## Super OMEGACLAD® XL **Thermocouple Probes**



An Exclusive

OMEGA

Manufactured

Innovation

## A Technological Advance in Temperature Measurement

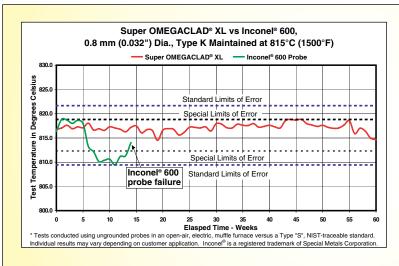


KQXL-18U-12, shown smaller than actual size.

- ✓ Thermocouple Technology from OMEGA for K and N Calibrations Only
- ✓ Super Stable Temperature Drift— Less than 2.8°C in 25 weeks
- Better Performance at a Smaller Size—0.8 mm Probe Withstands 815°C (1500°F) for 3 Years
- ✓ Probe Life Expectancy up to 10 Times **Greater than Competing Devices\***
- ✓ Handles Temperatures Up to 1335°C (2400°F)

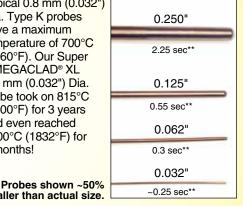
OMEGA brings you the Super OMEGACLAD® XL Thermocouple

Probe family, the exclusive innovation in thermocouple technology. Manufactured using state-of-the-art processes for mineral insulated (MI) thermocouple cable and finished thermocouple probe assemblies, these temperature sensors maximize performance, even at extremely small diameters. The devices resist carburization, oxidation, and chlorination in tough environments.



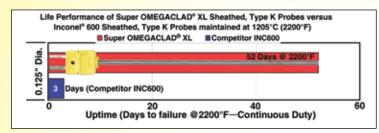
#### Small Size, Big Performance!

Typical 0.8 mm (0.032") Dia. Type K probes have a maximum temperature of 700°C (1260°F). Our Super **OMEGÁCLAD® XL** 0.8 mm (0.032") Dia. probe took on 815°C (1500°F) for 3 years and even reached 1000°C (1832°F) for 2 months!



smaller than actual size.

\*\* Approx. response time—ungrounded in water



#### 1204°C (2200°F) replace 17 of theirs in 52 days or just one of ours!

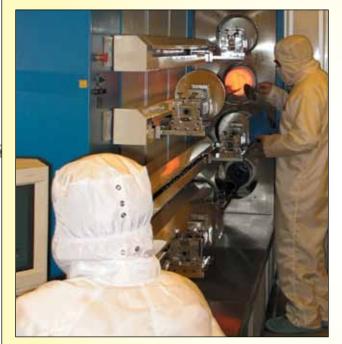
In life-cycle lab testing, the OMEGACLAD® XL sheathed, 0.125" Type K Probe operated continuously for 52 days at 1204°C (2200°F) while competitors' 0.125" Inconel® 600 sheathed, Type K probes lasted 3 days.+

†Results will vary on application and operating environment.

#### Long Life, Low Maintenance!

If your application operates at the punishing temperature of nearly 1204°C (2200°F), changing out failed thermocouples costs money in excessive maintenance, slows or cuts production, and can cause inconsistent product quality.

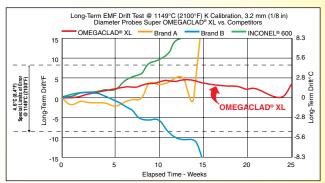
In head-to-head tests, Super OMEGACLAD® XL Thermocouple probes consistently post the best performance results. Our innovative temperature sensors last upwards of 10 times or longer when compared to competitors' Inconel® 600 sheathed probes of equal or larger diameters. Let OMEGA's leading edge products help engineer your next innovation!



OMEGA's products making OMEGA's products. OMEGA uses Super OMEGACLAD® XL thermocouple probes in its Class 10 clean rooms to monitor critical process temperatures and achieve consistent, high-quality products.

