

Industrial Thermocouples Protection Head Design



- ✓ Sheath Materials:
304SS, 310SS, 316SS,
321SS, Inconel® or
Super OMEGA XL
- ✓ Probe Length 300
mm (12"), 600 mm
(24") Custom Lengths
Available, Consult Sales



Probe length includes approximately 12.5 mm (1/2") allowance for threads.

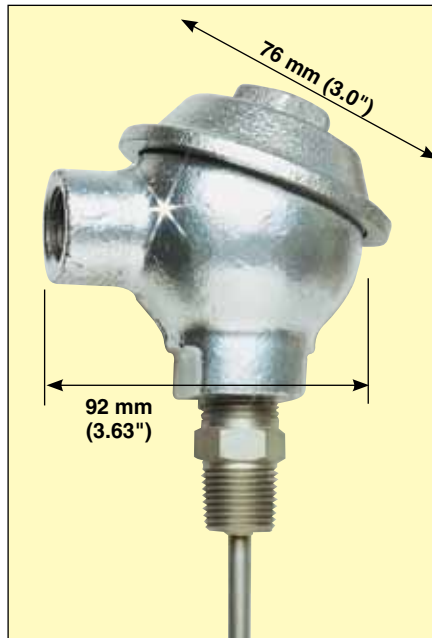
1/2 NPT mounting threads

Note: All industrial heads shown are available for purchase separately.

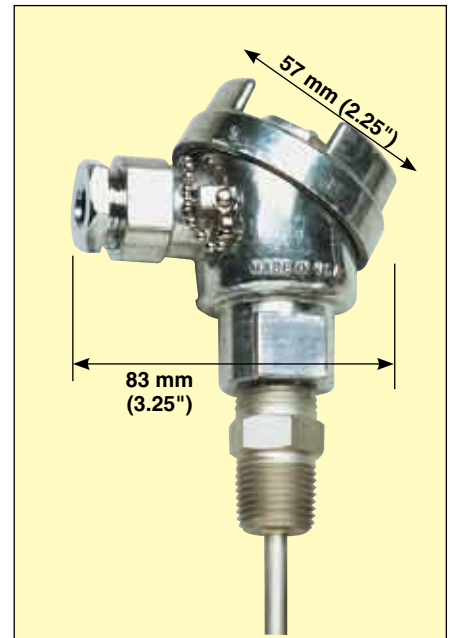
Length

Available!
Probes with
Built-In
Transmitters!

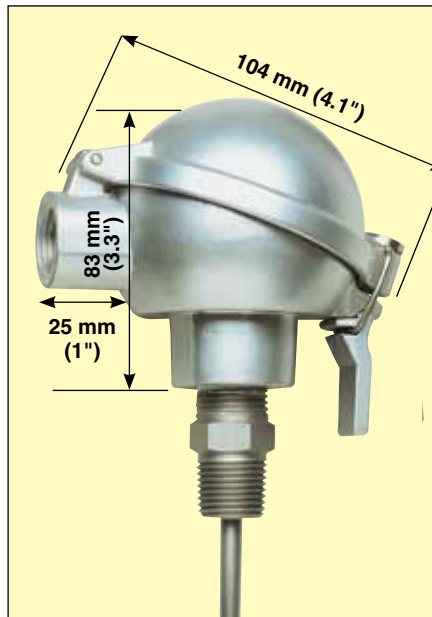
Complete your application with OMEGA's extension wire.



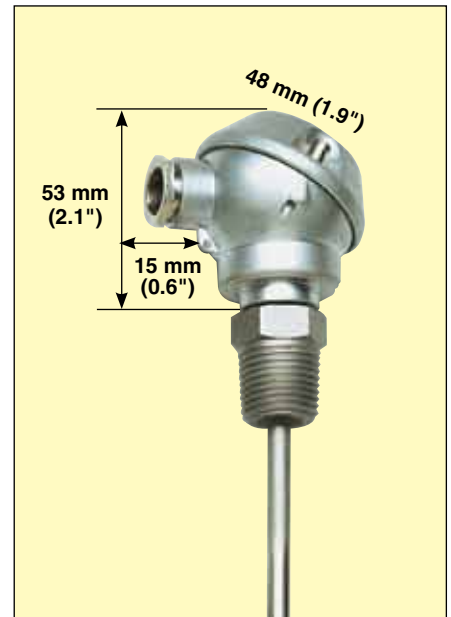
NB1, Cast Iron



NB2, Aluminum



NB3, Aluminum with Snap-Lock



NB4, Sub-Miniature Aluminum



260S Series

For a complete selection of thermowells in both Standard and Metric dimensions, please visit us online.

