

SERV-RITE Wire

Thermocouple and Extension Wire

FEP Insulated and Shielded Thermocouple and Extension Wire SERIES 509

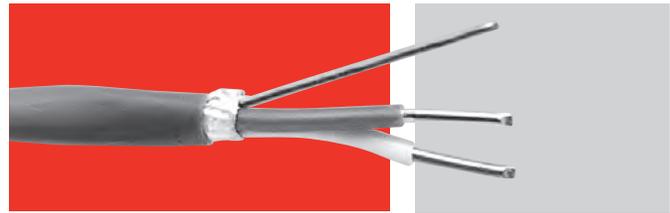
The SERIES 509 was developed specially for use with microprocessor-based systems.

The conductors are insulated with color coded FEP. They are then twisted with a copper drain wire. An aluminized polyester tape is wrapped around the conductors and drain wire and then FEP is applied.

The finished construction can withstand temperatures in excess of 400°F (204°C). Twisted conductors minimize electromagnetic interference (EMI) and the shield tape eliminates most problems associated with AC “noise” in the sensing circuit.

Performance Capabilities

- Continuous temperature rating: 400°F (204°C)
- Flexible FEP plastic insulation
- Twisted and shielded construction to reduce electrical noise interference
- Available with an optional metallic overbraid for additional abrasion resistance



Applications

- General use extension wire

Specifications

Continuous use temperature

- 400°F (204°C)

Single use temperature

- 500°F (260°C)

Resistance properties

- Moisture: Excellent
- Chemical: Excellent
- Abrasion: Excellent

Popular Constructions

Grade	AWG	Wire Type	Limits of Error	Type K	Type J	Type T	Type E	Type S
Extension	16	Solid	Standard	K16-5-509	J16-5-509			
		Stranded	Standard	K16-7-509	J16-7-509			
	20	Solid	Standard	K20-5-509	J20-5-509	T20-5-509	E20-5-509	S20-5-509
		Stranded	Standard	K20-7-509	J20-7-509	T20-7-509		
Thermocouple	20	Solid	Standard	K20-1-509	J20-1-509	T20-1-509		
		Solid	Special	K20-2-509	J20-2-509	T20-2-509		
	24	Solid	Standard	K24-1-509	J24-1-509	T24-1-509		
		Stranded	Standard	K24-3-509	J24-3-509	T24-3-509		

Note: Bolded products are stocked.

Wire Specifications

AWG	Nominal Conductor Size in. (mm)		Nominal Insulation Thickness		Nominal Overall Size in. (mm)		Approximate Shipping Weight lbs/1000 ft (kg/km)	
			Conductor in. (mm)	Overall in. (mm)				
24	0.020	(0.508)	0.008 (0.203)	0.012 (0.305)	0.104	(2.64)	12	(17.9)
24 S* (7/32)	0.024	(0.610)	0.008 (0.203)	0.012 (0.305)	0.112	(2.84)	13	(19.4)
20	0.032	(0.813)	0.008 (0.203)	0.012 (0.305)	0.128	(3.25)	18	(26.8)
20 S* (7/28)	0.038	(0.965)	0.008 (0.203)	0.012 (0.305)	0.140	(3.56)	20	(29.8)
18	0.040	(1.02)	0.008 (0.203)	0.015 (0.381)	0.152	(3.86)	25	(37.3)
18 S* (7/26)	0.048	(1.22)	0.008 (0.203)	0.015 (0.381)	0.168	(4.27)	27	(40.2)
16	0.051	(1.29)	0.008 (0.203)	0.015 (0.381)	0.174	(4.42)	33	(49.2)
16 S* (7/24)	0.060	(1.52)	0.008 (0.203)	0.015 (0.381)	0.192	(4.88)	35	(52.2)

* “S” denotes stranded wire: e.g., “24 S (7/32)” is seven strands of 32 gauge wire to make a 24 gauge stranded conductor.

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Ordering Information

Part Number

①	② ③	④	⑤	⑥	⑦
ASTM E 230 Calibration	AWG	Conductor Type/Tolerance			
			5	0	9

①	ASTM E 230 Calibration
E =	Type E
J =	Type J
K =	Type K
S =	Type S
T =	Type T

② ③	AWG
24 =	24 gauge solid or 24 gauge stranded (7/32)
20 =	20 gauge solid or 20 gauge stranded (7/28)
16 =	16 gauge solid or 16 gauge stranded (7/24)

④	Conductor Type/Tolerance
1 =	Thermocouple grade, solid wire, standard tolerance
2 =	Thermocouple grade, solid wire, special tolerance
3 =	Thermocouple grade, stranded wire, standard tolerance
4 =	Thermocouple grade, stranded wire, special tolerance
5 =	Extension grade, solid wire, standard tolerance
6 =	Extension grade, solid wire, special tolerance
7 =	Extension grade, stranded wire, standard tolerance
8 =	Extension grade, stranded wire, special tolerance

Note: Minimum order sizes apply for non-stock constructions.