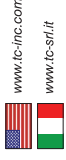




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Thermocouple Extension and Compensating Cables

Codes · Conductor Combinations · National and International Specifications

Thermocouple Conductor Combination Type	Extension and Compensating Cable Type	International Colour Code To IEC 60584.3:2007 BS EN 60584.3:2008 for Interchangeable Cables	Redundant national colour coding for insulation of thermocouple extension and compensating cable				Tolerance Class	Measuring Junction Temperature	Notes
			BRITISH To BS 1843	AMERICAN To ANSI/MC96.1	GERMAN To DIN 43714	FRENCH To NFC 42-294	JAPANESE To JIS C 1604-1981		
K	KX							±100 µV (±1.5°C)	Type KX Thermocouple extension cable conductors are made from the same constituent elements as the Type K thermocouple combination and therefore minimise potential errors when connecting to a sensor.
	KCA							±100 µV (±2.5°C)	This compensating cable conductor combination is little known and generally not available. It should not be confused with the more popular Type KCB as shown below.
	KCB							±100 µV (±2.5°C)	This popular compensating cable conductor combination (previously known as Type VI) is made with Copper vs Copper-Nickel conductors, and should only be used when the ambient temperature of the interconnection point between the thermocouple and the compensating cable is below 100°C. If the ambient temperature is above 100°C, it can save money where long runs are necessary.
T	TX							±60 µV (±1.0°C)	Type TX extension cable conductors are made from the same constituent elements as Type Thermocouples. There is no compensating cable available for Type TX, however the extension cable is relatively inexpensive.
J	JX							±140 µV (±2.5°C)	Type JX extension cable conductors are made from the same constituent elements as Type Thermocouples. There is no compensating cable available for Type J, however the extension cable is relatively inexpensive.
N	NX							±100 µV (±1.5°C)	Type NX extension cable conductors are made from the same constituent elements as Type Thermocouples. There is no compensating cable available for Type N, it is not at present readily available.
E	EX							±200 µV (±1.5°C)	Type EX extension cable conductors are made from the same constituent elements as Type Thermocouples. There is no compensating cable available for Type E.
								±30 µV (±2.5°C)	Type RCA compensating cable is suitable for connecting to Type R thermocouples where the ambient temperature of the interconnection point between the cable and its Type R sensor is below 200°C, however this increased range is achieved with a lesser degree of accuracy than Type SCA as shown above. SCS is in fact the same material as Type RCA.
R	RCA							±30 µV (±2.5°C)	Type RCA compensating cable is suitable for connecting to Type R thermocouples where the ambient temperature of the interconnection point between the cable and its Type R sensor is below 200°C, however this increased range is achieved with a lesser degree of accuracy than Type SCA as shown above. SCS is in fact the same material as Type RCA.
S	SCB							±30 µV (±2.5°C)	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is in fact the same material as Type RCA.
	BC							±30 µV (±2.5°C)	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is in fact the same material as Type RCA.
G	GC							±30 µV (±2.5°C)	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is in fact the same material as Type RCA.
C	CC							±30 µV (±2.5°C)	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is in fact the same material as Type RCA.
D	DC							±30 µV (±2.5°C)	Type SCA compensating cable is suitable for connecting to Type S thermocouples where the ambient temperature of the interconnection point between the cable and its Type S sensor is below 100°C. SCA is in fact the same material as Type RCA.

Extension and compensating cables are used for the electrical connection between the open ends of a thermocouple and the reference junction in those installations where the conductors of the thermocouple are not directly connected to the reference junction.

- * Codes G, C and D and the cable colours shown, are not officially recognised symbols.
- * Trade Names

Compensating Cables
Compensating cables are manufactured from conductors having a composition different from the thermocouple. They are designated by a letter "C" following the designation of the thermocouple, for example "KC". Different alloys may be used for the same thermocouple type and are distinguished by additional letters, for example, "KCA" or "KCB".