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Since 1943, customer satisfaction has been our number one goal. By purchasing an EDL product, you are ensuring longevity and accuracy of your equipment, while minimizing costly downtimes associated with faulty equipment.

Solve your manufacturing dilemma

Our advisors are proven problem solvers with practical hands-on knowledge and technical expertise. Let us recommend the best product for you. Don't see what you need? We will engineer a solution based on your specific needs.

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EDL combines technical expertise with a broad selection of products to ensure you're getting the right product. Once EDL has provided a custom solution to fit your needs, our support staff remains available for ongoing assistance.

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All of our products are hand crafted by skilled toolmen and engineers here in the USA. We are The Temperature People® and we will supply you with the best solution for your manufacturing quandary.



The Temperature People®

EDL is known for prompt service, superior quality and competitive pricing. Call The Temperature People® or visit our website to learn more about EDL's innovative temperature measuring equipment, calibration product line, and Fire Service/Burn Building Products.

For more information on any of the products listed in this catalog, or if you are looking for a product not listed here, call us at 800.342.5335 or email sales@edl-inc.com.

We sell nationally and internationally.

Products

Thermocouples, RTDs, Thermistors, full range of Precision Handheld Pyrometers and Accessories, Temperature Controllers, Wire and Shielding, Metrology Instrumentation, Data Loggers, Complete Temperature Kits, and much more. All hand crafted in the USA.

Product Engineering Services

EDL's headquarters is home to an advanced laboratory where experienced engineers are ready to provide you with quality products and services that will exceed your expectations. Our temperature measurement experts are here to give you advice for those seemingly unsolvable problems.

Calibration Services

Our metrology lab will help you meet your quality control requirements by offering calibration services traceable to The International Temperature Scale (ITS90) and The National Institute of Standards and Technology (NIST).

Instrument Repair

EDL's repair department will help you cut costs and extend the life of your equipment. Call **1.800.342.5335** or email us at **repairs@edl-inc.com**.

Custom Services

If you have an idea of what you need and you do not see it in our catalog, contact our sales department and we will produce the product you need. Whenever needed, we design and manufacture products based on your exact specifications. If you describe your application we will supply a solution.

Assured Quality Sensors

EDL assured quality sensors are robust in design and feature high accuracy with remarkable reliability. Unlike other companies, EDL does not mass-produce sensors. EDL's sensors are hand-crafted with meticulous care given to the technical considerations that are so often overlooked. Our exceptional sensors still maintain competitive pricing. EDL's goal is to produce the finest product that money can buy. Our assured quality sensors guarantee you will be satisfied with their performance and overall quality.

Contact EDL for all of your temperature service needs:

1.800.342.5335
sales@edl-inc.com

You'll always speak to an EDL employee whenever you call.

Industries Served

- Power & Energy
- Laboratory
- Oil, Gas, Petrochemical
- Pharmaceutical
- Chemical
- Pulp & Paper
- Plastics
- Food & Beverage
- Metal & Mining
- Medicine
- R & D
- Construction
- & Many More...



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Ordering Information

Part numbers are shown throughout the catalog in charts with the letters or numbers **bold and highlighted in red**. Please read from left to right within the columns to create the part number. See example below.

For questions & ordering information
1.800.342.3553
 (All prices are subject to change)

Example Part #:
 (see highlighted red letters on chart)

RL-	06	K	M
Type	Temperature	T/C	Termination
TYPE	TEMPERATURE	T/C	TERMINATION
RL - Roller Leaf	06 = 315 °C (600 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug U = Unterminated

Example Part # Chart

Payments:

All shipments outside of the territorial limits of the United States of America must be prepaid. All payments must be made by USD to a US bank by credit card or electronic funds and wire transfers.

Terms of Payment:

Upon approval, terms are Net 30 days, unless otherwise specified on the invoice and agreed to in writing. Terms are shown on the face of the quotation or acknowledgement. Accounts not paid in accordance with the specified terms will be charged interest at the rate of 1.5% per month beginning 15 days past the due date.

All conditions of acceptance shown on the quotation or acknowledgement apply. If a return is necessary, a return authorization number is required; please call to obtain. For repairs, no RMA is necessary.

A copy of the order will be issued to you. Always check the accuracy of the items listed on your order to ensure of proper merchandise shipments. Notify EDL of any changes immediately.

Delivery:

All stated delivery dates are estimated to the best of our ability and done in good faith, but cannot be guaranteed. Once the merchandise has left our premises, EDL cannot be responsible for delays in shipments from the carriers.

Shipments:

All merchandise is shipped FOB Danville, VA including cost of insurance unless otherwise agreed upon, in writing, prior to shipment.

Taxes & Tariffs:

Any sales, excise, use taxes and other taxes or other governmental charges upon production, sale, and/or shipments of the goods sold hereunder, now imposed by any government authority or thereafter becoming effective, shall be paid by the purchaser, to the proper authority. All shipments to NY or VA will have sales tax added to the order unless an exemption certificate is provided.

Conditional Pricing:

Orders will be accepted and billed at the price quoted. Quotations not accepted within specified time-frame may be subject to change without notice. Unit prices apply only to the specific quantity and delivery schedule quoted. Any variations in quantity specified and/ or rate of delivery may necessitate a revision in unit and price.

Errors in Price:

Prices quoted shall be subject to correction due to typographical or clerical errors.

Cancellation:

Orders are not subject to cancellation except with our written consent and only upon terms which will indemnify us for any and all loss or damage. A minimum restocking charge of 20% will be deducted from all credits issued for merchandise accepted for return depending on the condition and age of item(s) returned.

Claims:

All claims for shortage, damage or material defects, must be made in writing, within 10 days from the date of receipt of merchandise. Otherwise the claim will be forfeited. All claims must specify our invoice or sales order number and date. No merchandise may be returned without our written permission or verbal authorization, and must be given an (RMA) return authorization number. Under no circumstances shall we be liable for consequential damages.

Tooling:

In accordance with the customs of the trade, all tooling, schematics, and prototypes manufactured to customer specifications are the sole property of EDL unless agreed upon in writing and paid for by the purchaser.

Purchase Orders:

Any terms or conditions of any customer's order or other document which is in addition to or inconsistent with our company's terms and conditions hereof, shall not be binding on our company and shall not apply to the sale.

Purchase Order Changes:

Changes, arrangements or understandings not written into the quotation or acknowledgement shall not be binding to EDL and will not apply to the original sale.

Blanket Orders:

12 months only! Non-cancellable. Non-returnable. Set release dates & quantities are required. Customer subject to all attorney & collection fees.

Notification:

The terms and conditions shall govern all orders filled pursuant to the quotation or acknowledgement unless the customer notifies EDL in writing to the contrary, upon the acceptance of the quotation or acknowledgement.

Routing:

Routing may be changed due to weight or size limitations and where experience dictates that the best interest of the customer is served in having the shipment arrive in good condition. FedEx is the standard carrier for EDL shipments and will be used unless another carrier is specified at time of order.

Payments:

If, in the judgment of EDL, the financial condition of the purchaser at any time does not justify continuance of production or shipment on the terms of payment specified, EDL may require full or partial payment in advance.

Customer's Property:

Customer's property retained in our plant is exclusively for the customer's account and at the customer's risk. Any property not claimed within 60 days becomes the property of EDL.

Labor Standards:

EDL certifies that all merchandise produced is in compliance with all applicable requirements of sections 6, 7, and 12 of the Fair Labor Standards Act as amended and of regulations and orders of the United States Department of Labor issued under section 14, thereof. EDL is an equal opportunity employer in compliance with Executive Order no. 11246 as amended.

If you have additional questions please contact us at 1.800.342.5335 or email: sales@edl-inc.com.

LEAD TYPES & TERMINATION

CODE

DEFINITION

Standard Cable



O

Standard Cable offers excellent protection of thermocouples and RTDs. Maintains durability and flexibility in industrial applications.

Spring Armored Cable



N

Spring Armored Cable is 0.250" diameter over fused Teflon®stranded and twisted singles with reinforced Mini-plug and strain relief. Available for thermocouple sensors.

Spiral Lock Armor Cable



1

Spiral Lock Armor Cable is a 3/16" Stainless Steel shielding ideal for general protection as well as RFI and EMI shielding for thermocouples and RTDs.

PVC Coil Cord w/Mini-plug



C

PVC coil cord with Mini-plug is durable and extends to 5'. Ideal for use with temperature sensors for digital instruments.

Extender Leads



L

Extender Leads are used to increase sensor lead length. They are available in any length and termination.

Mini-Plug



M

Our Mini-plugs are available in any thermocouple type and low and high temperature configuration to suit any application.

DRT Plug



R

R-Style sensor tips are designed for use with the HDRT Holder. For both analog and digital instruments.

Phono Plug



P

The Phonoplug is designed for use with our NMP Pocket-Probe Series Analog Pyrometers.

Standard Plug



L

Our standard plugs are available in low and high temperature versions to suit any application.

BET Plug



E

E-Style sensor tips are designed for use with the HBET Holder. Available for digital instruments.






Spade Lugs



A

Spade Lug Connectors are non-insulated connectors designed to take the heat in any application for any analog instrument using screw terminals.

BASE THERMOCOUPLE METALS

THERMOCOUPLE TYPE	COMPOSING MATERIALS	BODY COLOR	TEMPERATURE RANGE
K	Chromel vs. Alumel	 Yellow	-270 ° to 1372 °C (-450 ° to 2500 °F)
J	Iron vs. Constantan	 Black	-210 ° to 1200 °C (-350 ° to 2192 °F)
E	Chromel vs. Constantan	 Purple	-270 ° to 1000 °C (-454 ° to 1832 °F)
T	Copper vs. Constantan	 Blue	-270 ° to 400 °C (-454 ° to 752 °F)
N	Nicrosil vs. Nisil	 Orange	-270 ° to 1300 °C (-454 ° to 2372 °F)

EDL's Interchangeable Sensor System is a low cost alternative to our standard sensors with leads. The BET and DRT systems are ideal for rough industrial applications. If a sensor breaks, only the interchangeable thermocouple tip needs to be replaced - saving you time and money.

