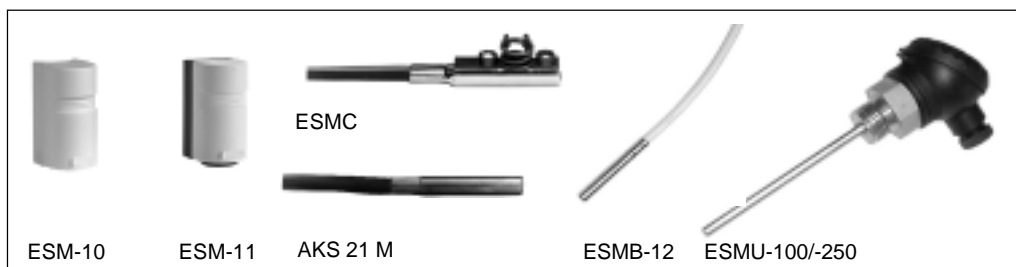


### Application



- Platinum-based sensors, 1000  $\Omega$  at 0 °C

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

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

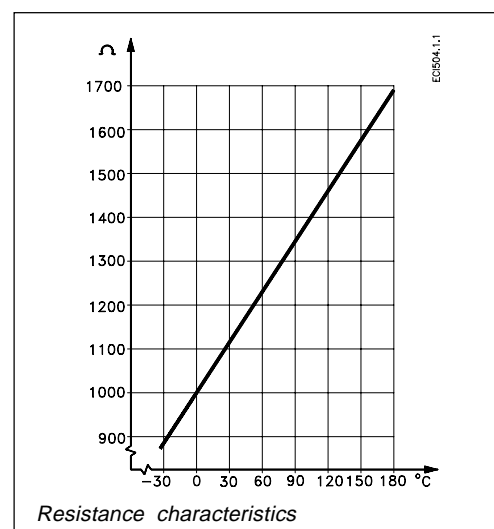
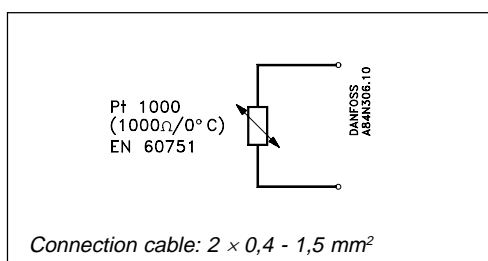
#### Temperature sensors

Type	Designation	Code No.
ESM-10	Outdoor and 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
AKS 21 M	Universal sensor (for solar-heating), silicon cable	084N2003

#### Accessories and spare parts

Type	Designation	Code No.
Pocket	Immersion, stainless steel 100 mm, for ESMU-100, Cu (087B1180)	087B1190
Pocket	Immersion, stainless steel 250 mm, for ESMU-250, Cu (087B1181)	087B1191
Pocket	Immersion, stainless steel 100 mm, for ESMB-12 (087B1184)	087B1192
Pocket	Immersion, stainless steel 250 mm, for ESMB-12 (087B1184)	087B1193
Heat conducting paste, 3.5 cm <sup>3</sup>		041E0110

### Wiring



## Data, general

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

Type	Temperature range	Enclosure	Time constant	PN
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
AKS 21 M	-70 to 160 °C	IP 54	20 s	-
Pocket	0 to 180 °C	-	See "Data specific"	25

				Packing
Materials	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 × 0.2 mm <sup>2</sup>		x
	ESMC	Encapsulation: Top part: nyrol, bottom part: nickel coated Cu Cable: 2 m, PVC, 2 × 0.2 mm <sup>2</sup>		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
	AKS 21 M	Encapsulation: 18/8 stainless steel Cable: 2.5 m, silicone, 2 × 0.2 mm <sup>2</sup>		x
	Pocket	Tube and body: AISI 316		
Electrical connection	ESM-11	Terminal block for 2 wires in base part		
	ESMB-12	2-wire cable (2 x 0,34 mm <sup>2</sup> ) spliced		
	ESMC	2-wire cable (2 x 0,2 mm <sup>2</sup> )		
	ESM-10	Terminal block for 2 wires in base part		
	ESMU-100/-250	Terminal block for 2 wires in head, PG 9 cable entry supplied with the product		
	AKS 21 M	2-wire cable (2 x 0,5 mm <sup>2</sup> )		
Mounting	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		
	ESMU-100/-250	G 1/2 A and washer (is supplied with the product)		
	AKS 21 M	For pipe or flat surface		
	Pocket	G 1/2 A		

x = PE (polyethylene) bag  
xx = Cardboard

## Data, specific

Sensor characteristics	Referring to EN 60751, 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)

		087B1182 and -1183:	087B1180 and -1181
ESMU	(A)		
	(B)	Stainless steel (AISI 316)	Copper (Cu)
	(C)	Stainless steel (AISI 316)	Brass

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