#### Low Drift, Reliable Temperatures!

Super OMEGACLAD® XL's low-drift characteristic ensures reliability of temperature readings longer than any other brand or sheath material. Within 15 weeks, Brands A, B, and C exhibited more than 8.3°C drift. At 25 weeks, OMEGACLAD® XL's drift was less than 2.8°C.\*

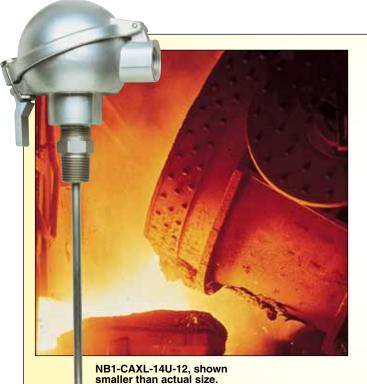


\* Tests conducted using ungrounded probes in an open-air, electric, muffle furnace versus a Type "S", NIST-traceable standard. Individual results may vary depending on customer application. Inconel® is a registered trademark of Special Metals Corporation.

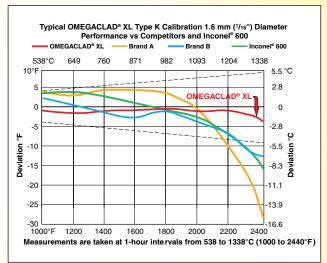


Look for this logo to identify probes available in Super OMEGACLAD® XL sheathed thermocouple wire and probes TJ36-CAXL-18U-12, shown smaller than actual size. Visit omega.com for OMEGA's Super OMEGACLAD® XL probe offerings.





### Take on High Temperatures!

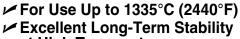


In tests up to 1335°C (2400°F), Super OMEGACLAD® XL outperformed both the Inconel® 600 and other competing high-temperature models.

## Very Low Drift at High Temperatures

Super Accurate, Super Stable, Super Value—Standard Dimensions





at High Temperatures







<b>To Order</b> Visit omega.com/kmqxl_nmqxl for Pricing and Details		
ANSI Color Code/Alloy	Sheath Dia. inches	Model Number ANSI Color Code
MOLDED STANDARD CONNECTO	OR	
CHROMEGA®-ALOMEGA® XL Sheath	1/16" 1/8" 3/16" 1 <u>/4</u> "	KQXL-116[*] KQXL-18[*] KQXL-316[*] KQXL-14[*]
OMEGA-P®-OMEGA-N® XL Sheath	74 1/16" 1/8" 3/16" 1/4"	NQXL-14 *] NQXL-116[*] NQXL-18[*] NQXL-316[*] NQXL-14 *]
MINIATURE CONNECTOR	, ·	
CHROMEGA®-ALOMEGA® XL Sheath	0.010" 0.020" 0.032" 0.040" 0.062" 0.125"	KMQXL-010[*] KMQXL-020[*] KMQXL-032[*] KMQXL-040[*] KMQXL-062[*] KMQXL-125[*]
OMEGA-P®-OMEGA-N® XL Sheath	0.020" 0.032" 0.040" 0.062" 0.125"	NMQXL-020[+] NMQXL-032[+] NMQXL-040[+] NMQXL-062[+] NMQXL125[+]

Heavy-duty style

#### Standard Dimension—Transition Junction Probes

Miniature style

<b>To Order</b> Visit omega.com/kmqxl_nmqxl for Pricing and Details		
ANSI Color Code/Alloy Sheath Dia. inches		Model Number ANSI Color Code
<b>HEAVY DUTY TRANSITION JUNC</b>	TION PROBE	
CHROMEGA®-ALOMEGA® XL Sheath	1/16" 1/8" 3/16" 1/4" 5/16" 3/8"	TJ36-CAXL-116[*]-[**] TJ36-CAXL-18[*]-[**] TJ36-CAXL-316[*]-[**] TJ36-CAXL-14[*]-[**] TJ36-CAXL-516[*]-[**] TJ36-CAXL-58[*]-[**]
N OMEGA-P®-OMEGA-N® XL Sheath	78 1/16" 1/8" 3/16" 1/4" 5/16" 3/8"	TJ36-NNXL-116[*]-[**]  TJ36-NNXL-18[*]-[**]  TJ36-NNXL-316[*]-[**]  TJ36-NNXL-14[*]-[**]  TJ36-NNXL-516[*]-[**]  TJ36-NNXL-38[*]-[**]
MINIATURE TRANSITION JUNC	TION PROBE	
CHROMEGA®-ALOMEGA® XL Sheath	0.010" 0.020" 0.032" 0.040" 0.062" 0.125"	KMTXL-010[*]-[**] KMTXL-020[*]-[**] KMTXL-032[*]-[**] KMTXL-040[*]-[**] KMTXL-062[*]-[**] KMTXL-125[*]-[**]
OMEGA-P®-OMEGA-N® XL Sheath	0.020" 0.032" 0.040" 0.062" 0.125"	NMTXL-020[*]-[**] NMTXL-032[*]-[**] NMTXL-040[*]-[**] NMTXL-062[*]-[**] NMTXL-125[*]-[**]

for more details. Miniature size

**Dual Elements** 

The probes shown on this page are also available in our dual element configuration. Please contact the Sales Department at 1-800-TC-OMEGA