The Stainless Steel handles are polarized to accommodate different thermocouple types, and each handle comes standard with a 32" lead with Stainless Steel overbraid.

Sensors available for the BET sensor system are designated as "E" under the individual sensor terminations (plugs directly into instrument or can be used with an HBET holder or Extender Lead shown below).

Sensors for the RT system designated as "R" must be used with an HDRT holder.

Holds "E" Series Sensors

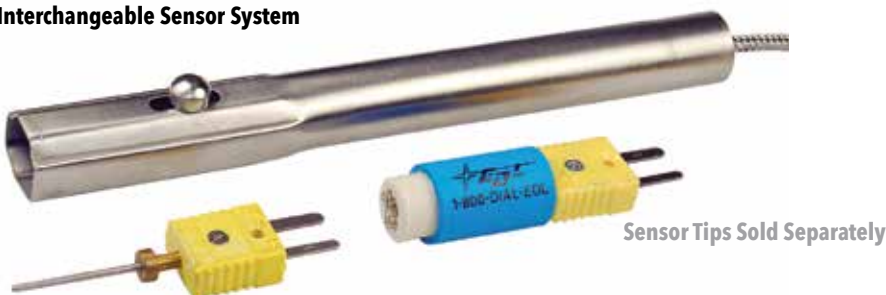
The "E" Series plugs directly into the instrument and allows various sizes and types of sensors of the same thermocouple type to be used. Look for "E" in the ordering charts, under the termination column to see if it is available in the sensor that is being ordered.

When a lead is required, use an HBET Holder, extender lead, or the sensor can be used alone, plugged directly into the instrument. *For use with digital instruments only.*



SPECIFICATIONS	
HBET Holder	6" long x 0.625" diameter Stainless Steel (18" available)
HDRT Holder	3" long x 0.625" diameter Stainless Steel
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulator & twisted with overbraid
Accuracy	Governed by T/C type
Response Time	Governed by T/C type

HBET Interchangeable Sensor System



Sensor Tips Sold Separately

HBET holders are only compatible with digital instruments. Holds "E" series sensors with a Mini-plug termination.

Also available with 18" Handle for Extended Safety Reach!
HBET-KM-18 or HBET-JM-18 Below

MODEL	T/C	TERMINATION	LENGTH
HBET Holder	E	M = Mini-plug (Digital) C = Coilcord w/ Mini-plug	6"
	J K *T		18"

* Max. Temperature for T is 400 °C. For 18" Length add -18 to base part number.

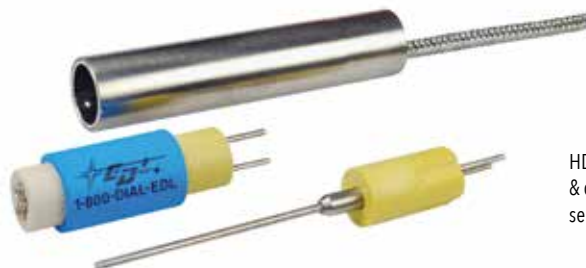
HDRT Interchangeable Sensor System

Holds "R" Series Sensors

The "R" Series allows various sizes and types of sensors of the same thermocouple type to be used with one HDRT Holder. Look for "R" in the ordering charts, under the termination column to see if it is available in the sensor that is being ordered.

Must use with HDRT holder only.

For use with analog & digital instruments.



Sensor Tips Sold Separately

HDRT holders are compatible with both analog & digital instruments. Holds "R" Series sensors and uses a DRT termination.

Order Information - Refer to page 2 for ordering instructions.

NEED A LONGER LEAD?
Check out our extender leads on page 31.

* Max. Temperature for T is 400 °C.

* Sensor tips are sold separately.

MODEL	TEMPERATURE	T/C	TERMINATION
HDRT Holder	Governed by T/C type (works with "R" termination for sensors)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog)

Surface Sensors (SS) are designed for measuring all flat, smooth surfaces. These sensors deliver extremely fast response times. Straight Surface Sensors are the most popular Surface Sensors available. Their construction consists of a self-aligning 2-coil thermocouple mounted in a ceramic head.

The ceramic head is cemented into a 2 1/2" Aluminum handle, with a removable 3" plastic extension handle. These sensors are capable of operation up to 650 °C (1200 °F). Surface Sensors are ideal for use in plastics and glass processing as well as numerous other industrial processing applications. All EDL Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SS- Straight SS45- 45° Angle SS90- 90° Angle	12 = 650 °C (1200 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated E = Mini-plug (no lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
	15 = 815 °C (1500 °F)		

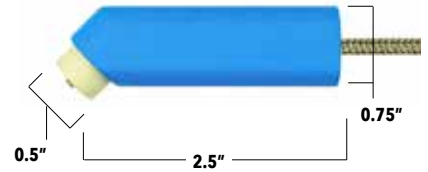
* Max. Temperature for T is 400 °C. * Reference version available with certificate

SPECIFICATIONS	
Sensing Tip	0.5" diameter ceramic two-coil type
Handle	2.5" long, 0.625" diameter Aluminum w/ 3.0" removable plastic extension
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

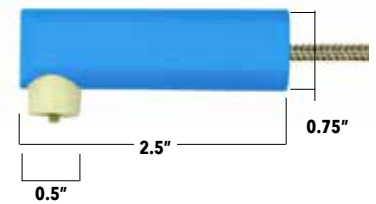
Straight Surface Sensor (SS-)



45° Surface Sensor (SS45-)



90° Surface Sensor (SS90-)



Features:

- Designed to measure all flat, smooth surfaces
- Two-coil design improves response time & accuracy
- Rated up to 650° C (1200° F)
- Ideal for use in plastics & glass processing as well as many other applications
- High temperature Surface Sensors rated up to 815° C (1500° F) are available
- All standard Surface Sensors come with a removable 3" plastic extension handle

The US Military's #1 Choice in Surface Sensor!

They call it a 'grill-top probe' and we call it a surface sensor, but everyone calls it the world's best! The people who defend our nation trust our products above all others. You will too.

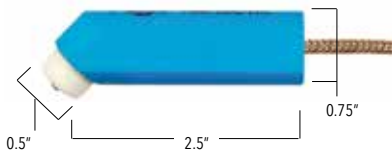
National Stock Number: 6685-01-133-8930 / 6685-01-284-3539

Teflon® Surface Sensors

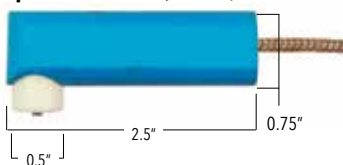
Teflon® Tip Straight Surface Sensor (SSA-)



45° Teflon® Tip Surface Sensor (SSA45-)



90° Teflon® Tip Surface Sensor (SSA90-)



Teflon® tip eliminates scratching or marring of delicate surfaces.

Two-coil design sensing tip minimizes heat loss thus increasing accuracy.

EDL's Teflon® Surface Sensors are similar to standard Surface Sensors and are designed to measure all flat surfaces without any damage. These sensors deliver fast response times as well as high accuracy. Teflon® Surface Sensors are ideal for use on plastics and coated metals as well as numerous other industrial processing applications where delicate material is involved.

The Teflon® head helps reduce possible damage to the test object. Construction consists of a self-aligning 2-coil thermocouple mounted in a Teflon® head. The Teflon® head is secured into a 2 1/2" Aluminum handle which includes a 3" plastic extension handle. These sensors are engineered for operation up to 260 °C (500 °F). All EDL Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SSA- Teflon® Tip Straight SSA45- Teflon® Tip 45° Angle SSA90- Teflon® Tip 90° Angle	05 = 260 °C (500 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated E = Mini-plug (no lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)

*Max. Temperature for T is 400 °C. *Uses same specifications as Surface Sensors. See Above.

Features:

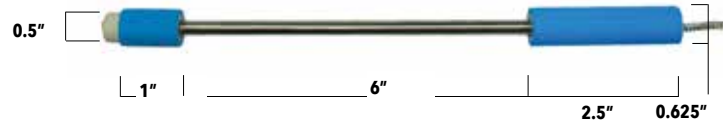
- Allows safe measurement of hard-to-reach areas
- Self aligning two-coil thermocouple design
- Extremely fast response time
- Different shank lengths and lead lengths available

EDL's Long Shank Surface Sensors are similar to Straight Surface Sensors, but their reach is longer. These sensors deliver extremely fast response times as well as high accuracy. Construction consists of a self-aligning 2-coil thermocouple mounted in a ceramic head.

The ceramic head is cemented into a 1" Aluminum housing with a 6" shank, 2.5" Aluminum handle, and a 3" plastic extension handle. This allows the user to keep hands away from the monitored object. Long Shank Surface Sensors operate up to 650 °C (1200 °F).

All EDL Long Shank Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

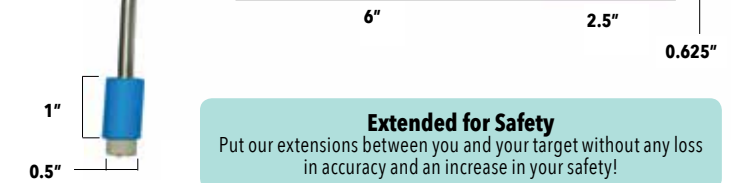
SLS Long Shank - Straight



SLS Long Shank - 45 °



SLS Long Shank - 90 °



Extended for Safety
Put our extensions between you and your target without any loss in accuracy and an increase in your safety!

