UNITED ELECTRIC CONTROLS

Thermocouple

Sheath with Leadwire or Plug

United Electric Controls is ISO 9001:2015 certified

RoHS compliant

AST-SWTHERM 01

Table of Contents

SHEATH WITH LEADWIRE

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE
GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standardly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
02 – **Sheath with leadwire**; fiberglass insulated conductors; fiberglass jacket
04 – **Sheath with leadwire**; fiberglass insulated conductors; fiberglass jacket; stainless steel overbraid overall
28 – **Sheath with Teflon® insulated conductors**; Teflon® jacketed cable

SHEATH DIAMETER (in inches)
4 – 0.125
6 – 0.188
7 – 0.250
9 – 0.375

SHEATH MATERIAL
3 – 316 stainless steel
5 – Inconel® 600 (MI only)

CALIBRATION - Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

Special limits are available – consult UE-AST
Dual junction not available with all GP Thermocouples in sheath diameter 4 and GP04 diameter 6

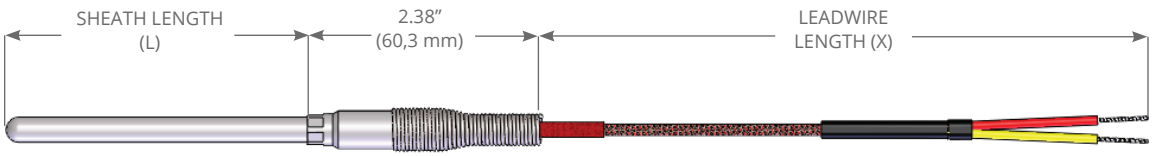
HOT JUNCTION
G – Grounded junction
U – Ungrounded junction
E – Exposed junction

SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

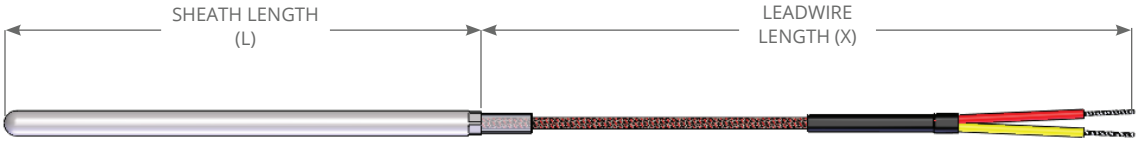
LEADWIRE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTIONS – see page 4

MI TYPE



GP TYPE



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
B45-	45° bend in sheath (specify length from tip in inches e.g., B45-6 [minimum length = 3"])
B90-	90° bend in sheath (specify length from tip in inches e.g., B90-6 [minimum length = 3"])
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition on Styles 02 and 04 is 500 °F/260 °C)

WIRING CONNECTION OPTIONS	
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals

For plugs and jacks, see Styles 05, 07, 69.

COMPRESSION FITTINGS (FOR DIAMETERS 4, 6, 7)			
OPTION CODE	NPT	MATERIAL	FERRULE
CF10	1/8"	Stainless steel	Stainless steel
CF11	1/8"	Stainless steel	Teflon®
CF12	1/8"	Brass	Brass
CF20	1/4"	Stainless steel	Stainless steel
CF21	1/4"	Stainless steel	Teflon®
CF22	1/4"	Brass	Brass
CF30	1/2"	Stainless steel	Stainless steel
CF31	1/2"	Stainless steel	Teflon®
CF32	1/2"	Brass	Brass

WELD PAD OPTIONS	
WP00	Horizontal pad/flat
FOR MATCHING A PIPE RADIUS	
WP10	1" nominal pipe size
WP15	1.5" nominal pipe size
WP20	2" nominal pipe size
WP25	2.5" nominal pipe size
WP30	3" nominal pipe size
WP35	3.5" nominal pipe size
WP40	4" nominal pipe size

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

SHEATH WITH LEADWIRE AND ARMOR

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	ARMOR CABLE LENGTH	OPTIONS

SENSOR TYPE
GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standardly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
03 – **Sheath with leadwire and flexible stainless steel armor cable**; fiberglass-insulated conductors; fiberglass jacket.
03P – **PVC-coated armor**, Teflon®-insulated conductors
03T – **Teflon® coated armor**, Teflon®-insulated conductors

