



Inline temperature sensor for measuring temperature of fluids and gaseous medium.

The temperature sensor made of stainless steel combined with the proven ELSA push-in connections made of PVDF.

Other features:

- fast response time
- minimal dead space

Variations / options:

- other hose connections
- other materials for seal

CHARACTERISTICS

GENERAL

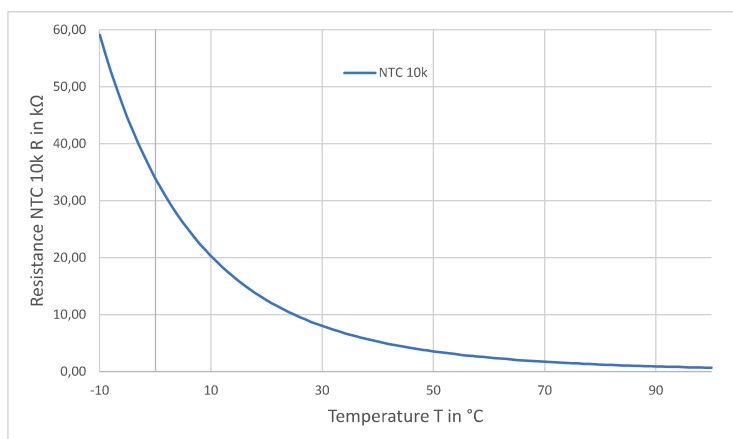
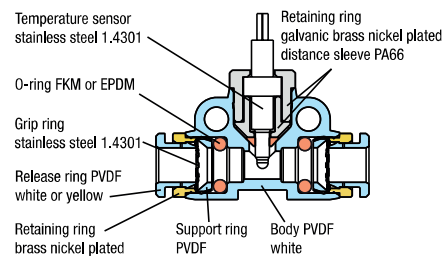
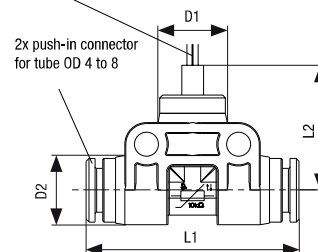
| | |
|------------------------------|---|
| Constructional design | Temperature measuring cell |
| Product name | Temperature sensor in PVDF version |
| Product type | ITS-958V-... |
| Nominal diameter | 2.5 DN to DN 6 |
| Connection | ELSA push-in connectors for pipe/tube OD 4 to OD 8 |
| Ambient temperature | 0 °C to +60 °C |
| Medium temperature | 0 °C to +100 °C |
| Thermal time constant | $t_{63} \leq 2.0$ s (still water, higher flow velocities favor the response time) |
| Body material | PVDF (FDA-complaint, KTW-approved) |
| Sensor housing material | 1.4301 |
| O-ring material | FKM or EPDM |
| Approval | NSF/ANSI 169 |
| PNEUMATIC - HYDRAULIC | |
| Nominal pressure | PN 16 |
| Pressure range | Technical vacuum up to maximum allowable operating pressure OP in accordance with the specification table |
| Flow rate | Kv-value in accordance with the specification table |
| Medium | Gases or fluidss which do not corrode the materials specified |
| ELECTRIC | |
| Electrical Connection | 2-pin PVC-FBL AWG 30, 0.20 m, 300 V, 105 °C, strand ends pre-tinned |

Temperature Sensor - Type ITS PVDF

 Price group **721** PN 16 Max. Allow. OP at ambient temp.
 T_{\min} 0 °C, T_{\max} +60 °C

Plastic PVDF

| for tube OD | DN | Allow. OP [bar] at medium temp. | | | Kv-value water [l/min] | L1 | L2 | D1 D2 | Sensor-type | Nominal resistance NTC at 25 °C | R Tolerance | B value R25/85 | B Tolerance | Sealant material | Type | Order number |
|-------------|-----|---------------------------------|-------|--------|------------------------|------|------|-------|-------------|---------------------------------|-------------|----------------|-------------|------------------|------------------------|--------------|
| | | 20 °C | 60 °C | 100 °C | | | | | | | | | | | | |
| 4 | 2.5 | 16 | 12 | 10 | 2.4 | 37.2 | 22.3 | 12.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | FKM | ITS-958V-4FF-X01-NTC10 | 390542 |
| 4 | 2.5 | 16 | 12 | 10 | 2.4 | 37.2 | 22.3 | 12.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | EPDM | ITS-958V-4PF-X01-NTC10 | 390544 |
| 6 | 4 | 16 | 12 | 10 | 8.1 | 38.2 | 22.3 | 12.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | FKM | ITS-958V-6FF-X01-NTC10 | 390543 |
| 6 | 4 | 16 | 12 | 10 | 8.1 | 38.2 | 22.3 | 12.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | EPDM | ITS-958V-6PF-X01-NTC10 | 390545 |
| 8 | 6 | 16 | 12 | 8 | 18 | 44.2 | 22.7 | 14.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | FKM | ITS-958V-8FF-X01-NTC10 | 390482 |
| 8 | 6 | 16 | 12 | 8 | 18 | 44.2 | 22.7 | 14.4 | NTC | 10 kOhm | ±3 % | 3984 K | ±0.5 % | EPDM | ITS-958V-8PF-X01-NTC10 | 390547 |