SPECIFICATIONS	
Sensing Tip	0.5" diameter ceramic two-coil type
Handle	2.5" long, 0.625" diameter Aluminum w/ 3.0" removable plastic extension
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

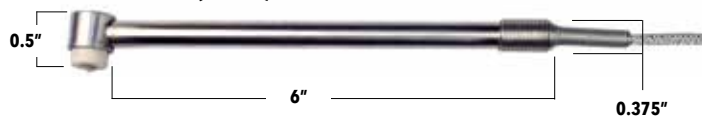
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	SHANK LENGTH	TERMINATION
SLS - Straight SLS45 - 45° Angle SLS90 - 90° Angle	12 = 650 °C (1200 °F)	E J K *T	4" 6" 9"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Untermated E = Mini-plug (no lead (-\$23.00))

*Max. Temperature for T is 400 °C. Additional Shank Lengths are available at \$4.00 per inch.

Multi-Purpose Surface Sensors

Mini 90 ° Surface Sensor (SM90-)



Multi-Purpose Surface Sensor (SMP-)



EDL's Multi-Purpose Surface Sensors are compact and versatile allowing easy access in confined, tight areas. These sensors feature our popular self-aligning, 2-coil thermocouple element design, mounted in a ceramic head.

The actual sensor is mounted in a Stainless Steel sleeve that is connected to a 6" Stainless Steel handle. The long handle assures a good grip for applying appropriate pressure to test objects for accurate readings. All of EDL's Multi-Purpose Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

Two-coil design sensing tip minimizes heat loss thus increasing accuracy.



MODEL	TEMPERATURE	T/C	TERMINATION
SMP - Multi-Purpose Surface SM90 - 90° Angle	12 = 650 °C (1200 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Untermated A = Spade Lugs (Analog-IP)

*Max. Temperature for T is 400 °C. Additional Shank Lengths are available at \$4.00 per inch.

Specifications	
SMP Tip	0.375" diameter ceramic two-coil type
SM90 Tip	0.50" diameter ceramic two-coil type
Handle	6" long x 0.375" diameter, Stainless Steel shaft fully potted
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

Versatile Surface Sensors

Features:

- Designed to minimize amount of heat removed from surface under test
- Unique thermocouple strain relief loop
- 4 guides align & protect band from damage
- Ideal for use on flat or curved surfaces with more than a 6" radius
- Comes standard with a removable 3" plastic extension handle



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SVS- Versatile Surface	08 = 425 °C (800 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated
	12 = 650 °C (1200 °F)		A = Spade Lugs (Analog-IP) E = Mini-plug (no lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)

*Max. Temperature for T is 400 °C.

EDL's Versatile Surface Sensor quickly and accurately measures temperatures of any flat or slightly curved surface with over a 6" radius. A 0.005" thick Stainless Steel band absorbs minimal heat from the test object contributing to fast, accurate readings. This sensor design is ideal for use on oily, greasy surfaces in industrial environments.

The Versatile Surface Sensor is easily cleaned, allowing reuse in even the most extreme applications. Four guides properly align the sensor for reliable readings as well as to protect the sensing band from damage. The sensor comes mounted in a durable 2.5" powder-coated handle.

All EDL Versatile Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

SPECIFICATIONS	
Band	0.005" thick Stainless Steel, 0.375" wide, 0.9" across four Stainless Steel restrictors
Handle	2.5" long x 0.625" diameter double epoxy powder coated
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1%, (whichever is greater)
Response Time	<3 seconds to 95% of reading

Mini-Versatile Surface Sensors



The Teflon® shell supports the tension on the band & minimizes the heat sink effect.



Mini-Versatile Surface Sensors are used in applications where there is a high potential for getting contaminants on a STANDARD surface sensor; injection mold temperature measurement is the best example. The Teflon® shell supports the tension on the band and minimizes the heat sink effect and allows accurate temperature measurement of areas as small as 0.5" in diameter. The Teflon® construction makes marring or damaging delicate surfaces less likely.

Mini-Versatile Surface Sensors come with a removable 3" plastic extension handle. These sensors can also be made to accommodate high temperature applications.

All EDL Versatile Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SVSM- Versatile Surface	05 = 260 °C (500 °F)	J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated
			A = Spade Lugs (Analog-IP) E = Mini-plug (no lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)

*Max. Temperature for T is 400 °C.

SPECIFICATIONS	
Band	0.005" thick Stainless Steel, 0.163" wide
Handle	2.5" long, 0.625" diameter Aluminum double epoxy powder coated
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

EDL's new Wire Roller Contact Sensor (RW) was designed to measure moving wire at a high rate of speed. Due to its shaped ball bearing wheels, the wire is kept on the band for quick decisive measurements. These sensors have a fast response of < 2.8 seconds for 99% of reading (stagnant condition). Standard operation is up to 300 °C. These sensors are made with a replaceable band and replaceable wheels so long term maintenance is easy. The Aluminum channel is easily mounted in position.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RW	06 = 315 °C (600 °F)	K	M = Mini-plug (Digital) C = Coilcord w/Mini-plug U = Unterminated

Order Information - Refer to page 2 for ordering instructions.

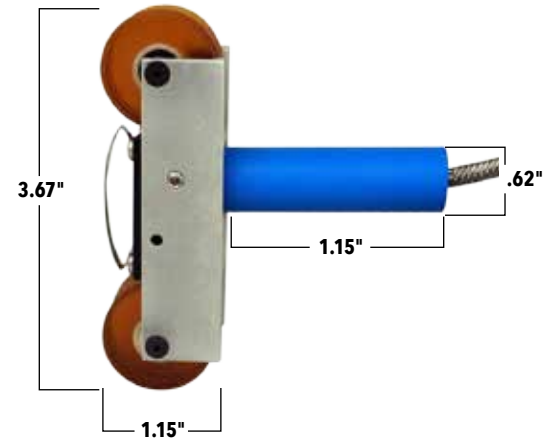
MODEL	TEMPERATURE	T/C
RWR - Replaceable Band	06 = 315 °C (600 °F)	K

Order Information - Refer to page 2 for ordering instructions.

MODEL	PART	T/C
RWR	W = Replaceable Ultem wheels with wire guides	K

SPECIFICATIONS	
Band	0.156" wide x 0.005" thick
Holder	3.7" long x 1.2" high x 1.2" wide - complete assembly with wheels
Lead	6' (72") long thermocouple grade stranded #20 gauge wire, Teflon insulated and twisted with Stainless Steel over braid
Response Time	< 2.8 seconds for 99% of reading

Complete Wire Roller Contact Sensor



Rugged Surface Sensors

EDL's Rugged Surface Sensors are ideal for dirty, contaminated surfaces, or surfaces where liquid is present. These sensors feature a self-aligning spring loaded swivel head for reliable and consistent readings.

EDL's exclusive design ensures proper contact against flat surfaces for accurate readings. The ergonomic and comfortable foam grip handle gives added ease of use.

All EDL Rugged Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

SPECIFICATIONS	
Flexible Tube & Cap	0.007" Stainless Steel all spot welded construction reinforced thermocouple junction. 0.125" of spring loading 0.25" diameter. ± 5.0 ° of angular adjustment
Handle	4" long x 0.875" diameter, ergonomic closed cell foam, fully potted, 4" Stainless Steel shaft
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 5 seconds to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

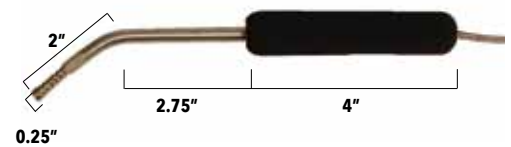
MODEL	TEMPERATURE	T/C	TERMINATION
SR - Straight SR45 - 45° Angle SR90 - 90° Angle	12 = 650 °C (1200 °F)	E J K	M = Mini-plug (Digital) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP)

Additional shank lengths are available at \$4.00 per inch.

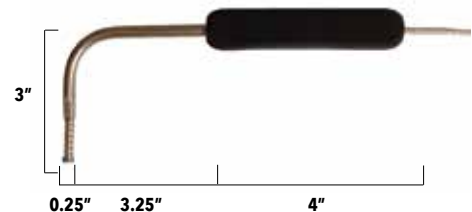
Straight Rugged (SR-)



45° Rugged (SR45-)

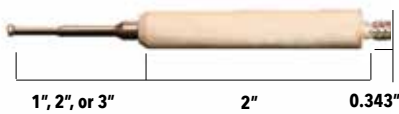


90° Rugged (SR90-)

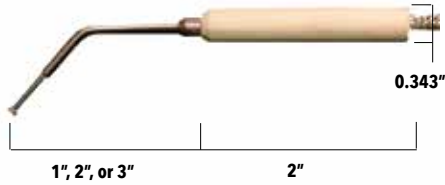


Mini-Wand Surface Sensors

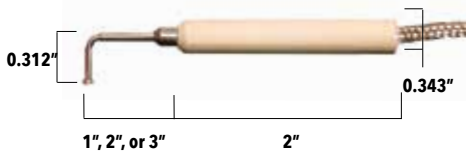
Straight Mini-Wand (SMW-)



45 ° Mini-Wand (SMW45-)



90 ° Mini-Wand (SMW90-)



EDL's Mini-Wand Surface Sensors are ideal for use on complex dies, webs, fins, small holes, or slots, and many more industrial applications. The Mini-Wand Surface Sensors feature a small low mass heat collector that delivers extremely accurate readings on small, thick or low mass objects.