SHEATH DIAMETER (in inches)
4 – 0.125
6 – 0.188
7 – 0.250
9 – 0.375

SHEATH MATERIAL
3 – 316 stainless steel
5 – Inconel® 600 (MI only)

CALIBRATION Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

Special limits are available – consult UE-AST
Dual junction not available with GP thermocouples in sheath diameter 4

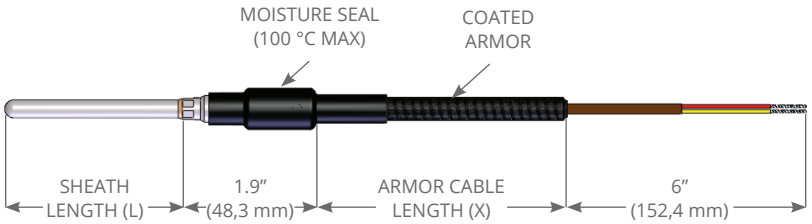
HOT JUNCTION
G – Grounded junction
U – Ungrounded junction
E – Exposed junction

SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

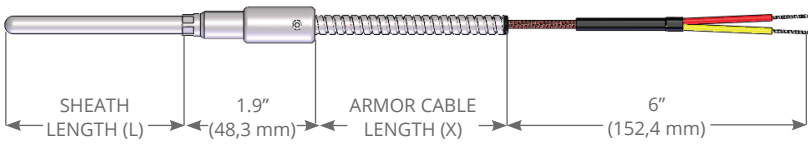
ARMOR CABLE LENGTH
X# - (e.g., X72 = 72 inch length)

OPTIONS – see page 6

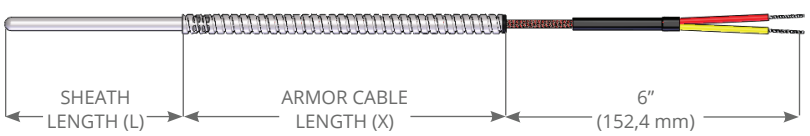
STYLE MI03P & MI03T



STYLE MI03



STYLE GP03



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
B45-	45° bend in sheath (specify length from tip in inches e.g., B45-6 [minimum length = 3"])
B90-	90° bend in sheath (specify length from tip in inches e.g., B90-6 [minimum length = 3"])
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition rate d 500° F/260 °C)

COMPRESSION FITTINGS (FOR DIAMETERS 4, 6, 7)			
OPTION CODE	NPT	MATERIAL	FERRULE
CF10	1/8"	Stainless steel	Stainless steel
CF11	1/8"	Stainless steel	Teflon®
CF12	1/8"	Brass	Brass
CF20	1/4"	Stainless steel	Stainless steel
CF21	1/4"	Stainless steel	Teflon®
CF22	1/4"	Brass	Brass
CF30	1/2"	Stainless steel	Stainless steel
CF31	1/2"	Stainless steel	Teflon®
CF32	1/2"	Brass	Brass

LEADWIRE AND ARMOR OPTIONS	
BA50	Bayonet cap on armor, no spring, GP styles only (formerly Style 25)

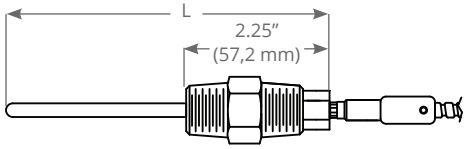
NOTE: For assembly with sheath, armor and terminal head, see Style 65 in datasheet AST-WPTHERM

SPRING-LOADED FITTINGS	
Stainless steel, non-sealed, for sensor diameters 6, 7 & 9	
OPTION CODE	DESCRIPTION
HF50	1/2" x 1/2"
Stainless steel, o-ring sealed, for sensor diameters 6 and 7. O-ring is Buna N, rated -10 to 200 °F (-23 to 93 °C). Maximum pressure 15 psi.	
HF51	1/2" x 1/2"

NOTES:
1. Fitting reduces effective sensor L length by 2.25" (e.g., to properly spring-load into a 9" well, the sensor should be specified with 11.25" minimum).
2. Fitting position is adjustable in the field.

