

CABLES FOR THERMORESISTANCE AND EXTENSION AND COMPENSATION FOR THERMOCOUPLE

The cables for connecting the Pt100/Pt1000 type resistance thermometers (thermoreistance) are made up of 2/3/4 copper wires (as per the sensor); usually they have three white-red-red threads

For the connection of the thermocouples, cables with conductors in an alloy equivalent to the sensor or compensation are used as required by the EN 60584 standards



COLOR CHART FOR THE IDENTIFICATION OF THERMOCOUPLE EXTENSION CABLES

SENSITHERM S.r.l. is also able to produce special cables for instrumentation, control and extension for thermocouples with PVC, XLPE, G7 insulation as per the following table:

INSULATION MATERIAL	min. T °C	max. T °C
PVC	-40	80
Polyethylene	-40	70
Teflon FEP (*)	-80	205
Teflon PTFE (*)	-80	260
Silicone	-55	180
glass fiber	-70	250

*Registered trademark Du Pont

Tipo termocoppia <i>Thermocouple types</i>	Cavo estensione e compensato <i>Extension and compensating cable</i>		Codice Internazionale colori <i>International colour code</i>	Codice colori Eex-i <i>Eex-i Colour code</i>	Codice colori nazionali cavi estensione e compensati <i>National colour code for extension and compensating cables</i>				
					Inglese English BS1843	Americano American ANSI/MC96.1	Tedesco Deutch DIN43714	Francese French NFC42324	Giapponese Japanese JISC1610-1981
	Estensione <i>Extension</i>	Compensato <i>Compensating</i>	DA IEC 584.3:1989	IEC 584.3:1989					
T Cu / Co	TX								
J Fe / Co	JX								
E Ch / Co	EX								
K Ch / Al	KX								
		WX							
N NiCrSi / NiSi	NX								
S Pt / Pt10%Rh		SX							
R Pt / Pt13%Rh		RX							
B Pt6%Rh / Pt30%Rh		BX							



CALIBRATIONS AND TOLERANCES OF THERMOCOUPLE AND THERMORESISTANCE

IEC60584-2 Tolerances

This table highlights the maximum permissible error for thermocouples according to the IEC60584 standard according to the chosen class.

SENSITHERM S.r.l. is able to supply thermocouples in either Class 1 or 2.

PLATINUM THERMORESISTANCE ACCORDING TO DIN 751

Sensitherm is able to produce RTD with different degrees of accuracy Pt 100 in class (A or B) or Pt 1000, according to the process requirements.

Standard temperature range : -50/+400°C

Special temperature range : -200/+600°C

THERMOCOUPLE CABLES TABLE

TYPE	CLASS	TEMPERATURE RANGE	VALUE °C	ELEMENO	
				+	-
T	1	- 40°C to + 350°C	+/- 0,5	Cu	CuNi
	2	- 40°C to + 350°C	+/- 1	Cu	CuNi
E	1	- 40°C to + 800°C	+/- 1,5	NiCr	CuNi
	2	- 40°C to + 900°C	+/- 2,5	NiCr	CuNi
J	1	- 40°C to + 750°C	+/- 1,5	Fe	CuNi
	2	- 40°C to + 750°C	+/- 2,5	Fe	CuNi
K	1	- 40°C to + 1.000°C	+/- 1,5	NiCr	Ni
	2	- 40°C to + 1.200°C	+/- 2,5	NiCr	Ni
R S	2	0°C to + 1.600°C	+/- 1,0	Pt13%Rh	Pt
	2	0°C to + 1.600°C	+/- 1,5	Pt10%Rh	Pt
B	2	+600°C to + 1.700°C	+/- 1,5	Pt30Rh	Pt6rh
	3	+600°C to + 1.700°C	+/- 4	Pt30Rh	Pt6rh

TABLE OF PLATINUM THERMORESISTANCE ACCORDING TO DIN 751

CLASS	RANGE	TOLLERANCE
A	a 0°C	0,15 + 0,002 (t) a 0°C
b	a 0°C	0,3 + 0,005 (t) a 0°C