These sensors are available in straight, 45°, and 90° styles – with a reinforced shank for added durability. Easy to grip, the compact ceramic insulated handle gives strength and resiliency. Longer length shanks are available for hard to reach areas.

All EDL Mini-Wand Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

SPECIFICATIONS	
Sensing Tip	0.125" diameter alloy disk
Handle	2" long x 0.343" diameter, ceramic
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 1 seconds to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	DIAMETER	LENGTH	TERMINATION
SMW - Straight	10 = 535 °C (1000 °F)	E	K = 0.059"	1" 2" 3"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP) E = Mini-plug (no lead) (-\$23.00) R = Must use HDRT holder (-\$5.00) N = Aluminum handle w/ Mini-plug & Spring Armor Cable plus strain relief (+\$38.00)
SMW45 - 45° Angle		J	F = 0.072"		
SMW90 - 90° Angle		K *T	Other Diameters Available		

*Max. Temperature for **T** is 400 °C. | Add \$2.00 per inch for shanks longer than 3".

Our Fastest Sensor!
Less than one second to 95% of reading!

Leaf Surface Sensors

Mini-Leaf Sensor (SML-)



Leaf Sensor (SL-)



Features:

- May be used for both stationary or moving surface measurements; such as rotating rubber wheels or continuous lines in the food industry
- Low mass Stainless Steel leaf sensors allow for excellent response times & reduce surface disturbances
- Leaf sensor is only 0.010" thick, providing fast & accurate readings
- Ideal for readings where closely mated parts must be measured
- May be used in liquid

EDL's Mini-Leaf Surface Sensors are ideal for use on webs, fabrics, closely spaced fins, slots, or any smooth flat surface moving or stationary.

The sensing element is designed from flexible hard grade stainless 0.005" thin material for accurate readings while maintaining durability. Standard leaf length is 1" with longer lengths available.

The low mass assists in delivering fast, accurate readings. EDL Leaf Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

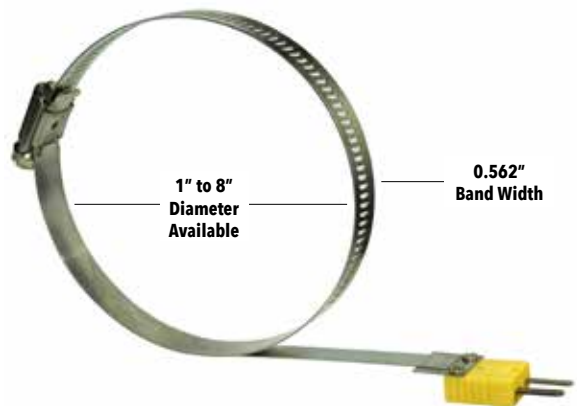
Order Information - Refer to page 3 for ordering instructions

MODEL	TEMPERATURE	T/C	WIDTH	LENGTH	TERMINATION
SML - Mini-Leaf	08 = 425 °C (800 °F) 12 = 650 °C (1200 °F)	E J K *T	A = 1/4" or 0.250 G = 3/8" or 0.375	1.5"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP)
SL - Leaf	15 = 815 °C (1500 °F)	E J K	-	3", 6", 9", or 12"	

*Max. Temperature for **T** is 400 °C.

SPECIFICATIONS	
SML Sensing Tip	0.005" x 0.375" wide flexible Stainless Steel leaf
Handle	2" long x 0.343" diameter ceramic
SL Sensing Tip	0.010" x 0.375" wide flexible Stainless Steel leaf
Handle	2.5" long x 0.625" diameter Aluminum
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 4 seconds to 95% of reading

EDL's Pipe Clamp Surface Sensors quickly attach to any hose, tube, or pipe from 1" to 8" in diameter. Three standard sizes are available (custom sizes to customer specifications are available). The construction of these sensors is Stainless Steel and thermocouple grade material. The simple hose clamp design and convenient plug-in allows the user to disconnect the sensor and leave it in place for future readings. Extender leads for Pipe Clamp Sensors are sold separately.



SPECIFICATIONS	
Clamp	1" to 8" diameter 0.562" wide
Handle	No handle
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

Please call EDL sales (434.799.0807) for additional information on the different lengths, terminations, and thermocouple types available.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	DIAMETER	T/C	TERMINATION
SPC-1 - Pipe Clamp	06 = 315 °C (600 °F)	1 1/16" - 2"	E J K *T	E = Mini-plug (no lead)
SPC-2 - Pipe Clamp		2 1/16" - 3"		
SPC-3 - Pipe Clamp		3 1/16" - 6"		

*Max. Temperature for **T** is 400 °C.

EDL Custom Temperature Sensors

The following information outlines and details EDL's extensive line of base, noble metal and refractory thermocouples, thermistors, and RTDs. Here you will find basic information on over 10,000 standard sensors plus many ideas for special sensors. Data, technology, experience, and performance have been the backbone of our 70 plus year history of manufacturing quality products. Although we manufacture the largest range of standard industrial sensors of any manufacturer, we never turn away a customer because of their special or unusual requirements.

At EDL, our flexible manufacturing system includes a nearly vertical manufacturing capability, and this coupled with 100% inspection, and a full laboratory facility enables us to make changes and improvements quickly and easily.

All EDL sensors are hand crafted for quality and dependability. This attention to detail assures you the quality of our products and allows us to achieve accuracies far better than the industry standards.

Our manufacturing capability includes the ability to produce sensors with virtually any type of sheath material including Stainless Steel types 301, 302, 304, 310, 316, 321, 347, Inconel, Monel, Hastalloy, and Waspalloy. We are experienced in all of the base metal, noble metal, and refractory thermocouples plus RTDs of 2.5Ω to 1,000Ω in both American and European curves, with accuracies as close as 0.01%. Typically, EDL accuracies far exceed the industry standards because of our extensive inventory of wire, directly traceable to PT67. This wire is calibrated and verified to ITS90 through Polynomial fit, directly in our lab.

The incredible variety of our product line is possible due in large part to our manufacturing diversity. Our modern shop encompasses a machining facility including a complete tool and die making division, an injection molding company, a stamping division, and quality control lab.

In our long history, we have experienced many cases where customers have found that after switching to EDL sensors their rate of replacement was reduced by 75% of their previous rate, this is a significant improvement. Often, this is due to the choice of materials for sensor construction, sensor design, and meticulous care in EDL's sensor fabrication.

You will find EDL adept at handling a one piece special or a contract order for 10,000 pieces. For information on contract orders or blanket orders, please contact our sales department for specifics and pricing. Please call EDL sales at 434.799.0807 or 1.800.DIAL.EDL (800.342.5335), or feel free to email sales@edl-inc.com.



Our flexible manufacturing capabilities enable us to make changes and improvements quickly and easily.

EDL has found a unique method of producing Roller Contact Sensors, making them more accurate and increasing the sensor's life span. This gives you better reliability in temperature measurement.

The Roller Contact consists of the base, bow springs, Stainless Steel contact band and the finest thermocouple wire.

Roller Contact Sensors with Replaceable Bands Are Available!

ROLLER CONTACT SIZE CHART		
Band Size	For Use with Stationary Objects	For Use with Moving Objects
2 1/2"	1/2" to 15" dia.	Approx. 1/2" to 8" dia.
5"	3' max. dia.	Approx. 1 1/2' max. dia.
12"	10' max. dia.	Approx. 5' max. dia.

Roller Contact Application Guide

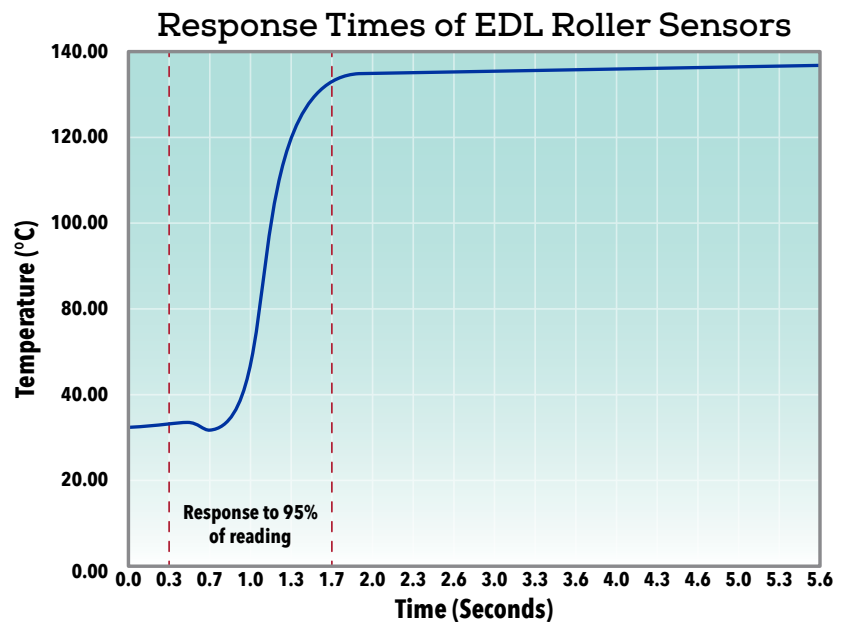
MODEL	FLAT SURFACE	ROUGH SURFACE	CURVED SURFACE	MOVING SURFACE	RUGGED	LIMITED SPACE
Roller Contact (RC)		✓	✓	✓		
Roller Leaf (RL)	✓			✓		
Roller Band (RB)		✓	✓	✓	✓	
Rolling Roller (RWR)			✓	✓	✓	
Mini-Roller (RMR)			✓	✓		✓

Roller Contact Sensors are used for measuring the temperature of moving or stationary smooth, flat surfaces. We offer them with or without a handle.