WIRING CONNECTION OPTIONS	
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals
PLUG AND JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ10	Standard plug, rated to 177 °C (350 °F)
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ30	Miniature plug, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ50	High temp. plug, rated to 260 °C (500 °F)
PJ60	High temp. jack, rated to 260 °C (500 °F)
BX CONNECTORS	
WC40	1/2"
WC50	3/4"
WELD PAD OPTIONS	
WP00	Horizontal pad/flat
FOR MATCHING A PIPE RADIUS	
WP10	1" nominal pipe size
WP15	1.5" nominal pipe size
WP20	2" nominal pipe size
WP25	2.5" nominal pipe size
WP30	3" nominal pipe size
WP35	3.5" nominal pipe size
WP40	4" nominal pipe size

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.



HF50 Option

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

SHEATH WITH LEADWIRE AND PLUG

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE

GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standarly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
05 – **Sheath with leadwire; standard male plug**; fiberglass insulated conductors; fiberglass jacket
07 – **Sheath with leadwire; stainless steel overbraid; standard male plug**; fiberglass insulated conductors; fiberglass jacket
69 – **Sheath with leadwire; miniature plug**; fiberglass insulated conductors; fiberglass jacket

SHEATH DIAMETER (in inches)
4 – 0.125
6 – 0.188
7 – 0.250
9 – 0.375

SHEATH MATERIAL
3 – 316 stainless steel
5 – Inconel® 600 (MI only)

CALIBRATION – Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

Special limits are available – consult UE-AST
Dual junctions not available with all GP Thermocouples in sheath diameter 4 and GP07 diameter 6

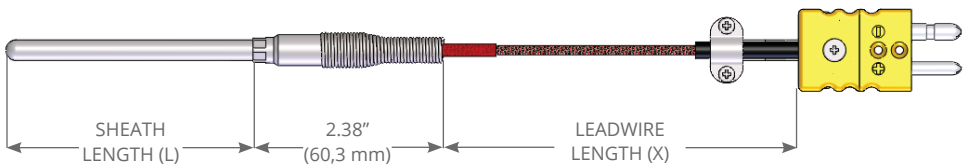
HOT JUNCTION
G – Grounded junction
U – Ungrounded junction
E – Exposed junction

SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

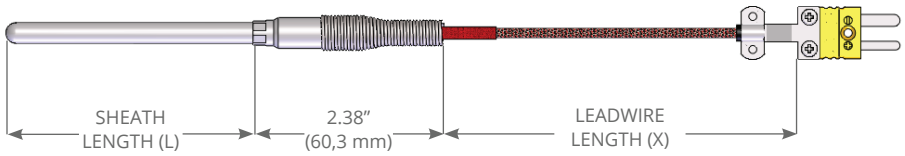
LEADWIRE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTIONS – see page 8

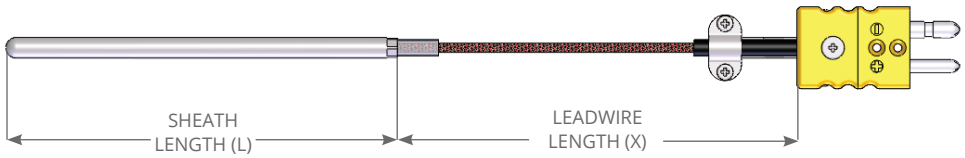
STANDARD PLUG STYLE MI05 & MI07



MINIATURE PLUG STYLE MI69



STANDARD PLUG STYLE GP05 & GP07



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
B45-	45° bend in sheath (specify length from tip in inches e.g., B45-6 [minimum length = 3"])
B90-	90° bend in sheath (specify length from tip in inches e.g., B90-6 [minimum length = 3"])
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition rated 500 °F/260 °C)
JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ50	High temp. standard plug, rated to 260 °C (500 °F)
PJ60	High temp. standard jack, rated to 260 °C (500 °F)

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

COMPRESSION FITTINGS (for diameters 4, 6, 7)			
OPTION CODE	NPT	MATERIAL	FERRULE
CF10	1/8"	Stainless steel	Stainless steel
CF11	1/8"	Stainless steel	Teflon®
CF12	1/8"	Brass	Brass
CF20	1/4"	Stainless steel	Stainless steel
CF21	1/4"	Stainless steel	Teflon®
CF22	1/4"	Brass	Brass
CF30	1/2"	Stainless steel	Stainless steel
CF31	1/2"	Stainless steel	Teflon®
CF32	1/2"	Brass	Brass