Characteristic Curve -10 °C to +100 °C 0-60 kΩ

Illustration

 Cable length approx. 0.2m
 strand ends stripped,
 tinned


Temperature Sensors Type ITS PPSU Ceramic Measuring Cell

Inline Temperature Sensor

ITS the new inline temperature sensor from AVS Römer



Inline temperature sensor for measuring temperature of fluids and gaseous medium.

The ceramic temperature sensor combined with the proven ELSA push-in connector made from PPSU is mainly used in the food industries.

Other features:

- fast response time
- minimal dead space
- materials and constructional design especially optimised for food applications

Variations / options:

- other hose connections
- other materials for seal

CHARACTERISTICS

GENERAL

| | |
|------------------------------|---|
| Constructional design | Ceramic temperature measuring cell |
| Product name | Temperature sensor |
| Product type | ITS-958P3-... |
| Nominal diameter | 2.5 DN to DN 6 |
| Connection | ELSA push-in connectors for pipe/tube OD 4 to OD 8 |
| Ambient temperature | 0 °C to +60 °C |
| Medium temperature | 0 °C to +135 °C |
| Thermal time constant | $t_{63} \leq 2.0$ s (still water, higher flow velocities favor the response time) |
| Body material | PPSU (KTW-approved, NSF-certified) |
| Sensor housing material | Al203 |
| O-ring material | FKM or EPDM |
| Approval | NSF/ANSI 169 |
| PNEUMATIC - HYDRAULIC | |
| Pressure range | Technical vacuum up to maximum allowable operating pressure OP in accordance with the specification table |
| Flow rate | Kv-value in accordance with the specification table |
| Medium | Gases or fluids which do not corrode the materials specified |
| ELECTRIC | |
| Electrical Connection | 2-pin PVC ribbon cable AWG 24, 0.75 m, UL AWM style 2651, 300 V, 105 °C, strand ends pre-tinned |

Caution! PPSU should not be used in contact with aromatic hydrocarbons, oxidising acids, acetone, chlorinated hydrocarbons, ethers or ketones! Also, PPSU should not be placed directly in contact with anaerobic adhesives!

Temperature Sensor, Type ITS

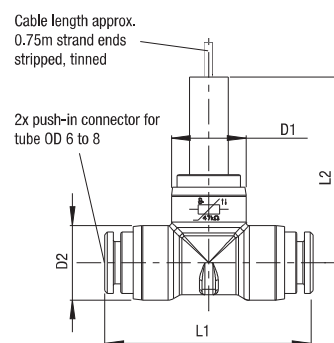
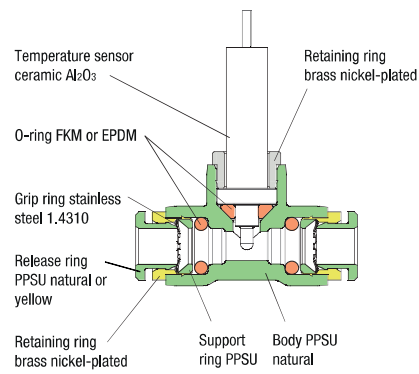
Price group **720** Max. Allow. OP at ambient temp. $T_{min} 0\text{ }^{\circ}\text{C}$, $T_{max} +60\text{ }^{\circ}\text{C}$