**Both models** include mating connector and cable clamp

**Products shown** smaller than actual size.

> Standard size

Note: Probes with 0.032" diameter and larger are supplied with molded transition joints. Smaller-sized probes are supplied with stainless steel transition joints. Stripped leads standard.

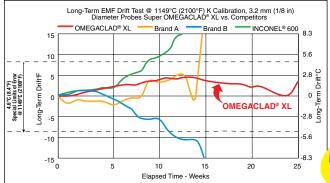
[\*]Specify junction type: "G" (Grounded), "E" (Exposed) or "U" (Ungrounded). [\*\*]Specify length in inches: "6", "12", "18" or "24".

For a male straight M8 plug add "M8-S-M" to the model number and additional cost to the price, for a male straight M12 plug add "M12-S-M" to the model number and additional cost to the price. For a male right-angled M8 plug add "M8-R-M" to the model number and additional cost to the price, for a male right-angled M12 plug add "M12-S-M" to the model number and additional cost to the price.

Ordering Example for Quick-Connect Probes: KQXL-18U-12, molded quick-connect probe, Type K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, ½ "OD, ungrounded junction, 12". Ordering Example for Transition Junction Probes: TJ36-CAXL-14G-12, heavy-duty transition junction probe, Type K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, ¼" OD, grounded junction, 12".

### **Available in Most Thermocouple Probe** Styles and Designs with Standard Dimensions





✓ Standard- and Miniature-Size Quick-Connect and Molded Transition Junction Probes

✓ Rugged Industrial Head Styles, Replacement Probes, and Utility Handle Probes

✓ All Standard Lengths Available—6, 12, 18, and 24"

For Models With Metric Dimensions, See Next Pages

> **NB1 Style** Shown

**All Industrial Head Probe Styles Are Available** in Super Omegaclad® XL Design! Visit omega.com for Details.

**Standard Dimension—Industrial Head Probe** Assemblies and Replacement Probes

To Order Visit omega.com/kmaxl nmaxl for Pricing and Details

10 Oldor Visit officgation willing xi for i from g and Details		
ANSI Color Code/Alloy	Sheath Dia. inches	Model Number ANSI Color Code
CHROMEGA®-ALOMEGA® XL Sheath	1/16" 1/8" 3/6" 1/4" 5/16" 3/8"	NB(*)-CAXL-116[*]-[**] NB(*)-CAXL-18[*]-[**] NB(*)-CAXL-316[*]-[**] NB(*)-CAXL-14[*]-[**] NB(*)-CAXL-516[*]-[**] NB(*)-CAXL-38[*]-[**]
OMEGA-P®-OMEGA-N® XL Sheath	1/16" 1/8" 3/16" 1/4" 5/16" 3/8"	NB(*)-NNXL-116[*]-[**] NB(*)-NNXL-18[*]-[**] NB(*)-NNXL-316[*]-[**] NB(*)-NNXL-14[*]-[**] NB(*)-NNXL-516[*]-[**] NB(*)-NNXL-38[*]-[**]

(\*) Specify head style from pages A-131 to A-136: **1** (NB1), **2** (NB2), **3** (NB3), **4** (NB4), **5** (NB5), **6** (NB6), **7** (NB7), **8** (NB8), **9** (NB9), **10** (NB10), **11** (NB11), **12** (NB12). **Note:** NB4, 8, 10, 11 not offered with %" Dia. probes [\*] Specify junction type: **G** (Grounded), **E** (Exposed), **U** (Ungrounded) or **S** (Surface).

