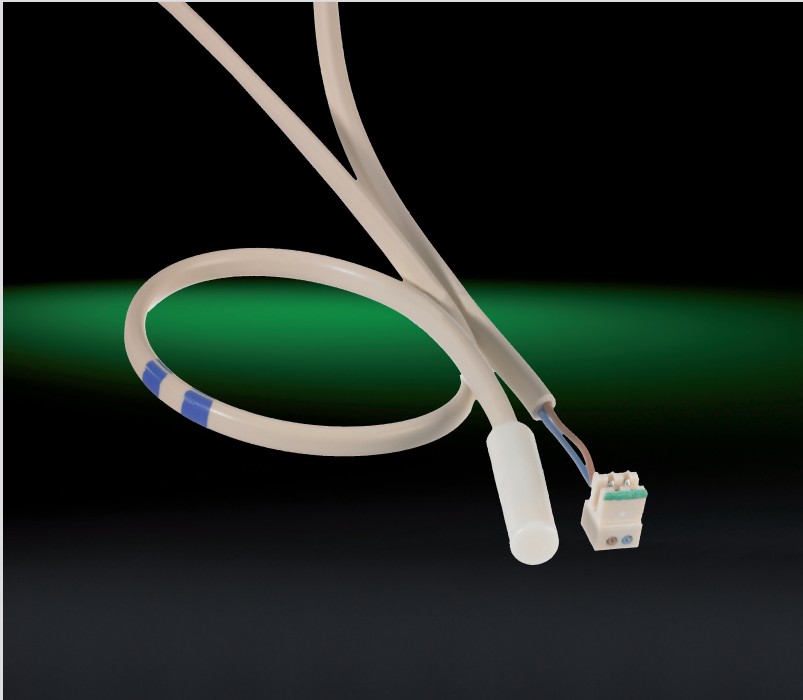


Technical brochure

NTC type temperature sensors for ETC & ERC controllers



Danfoss has selected a programme of temperature sensors to be used with the ETC and ERC range of controllers.

NTC (Negative Temperature Coefficient) temperature sensors change resistance with temperature in a manner compatible with the controller software.

They are fully compliant with the tolerance requirements according to IEC 60060-1.

Features

- High accuracy in temperature measurement and close tolerances ensure improved control
- Plastic/steel moulded sensor case
- Insulated connecting cable
- Various cable lengths available
- Supplied with rast 2.5 connectors
- Poka-yoke (mistake-proof) cable connection to the controller

