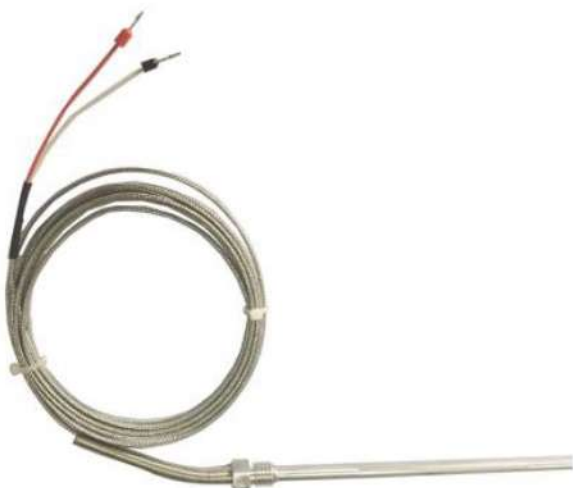




# SMART Extension Lead Cable

## TERMOCOUPLE TEMPERATURE SENSOR

— K, T, J, S, E, N —  
Model No: MTS100



# General Specifications

GS 19A16D01-01EN

## TEMPERATURE SENSOR EXTENSION LEAD CABLE

MTS100

### Overview

MTS100 high quality extension lead cable thermocouple temperature sensor is K, T, J, S, E, N element, is designed for various gas or liquid or air temperature measurement, installation type with that to insert various holes or to be the sharp points type insert into the medium to be measured, working with kinds of instruments.

### Application

- Industrial occasion, laboratories, green house, water, soil
- ambient temperature monitoring and general systems
- HVAC and air temperature regulation systems
- Heating systems or thermostats and various process fields
- Various food or medical pharmaceutical processing industry

### Feature

- Working temperature range: -50 to 300°C
- Single or double element, faster thermal response time
- Element: K,S,T,N,J
- Sheath diameter; OD:  $\Phi 3$ ,  $\Phi 4$ ,  $\Phi 5$ ,  $\Phi 6$ ,  $\Phi 8$ ,  $\Phi 10$ mm
- Junction type: underground, ground, exposed
- Lead cable Type: PVC, PTFE, metal net high temperature cable

### Specification

Accuracy	Class I, $\pm 1.5^{\circ}\text{C}, 0.004\text{tI}$ ;	Working temperature	K:-40 to1200°C, N:-40-1200°C; E:0-900°C
	Class II, $\pm 2.5^{\circ}\text{C}, 0.0075\text{tI}$		J: 0-750°C, T:-200 to350°C,S:0-1600°C
Element Type	K, S, T, N, J	Sheath Diameter (OD)	$\Phi 3$ , $\Phi 4$ , $\Phi 5$ , $\Phi 6$ , $\Phi 8$ , $\Phi 10$ mm or customized
Element NO.	Single, double	Sheath material	304SS,316SS, Copper, aluminum
Junction type	Underground, ground, exposed	Lead cable material	PVC, PTFE, silica gel; fiberglass metal net
Thread	M8X1.5, M12X1.5		metal net high temperature cable etc
Response time	T0.9 is near 0.6second, when it is under water speed rate is 0.2m/sec and the sheath OD is 5mm		



Extension Lead Cable Temperature Sensor  
MTS100

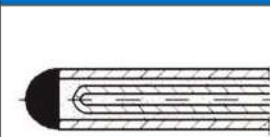
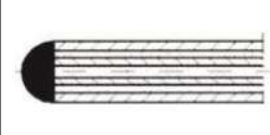
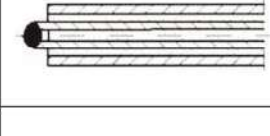
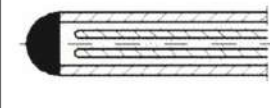
## ■ Measuring Temperature Range & Accuracy

T.C. Type	Class I		Class II	
	Accuracy	Measuring Range	Accuracy	Measuring Range
K	±1.5°C	-40 to 375°C	±2.5°C	-40 to 333°C
	±0.004ItI	375 to 1000°C	±0.0075ItI	333 to 1200°C
N	±1.5°C	-40 to 375°C	±2.5°C	-40 to 333°C
	±0.004ItI	375 to 1000°C	±0.0075ItI	333 to 1200°C
E	±1.5°C	-40 to 375°C	±1.5°C	-40 to 333°C
	±0.004ItI	375 to 800°C	±0.004ItI	333 to 900°C
J	±1.5°C	-40 to 375°C	±1.5°C	-40 to 333°C
	±0.004ItI	375 to 750°C	±0.004ItI	333 to 750°C
T	±1.5°C	-40 to 125°C	±1°C	-40 to 133°C
	±0.004ItI	125 to 350°C	±0.0075ItI	133 to 350°C
S	±1°C	0 to 1100°C	±2.5°C	0 to 600°C
	$\pm < (1+0.003(t-1100)) >$	1100 to 1600°C	±0.0025ItI	600 to 1600°C