Standard Roller Contact Sensors are designed for spot-checking and intermittent monitoring; they have a nylon block and a Stainless Steel band. This sensor works in ambient temperatures up to 175 °C (350 °F). This ambient temperature must take into account the radiated heat from the object under test. If the ambient temperature (the anticipated radiant energy) or if the sensor is to be used for long periods of time, then the block material should be phenolic. Be aware if the ambient temperature exceeds 250 °C (500 °F), the lead wire must be changed from the standard Teflon® construction.

The band on the standard Roller Contact Sensor will withstand 425 °C (800 °F). High temperature bands have a design limit of 650 °C (1200 °F) with some slight modification the range on the high temperature bands can be extended to 815 °C (1500 °F). At the higher temperatures the bands are annealed and may wear at an accelerated rate.

As with all surface type sensors, Roller Contact Sensors can be calibrated. They cannot be calibrated by immersion technique they must be tested on a calibrated reference surface.



When using a Roller Contact Sensor you do not need to use excessive force. You should only apply enough pressure on the band so it deflects and starts to curve around the object being tested.

When testing small diameter objects, make sure the object stays in the center of the band, do not push so hard that the band touches the block; this will damage the thermocouple wires on the back of the band. Always have at least 1/8" of deflection in the band.

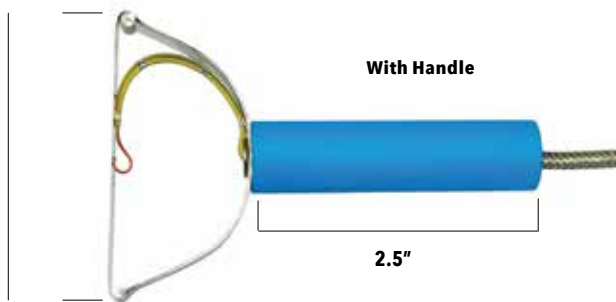


EDL's Roller Contact Surface Sensors are extremely accurate, fast, and effective on all cylindrical surfaces. Bands are durable and allow for rapid measurement response times. Bands are available in three standard sizes, 2.5", 5", and 12" to accommodate diameters from 1" to 120". These sensors are ideal for use on rotating or stationary pipes, drums, tanks, hoses, and much more.

All EDL Roller Contact Surface Sensors come standard with a 32" lead with Stainless Steel over braid.

Features:

- Provides speed & accuracy when measuring cylindrical surfaces
- Protected thermocouples enable use on drums, rollers, pipes, hoses, tanks, tubes, etc.
- Capable of measuring surface speeds up to 2500 ft. per minute
- Glass filled nylon block withstands temperatures up to 200° C (375° F)
- Please request information for permanent installations
- "E" & "R" Series sensors available



Band Lengths of 2.5", 5" or 12"

"RCH"



With Nylon Block "RC"

"RC" sensors are available in "E" & "R" terminations for use with holders. ("RCH" not compatible.) See pg. 16.

SPECIFICATIONS	
Band	0.375" wide x 0.005" thick, hard Stainless Steel
Handle	1.7" long, glass filled, nylon block or 2.5" long x 0.625" diameter Aluminum
Length	Available in 2.5", 5", or 12"
Lead	32" long thermocouple grade stranded #20 wire gauge, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 2.5 seconds to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RC2.5 - Roller Contact w/ 2.5" Band & Block	08 = 425 °C (800 °F)	E J K *T	M = Mini-plug (Digital) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP)
RCH2.5 - Roller Contact w/ 2.5" Band & Handle			
RC5 - Roller Contact w/ 5" Band & Block	12 = 650 °C (1200 °F)	E J K *T	M = Mini-plug (Digital) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP)
RCH5 - Roller Contact w/ 5" Band & Handle			
RC12 - Roller Contact w/ 12" Band & Block			
RCH12 - Roller Contact w/ 12" Band & Handle			

*Max. Temperature for T is 400 °C.

* High Temperature Blocks available - Please Call for Pricing.

Roller Leaf Contact Sensors



SPECIFICATIONS	
Leaf	0.375" wide x 0.005" thick
Handle	2.5" long x 0.625" diameter
Lead	32" long thermocouple grade stranded #20 wire gauge, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading

Features:

- The sensing leaf exerts minimal pressure against the object under test
- Roller Leaf Sensors include 1 sensing leaf & removable 3" plastic extension handle

EDL's Roller Leaf Surface Sensors exert very little pressure against the item which is having its temperature measured. This allows delicate, fast moving flat objects to be measured precisely and without damaging the object being measured.

The leaf incorporates a latch assembly to restrict the leaf extension beyond the wheels, reducing abuse to the thermocouple element. Interchangeable and replaceable leaves may be purchased. EDL recommends some care when storing this style sensor, to prevent damage to the sensing element.

All EDL Roller Leaf Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

ROLLER CONTACT APPLICATION GUIDE

TYPE	FLAT SURFACE	ROUGH SURFACE	CURVED SURFACE	MOVING SURFACE	RUGGED	LIMITED SPACE
Roller Contact (RC)		✓	✓	✓		
Roller Leaf (RL)	✓			✓		
Roller Band (RB)		✓	✓	✓	✓	
Rolling Roller (RWR)			✓	✓	✓	
Mini-Roller (RMR)			✓	✓		✓

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RL - Roller Leaf	06 = 315 °C (600 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Untermated
RLR - Replacement Leaf (sensing element)	-		Leaf Only

*Max. Temperature for **T** is 400 °C.

* High Temperature Blocks available - Please Call for Pricing.

Rolling Roller Contact Sensors



SPECIFICATIONS	
Band	1.625" long x 0.25" wide x 0.005" thick
Handle	1.7" long nylon block or 2.5" long x 0.625" diameter Aluminum
Lead	32" long thermocouple grade stranded #20 wire gauge, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 5 seconds to 95% of reading

EDL's Rolling Roller Contact Surface Sensors are specifically engineered for use on round, rotating or stationary surfaces. Four bearings track easily on diameters from 0.625" to 8" and act as restrictors preventing excessive pressure to the thermocouple element.

A Stainless Steel bow supports the 0.005" band for long-term durability. A Kapton coating is available to further eliminate any marring or scratching on delicate cylindrical surfaces.

These sensors are available with high temperature block or handle. All EDL Rolling Roller Contact Surface Sensors come standard with a 32" lead with Stainless Steel overbraid. High temperature versions are available.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RRH - Rolling Roller Block w/ 2 1/2" Handle	06 = 315 °C (600 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Untermated
RRB - Rolling Roller (No handle)			
Kapton covering for any band	-	-	Add K after above codes

*Max. Temperature for **T** is 400 °C.

* High Temperature Blocks available - Please Call for Pricing.

Features:

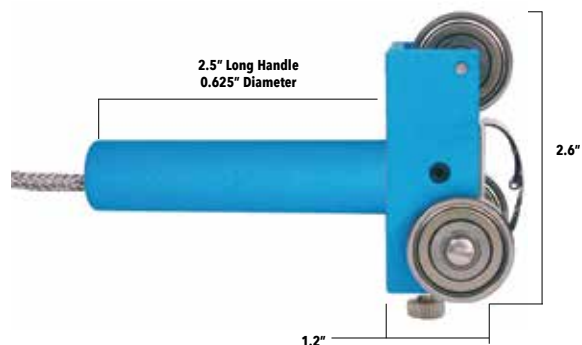
- **Designed for flat moving surfaces (up to 1200 fpm / 365 mpm)**
- **Bearings are resistant to high temperature**
- **1 band included**

EDL's Roller Band Surface Sensors are designed to work on flat and moving surfaces. The three wheels give you more control and smoother tracking on high speed surfaces, and assure proper surface contact on the band for fast accurate temperature readings.

The bands are constructed from thick full-hard Stainless Steel – ensuring their durability. The bearings are resistant to high temperature, dirt, and foreign matter. The replaceable bands, sold separately, are installed easily in just minutes.

All EDL Roller Band Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

SPECIFICATIONS	
Band	0.375" wide x 0.005" thick
Handle	2.5" long x 0.625" diameter
Lead	32" long thermocouple grade stranded #20 wire gauge, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 2 seconds to 95% of reading



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RB - Roller Band w/ Wheels	06 = 315 °C (600 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Untermated
	12 = 650 °C (1200 °F)		

*Max. Temperature for T is 400 °C.

* High Temperature Block is available - Please Call for Pricing.

MODEL	TEMPERATURE	T/C
RBR - Replacement Bands	06 = 315 °C (600 °F)	E J K *T
	12 = 650 °C (1200 °F)	

Mini-Roller Contact Sensors

EDL's Mini-Roller Contact Surface Sensors are ideal for applications such as delicate drums, copy machine rollers, printing rollers or any stationary or rotating cylinder. These sensors are designed to measure diameters of 1" or less. The replaceable Teflon® guides permit even pressure and reduces friction when pressed against rotating cylinders.

A special Kapton covering may be ordered which will help to prevent marring or scoring on delicate rotating cylinders. The guides also protect the 0.005" thick, 0.25" wide Stainless Steel band from abuse and distortion.

All of EDL's Mini-Roller Contact Surface Sensors come standard with a 32" lead with Stainless Steel overbraid.

SPECIFICATIONS	
Band	0.005" thick, x 24" wide x 1.125" long, hard Stainless Steel
Handle	6.0" long x 0.375" diameter Phenolic material
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 3 seconds to 95% of reading



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RMR - Mini-Roller	05 = 260 °C (500 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Untermated
Kapton covering for any band	-	-	Add K after above codes

*Max. Temperature for T is 400 °C.

* High Temperature Blocks available - Please Call for Pricing.