260HL Series



New and Improved Protection Heads

Industrial Thermocouple Probes

Available as
MEETS OR EXCEEDS SPECIAL LIMITS OF ERROR (SLE) and EN 60584-2: Temperature Class 1
SUPER OMEGA GLAD XL THERMOCOUPLE PROBES

A



Available!
 Probes with
 Built-in Transmitters!



Cast Iron

NB5

Material: Cast iron
Weight: 1.6 kg (3.5 lb)
Dimensions:
 H=95 mm (3.8")
 C=86 mm (3.4")



Flip Top NB7

Material: Alloy-Aluminum
Weight: 250 g (8.8 oz)
Dimensions:
 H=93 mm (3.7")
 C=76 mm (3")

Deep Base

NB6

Material: Alloy-Aluminum
Weight: 250 g (8.8 oz)
Dimensions:
 H=82 mm (3.2")
 C=82 mm (3.2")



NB8

Material: Alloy-Aluminum
Weight: 230 g (8 oz)
Dimensions:
 H=86 mm (3.4")
 C=70 mm (2.8")

Ordering Example:
NB8-ICSS-18U-12,
 a 300 mm (12")
 ungrounded ICSS
 Type J stainless
 steel thermocouple,
 3 mm (1/8") sheath
 diameter probe
 with an NB8 protection
 head.

Industrial Thermocouple Protection Head Probe Assemblies



**Low Profile
NB12**
Material:
 Alloy-Aluminum
Weight: 274 g (9.7 oz)
Dimensions:
 H=87 mm (3.4")
 C=82 mm (3.2")
 IP67 Approval

**Miniature
Bakelite
NB10**
Material: Bakelite
Weight: 82 g (2.9 oz)
Dimensions:
 H=68 mm (2.7")
 C=61.5 mm (2.4")
 O-Ring Seal

**Available!
Probes with
Built-In
Transmitters!**



**Miniature
Aluminum
NB11**
Material: Alloy-Aluminum
Weight: 140 g (4.9 oz)
Dimensions:
 H=67 mm (2.6")
 C=62 mm (2.4")
 IP67 Approval



**Nylon and
Glass Fiber.**

NB9
Material: Nylon
 & Glass Fiber
Weight:
 144 g (5 oz)
Dimensions:
 H=87 mm (3.4")
 C=82 mm (3.2")

To Order:
 Insert the style
 number into the part
 numbers shown in
 the "How To Order"
 table. See ordering
 examples below and
 on next page.

*Ordering Example:
 NB9-CASS-18G-12,
 a 300 mm (12")
 grounded CASS
 Type K stainless
 steel thermocouple,
 3 mm (1/8") sheath
 diameter probe with
 an NB9 protection
 head.*

Length

- NB1 Cast-Iron Protection Head with Internal Terminal Block
- NB2 Miniature Aluminum Head with Internal Terminal Block
- NB3 Aluminum Head Features Convenient Snap-Lock Design with Internal Terminal Block
- NB4 Subminiature Aluminum Head with Internal Terminal Block
- 1/2 NPT Mounting Thread
- 12" Length Standard†

Standard Dimensions

The industrial-style assemblies offer a variety of protection heads to meet the environmental and size requirements of most applications. They are available in J, K, T, E, or N calibrations, with 304 SS, 310 SS, 316 SS, 321 SS, Super OMEGA CLAD® XL, or Inconel® sheathing. Standard lengths are 12", including 1/2" for the pipe thread, with other lengths available. Both the thread on the probe and the extension-wire opening are 1/2 NPT. The NB2 and NB4 include a compression fitting nut and rubber ferrule for 1/8 to 1/4" OD wires or tubing. The internal terminal block is standard on all models.