[\*]Specify length in inches: 6, 12, 18 or 24.
Spring loaded designs available, add "-SL" to the model number, no additional charge.
Ordering Example: NB1-CAXL-14G-12, industrial head probe, NB1-style head, Type K
(CHROMEGA®-ALOMEGA®) SUPER OMEGACLAD® XL sheath, (½") OD, grounded junction, 12" length.

To order a replacement probe for a head assembly, add "-RP" to the part number and subtract from the price above. Ordering Example: NB1-CAXL-14G-12-RP, industrial head replacement probe, for NB1-style head assembly, Type K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, ¼" OD, grounded junction, 12" length.

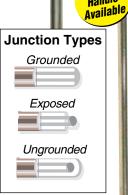
### Standard Dimension—Utility Handle Probes

otandara Binicholon Gunty Handle Frobes			
To Order Visit omega.com/kmqxl_nmqxl for Pricing and Details			
ANSI Color Code/Alloy	Sheath Dia. inches	Model Number ANSI Color Code	
CHROMEGA®-ALOMEGA® XL Sheath	1/16" 1/6" 3/16" 1/4" 5/16" 3/8"	KHXL-116[*]-RSC-[**] KHXL-18[*]-RSC-[**] KHXL-316[*]-RSC-[**] KHXL-14[*]-RSC-[**] +KHXL-516[*]-RSC-[**] +KHXL-38[*]-RSC-[**]	
OMEGA-P®-OMEGA-N® XL Sheath	1/16" 1/8" 3/16" 1/4" 5/16" 3/8"	NHXL-116[*]-RSC-[**] NHXL-18[*]-RSC-[**] NHXL-316[*]-RSC-[**] NHXL-14[*]-RSC-[**] +NHXL-516[*]-RSC-[**] +NHXL-38[*]-RSC-[**]	

[\*] Specify junction type: **G** (Grounded), **E** (Exposed), **U** (Ungrounded) or **S** (Surface). [\*\*] Specify length in inches: **6**, **12**, **18** or **24** For a male straight M8 plug add "M8-S-M" to the model number and additional cost to the price, for a male straight M12 plug add "M12-S-M" to the model number and additional cost to the price. For a male right-angled M8 plug add "M8-R-M" to the model number and additional cost to the price. For a male right-angled M12 plug add "M12-S-M" to the model number and additional cost to the price. [\*\*] Specify length in inches: 6, 12, 18 or 24. Ordering Example: KHXL-14G-RSC-12, utility handle probe, Type K (CHROMEGA®-, ALOMEGA®), SUPER OMEGACLAD® XL sheath,

 $^{1/4}$ " OD, grounded junction, 12" length, supplied with a miniature connector (SMP) termination.

†Please Note: These diameters will be manually assembled, not molded.



Custom **Handle** 

**Products** shown smaller than

> actual size.

## Very Low Drift at High Temperatures

Super Accurate, Super Stable, Super Value—Metric Dimensions





Excellent Long-Term Stability at High Temperatures

✓ Larger Diameter Available (Consult Sales)

**Metric Dimension—Quick-Connect Probes** 

Metric Dimension—Transition Junction Probes

ANSI Color Code/Alloy

OMEGA-P®-OMEGA-N®

OMEGA-r XL Sheath



Miniature style

KMTXL-M300[\*]-[\*\*]

NMTXL-M050[\*]-[\*\*] NMTXL-M075[\*]-[\*\*]

NMTXL-M100[\*]-[\*\*] NMTXL-M150[\*]-[\*\*]

NMTXL-M300[\*]-[\*\*]

**Model Number ANSI Color Code** 



To Order Visit omega.com/kmqxl_nmqxl for Pricing and Details				
ANSI Color Code/Alloy	Sheath Dia. mm	Model Number ANSI Color Code		
MOLDED STANDARD CONNEC	MOLDED STANDARD CONNECTOR			
	1.5	KQXL-M15[*]		
CHROMEGA®-ALOMEGA®	3.0	KQXL-M30[∗]		
XL Sheath	4.5	KQXL-M45[*]		
	6.0	KQXL-M60[*]		
	1.5	NQXL-M15[*]		
OMEGA-P®-OMEGA-N®	3.0	NQXL-M30[*]		
XL Sheath	4.5	NQXL-M45[*]		
	6.0	NQXL-M60[*]		
MINIATURE CONNECTOR				
	0.25	KMQXL-M025[*]		
0.1501.501.01.501.0	0.5	KMQXL-M050[*]		
CHROMEGA®-ALOMEGA®	0.75	KMQXL-M075[*]		
XL Sheath	1.0	KMQXL-M100[*]		
	1.5	KMQXL-M150[*]		
	3.0	KMQXL-M300[*]		
	0.5	NMQXL-M050[*]		
OMEGA-P®-OMEGA-N®	0.75	NMQXL-M075[*]		
XL Sheath	1.0	NMQXL-M100[*]		
	1.5	NMQXL-M150[*]		
	3.0	NMQXL-M300[*]		