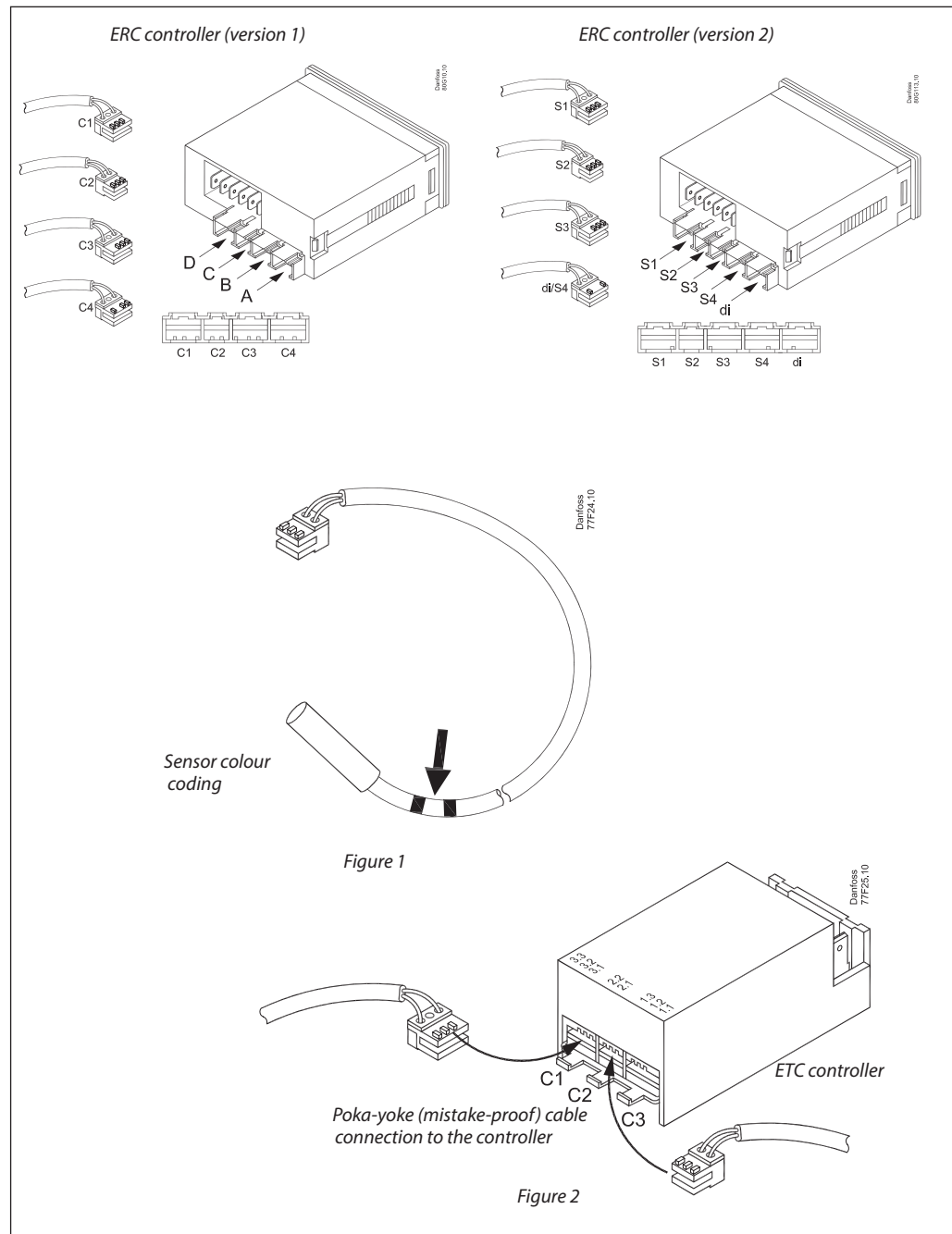
Connectors diagram

Danfoss NTC temperature sensors are clearly marked for easy identification during the assembly process.

Colour coding on the cable close to the sensor element is used to differentiate between cabinet, evaporator (defrost) and condenser sensors even if the plug part of the cable is not visible.

For example, a sensor marked with two blue stripes as shown in figure 1 is the evaporator or defrost sensor.

There are also different connector types or codes at the plug end of the cable. Using a combination of rib cuts on the connectors ensures correct connection position to the controller as shown in figure 2. This is known as Poka-Yoke design.



Technical data

PVC Standard sensors

Double insulated	Operating temperature range	-40 to 80°C
	Thermistor	Encapsulated in plastic housing
	Connecting cable	PVC double insulated
	Climatic category (IEC 60068-1)	40/80/56
	Rated resistance at 0° C	16330 Ω ±2% (±0.4° C)
	Rated resistance at 25° C	5000 Ω
	Insulation resistance	>1000 MΩ
	Voltage proof	3750 V
	Thermal time constant	Approx. 35 sec.
	Typical applications	Air sensing, evaporator sensing, condenser sensing

TPE precision sensors

Double insulated	Operating temperature range	-20 to 100°C
	Thermistor	Encapsulated in plastic housing
	Connecting cable	Thermoplastic elastomer double insulated
	Climatic category (IEC 60068-1)	40/80/56
	Rated resistance at 0° C	16330 Ω ±1% (±0.2° C)
	Rated resistance at 25° C	5000 Ω
	Insulation resistance	>100 MΩ
	Voltage proof	3750 V
	Thermal time constant	Approx. 8 sec.
	Typical application	Ice bank

