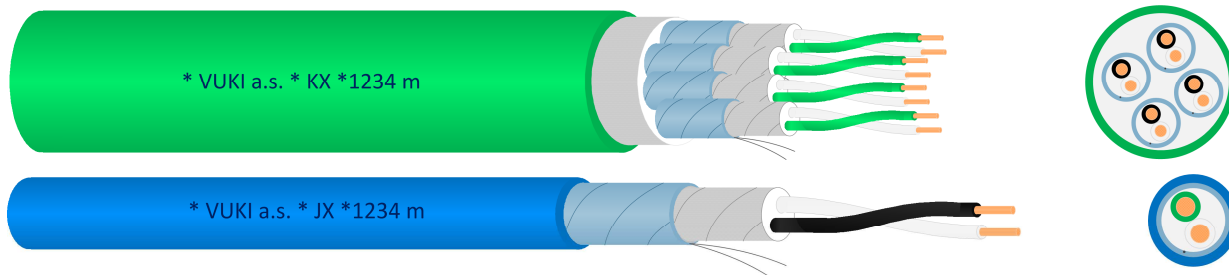




EXTENSION CABLES



Application:

Thermocouple cables, or extension cables can also be termed as instrumentation cables, since they are used for process temperature measurement. The construction is similar to pair instrumentation cable but the conductor material is different. Thermocouples are used in processes to sense temperature and is connected to the pyrometers for indication and control. Extension cable are used for connection between the thermocouple and the cold junction with the same thermoelectric properties as the thermocouple itself.

Cable construction:

- **No of conductor x cross section:** 2x(0,75-1,5) mm²
2 cores stranded together
- **Outer sheath:** JX - black
KX - green
For intrinsically safe circuits the outer sheath is colored blue.
- **Cable name:**
- **(K,J) X (Y,Q,X) (K,F,O) (FeZn) -(1,2) -(1,2,5) -(0,75-1,5) -(R)**
1 2 3 4 5 6 7 8 9
- **1 - Type of thermocouple:** J: positive (black) - Fe, negative (white) - CuNi
K: positive (green) - NiCr, negative (white) - Ni
- **2 - Type of cable:** X - extension cables
- **3 - Insulation and sheath:** Y - PVC
Q - PVC 105 °C
X - insulation XPE + sheath LSZH
- **4 - Shielding:** K - unshielded
F - shielding with Al/PET foil + copper drain wire 0,6 mm
O - CuSn wire braid + copper drain stranding wire
- **5 - FeZn:** Galvanized steel wire braid
- **6 - Tolerance class:** Class 1 or 2
- **7 - Core class:** 1 - solid wire
2 - stranded wire
5 - fine stranded wire
- **8 - Cross section:** mm²
- **9 - LSZH version**
- **Example:** KXYF-1-2-1,5

Technical data:

- **Test voltage:** 1000 V
- **Loop resistance at 20 °C in Ω/ km:**
JX 1,5mm² - 407
JX 0,75mm² - 813
KX 1,5mm² - 660
KX 0,75mm² - 1320
- **Cable temperature range:**

Y type	-30°C - +70°C
Q type	-30°C - +105°C
K type	-30°C - +90°C
- **Minimal installation temperature:** -5°C
- **Minimum bending radius:** 10 x ø cable
- **Max.capacitance of pair:** 235 pF/m (120 pF/m for XPE insulation)
- **Max.inductance of pair:** 1,0 μH/m



Tolerances and Temperature Ranges:

TYPE	Accuracy class		Cable temperature range	Measuring junction temperature
	Class 1	Class 2		
KX	$\pm 60 \mu\text{V} (\pm 1.5 \text{ }^\circ\text{C})$	$\pm 100 \mu\text{V} (\pm 2.5 \text{ }^\circ\text{C})$	-25 °C up to +200 °C	500 °C
JX	$\pm 85 \mu\text{V} (\pm 1.5 \text{ }^\circ\text{C})$	$\pm 140 \mu\text{V} (\pm 2.5 \text{ }^\circ\text{C})$	-25 °C up to +200 °C	900 °C

Application table:

TYPE	Overall diameter approx.	Wheight of cable approx.
JXQF-2-5-0,75	$6,6 \pm 0,3 \text{ mm}$	60 kg / km
JXQF-2-5-1,5	$7,3 \pm 0,3 \text{ mm}$	85 kg / km
JXQF(FeZn)-2-5-1,5	$9,8 \pm 0,3 \text{ mm}$	160 kg / km
KXQF-2-5-0,75	$6,6 \pm 0,3 \text{ mm}$	60 kg / km
KXQF-2-5-1,5	$7,3 \pm 0,3 \text{ mm}$	85 kg / km
KXQF(FeZn)-2-5-1,5	$9,8 \pm 0,3 \text{ mm}$	160 kg / km