Heavy-duty style



The probes shown on this page are also available in our dual element configuration. Please contact the Sales Department at 1-800-TC-OMEGA for more details.

Miniature size

Both models include mating connector with cable clamp

Shown smaller than actual size.

Standard size

HEAVY-DUTY TRANSITION JUNCTION PROBE			
	1.5	TJ36-CAXL-M15[*]-[**]	
	3.0	TJ36-CAXL-M30[*]-[**]	
CHROMEGA®-ALOMEGA®	4.5	TJ36-CAXL-M45[*]-[**]	
XL Sheath	6.0	TJ36-CAXL-M60[*]-[**]	
	8.0	TJ36-CAXL-M80[*]-[**]	
	9.5	TJ36-CAXL-M95[*]-[**]	
	1.5	TJ36-NNXL-M15[*]-[**]	
	3.0	TJ36-NNXL-M30[*]-[**]	
N □ OMEGA-P®-OMEGA-N®	4.5	TJ36-NNXL-M45[*]-[**]	
V XL Sheath	6.0	TJ36-NNXL-M60[*]-[**]	
	8.0	TJ36-NNXL-M80[*]-[**]	
	9.5	TJ36-NNXL-M95[*]-[**]	
MINIATURE TRANSITION JUNCTION PROBE			
	0.25	KMTXL-M025[*]-[**]	
	0.5	KMTXL-M050[*]-[**]	
CHROMEGA®-ALOMEGA®	0.75	KMTXL-M075[*]-[**]	
XL Sheath	1.0	KMTXL-M100[*]-[**]	
	1.5	KMTXL-M150[*]-[**]	

To Order Visit omega.com/kmgxl nmgxl for Pricing and Details

Sheath Dia. mm

**Note:** Probes with 0.75 mm diameter and larger are supplied with molded transition joints. Smaller-sized probes are supplied with stainless steel transition joints. Stripped leads standard.

0.5

0.75

1.0 1.5

3.0

[\*]Specify junction type: "G" (Grounded), "E" (Exposed) or "U" (Ungrounded) [\*\*]Specify length in millimeters: "150" mm, "300" mm, "450" mm, or "600" mm.

For a male straight M8 plug add "M8-S-M" to the model number and additional cost to the price, for a male straight M12 plug add "M12-S-M" to the model number and additional cost to the price. For a male right-angled M8 plug add "M8-R-M" to the model number and additional cost to the price, for a male right-angled M12 plug add "M12-S-M" to the model number and additional cost to the price.

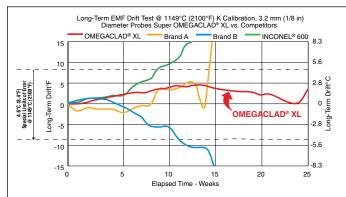
Ordering Example for Quick-Connect Probes: KQXL-M30U-300, molded quick connect probe, Type K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, 3 mm OD, ungrounded junction, 300 mm length.

Ordering Example for Transition Junction Probes: TJ36-CAXL-M60G-300, heavy-duty transition junction probe, Type K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, 6 mm OD, grounded junction, 300 mm length.

A-47

## **Available in Most Thermocouple Probe** Styles and Designs with Metric Dimensions





**Metric Dimension—Industrial Head Probe** Assemblies and Replacement Probes

Standard- and Miniature-Size Quick-Connect and Molded Transition Junction Probes

Rugged Industrial Head Styles, Replacement Probes, and Utility Handle Probes

All Standard Lengths Available-150, 300, 450 and 600 mm

with Standard Dimensions, See Pages 45 and A-46.

All Industrial Head in Super Omegaclad® XL Design! Visit omega.com for Details.