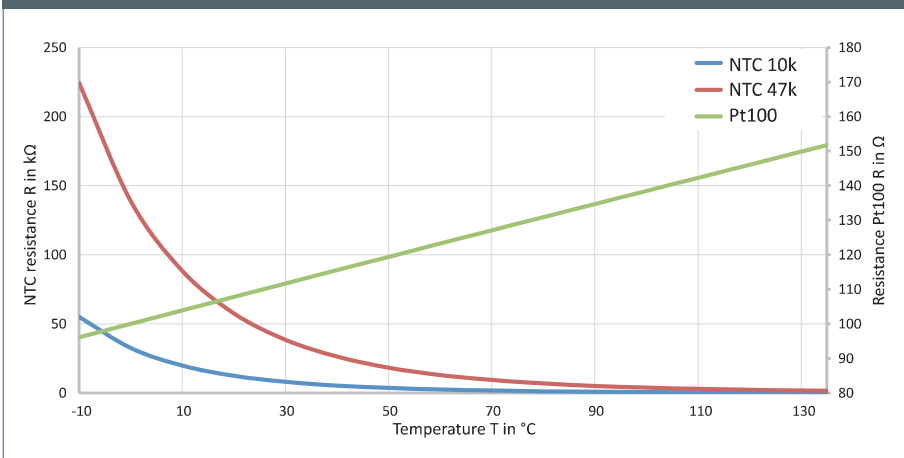
Plastic PPSU

| for tube OD | DN | Allow. OP [bar] at medium temp. | | | Kv-value water [l/min] | L1 | L2 | L6 | Sensor-type | Nominal resistance NTC at 25 °C Pt100 at 0 °C | R Tolerance | B value R25/85 | B Tolerance | Sealant material | Type | Order number |
|-------------|-----|---------------------------------|--------|--------|------------------------|------|------|------|-------------|---|-------------|----------------|-------------|------------------|---------------------|--------------|
| | | 20 °C | 100 °C | 135 °C | | | | | | | | | | | | |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 13.9 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | FKM | ITS-958P3-4FF-NTC10 | 390517 |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 13.9 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | EPDM | ITS-958P3-4PF-NTC10 | 390521 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | FKM | ITS-958P3-6FF-NTC10 | 390518 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | EPDM | ITS-958P3-6PF-NTC10 | 390522 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | FKM | ITS-958P3-8FF-NTC10 | 390435 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | NTC | 10 kOhm | ±1 % | 3977 K | ±1 % | EPDM | ITS-958P3-8PF-NTC10 | 390436 |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 17.2 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | FKM | ITS-958P3-4FF-NTC47 | 390508 |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 17.2 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | EPDM | ITS-958P3-4PF-NTC47 | 390509 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | FKM | ITS-958P3-6FF-NTC47 | 390510 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | EPDM | ITS-958P3-6PF-NTC47 | 390511 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | FKM | ITS-958P3-8FF-NTC47 | 390437 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | NTC | 47 kOhm | ±1 % | 3690 K | ±1 % | EPDM | ITS-958P3-8PF-NTC47 | 390438 |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 13.9 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | FKM | ITS-958P3-4FF-PT100 | 390519 |
| 4 | 2.5 | 20 | 16 | 10 | 2.4 | 37.8 | 34.6 | 13.9 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | EPDM | ITS-958P3-4PF-PT100 | 390523 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | FKM | ITS-958P3-6FF-PT100 | 390520 |
| 6 | 4 | 20 | 16 | 10 | 8.1 | 38.6 | 34.6 | 13.9 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | EPDM | ITS-958P3-6PF-PT100 | 390524 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | FKM | ITS-958P3-8FF-PT100 | 390439 |
| 8 | 6 | 16 | 12 | 6 | 25 | 44.8 | 35 | 17.2 | Pt100 | 100 Ohm | KL.B. | - | ±1 % | EPDM | ITS-958P3-8PF-PT100 | 390440 |

Illustration



Characteristic Curve -10 °C to +135 °C 0 kΩ to 250 kΩ



Temperature Sensors Type ITS PPSU Stainless Steel Measuring Cell

Inline Temperature Sensor

ITS the new inline temperature sensor from AVS Römer



Inline temperature sensor for measuring temperature of fluids and gaseous medium.

The stainless steel temperature sensor combined with the proven ELSA push-in connector made from PPSU.

Other features:

- fast response time
- minimal dead space
- materials and constructional design especially optimised for food applications

Variations / options:

- other hose connections
- other materials for seal

CHARACTERISTICS

GENERAL

| | |
|--------------------------------|--|
| Constructional design | Temperature sensor in stainless steel design |
| Product name | Temperature sensor |
| Product type | ITS-958P3-... |
| Nominal diameter | 2.5 DN to DN 6 |
| Connection | ELSA push-in connectors for pipe/tube OD 4 to OD 8 |
| Ambient temperature | 0 °C to +60 °C |
| Medium temperature | 0 °C to +120 °C |
| Thermal time constant | $t_{63} \leq 2.0$ s (still water, higher flow velocities favor the response time) |
| Body material | PPSU (KTW-approved, NSF-certified) |
| Sensor housing material | 1.4404 |
| O-ring material | FKM or EPDM |
| Approval | NSF/ANSI 169 |
| PNEUMATIC - HYDRAULIC | |
| Pressure range | Technical vacuum up to maximum allowable operating pressure OP in accordance with the specification table |
| Flow rate | Kv-value in accordance with the specification table |
| Medium | Gases or fluidss which do not corrode the materials specified |
| ELECTRIC | |
| Electrical Connection | Depending on the NTC or PT resistance, a different cable is used: NTC 47k: silicone cable, $\varnothing 3.1 \pm 0.1$ mm, black, 2x AWG 24/7, red / white PT 100: PVC cable (HT), $\varnothing 3.1 \pm 0.2$ mm, gray, 2x14mm ² , brown / white |

Caution! PPSU should not be used in contact with aromatic hydrocarbons, oxidising acids, acetone, chlorinated hydrocarbons, ethers or ketones! Also, PPSU should not be placed directly in contact with anaerobic adhesives!