## ■ Element Diameter and Tube Material

Element Type	Tube Diameter	Tube Material		
Single	Φ2, Φ3, Φ4, Φ5, Φ6, Φ8	K, E, J, T	K, N	S
		ICr18Ni9Ti	GH3030, ICr18Ni9Ti	GH3039
Double	Φ3, Φ4, Φ5, Φ6, Φ8	K, E, J, T	K, N	S
		ICr18Ni9Ti	GH3030, ICr18Ni9Ti	GH3039

## ■ Measurement Junction Type

Junction	Picture	Tube Diameter (mm)		Feature
		Single element	Double Element	
Underground		Φ0.5-Φ8		fast response time, long life time, anti-electrometric interference, suitable for application requiring fast response time but without special requirement but
Ground		Φ0.25-Φ8.0		faster response time, pressure resistance up to 3.4x102Mpa, not suitable for the application with electrometric interference
Exposed		Φ1-Φ8	Φ3-Φ8	faster response time, suitable for temperature measured requiring fast response time such as engineer exhaust
Isolated Underground			Φ3-Φ8	Same as underground type, meanwhile, can avoid the single interference between 2 elements

## ■ Suggested Working Temperature

T.C. Type	Element Material	Tube material(SS)	Tube Diameter (Φ:mm)	Suggested Working Temperature(°C )	
				Long-time	Short-time
K	NiCr-NiSi	1Cr18Ni9Ti	Φ2	600	700
			Φ3	800	900
			Φ4,Φ5, Φ6	900	1000
			Φ8	1000	1100
		GH3030	Φ2, Φ3	800	900
			Φ4, Φ5	900	1000
Φ6, Φ8	1000		1100		
N	NiCrSi-NiSi	1Cr18Ni9Ti	Φ2	600	700
			Φ3	800	900
			Φ4,Φ5, Φ6	900	1000
			Φ8	1000	1100
		GH3030	Φ2, Φ3	900	1000
			Φ4, Φ5	1000	1100
			Φ6,Φ8	1100	1200
		GH3039	Φ2, Φ3, Φ4	1000	1100
Φ5, Φ6,Φ8	1100		1200		
E	NiCr-CuNi	1Cr18Ni9Ti	Φ2, Φ3	350	450
			Φ4,Φ5, Φ6,Φ8	450	550
J	Fe - CuNi	1Cr18Ni9Ti	Φ2, Φ3	300	400
			Φ4,Φ5, Φ6,Φ8	400	500
T	Cu-CuNi	1Cr18Ni9Ti	Φ2	150	200
			Φ3, Φ4,Φ5	200	250
			Φ6,Φ8	250	300
S	PtRh10-Pt	GH3039	Φ2, Φ3, Φ4	1000	1100
			Φ5, Φ6.0,Φ8	1100	1200

## Order Code

MTS100 Lead type Thermocouple Temperature sensor												
Order Code: E.g.: MTS100-K1S-T1D4L100SNC1A											Description	
<b>MTS100</b>	-X		X	X	X	X	X	X	X	X	X	MTS100 Lead type Temperature Sensor
<b>Element type</b>	-K											K type thermocouple,
	-E											E type thermocouple
	-J											J type thermocouple
	-T											T type thermocouple
<b>Element No.</b>	1											1
	2											2
<b>Junction Type</b>	S											underground
	G											ground
	E											Exposed
	D											Isolated Underground (only for double element)
<b>Installation type</b>	N											None
	T											Fixed thread
<b>Thread size</b>	-N											None
	-P9											M8X1.5
	-P0											M12X1.5
	-C											-Customized
<b>Process Connation Size</b>	D2											Φ2
	D3											Φ3
	D4											Φ4
	D5											Φ5
	D6											Φ6
	D8											Φ8
	D10											Φ10
<b>Stem Insert Length (mm)</b>							LX					L100: L=100mm
<b>Stem Extended Length (mm)</b>							S					304SS
							M					316SS
<b>Stem type</b>	N											Standard type
	R											Rolled water-proof type
	C											Corrosion -proof cover type
	X											customized
<b>Lead cable Material</b>	C1											Fiberglass+ Metal braided
	C2											Teflon, PTFE
	C3											PVC
	C4											Silicon cable
	X											Customized
<b>Accuracy</b>	A											Class I
	B											Class II
<b>Cable length</b>										-LX		-1m : 1m cable

Note: Order Code: E.g.: MTS100-K1S-NND4L100SNC1AL-1m, 1m, k type thermocouple, single element, underground, Class A, probe material:304SS, PTFE cable



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