

Data sheet

Temperature sensors (Pt 1000) ESMT, ESM-10, ESM-11, ESMB-12, ESMC, ESMU

Products



- Platinum-based sensors, 1000 Ω at 0 °C

All the temperature sensors are two-wire devices, and all connections are inter-changeable.

The surface sensor type ESM-11 has a spring contact surface to ensure a good heat transfer on pipes of all sizes. The basic sensor contains a platinum element with a characteristic that complies with EN 60751.

Ordering

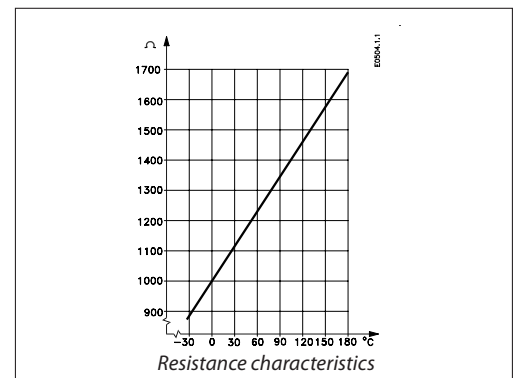
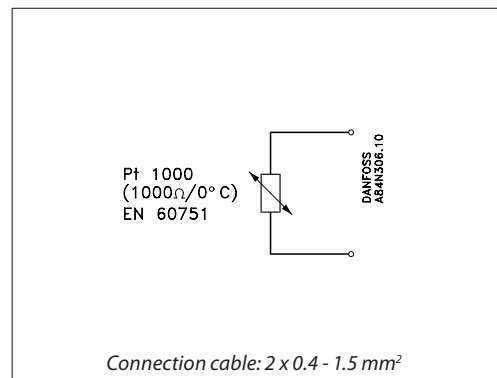
Temperature sensors

| Type | Designation | Code No. |
|----------|---|----------|
| ESMT | Outdoor sensor | 084N1012 |
| ESM-10 | Room temperature sensor | 087B1164 |
| ESM-11 | Surface sensor | 087B1165 |
| ESMB-12 | Universal sensor | 087B1184 |
| ESMC | Surface sensor | 087N0011 |
| ESMU-100 | Immersion sensor, 100 mm, copper | 087B1180 |
| ESMU-250 | Immersion sensor, 250 mm, copper | 087B1181 |
| ESMU-100 | Immersion sensor, 100 mm, stainless steel | 087B1182 |
| ESMU-250 | Immersion sensor, 250 mm, stainless steel | 087B1183 |

Accessories and spare parts

| Type | Designation | Code No. |
|---|--|----------|
| Pocket | Immersion, stainless steel 100 mm, for ESMU-100, Cu (87B1180) | 087B1190 |
| Pocket | Immersion, stainless steel 250 mm, for ESMU-250, Cu (87B1181) | 087B1191 |
| Pocket | Immersion, stainless steel 100 mm, for ESMB-12, (87B1184) | 087B1192 |
| Pocket | Immersion, stainless steel 250 mm, for ESMB-12, (87B1184) | 087B1193 |
| Heat conducting paste 3.5 cm ³ | | 041E0110 |
| Plastic ties e.g. for ESM-11 (25 pcs). Recommendable for high temperatures. | | 087B1167 |

Wiring



Data, general

All temperature sensors contain a Pt 1000 element. Instructions are supplied with the products.

| Type | Temperature range | Enclosure | Time constant | PN |
|---------------|-------------------|-----------|--------------------------------|----|
| ESMT | -50 to 50 °C | IP 54 | ≤ 15 min | - |
| ESM-10 | -30 to 50 °C | IP 54 | 8 min | - |
| ESM-11 | 0 to 100 °C | IP 32 | 3 s | - |
| ESMB-12 | 0 to 100 °C | IP 54 | 20 s | - |
| ESMC | 0 to 100 °C | IP 54 | 10 s | - |
| ESMU-100/-250 | 0 to 140 °C | IP 54 | 2 s (in water) 7 s (in air) | 25 |
| Pocket | 0 to 180 °C | - | See "Data specific" | 25 |

| | | | Packing |
|-----------------------|-------------------------|---|---------|
| Materials | ESMT | Cover: ABS Base: PC (polycarbonate) | xx |
| | ESM-10 | Cover: ABS Base: ABS | xx |
| | ESM-11 | Cover: ABS Base: PC (polycarbonate) | xx |
| | ESMB-12 | Encapsulation: 18/8 stainless steel Cable: 2.5 m, PVC, 2 x 0.34 mm ² | x |
| | ESMC | Encapsulation: Top part: Nyrol, button part: Nickel coated Cu Cable: 2 m, PCV, 2 x 0.2 mm ² | x |
| | ESMU-100/-250 | Tube and body: AISI 316 Head: PA (polyamide) | x |
| | ESMU-100/-250 Cu | Tube: Copper (Cu) Body: Brass Head: PA (polyamide) | x |
| Pocket | Tube and body: AISI 316 | x | |
| Electrical connection | ESMT | Terminal block for 2 wires in base part | |
| | ESM-10 | Terminal block for 2 wires in base part | |
| | ESM-11 | Terminal block for 2 wires in base part | |
| | ESMB-12 | 2-wire cable (2 x 0,34 mm ²) spliced | |
| | ESMC | 2-wire cable (2 x 0,2 mm ²) | |
| | ESMU-100/-250 | Terminal block for 2 wires in head, PG 9 cable entry supplied with the product | |
| Mounting | ESMT/ESM-10 | Wall mounting with screws (supplied with the product) | |
| | ESM-11/ESMC | Clamp for tube DN 15-65 supplied | |
| | ESMB-12 | For pipe or flat surface or in pocket. Usage of heat conducting paste is recommended. | |
| | ESMU-100/-250 | G 1/2 A and gasket (is supplied with the product) | |
| | Pocket | G 1/2 A | |