WELD PAD OPTIONS	
WP00	Horizontal pad/flat
FOR MATCHING A PIPE RADIUS	
WP10	1" nominal pipe size
WP15	1.5" nominal pipe size
WP20	2" nominal pipe size
WP25	2.5" nominal pipe size
WP30	3" nominal pipe size
WP35	3.5" nominal pipe size
WP40	4" nominal pipe size

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

SHEATH WITH MALE PLUG

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	OPTIONS

SENSOR TYPE*
GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standardly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
14 – **Sheath with standard male plug**; maximum termination temperature 177˚C (350 ˚F)
74 – **Sheath with miniature male plug**; maximum sheath diameter 3/16" OD; maximum termination temperature 177 ˚C (350 ˚F)

SHEATH DIAMETER (in inches)
3 – 0.063 (Style MI 74 only)
4 – 0.125
6 – 0.188
7 – 0.250 (Style 14 only)

SHEATH MATERIAL
3 – 316 stainless steel
5 – Inconel® 600 (MI only)

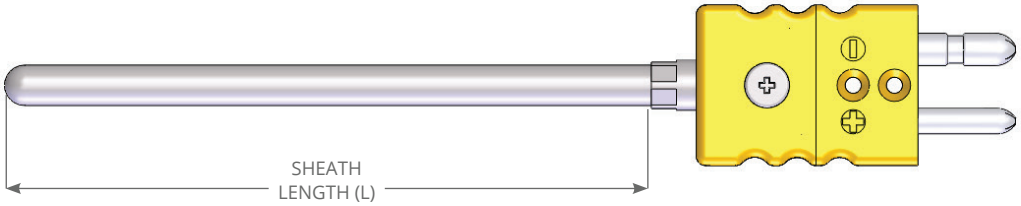
CALIBRATION – Standard limits
J – Single J
K – Single K
T – Single T
E – Single E
Special limits are available – consult UE-AST

HOT JUNCTION
G – Grounded junction
U – Ungrounded junction
E – Exposed junction

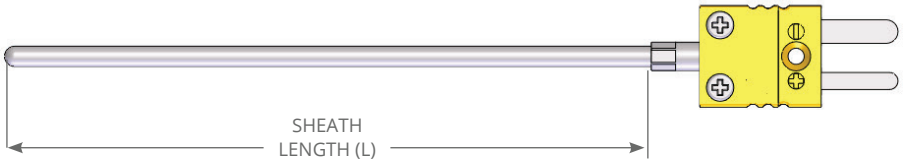
SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6" sheath, L12.5 = 12.5" length)

OPTIONS – see page 10

STYLE 14



STYLE 74



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
JACK OPTIONS	
Cable clamp is included for jack options.	
PJ20	Standard jack, rated to 177 °C (350 °F) (Style 14 only)
PJ40	Miniature jack, rated to 177 °C (350 °F) (Style 74 only)

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

COMPRESSION FITTINGS (for diameters 4, 6, 7)			
OPTION CODE	NPT	MATERIAL	FERRULE
CF10	1/8"	Stainless steel	Stainless steel
CF11	1/8"	Stainless steel	Teflon®
CF12	1/8"	Brass	Brass
CF20	1/4"	Stainless steel	Stainless steel
CF21	1/4"	Stainless steel	Teflon®
CF22	1/4"	Brass	Brass
CF30	1/2"	Stainless steel	Stainless steel
CF31	1/2"	Stainless steel	Teflon®
CF32	1/2"	Brass	Brass

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

SHEATH WITH WELDED PROCESS MOUNTING

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE
MI – Mineral insulated thermocouple

ASSEMBLY STYLE
23P – **Sheath with single-sided process mounting**; fiberglass insulated conductors; fiberglass jacket; 1/2" NPT stainless steel connection with leadwire
23I – **Sheath with single-sided instrument mounting**; fiberglass insulated conductors; fiberglass jacket; 1/2" NPT stainless steel connection with leadwire
24 – **Sheath with double-sided hex fitting**; fiberglass insulated conductors and jacket; 1/2" NPT stainless steel connection with leadwire