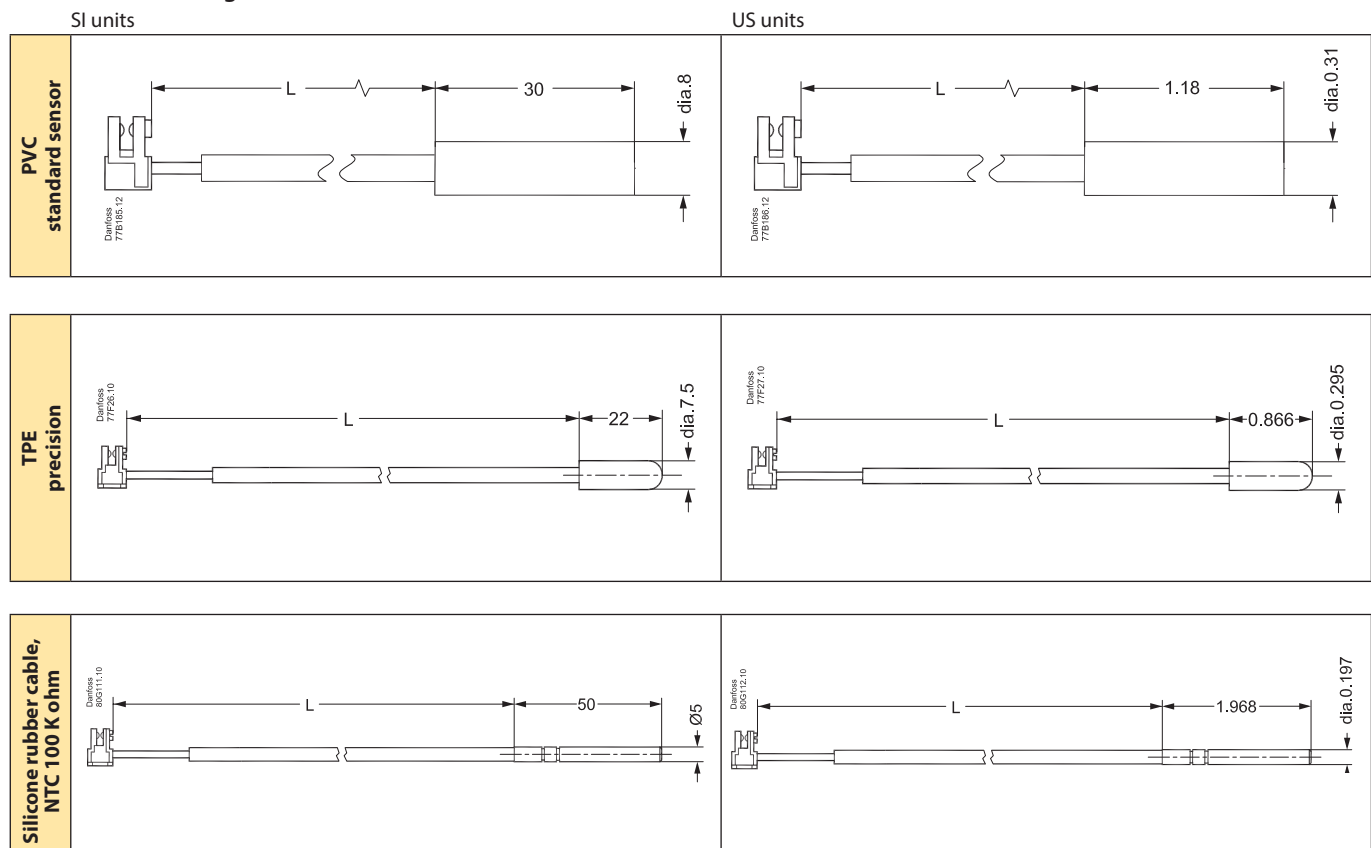
NTC sensor for heating application

FEP insulation	Operating temperature range	-40 to 200°C
	Thermistor	Encapsulated in stainless steel housing. AISI 305
	Connecting cable	Silicone rubber cable
	Degree of protection	IP67
	Rated resistance at 0° C	346,9 kOhm (tolerance at 0°C ±2,2%)
	Rated resistance at 25° C	100,0 kOhm (tolerance at 25°C ±1,0%)
	Insulation resistance	>100 MΩ
	Voltage proof	3750 V
	Thermal time constant	Approx. 8 sec.
	Typical application	Heating application

Ordering

Sensor type	Length	Connector	Colour marking	Code number
PVC standard NTC 5 K	470	C1/S1		077F8751
	1000	C1/S1		077F8757
	1500	C1/S1		077F8761
	2000	C1/S1		077F8765
	2200	C1/S1		077F8767
	3000	C1/S1		077F8769
	3500	C1/S1		077F8723
	6000	C1/S1		080G2019
	1000	C2/S2		077F8786
	1500	C2/S2		077F8790
	2000	C2/S2		077F8794
	3000	C2/S2		077F8798
	6000	C2/S2		080G2029
	1000	C3/S3		077F8756
	1500	C3/S3		077F8760
	2200	C3/S3		077F8766
3000	C3/S3		077F8768	
6000	C3/S3		080G2039	
TPE precision NTC 5K	1500	C1/S1		077F8726
	2000	C1/S1		077F8727
	2500	C1/S1		077F8728
Silicone rubber cable, NTC 100 K ohm	1000	S1/S3		080G2041
	2000	S1/S3		080G2043
	3000	S1/S3		080G2045

Dimensions and weights



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