

# Thermocouple Wire

968-026

Thermocouple Extension Cable, Lightweight ArmorLite Braid, Jacketed

## CABLE REQUIREMENTS

- Conductor Continuity: Pass
- Identification: UV Laser Mark - Part Number on Cable Jacket
- Primary Wire Jacket Elongation: 150% Min
- Cable Jacket Elongation: 200% Min
- Primary Wire Jacket Flaws: Spark Test - 4.2 kV High Frequency 3 kHz
- Cable Jacket Flaws: Spark Test - 1.5 kV High Frequency 3 kHz
- Cold Bend Low Temperature: -65 °C ± 2 °C for 4 Hours

## NOTES

- Consult factory for alternate cable configurations
- Armorlite CF braid is minimum 85% coverage with shield resistance of 68 mOhm/meter max
- Braid options may limit peak operating temperature, see Table 2

## HOW TO ORDER

| HOW TO ORDER                     |                                                                 |     |    |   |    |    |    |
|----------------------------------|-----------------------------------------------------------------|-----|----|---|----|----|----|
| Sample Part Number               | 968-026                                                         | -24 | KX | 2 | AC | 09 | 09 |
| Basic Part Number                | 968-026 Thermocouple Extension Cable, Specialty Braid, Jacketed |     |    |   |    |    |    |
| Conductor Size                   | 24, 26                                                          |     |    |   |    |    |    |
| Thermocouple Conductor Type Code | KX, SX, TX                                                      |     |    |   |    |    |    |
| Number of Conductors             | (2 max)                                                         |     |    |   |    |    |    |
| Shield Description               | See Table II                                                    |     |    |   |    |    |    |
| Wire Jacket Type                 | See Table III                                                   |     |    |   |    |    |    |
| Cable Jacket Type                | See Table IV                                                    |     |    |   |    |    |    |

Table III - Wire Jacket Type

| Single Jacket Code | Jacket Material                          |
|--------------------|------------------------------------------|
| 09                 | Extruded FEP, GPS288 + Color Concentrate |
| 20                 | Extruded PFA, GPS335 + Color Concentrate |