SHEATH DIAMETER (in inches)
4 – 0.125
6 – 0.188
7 – 0.250
9 – 0.375

SHEATH MATERIAL
3 – 316 stainless steel
5 – Inconel® 600

CALIBRATION – Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

Special limits are available – consult UE-AST

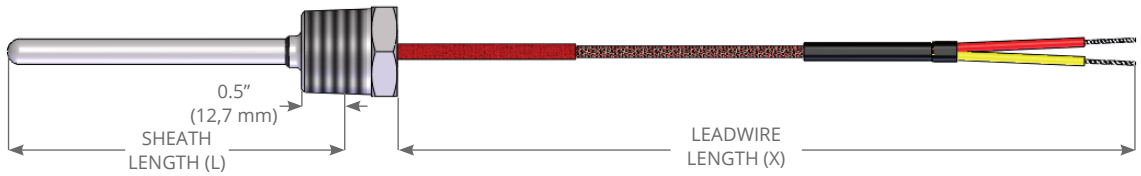
HOT JUNCTION
G – Grounded junction
U – Ungrounded junction
E – Exposed junction

SHEATH LENGTH (Note: lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

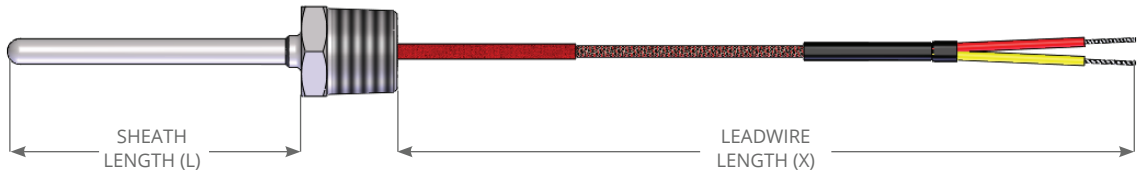
LEADWIRE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTIONS – see page 12

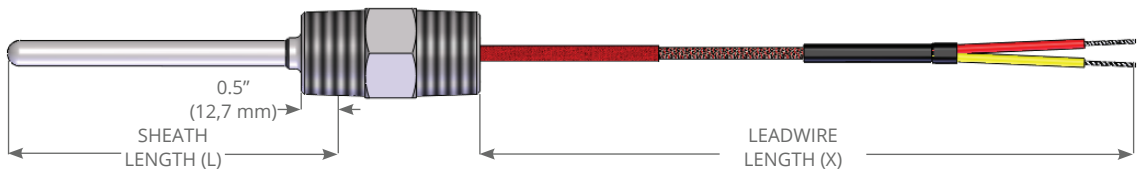
STYLE 23P



STYLE 23I



STYLE 24



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
B45-	45° bend in sheath (specify length from tip in inches e.g., B45-6 [minimum length = 3"])
B90-	90° bend in sheath (specify length from tip in inches e.g., B90-6 [minimum length = 3"])
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition rated 500 °F/260 °C)

WIRING CONNECTION OPTIONS	
OPTION CODE	DESCRIPTION
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals
PLUG AND JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ10	Standard plug, rated to 177 °C (350 °F)
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ30	Miniature plug, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ50	High temp. standard plug, rated to 260 °C (500 °F)
PJ60	High temp. standard jack, rated to 260 °C (500 °F)
WELD PAD OPTIONS (Style 23I only)	
WP00	Horizontal pad/flat
FOR MATCHING A PIPE RADIUS	
WP10	1" nominal pipe size
WP15	1.5" nominal pipe size
WP20	2" nominal pipe size
WP25	2.5" nominal pipe size
WP30	3" nominal pipe size
WP35	3.5" nominal pipe size
WP40	4" nominal pipe size

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

WASHER WITH LEADWIRE AND ARMOR

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	WASHER SIZE	MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	ARMOR CABLE LENGTH	OPTIONS

SENSOR TYPE
GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standardly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
32 – **Washer with leadwire; fiberglass insulated conductors**; fiberglass jacket; armor cable; stainless steel washer thickness 1/4" (0.250); sheath diameter 0.188" only

WASHER SIZE (in inches)