x = PE (polyethylene) bag
xx = Paperboard

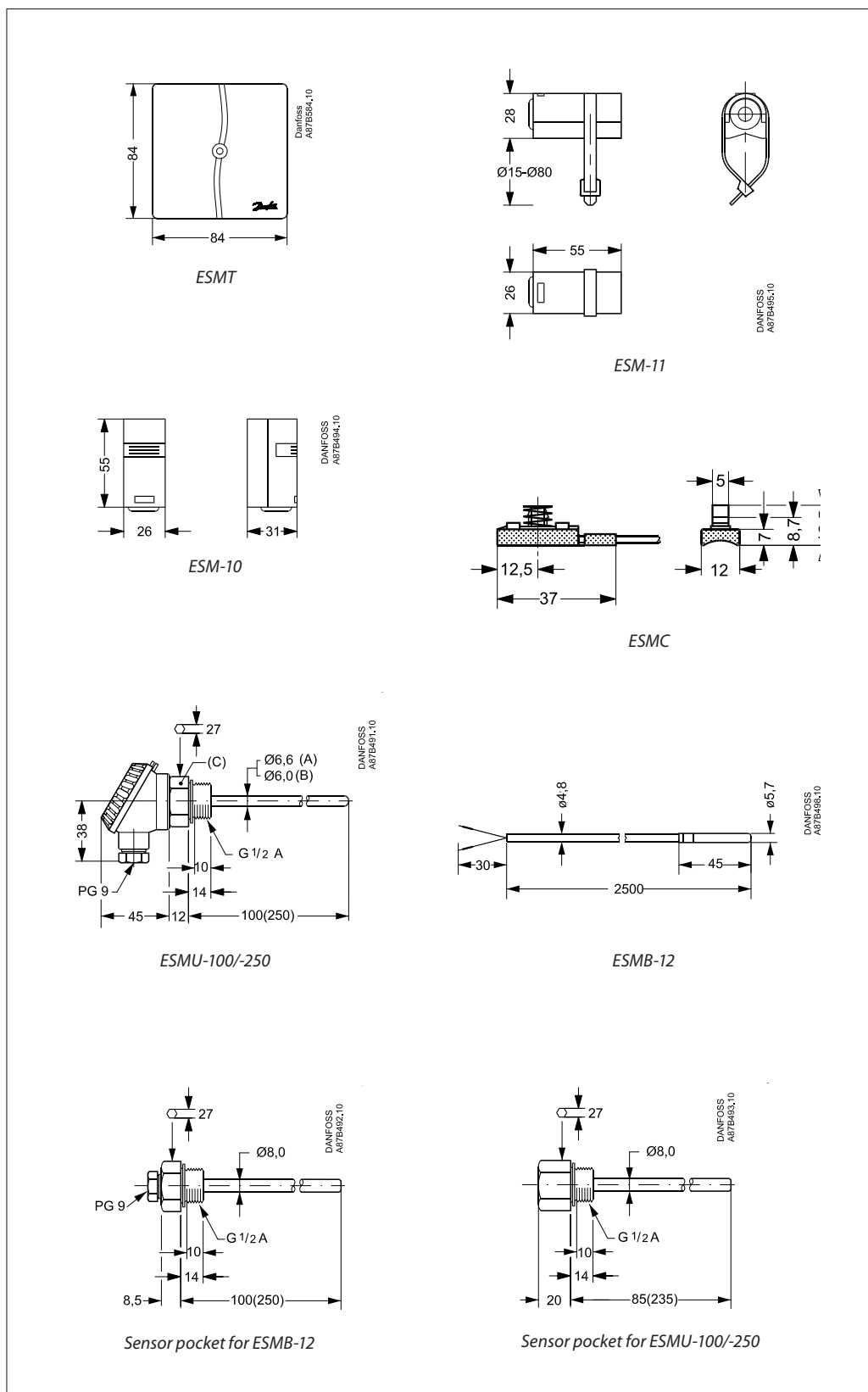
Data, specific

| Sensor characteristics | Referring to EN, Class 2 B | Max. deviation 2 K |
|------------------------|----------------------------|-----------------------------------|
| Time constants | ESMU (Cu) in pocket | 32 s (in water) 160 s (in air) |
| | ESMB in pocket | 20 s (in water) 140 s (in air) |

Specific info

| | |
|------------------|---|
| ESM-10 ESM-11 | Type name is found at cable inlet |
| ESMB-12 ESMC | Code no. is printed on cable |
| ESMT | Code no. is found on black base part's back |
| ESMU | Code no. is found on cap's top |

Dimensions



| | | 087B1182 and 087B1183 | 087B1180 and 087B1181 |
|------|-----|----------------------------|-----------------------|
| ESMU | (A) | Stainless steel (AISI 316) | Copper (Cu) |
| | (B) | | Brass |
| | (C) | | |