**Probe Styles Are Available** 

**NB1 Style** Shown

To Order Visit omega.com/kmgxl nmgxl for Pricing and Details

ANS	I Color Code/Alloy	Sheath Dia. mm	Model Number ANSI Color Code
K	CHROMEGA®-ALOMEGA® XL Sheath	1.5 3.0 4.5 6.0 8.0 9.5	NB(*)-CAXL-M15[*]-[**] NB(*)-CAXL-M30[*]-[**] NB(*)-CAXL-M45[*]-[**] NB(*)-CAXL-M60[*]-[**] NB(*)-CAXL-M80[*]-[**] NB(*)-CAXL-M95[*]-[**]
N	OMEGA-P®-OMEGA-N® XL Sheath	1.5 3.0 4.5 6.0 8.0 9.5	NB(*)-NNXL-M15[*]-[**] NB(*)-NNXL-M30[*]-[**] NB(*)-NNXL-M45[*]-[**] NB(*)-NNXL-M60[*]-[**] NB(*)-NNXL-M80[*]-[**] NB(*)-NNXL-M95[*]-[**]

(\*)Specify head style from pages A-131 to A-136: 1 (NB1), 2 (NB2), 3 (NB3), 4 (NB4), 5 (NB5), 6 (NB6), 7 (NB7), 8 (NB8), 9 (NB9), 10 (NB10), 11 (NB11), 12 (NB12). Note: NB4, 8, 10, 11 not offered with 9.5 mm diameter probes.

[\*]Specify junction type: G (Grounded), E (Exposed), U (Ungrounded) or S (Surface).

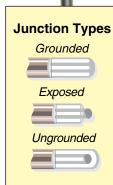
[\*\*]Specify length in millimeters: 150 mm, 300 mm, 450 mm or 600 mm.

Ordering Example: NB1-CAXL-M60G-300 industrial head probe, NB1-style head, Type K (CHROMEGA®-ALOMEGA®)

SUPER OMEGACLAD® XL sheath, 6 mm OD, grounded junction, 300 mm length.
To order a replacement probe for a head assembly, add "-RP" to the part number and subtract from the price above. Ordering Example: NB1-CAXL-M60G-300-RP, industrial head replacement probe, for NB1-style head assembly, K (CHROMEGA®-ALOMEGA®), SUPER OMEGACLAD® XL sheath, 6 mm OD, grounded junction, 300 mm length.

**Metric Dimension—Utility Handle Probes** 

To Order Visit omega.com/kmqxl_nmqxl for Pricing and Details		
ANSI Color Code/Alloy	Sheath Dia. mm	Model Number ANSI Color Code
CHROMEGA®-ALOMEGA® XL Sheath	1.5 3.0 4.5 6.0 8.0 9.5	KHXL-M15[*]-RSC-[**] KHXL-M30[*]-RSC-[**] KHXL-M45[*]-RSC-[**] KHXL-M60[*]-RSC-[**] +KHXL-M80[*]-RSC-[**] +KHXL-M80[*]-RSC-[**]
OMEGA-P®-OMEGA-N® XL Sheath	1.5 3.0 4.5 6.0 8.0 9.5	NHXL-M15[*]-RSC-[**] NHXL-M30[*]-RSC-[**] NHXL-M45[*]-RSC-[**] NHXL-M60[*]-RSC-[**] +NHXL-M80[*]-RSC-[**] +NHXL-M95[*]-RSC-[**]



**Products** shown smaller than actual

[\*]Specify junction type: **G** (Grounded), **E** (Exposed), **U** (Ungrounded) or **S** (Surface). [\*\*]Specify length in millimeters: **150** mm, **300** mm, **450** mm, or **600** mm. Order standard part number with a suffix "-**PFA**". Visit omega.com for additional price on 300 mm (12") probes, 450 mm (18") probes and 600 mm (24") probes. 200°C (400°F) max. **Note:** These diameters will be assembled manually, not molded. For a male straight M8 plug add "**M8-S-M**" to the model number and additional cost to the price, for a male straight M12 plug add "**M12-S-M**" to the model number and additional cost to the price. For a male right-angled M8 plug add "**M8-R-M**" to the model number and additional cost to the price.

Ordering Example: KHXL-M60G-RSC-300, utility handle probe, Type K (CHROMEGA®-, ALOMEGA®), SUPER OMEGACLAD® XL sheath, 6 mm OD, grounded junction, 300 mm length, supplied with a miniature connector (SMP) termination.

### **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

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