FOR BOLT SIZE	ID	OD
6 – 0.188	0.193	0.375
7 – 0.250	0.255	0.500
9 – 0.375	0.380	0.750
10 – 0.500	0.510	1.000

WASHER AND SHEATH MATERIAL
3 – 316 stainless steel

CALIBRATION Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

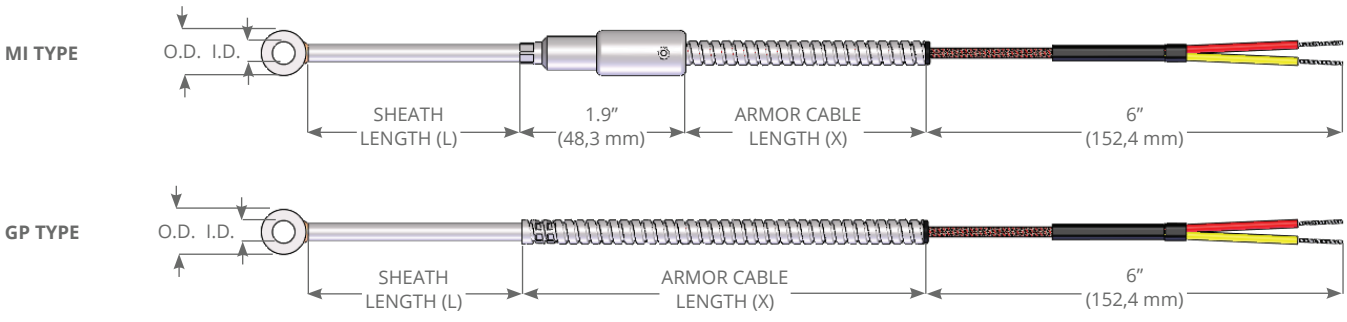
Special limits are available – consult UE-AST

HOT JUNCTION
G – Grounded junction
U – Ungrounded junction

SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

ARMOR CABLE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTIONS – see page 14



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
B45-	45° bend in sheath (specify length from tip in inches e.g., B45-6 [minimum length = 3”])
B90-	90° bend in sheath (specify length from tip in inches e.g., B90-6 [minimum length = 3”])
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition rated 500 °F/260 °C)

WIRING CONNECTION OPTIONS	
OPTION CODE	DESCRIPTION
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4” push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals
PLUG AND JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ10	Standard plug, rated to 177 °C (350 °F)
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ30	Miniature plug, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ50	High temp. plug, rated to 260 °C (500 °F)
PJ60	High temp. jack, rated to 260 °C (500 °F)
BX CONNECTORS	
WC40	1/2”
WC50	3/4”

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

CUTTABLE SHEATH WITH LEADWIRE

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE
GP – General purpose thermocouple

ASSEMBLY STYLE
38 – **Field cuttable sheath length with leadwire**; fiberglass insulated conductors; fiberglass jacket; stainless steel overbraid; (cannot be shortened to less than 4")

SHEATH DIAMETER (in inches)
6 – 0.188
7 – 0.250

SHEATH MATERIAL
3 – 316 stainless steel

CALIBRATION - Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

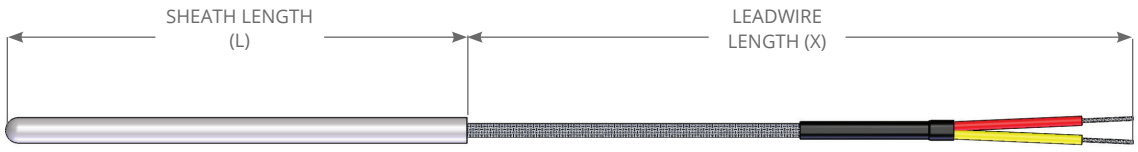
Special limits are available- consult UE-AST

HOT JUNCTION
G – Grounded junction
U – Ungrounded junction

SHEATH LENGTH Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.
L# – (e.g., L24 = 24 inch sheath)

LEADWIRE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTION
TAG1 – stainless steel tag and wire



NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

MOUNTING LUG WITH LEADWIRE

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	LUG HOLE SIZE	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE
GP – General purpose thermocouple

ASSEMBLY STYLE
41F – **Stainless steel mounting lug with fiberglass leadwire**; diameter 0.312" only; 500 °F max.
41T – **Stainless steel mounting lug with Teflon® leadwire**; diameter 0.312" only; 400 °F max.