PFA Coating Available. Consult Sales

To Order 12" Lengths				
Alloy/ANSI Color Code	Sheath Dia. (inch)	Grounded Junction	Ungrounded Junction	Exposed Junction
Iron-Constantan Inconel® Sheath J	1/16, 1/8, 3/16, 1/4	NB(*)-ICIN-116G-12 NB(*)-ICIN-18G-12 NB(*)-ICIN-316G-12 NB(*)-ICIN-14G-12	NB(*)-ICIN-116U-12 NB(*)-ICIN-18U-12 NB(*)-ICIN-316U-12 NB(*)-ICIN-14U-12	NB(*)-ICIN-116E-12 NB(*)-ICIN-18E-12 NB(*)-ICIN-316E-12 NB(*)-ICIN-14E-12
Iron-Constantan 304 SS Sheath J	1/16, 1/8, 3/16, 1/4	NB(*)-ICSS-116G-12 NB(*)-ICSS-18G-12 NB(*)-ICSS-316G-12 NB(*)-ICSS-14G-12	NB(*)-ICSS-116U-12 NB(*)-ICSS-18U-12 NB(*)-ICSS-316U-12 NB(*)-ICSS-14U-12	NB(*)-ICSS-116E-12 NB(*)-ICSS-18E-12 NB(*)-ICSS-316E-12 NB(*)-ICSS-14E-12
CHROMEALLOY®-ALOMEGA® Inconel® Sheath K	1/16, 1/8, 3/16, 1/4	NB(*)-CAIN-116G-12 NB(*)-CAIN-18G-12 NB(*)-CAIN-316G-12 NB(*)-CAIN-14G-12	NB(*)-CAIN-116U-12 NB(*)-CAIN-18U-12 NB(*)-CAIN-316U-12 NB(*)-CAIN-14U-12	NB(*)-CAIN-116E-12 NB(*)-CAIN-18E-12 NB(*)-CAIN-316E-12 NB(*)-CAIN-14E-12
CHROMEALLOY®-ALOMEGA® 304 SS Sheath K	1/16, 1/8, 3/16, 1/4	NB(*)-CASS-116G-12 NB(*)-CASS-18G-12 NB(*)-CASS-316G-12 NB(*)-CASS-14G-12	NB(*)-CASS-116U-12 NB(*)-CASS-18U-12 NB(*)-CASS-316U-12 NB(*)-CASS-14U-12	NB(*)-CASS-116E-12 NB(*)-CASS-18E-12 NB(*)-CASS-316E-12 NB(*)-CASS-14E-12
CHROMEALLOY®-Constantan Inconel® Sheath E	1/16, 1/8, 3/16, 1/4	NB(*)-CXIN-116G-12 NB(*)-CXIN-18G-12 NB(*)-CXIN-316G-12 NB(*)-CXIN-14G-12	NB(*)-CXIN-116U-12 NB(*)-CXIN-18U-12 NB(*)-CXIN-316U-12 NB(*)-CXIN-14U-12	NB(*)-CXIN-116E-12 NB(*)-CXIN-18E-12 NB(*)-CXIN-316E-12 NB(*)-CXIN-14E-12
CHROMEALLOY®-Constantan 304 SS Sheath E	1/16, 1/8, 3/16, 1/4	NB(*)-CXSS-116G-12 NB(*)-CXSS-18G-12 NB(*)-CXSS-316G-12 NB(*)-CXSS-14G-12	NB(*)-CXSS-116U-12 NB(*)-CXSS-18U-12 NB(*)-CXSS-316U-12 NB(*)-CXSS-14U-12	NB(*)-CXSS-116E-12 NB(*)-CXSS-18E-12 NB(*)-CXSS-316E-12 NB(*)-CXSS-14E-12
Copper-Constantan Inconel® Sheath T	1/16, 1/8, 3/16, 1/4	NB(*)-CPIN-116G-12 NB(*)-CPIN-18G-12 NB(*)-CPIN-316G-12 NB(*)-CPIN-14G-12	NB(*)-CPIN-116U-12 NB(*)-CPIN-18U-12 NB(*)-CPIN-316U-12 NB(*)-CPIN-14U-12	NB(*)-CPIN-116E-12 NB(*)-CPIN-18E-12 NB(*)-CPIN-316E-12 NB(*)-CPIN-14E-12
Copper-Constantan 304 SS Sheath T	1/16, 1/8, 3/16, 1/4	NB(*)-CPSS-116G-12 NB(*)-CPSS-18G-12 NB(*)-CPSS-316G-12 NB(*)-CPSS-14G-12	NB(*)-CPSS-116U-12 NB(*)-CPSS-18U-12 NB(*)-CPSS-316U-12 NB(*)-CPSS-14U-12	NB(*)-CPSS-116E-12 NB(*)-CPSS-18E-12 NB(*)-CPSS-316E-12 NB(*)-CPSS-14E-12
OMEGAALLOY®-NICROSIL-NISIL Inconel Sheath N	1/16, 1/8, 3/16, 1/4	NB(*)-NNIN-116G-12 NB(*)-NNIN-18G-12 NB(*)-NNIN-316G-12 NB(*)-NNIN-14G-12	NB(*)-NNIN-116U-12 NB(*)-NNIN-18U-12 NB(*)-NNIN-316U-12 NB(*)-NNIN-14U-12	NB(*)-NNIN-116E-12 NB(*)-NNIN-18E-12 NB(*)-NNIN-316E-12 NB(*)-NNIN-14E-12