Bands are Replaceable!

- Features:**
- Allows one holder to be used for different band sizes: **Roller Contact holders will accept 2.5", 5", or 12" bands**
 - Bands are easily installed
 - Holder must be same thermocouple type as the band being installed or replaced
 - Available with block or handle

SPECIFICATIONS	
Band	0.005" Thick full hard Stainless Steel
Handle	Nylon block 1.7"L or 2.5" Aluminum
Lead	32" long thermocouple grade stranded #20 wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 °C or 1% (whichever is greater)
Response Time	< 2.5 seconds to 95% of reading

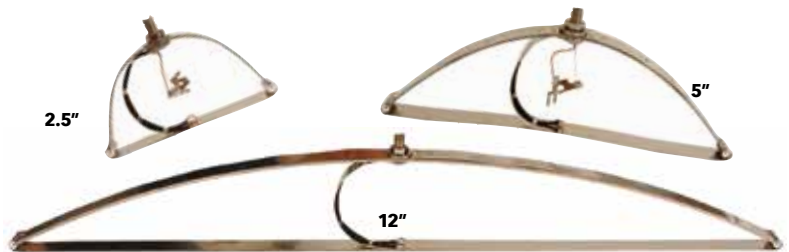
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
RAB - Holder only w/ nylon block	Selected band governs temperature	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug
RAH - Holder only w/ 2.5" handle			
R2.5 - Band 2.5"	08 = 425 °C (800 °F)	E J K *T	Band fits into any holder listed above. The T/C type must be the same on band & holder.
R5 - Band 5"			
R12 - Band 12"			
R2.5 - Band 2.5"	12 = 650 °C (1200 °F)	E J K	
R5 - Band 5"			
R12 - Band 12"			

*Max. Temperature for T is 400 °C, for 08 only.
* High Temperature Blocks available - Please Call for Pricing.

Replacable Bands

ROLLER CONTACT SIZE CHART		
Band Size	For Use with Stationary Objects	For Use with Moving Objects
2 1/2"	1/2" to 15" dia.	Approx. 1/2" to 8" dia.
5"	3' max. dia.	Approx. 1 1/2' max. dia.
12"	10' max. dia.	Approx. 5' max. dia.



"E" & "R" Series Sensors - Roller Contact Bands for Holders

"R" Series Sensors

The "R" Series allows various sizes and models of sensors of the same thermocouple type to be used with one HDRT Holder. **Must use with HDRT holder only. For use with analog & digital instruments.**

Models

The "E" series sensors plug directly into an instrument and allows for various models and sizes of sensors to be used. If a lead is required, use an HBET holder between the instrument and the sensor.

For use with digital instruments only.

Refer to page 3 for ordering instructions.

Allows various size bands of the same thermocouple type to be used with one holder. *For use with both analog & digital instruments.*

HDRT Holders

MODEL	TEMPERATURE	T/C	TERMINATION
RC2.5 - 2.5" Band	08 = 425 °C (800 °F) or 12 = 650 °C (1200 °F)	E J K *T	R = Must use HDRT Holder (see p.5 for holder)
RC5 - 5" Band			
RC12 - 12" Band			

*Max. Temperature for T is 400 °C, for 08 only.

HBET Holders

Any size band of the same thermocouple type may be used with one holder *for digital instruments only.*

MODEL	TEMPERATURE	T/C	TERMINATION
RC2.5 - 2.5" Band	08 = 425 °C (800 °F) or 12 = 650 °C (1200 °F)	E J K *T	E = Mini-plug (no lead) (see p.5 for holder)
RC5 - 5" Band			
RC12 - 12" Band			

EDL's Needle Sensors have extremely fast response times, permitting accurate temperature readings in as little as 1/4 of a second. Only the finest grade of hypodermic Stainless Steel is used in the construction of EDL's sensors. For total versatility, standard needle sensors are manufactured in many lengths and different diameters to fit your every need.

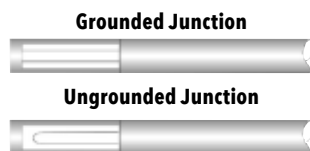
Needle sensors are offered in three different tip configurations; blunt, center sharp, hypodermic sharp. Each has their own special characteristics for best functionality, depending on their use. You may choose between a full hard hypodermic grade needle material or a soft Stainless Steel temper, which allows you to bend and shape the needle to fit a desired application.

Blunt Needle Style tips are ideal for use in liquids, melts, or any application that will require penetration into semi-soft solids. All needles are available in the blunt style. Blunt needles offer the highest measuring capability of up to 2500 °F.

Center Sharp Needle tips are perfect for deep insertions, usually over 6". The center sharp tip design is suggested whenever long needles must be used for insertion.

Hypodermic Sharp Needle tips are shaped to a true hypodermic sharp point. This triple edged sharpened tip design is useful where easy penetration into semi-solid materials is essential. Hypodermic sharp needles are recommended for insertions up to 6" and can operate up to 2000 °F.

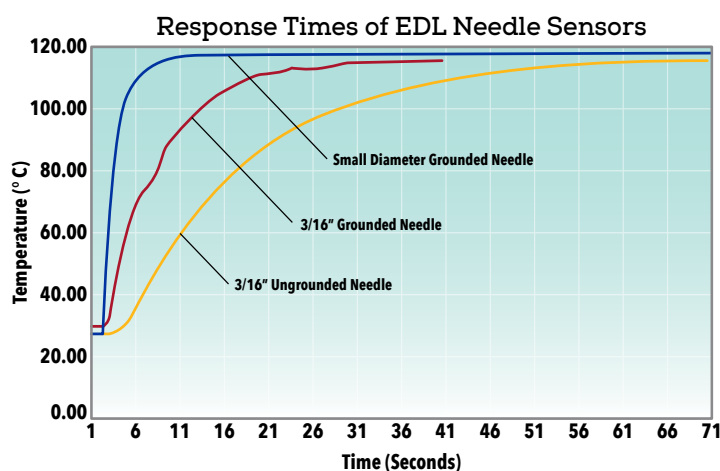
In a grounded junction, the thermocouple junction and stainless sheathed tip are joined together. This produces a rugged, and faster response needle – suitable for liquids, solids, and gases.



In an ungrounded needle, the thermocouple is isolated from the stainless sheathed tip. This is suitable if you are working in an environment with static, common power supplies, stray EMFs or monitoring conductive solutions. Although they are slower in response times, they can prove to be extremely effective in the harshest environments.

ASTM E-230-03 Tolerances on Initial Values of EMF vs. Temperature for Thermocouples

TEMPERATURE RANGE			Tolerances-Reference Junction 0 °C (32 °F)			
Thermocouple Type	°C	°F	STANDARD TOLERANCE		SPECIAL TOLERANCES	
			°C (whichever is greater)	°F	°C (whichever is greater)	°F
T	0 - 370	32 - 700	±1 or ±0.75%	*	±0.5 or 0.4%	*
J	0 - 760	32 - 1400	±2.2 or ±0.75%		±1.1 or 0.4%	
E	0 - 870	32 - 1600	±1.7 or ±0.5%		±1 or ±0.4%	
K or N	0 - 1260	32 - 2300	±2.2 or ±0.75%		±1.1 or ±0.4%	
R or S	0 - 1480	32 - 2700	±1.5 or ±0.25%		±0.6 or ±0.1%	
B	870 - 1700	1600 - 3100	±0.5%		±0.25%	
C	0 - 2315	32 - 4200	±4.4 or 1%	*		
T ^A	-200 - 0	-328 - 32	±1 or ±1.5%		^B	
E ^A	-200 - 0	-328 - 32	±1.7 or ±1%		^B	
K ^A	-200 - 0	-328 - 32	±2.2 or ±2%		^B	



Needle Sensor Application Guide

TYPE	AIR	LIQUID	DENSE SOLIDS	SEMI SOLIDS	CONTOURED	LIMITED SPACE
Standard Needle	X	X		X		
Fine Needle NF	X	X		X		X
Soft Needle NS	X	X			X	X
Reinforced NR		X	X	X		X
Tapered Cone		X	X	X		
Threaded Bolt		X	X			X

TYPE	DESIGNATIONS	DIAMETER
Fine	N	0.010"
	R	0.020"
	E	0.035"
	P	0.040"
Standard	T	0.050"
	K	0.059"
	F	0.072"
	M	0.083"
	Q	0.093"
	D	0.125"
Process & Insertion	V	0.187"
	A	0.250"
	C	0.3125"
	G	0.375"

S0 - Stainless Steel Type 310 • S1 - Stainless Steel Type 321 • S4 - Stainless Steel Type 304 • S6 - Stainless Steel Type 316 • I0 - Inconel Type 600 • I1 - Inconel Type 601 • I5 - Inconel Type 625

* - At a given temperature that is expressed in °C, the tolerance expressed in °F is 1.8 times larger than the tolerance expressed in °C. Note that wherever applicable, percentage-based tolerances must be computed from temperatures that are expressed in °C.

^A Thermocouples and thermocouple materials are normally supplied to meet the tolerances specified in the table for temperatures above 0 °C. The same materials, however, may not fall within the tolerances given for temperatures below 0 °C in the second section of the table. If materials are required to meet the tolerances stated for temperatures below 0 °C the purchase order must so state. Selection of materials usually will be required.

^B Special tolerances for temperatures below 0 °C are difficult to justify due to limited available information. However, the following values for Types E and T thermocouples are suggested as a guide for discussion between purchaser and supplier.

Needle Sensors

Sheathed thermocouples are similar to electric heating elements in construction. Ceramic insulators are strung on wires, the sheath is drawn over the insulated wires, and then the assembly is compacted. EDL sets the highest standards in the thermocouple manufacturing industry by manufacturing only the highest quality of sheathed thermocouple stock.