LUG HOLE SIZE - diameter of hole (in inches)
6 – 0.188
7 – 0.250
9 – 0.375

CALIBRATION - Standard limits

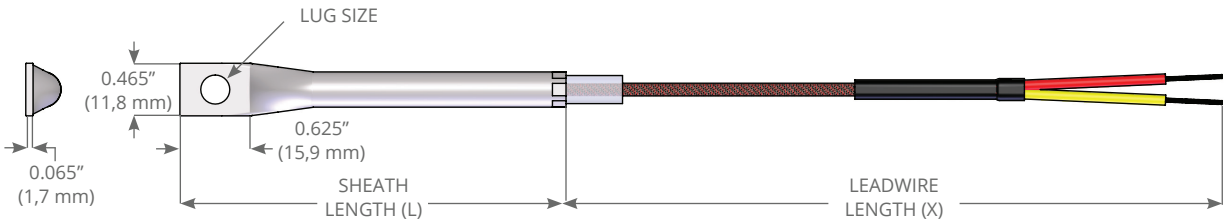
J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

HOT JUNCTION
G – Grounded junction
U – Ungrounded junction

SHEATH LENGTH (Minimum L=1.75"; Maximum L= 84" for GP Grounded Jct. and L= 36" for GP Ungrounded Jct.)
L# - (e.g., L6 = 6 inch sheath)

LEADWIRE LENGTH
X# - (e.g., X72 = 72 inch length)

OPTIONS – see page 17



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance

WIRING CONNECTION OPTIONS	
OPTION CODE	DESCRIPTION
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals

PLUG AND JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ10	Standard plug, rated to 177 °C (350 °F)
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ30	Miniature plug, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ5O	High temp. standard plug, rated to 260 °C (500 °F)
PJ60	High temp. standard jack, rated to 260 °C (500 °F)

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

SPRING LOADED BAYONET FITTING WITH ARMOR

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

SENSOR TYPE	ASSEMBLY STYLE	SHEATH DIAMETER	SHEATH MATERIAL	CALIBRATION	HOT JUNCTION	SHEATH LENGTH	ARMOR CABLE LENGTH	OPTIONS

SENSOR TYPE*
GP – General purpose thermocouple. Manufactured using hollow tubing and wire, cannot be bent in the field and are standardly designed for sensing temperatures below 500 °F.
MI – Mineral insulated thermocouple. More rugged than GP due to compacted magnesium-oxide powder insulation, can be bent in the field, and are appropriate for the temperature range of the sensor and sheath.

ASSEMBLY STYLE
71 – **Sheath with stainless steel armor**; fiberglass insulated conductors; fiberglass jacket; spring-loaded bayonet cap; (use with Bayonet Adapter- see next page)

SHEATH DIAMETER (in inches)
6 – 0.188

SHEATH MATERIAL
3 – 316 stainless steel

CALIBRATION - Standard limits

J – Single J	**JJ** – Dual J
K – Single K	**KK** – Dual K
T – Single T	**TT** – Dual T
E – Single E	**EE** – Dual E

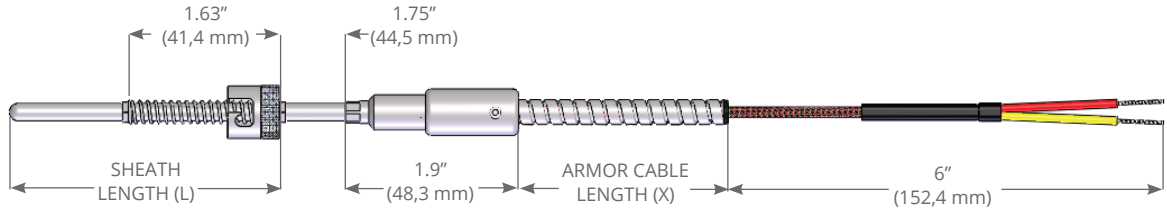
HOT JUNCTION
G – Grounded junction
U – Ungrounded junction

SHEATH LENGTH (Note: Maximum L= 84" for GP Grounded Jct. and L=36" for GP Ungrounded Jct.; for MI, lengths over L84 will be shipped coiled unless otherwise specified)
L# – (e.g., L6 = 6 inch sheath, L12.5 = 12.5 inch length)