Note: PFA coating is available, 400°F (204°C) max. † Other lengths available, consult Sales Department.
 * Insert the number "1" through "12" for NB1, NB2, NB3, NB4, NB5, NB6, NB7, NB8, NB9, NB10, NB11 or NB12 heads, respectively.
 ** For highest temperature and stability rating, change "SS" or "IN" to "XL" for additional cost.
 To order probes with lengths other than 12", change the last 2 digits of the model number from "12" to the desired length in inches, and add the appropriate price per additional foot from the last column.
 To order with 310, 316 or 321 SS sheath, change "SS" in model number to "310SS", "316SS" or "321SS", respectively, no additional charge.
 Consult Sales for lengths between 2 and 12", or for lengths over 24".

Ordering Examples: NB1-CASS-14G-12, 12" grounded 304 SS probe, Type K, 1/4" sheath diameter.
 NB2-ICSS-14U-12, 12" ungrounded 304 SS, Type J, 1/4" sheath diameter.



- ✓ NB1 Cast-Iron Protection Head with Internal Terminal Block
- ✓ NB2 Miniature Aluminum Head with Internal Terminal Block
- ✓ NB3 Aluminum Head Features Convenient Snap-Lock Design with Internal Terminal Block
- ✓ NB4 Subminiature Aluminum Head with Internal Terminal Block
- ✓ ½" BSPT Mounting Thread
- ✓ 300 mm Length Standard†

Metric Dimensions

The industrial-style assemblies offer a variety of protection heads to meet the environmental and size requirements of most applications. They are available in J, K, T, E, or N calibrations, with 304 SS, 310 SS, 316 SS, 321 SS, Super OMEGA CLAD® XL, or Inconel® sheathing. Standard lengths are 300 mm, including 12 mm for the pipe thread, with other lengths available. Both the thread on the probe and the extension-wire opening are ½" BSPT. The NB2 and NB4 include a compression fitting nut and rubber ferrule for 3.2 to 6.3 mm OD wires or tubing. The internal terminal block is standard on all models.