EDL uses the highest quality alloys. The alloys molecular structure dramatically decreases the chance of thermocouple contamination, thus, ensuring longer life cycles and lower failure rates.

Highest compaction grade Magnesium Oxide assures the much desired insulator inertness. Inertness is crucial in thermocouple applications to avoid the migration of atoms between the insulator and the thermocouple wires that may cause sensor decalibration.

EDL junctions are brazed or welded, unlike that of many companies who crimp their junctions to reduce production costs. Brazing or welding the junctions increases impermeability of the sheath, thus, creating greater confidence in temperature measurement.

High temperature cement is used to provide a solid barrier to moisture and contamination in the back end of the thermocouple. Sheath alloys are often needed in different types. There may be an increase in the cost of the thermocouple sensor due to the price of the sheath. Please contact our sales department for a quotation on items that are not listed in our catalog.

Standard Needle Sensors



Standard Needle Sensors are made using a 5/16" diameter ceramic handle with a Stainless Steel insert and 32" long lead wire with Stainless Steel overbraiding for maximum durability. Standard needles use full hard hypodermic grade stainless in the needle section. Low temperature needles are available to monitor temperatures up to 600 °F. Higher temperature needles are internally insulated with Magnesium Oxide (MgO) or Alumina packed, enabling use up to 2500 °F, depending on the thermocouple type.

SPECIFICATIONS	
Sensing Tip	Diameter as ordered
Handle	2" long x 0.343" diameter ceramic
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (pg. 17)
Response Time	< 1 second to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

For Needles over 6" in length add \$2 per inch.

It is recommended for sensors longer than 12" to have extra lead length.

*Max. Temperature for T is 400 °C, for O6 only.

MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NB - Blunt	O6 = 315 °C (600 °F)	G or U (add \$12.00)	S4	E J K *T	T = 0.050" K = 0.059" F = 0.072" M = 0.083" Q = 0.093"	1" 2" 3" 4" 5" 6" <small>Longer Lengths Available</small>	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog-IP) E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
NC - Center Sharp							
NH - Hypodermic Sharp	15 = 815 °C (1500 °F)		S0				

Fine Needle Sensors



Fine Needles are ideal for use where multiple fast readings are required. The needle length can control penetration depth. Complete response time is a fast 1/4 of a second.

SPECIFICATIONS	
Sensing Tip	Diameter as ordered
Handle	2" long x 0.343" diameter ceramic
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (pg.17)
Response Time	< 1 second to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

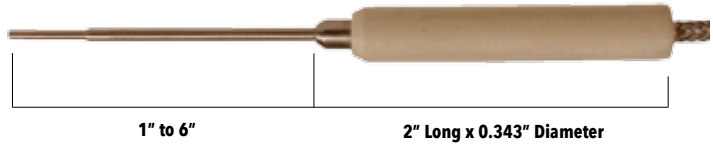
MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NBF - Fine Blunt	O6 = 315 °C (600 °F)	G or U (add \$12.00)	S4	E J K *T	R = 0.020" E = 0.035" P = 0.040"	1/4" to 4" <small>Longer Lengths Available</small>	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated A = Spade Lugs (Analog) E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
NCF - Fine Center Sharp							
NHF - Fine Hypodermic Sharp	15 = 815 °C (1500 °F)		S0				

*Max. Temperature for T is 400 °C, for O6 only. For Needles over 4" in length please inquire for price.

SPECIFICATIONS	
Sensing Diameter	As ordered
Handle	2" long x 0.343" diameter ceramic
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (pg.17)
Response Time	< 3.5 seconds to 95% of reading

Features:

- Any needle 1" or longer, sharp or blunt, low or high temperature, may be reinforced with a heavier gauge Stainless Steel tubing
- Various sheath lengths, lead lengths, & diameters are available
- Fast response with rugged design



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NBR - Reinforced Blunt	06 = 315 °C (600 °F) or 15 = 815 °C (1500 °F)	G or U (Add \$12.00)	S4 or S0	E J K *T	T = 0.050" K = 0.059" F = 0.072"	1" to 6" Longer Lengths Available	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Underminated A = Spade Lugs (Analog-IP) E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
NCR - Reinforced Center Sharp							
NHR - Reinforced Hypodermic Sharp							
NBFR - Reinforced Fine Blunt	G	R = 0.020" E = 0.035" P = 0.040" Longer Lengths Available					
NCFR - Reinforced Fine Center Sharp							
NHFR - Reinforced Fine Hypodermic Sharp							

*Max. Temperature for T is 400 °C. It is recommended for sensors longer than 12" to have extra lead length.

Insertion Sensors

SPECIFICATIONS	
Sensing Tip	Diameter as ordered
Handle	2.5" long x 0.625" diameter Aluminum
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (pg.17)
Response Time	< 5 seconds to 95% of reading

Features:

- Available with liquid or gas tight fittings
- Various sheath & lead lengths, & diameters are available
- Rugged design
- High reliability

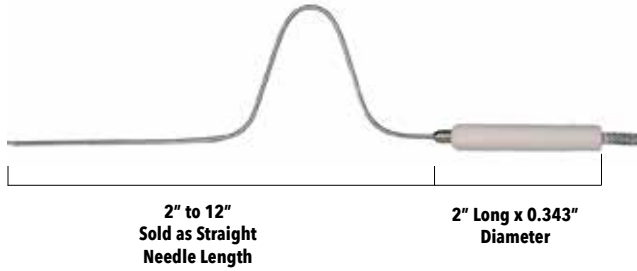


Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NI - Insertion	06 = 315 °C (600 °F) 15 = 815 °C (1500 °F) 20 = 1090 °C (2000 °F) (Type E or K Only) 25 = 1370 °C (2500 °F)	G or U (Add \$12.00)	S4 S0	E J K *T	D = 0.125" V = 0.187" A = 0.250" C = 0.3125" G = 0.375" (Add \$12.00)	4" 6" 8" 10" 12" Longer Lengths Available	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Underminated A = Spade Lugs (Analog-IP) E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
NIC - Center Sharp Insertion							
NIH - Hypodermic Sharp Insertion							
NIR - Reinforced Insertion							

*Max. Temperature for T is 400 °C. Insertion sensors come with a removable 3" plastic handle. It is recommended for sensors longer than 12" to have extra lead length.

Bendable Needle Sensors



Features:

- Magnesium oxide insulated thermocouples covered with a soft annealed Stainless Steel sheath
- Accepts any bend & will follow any contour
- Manufactured in blunt style only
- Various sheath, lead lengths, & diameters are available

SPECIFICATIONS	
Sensing Tip	Diameter as ordered
Handle	2" long x 0.343" long ceramic
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits
Response Time	< 5 seconds to 95% of reading

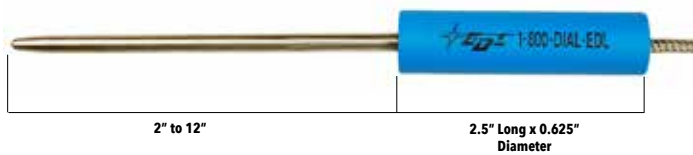
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NS - Soft Bendable	15 = 815 °C (1500 °F)	G or U (add \$12.00)	SO	E J K	K = 0.059" F = 0.072" D = 0.125"	2"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
	4"						
	6"						
	20 = 1090 °C (2000 °F)					8"	
	25 = 1370 °C (2500 °F)			K only		10"	
						12"	
						Longer Lengths Available	

TIP: If you need a fast pipe reading and don't have the correct sensor "Roller Probe", you can use a needle sensor laid parallel to the pipe. Good contact is necessary and insulation will help. Your readings won't be exact, but they may get you out of a bind.

It is recommended for sensors longer than 12" to have extra lead length.

Tapered Cone Sensors



Features:

- Sharp, rugged, hardened tip 55/57 RC
- Ideal for penetrating semi solids & asphalts
- Various sheath, lead lengths, & diameters are available

SPECIFICATIONS	
Sensing Tip	Diameter as ordered
Handle	2.5" long x 0.625" diameter Aluminum
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (pg.17)
Response Time	< 5 seconds to 95% of reading

All of our Sensors can be Customized!

This tapered cone sensor has been reinforced and a handle has been added. These are 'standard' customizations but we can modify ANY of our sensors to fit your needs in ANY way, even ones we haven't thought of yet! Call us now and speak to one of our engineers: We can build a solution for you! **1.800.342.5335**. You'll always speak to an EDL employee when you call!

Tapered Cone Sensor with Reinforced Handle



Order Information - Refer to page 2 for ordering instructions.

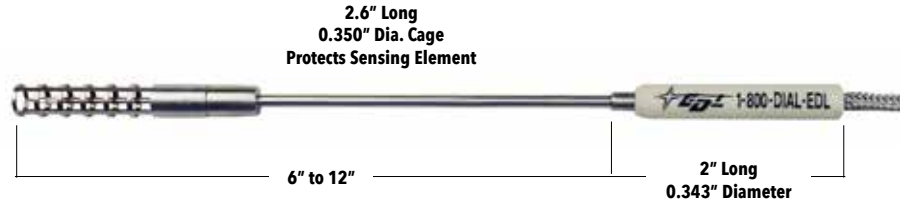
MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	DIAMETER	LENGTH	TERMINATION
NTC - Tapered Cone	06 = 315 °C (600 °F)	G	S4	E J K *T	D = 0.125" V = 0.187"	2"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated N = Reinforced Mini-plug w/ Spring Armor Cable (+\$38.00) S = Reinforced Mini-plug, Spring Armor Cable, handle, & nylon impact guard (+\$56.00)
	15 = 815 °C (1500 °F)					4"	
	20 = 1090 °C (2000 °F)		SO			6"	
						8"	
						10"	
						12"	
						Longer Lengths Available	

*Max. Temperature for T is 400 °C, for 06 only.