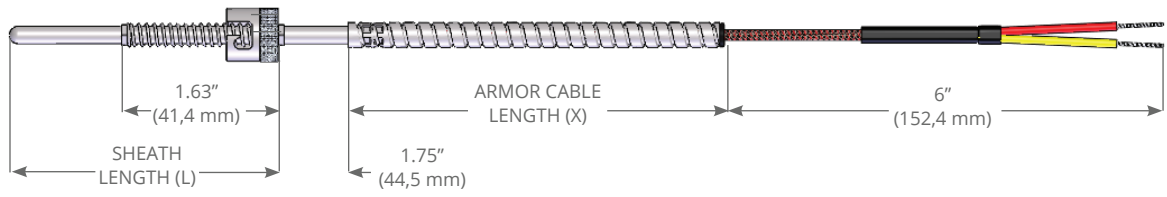
ARMOR CABLE LENGTH
X# – (e.g., X72 = 72 inch length)

OPTIONS – see page 19

MI TYPE



GP TYPE



AVAILABLE OPTIONS and MODIFICATIONS

ASSEMBLY OPTIONS	
OPTION CODE	DESCRIPTION
TAG1	Stainless steel tag and wire
BD45	45°bend in sheath, 3/4" from back end of cap **Formerly Style 70**
BD90	90° bend in sheath, 3/4" from back end of cap **Formerly Style 35**
CAL1	NIST traceable calibration specify point(s)
CRT1	Certificate of conformance
HT10	High temperature (900 °F) transition. (Standard transition rated 500 °F/260 °C)

BAYONET ADAPTERS (PLATED STEEL)		
OPTION CODE	THREAD SIZE	LENGTH (L)
BA20	1/8" - 27 NPT	7/8"
BA22	1/8" - 27 NPT	1–1/2"
BA24	1/8" - 27 NPT	2–1/2"

PIPE CLAMP AND BAYONET ADAPTERS		
OPTION CODE	BAND DIAMETER	ADAPTER LENGTH (L)
BA30	11/16" to 1–1/4"	2"
BA31	1–1/16" to 2"	2"
BA32	2–1/16" to 3"	2"
BA33	3–5/16" to 4–1/4"	2"
BA34	4–1/8" to 5"	2"

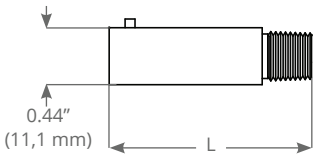
WIRING CONNECTION OPTIONS	
OPTION CODE	DESCRIPTION
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals

PLUG AND JACK OPTIONS	
Plug is designed to be attached to sensor assemblies. Jack should only be specified if plug option is also included. Cable clamp is included for both plug and jack options.	
PJ10	Standard plug, rated to 177 °C (350 °F)
PJ20	Standard jack, rated to 177 °C (350 °F)
PJ30	Miniature plug, rated to 177 °C (350 °F)
PJ40	Miniature jack, rated to 177 °C (350 °F)
PJ50	High temp. standard plug, rated to 260 °C (500 °F)
PJ60	High temp. standard jack, rated to 260 °C (500 °F)

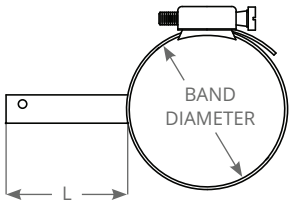
BX CONNECTORS	
WC40	1/2"
WC50	3/4"

EXTENSION WIRE
A selection of extension-grade thermocouple wire is available to connect the sensor to its input device. Consult UE-AST for availability.

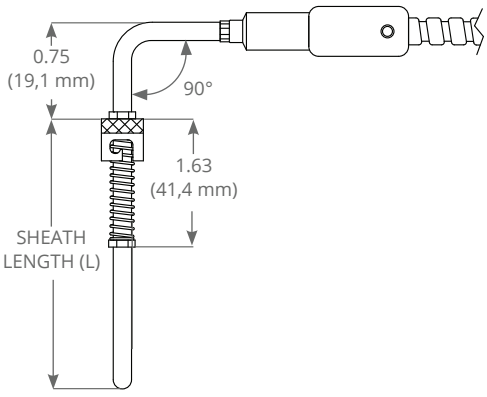
BAYONET ADAPTER (PLATED STEEL)



PIPE CLAMP WITH BAYONET ADAPTER



B90 OPTION VIEW ON MI71 STYLE



NOTE: Many non-standard options, including additional sheath diameters and materials, may also be available – consult UE-AST for specific requirements.

TERMS AND CONDITIONS OF SALE

UE specifications subject to change without notice.

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