To Order 300 mm Lengths

Alloy/ANSI Color Code	Sheath Dia. (mm)	Grounded Junction	Ungrounded Junction	Exposed Junction
Iron-Constantan Inconel® Sheath	J 1.5 3.0 4.5 6.0	NB(*)-ICIN-M15G-300 NB(*)-ICIN-M30G-300 NB(*)-ICIN-M45G-300 NB(*)-ICIN-M60G-300	NB(*)-ICIN-M15U-300 NB(*)-ICIN-M30U-300 NB(*)-ICIN-M45U-300 NB(*)-ICIN-M60U-300	NB(*)-ICIN-M15E-300 NB(*)-ICIN-M30E-300 NB(*)-ICIN-M45E-300 NB(*)-ICIN-M60E-300
Iron-Constantan 304 SS Sheath	J 1.5 3.0 4.5 6.0	NB(*)-ICSS-M15G-300 NB(*)-ICSS-M30G-300 NB(*)-ICSS-M45G-300 NB(*)-ICSS-M60G-300	NB(*)-ICSS-M15U-300 NB(*)-ICSS-M30U-300 NB(*)-ICSS-M45U-300 NB(*)-ICSS-M60U-300	NB(*)-ICSS-M15E-300 NB(*)-ICSS-M30E-300 NB(*)-ICSS-M45E-300 NB(*)-ICSS-M60E-300
CHROMEALLOY®-ALOMEGA® Inconel® Sheath	K 1.5 3.0 4.5 6.0	NB(*)-CAIN-M15G-300 NB(*)-CAIN-M30G-300 NB(*)-CAIN-M45G-300 NB(*)-CAIN-M60G-300	NB(*)-CAIN-M15U-300 NB(*)-CAIN-M30U-300 NB(*)-CAIN-M45U-300 NB(*)-CAIN-M60U-300	NB(*)-CAIN-M15E-300 NB(*)-CAIN-M30E-300 NB(*)-CAIN-M45E-300 NB(*)-CAIN-M60E-300
CHROMEALLOY®-ALOMEGA® 304 SS Sheath	K 1.5 3.0 4.5 6.0	NB(*)-CASS-M15G-300 NB(*)-CASS-M30G-300 NB(*)-CASS-M45G-300 NB(*)-CASS-M60G-300	NB(*)-CASS-M15U-300 NB(*)-CASS-M30U-300 NB(*)-CASS-M45U-300 NB(*)-CASS-M60U-300	NB(*)-CASS-M15E-300 NB(*)-CASS-M30E-300 NB(*)-CASS-M45E-300 NB(*)-CASS-M60E-300
CHROMEALLOY®-Constantan Inconel® Sheath	E 1.5 3.0 4.5 6.0	NB(*)-CXIN-M15G-300 NB(*)-CXIN-M30G-300 NB(*)-CXIN-M45G-300 NB(*)-CXIN-M60G-300	NB(*)-CXIN-M15U-300 NB(*)-CXIN-M30U-300 NB(*)-CXIN-M45U-300 NB(*)-CXIN-M60U-300	NB(*)-CXIN-M15E-300 NB(*)-CXIN-M30E-300 NB(*)-CXIN-M45E-300 NB(*)-CXIN-M60E-300
CHROMEALLOY®-Constantan 304 SS Sheath	E 1.5 3.0 4.5 6.0	NB(*)-CXSS-M15G-300 NB(*)-CXSS-M30G-300 NB(*)-CXSS-M45G-300 NB(*)-CXSS-M60G-300	NB(*)-CXSS-M15U-300 NB(*)-CXSS-M30U-300 NB(*)-CXSS-M45U-300 NB(*)-CXSS-M60U-300	NB(*)-CXSS-M15E-300 NB(*)-CXSS-M30E-300 NB(*)-CXSS-M45E-300 NB(*)-CXSS-M60E-300
Copper-Constantan Inconel® Sheath	T 1.5 3.0 4.5 6.0	NB(*)-CPIN-M15G-300 NB(*)-CPIN-M30G-300 NB(*)-CPIN-M45G-300 NB(*)-CPIN-M60G-300	NB(*)-CPIN-M15U-300 NB(*)-CPIN-M30U-300 NB(*)-CPIN-M45U-300 NB(*)-CPIN-M60U-300	NB(*)-CPIN-M15E-300 NB(*)-CPIN-M30E-300 NB(*)-CPIN-M45E-300 NB(*)-CPIN-M60E-300
Copper-Constantan 304 SS Sheath	T 1.5 3.0 4.5 6.0	NB(*)-CPSS-M15G-300 NB(*)-CPSS-M30G-300 NB(*)-CPSS-M45G-300 NB(*)-CPSS-M60G-300	NB(*)-CPSS-M15U-300 NB(*)-CPSS-M30U-300 NB(*)-CPSS-M45U-300 NB(*)-CPSS-M60U-300	NB(*)-CPSS-M15E-300 NB(*)-CPSS-M30E-300 NB(*)-CPSS-M45E-300 NB(*)-CPSS-M60E-300
OMEGAALLOY®-NICROSIL-NISIL Inconel Sheath	N 1.5 3.0 4.5 6.0	NB(*)-NNIN-M15G-300 NB(*)-NNIN-M30G-300 NB(*)-NNIN-M45G-300 NB(*)-NNIN-M60G-300	NB(*)-NNIN-M15U-300 NB(*)-NNIN-M30U-300 NB(*)-NNIN-M45U-300 NB(*)-NNIN-M60U-300	NB(*)-NNIN-M15E-300 NB(*)-NNIN-M30E-300 NB(*)-NNIN-M45E-300 NB(*)-NNIN-M60E-300

Note: PFA coating is available, 204°C (400°F) max. † Other lengths available, consult Sales Department.

* Insert the number "1" through "12" for NB1, NB2, NB3, NB4, NB5, NB6, NB7, NB8, NB9, NB10, NB11 or NB12 heads, respectively.

** For highest temperature and stability rating, change "SS" or "IN" to "XL" for additional cost.

To order probes with lengths other than 300 mm, change the last 3 digits of the model number from "300" to the desired length in mm, and add the appropriate price per additional 300 mm from the last column. To order with 310 SS, 316 SS or 321 SS sheath, change "SS" in model number to "310SS", "316SS" or "321SS", respectively, no additional charge. Consult Sales for lengths between 50 and 300 mm or for lengths over 600 mm.

Ordering Examples: NB1-ICSS-M60G-300, 300 mm grounded 304 SS probe, Type J, 6.0 mm sheath diameter.

NB2-CASS-M60U-300, 300 mm ungrounded 304 SS, Type K, 6 mm sheath diameter.

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