CABLE CONSTRUCTION EXAMPLE

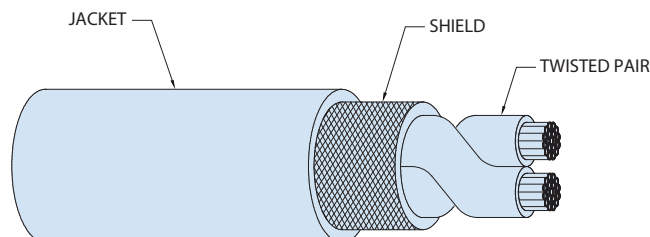


Table I

| Thermoconductor Type Code | Wire AWG (Stranding) | Leg      | Outer Color of Primary Wire | Resistance of Conductor at 20°C (68°F) (Ohms/ Ft) | Lay Length (Inches) | Ø Wire Stranded Conductor (Inches) |              | Ø of TP with Shield and Jacket (Inches) | Ø of TP with Shield and Jacket (Inches) | Jacket Color | Temperature Range        | Cable Weight (Pounds Per 1000 Ft) |                 |                     |     |
|---------------------------|----------------------|----------|-----------------------------|---------------------------------------------------|---------------------|------------------------------------|--------------|-----------------------------------------|-----------------------------------------|--------------|--------------------------|-----------------------------------|-----------------|---------------------|-----|
|                           |                      |          |                             | ±10%                                              | Nom                 | Min                                | Max          | Armorlite Max                           | TCP, SPC, NPC                           |              |                          | Max                               | Max             | Max                 | Max |
| KX                        | 24 (7 X 32)          | Positive | Yellow                      | 0.938 (23.83)                                     | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) | 0.132 (3.35)                            | 0.142 (3.61)                            | Light Yellow | 392F (200C) See Note III | Armorlite CF 12.39                | Armorlite 12.39 | TPC, SPC, NPC 15.56 |     |
|                           | 24 (7 X 32)          | Negative | Red                         | 0.384 (9.75)                                      | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) |                                         |                                         |              |                          |                                   |                 |                     |     |
| SX                        | 24 (7 X 32)          | Positive | Black                       | 0.023 (0.58)                                      | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) | 0.132 (3.35)                            | 0.142 (3.61)                            | Light Green  | 392F (200C) See Note III | 12.42                             | 12.42           | 15.58               |     |
|                           | 24 (7 X 32)          | Negative | Red                         | 0.161 (4.09)                                      | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) |                                         |                                         |              |                          |                                   |                 |                     |     |
| TX                        | 24 (7 X 32)          | Positive | Blue                        | 0.023 (0.58)                                      | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) | 0.132 (3.35)                            | 0.142 (3.61)                            | Light Blue   | 212F (100C) See Note III | 12.33                             | 12.33           | 15.38               |     |
|                           | 24 (7 X 32)          | Negative | Red                         | 0.67 (17.02)                                      | 0.375 (9.53)        | 0.023 (0.58)                       | 0.025 (0.64) |                                         |                                         |              |                          |                                   |                 |                     |     |
| KX                        | 26 (7 X 34)          | Positive | Yellow                      | 1.512 (38.40)                                     | 0.250 (6.35)        | 0.018 (0.46)                       | 0.020 (0.51) | 0.122 (3.10)                            | 0.132 (3.35)                            | Light Yellow | 392F (200C) See Note III | 10.32                             | 10.32           | 13.23               |     |
|                           | 26 (7 X 34)          | Negative | Red                         | 0.619 (15.72)                                     | 0.250 (6.35)        | 0.018 (0.46)                       | 0.020 (0.51) |                                         |                                         |              |                          |                                   |                 |                     |     |
| SX                        | 26 (7 X 34)          | Positive | Black                       | 0.037 (0.94)                                      | 0.250 (6.35)        | 0.018 (0.46)                       | 0.020 (0.51) | 0.122 (3.10)                            | 0.132 (3.35)                            | Light Green  | 392F (200C) See Note III | 10.25                             | 10.25           | 13.16               |     |
|                           | 26 (7 X 34)          | Negative | Red                         | 0.259 (6.58)                                      | 0.250 (6.35)        | 0.018 (0.46)                       | 0.020 (0.51) |                                         |                                         |              |                          |                                   |                 |                     |     |
| TX                        | 26 (7 X 34)          | Positive | Blue                        | 0.037 (0.94)                                      | 0.250 (6.35)        | 0.177 (4.50)                       | 0.020 (0.51) | 0.122 (3.10)                            | 0.132 (3.35)                            | Light Blue   | 212F (100C) See Note III | 10.25                             | 10.25           | 13.16               |     |
|                           | 26 (7 X 34)          | Negative | Red                         | 1.08 (27.43)                                      | 0.250 (6.35)        | 0.177 (4.50)                       | 0.020 (0.51) |                                         |                                         |              |                          |                                   |                 |                     |     |

Table 2 - Shield Type

| Single Shield Code | Shield Description   | Shield Coverage | Shield Resistance | Shield Temp. Range |
|--------------------|----------------------|-----------------|-------------------|--------------------|
| AC                 | Armorlite CF, Round  | 85% Min         | 68 mOhm/m max     | 752F max (400C)    |
| A                  | Armorlite            | 85% Min         | TBD mOhm/m max    | 500F max (260C)    |
| TPC                | Tin Plated Copper    | 85% Min         | TBD mOhm/m max    | 302F max (150C)    |
| SPC                | Silver Plated Copper | 85% Min         | TBD mOhm/m max    | 392F max (200C)    |
| NPC                | Nickel Plated Copper | 85% Min         | TBD mOhm/m max    | 500F max (260C)    |

Table 4 - Cable Jacket Type

| Single Jacket Code | Jacket Material                          | Wall Thickness (Inches) | Concentricity Ratio |
|--------------------|------------------------------------------|-------------------------|---------------------|
| 09                 | Extruded FEP, GPS334 + Color Concentrate | .007-.015 (0.18-0.38)   | 70% Min.            |
| 20                 | Extruded PFA, GPS344 + Color Concentrate | .007-.015 (0.18-0.38)   | 70% Min.            |