

Industrial Thermocouples Protection Head Design

OMEGA®

Available as



- ✓ 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 (½")
allowance for
threads.

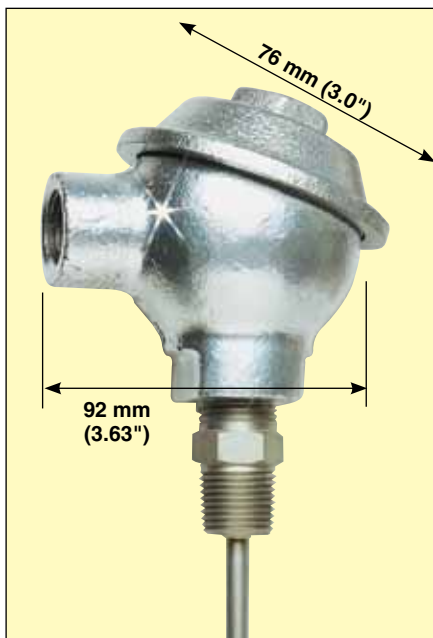
½ NPT
mounting
threads

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

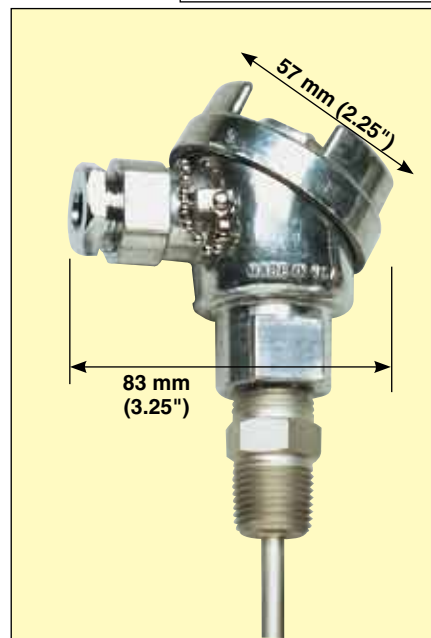
Length

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

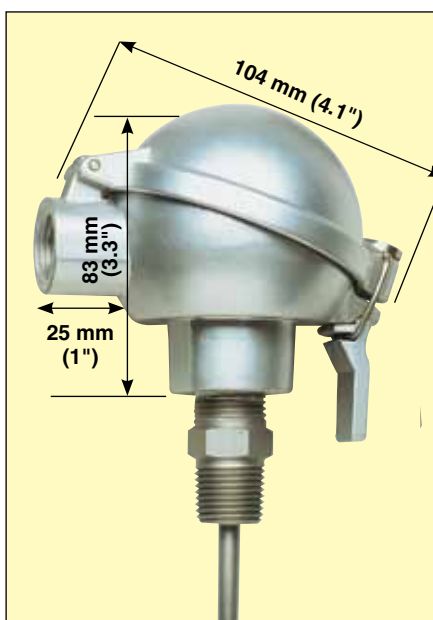
**Complete your application
with OMEGA's extension wire.**



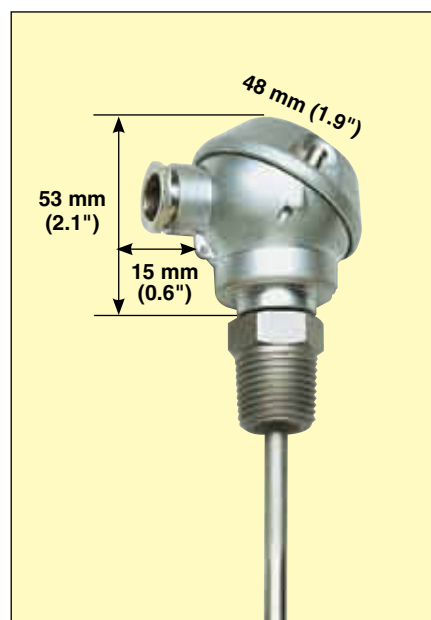
NB1, Cast Iron



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



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")



Deep Base

NB6

Material: Alloy-Aluminum

Weight: 250 g (8.8 oz)

Dimensions:

H=82 mm (3.2")

C=82 mm (3.2")



Flip Top NB7

Material: Alloy-Aluminum

Weight: 250 g (8.8 oz)

Dimensions:

H=93 mm (3.7")

C=76 mm (3")

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.

- ✓ **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 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, 316 SS, 321 SS, Super OMEGACLAD® XL, or Inconel® sheathing. Standard lengths are 12", including ½" for the pipe thread, with other lengths available. Both the thread on the probe and the extension-wire opening are ½ NPT. The NB2 and NB4 include a compression fitting nut and rubber ferrule for ⅜ to ¼" 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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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	⅛ ⅙ ⅜ ¼	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, ¼" sheath diameter.

NB2-ICSS-14U-12, 12" ungrounded 304 SS, Type J, ¼" 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 OMEGACLAD® 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
CHROMEGA®- ** 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
CHROMEGA®- ** 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
CHROMEGA®- 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
CHROMEGA®- 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.