It is recommended for sensors longer than 12" to have extra lead length.

EDL's Shielded Air Cage Sensors feature a rugged cage that totally protects the sensor from all field abuse yet leaves 63% open area for an extremely fast response time. The superior airflow rate of this sensor enables fast accurate air/gas temperature readings in the harshest environments.

Air cage sensors have fast response and allow you to measure in almost stagnant environments. They are often used in ductwork because only a small access hole is needed.



Order Information - Refer to page 2 for ordering instructions.

SPECIFICATIONS	
Sensing Tip	Wire size as ordered
Handle	2" long x 0.343" diameter ceramic
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (p.17)
Response Time	<3 Seconds to 95% of reading

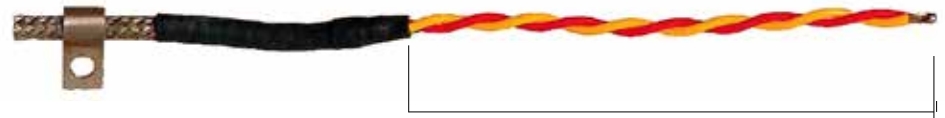
MODEL	TEMPERATURE	T/C	WIRE GAUGE	LENGTH	TERMINATION
AC - w/Cage	15 = 815 °C (1500 °F)	E, J, K, T	N = #30	6" 12"	M = Mini-plug (Digital) P = Phonoplug (Analog) U = Unterminated A = Spade Lugs (Analog-IP)

Max. Temperature for **T** is 400 °C. Additional gauges are available upon request.

Flexible Air Sensors

EDL's Flexible Air Sensor with bracket is ideal for use in ovens, vents, HVAC, refrigerators, freezers, dish washers, and many other applications. The standard version of this sensor features tough Stainless Steel braiding on a heavy TFE Teflon insulated wire with a convenient bracket for mounting in place.

One handy feature of this sensor is that once it is mounted in place you can then bend the exposed lead to whatever position is required. For temperatures above 315 °C, we offer Glass, Silica, and Ceramic insulations; please call to inquire.



3" Exposed Wire

Order Information - Refer to page 2 for ordering instructions.

SPECIFICATIONS	
Sensing Tip	Wire size as ordered
Handle	None
Lead	55" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Accuracy	ASTM E-230 standard limits (p.17)
Response Time	<3.5 Seconds to 95% of reading

MODEL	TEMPERATURE	T/C	TERMINATION	LEAD TYPE
AW - Flexible Air w/ bracket	06 = 315 °C (600 °F)	E, J, K, *T	M = Mini-plug (Digital) P = Phonoplug U = Unterminated A = Spade Lugs (Analog-IP)	7 = Teflon®
	09 = 480 °C (900 °F)	E, J, K		4 = Glass
	12 = 650 °C (1200 °F)			5 = Silica
	22 = 1200 °C (2200 °F)	K		Q = Ceramic Fiber

*Max. Temperature for **T** is 400 °C, for **06** only.

Don't Fear the Phone Call!

We've all been there before: You need to place an order. You need to get troubleshooting help. You need your important questions answered. But you just can't bear to pick up the phone for a few frustrating hours of bouncing between departments, being put on hold, and speaking to person after person who can't even help you.

Put your phone fears to rest when you call EDL. You'll ALWAYS speak to one of our employees at our base of operations in Danville, Virginia. Making the world's best sensors and devices is only half of what makes us an industry leader: Refusing to compromise on customer service is the other half.

Call us today: 1.800.342.5335 or 434.799.0807
Monday - Friday 8:00am-5:00pm EST

Small Magnetic Surface Sensors



Features:

- Will not alter temperature when used over long periods of time
- Eliminates permanent mounting
- Recommended for motors, machinery, mine equipment, coating lines, etc.
- This low-cost magnetic sensor has a one minute response time once applied

SPECIFICATIONS	
Magnet	0.75" diameter, > 5 lb. pull
Lead	32" Teflon® twisted wire with Mini-plug
Accuracy	±3% of reading
Response Time	>1 minute

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SHL - Magnetic	08 = 425 °C (800 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated

Heavy Duty Magnetic Surface Sensors



EDL's Magnetic Surface Sensors use a magnet to hold the sensor in any position on any flat iron or steel surface with over 40lbs. of force! These magnetic sensors are perfect for motors, machinery, coating lines, large drums, and mine equipment.

The Magnetic Surface Sensor features our popular 2-coil thermocouple design in an easy to replace style. Useful when long intervals of monitoring are essential without having to permanently mount the sensor in place. All EDL Magnetic Surface Sensors come standard with a 32" lead with Stainless Steel over braid.

SPECIFICATIONS	
Sensing Tip	0.50" diameter, ceramic two-coil type
Handle	2.75" L x 0.75" diameter, Stainless Steel
Magnet	2" diameter x 1.187", 40 lb. pull
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid
Accuracy	±3 ° or 1%, (whichever is greater)
Response Time	< 3 seconds to 95% of reading

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SH - Magnetic	12 = 650 °C (1200 °F)	E J K *T	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug L = Standard Plug (Add \$12.00) U = Unterminated
SS - Replaceable surface sensor tips			R

*Max. Temperature for **T** is 400 °C.

Low Profile Magnetic Surface Sensors



5"

EDL's Low Profile Magnetic Surface Sensors are ideal for use on coil coating lines, painting lines, sheet metal operations, oven walls, welding applications, and more. The Low Profile design allows it to fit in small spaces and reduces its mass influence on thin parts.

Utilizing the ceramic mounted, 2-coil thermocouple design, the Low Profile Magnetic Surface Sensor delivers the utmost in value for unique, space limited applications. Standard with a built in mini thermocouple plug, you have your choice of extender leads for your particular application. A Stainless Steel leaf spring secures the sensing element against the flat test surface while an 18lb. pull magnet holds its position.

Note: Must be used with an extender lead!

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SLP - Magnetic	08 = 425 °C (800 °F)	E J K	E = Mini-plug (no lead)
ET-M-MJ-36 SS Overbraid Extender Lead w/Mini-plug 36" Lead	-		-

EDL's Threaded Bolt Sensors are ideal for monitoring of engines, machinery, and many other processes. These sensors thread into a 3/16 - 24 UNC or 1/4 - 20 UNC standard machine thread-hole size. Standard bolts are 1" hex head Stainless Steel. The thermocouple is internally mounted at the tip of the bolt for fast, accurate readings.

The lead wire is protected with a flexible strain relief for added durability. Standard sensors operate up to 600 °F. Other styles are available for temperatures up to 1500 °F. EDL's Threaded Bolt Sensors come standard with a 32" long, 20 gauge Teflon® insulated wire.

SPECIFICATIONS	
Sensing Tip	Stainless Steel
Handle	None
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted
Accuracy	ASTM E-230 standard limits
Response Time	<3 Seconds to 95% of reading



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	DIAMETER	THREAD	LENGTH	TERMINATIONS	LEAD TYPE
WBT - Threaded Bolt	06 = 315 °C (600 °F)	E J K *T	V = 3/16" A = 1/4" C = 5/16" G = 1/4"	10 x 24 1/4 x 20 5/8 x 18 3/8 x 16	1"	M = Mini-plug (Digital) P = Phonoplug (Analog) U = Unterminated L = Standard Plug (Add \$12.00)	7 = Teflon

*Max. Temperature for T is 400 °C.

Welded Washer Sensors

EDL's Welded Washer Sensors are perfect for use in marine, automotive, or any bolt on application. These sensors can be easily tightened under any bolt size starting from 3/16" diameter and up. A thermally conductive washer with a thermocouple wire welded internally makes mounting fast and permits continuous monitoring of temperatures up to 1200 °F (depending on style).

The Welded Washer Sensor comes standard with a 55" long, 20 gauge Teflon® insulated wire. Smaller diameters are available on special order.

SPECIFICATIONS	
Washer	0.375" Wide
Handle	None
Standard Lead	55" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted.
Accuracy	ASTM E-230 standard limits (p.17)
Response Time	<3 Seconds to 95% of reading



Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION	LEAD TYPE
WW - Washer	06 = 315 °C (600 °F)	E, J, K, T*	M = Mini-plug (Digital) P = Phonoplug (Analog) A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated	7 = Teflon (for 06 only)
	09 = 480 °C (900 °F)	E, K, J		4 = Glass (for 09 only)
	12 = 650 °C (1200 °F)	E, K		5 = Silica (for 12 only)

*Max. Temperature for T is 400 °C.

The US Navy's #1 Choice in Oven Sensor!

The people who defend our country choose our Welded Wire Sensors over all others to keep their systems running quickly, accurately, and reliably. So can you!
National Stock Number: 6685-01-133-8929 / 6685-01-284-8728

EDL's Welded Wire Sensors are ideal for use in heated enclosures, ovens, vents, and ducts for HVAC or where simple, low cost temperature measurements are practical. Welded Wire Sensors are accurate, durable, and economical.

Standard Welded Wire Sensors use stranded #20 gauge thermocouple grade wire with fused Teflon® insulation. Higher temperature styles use glass, silica, or ceramic as the insulation. The junction is TIG welded for added strength and value. Welded Wire Sensors come with a 55" long lead wire.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION	LEAD TYPE
WU - Welded Wire	06 = 315 °C (600 °F)	E, J, K, *T	M = Mini-plug (Digital) P = Phonoplug (Analog) A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated	7 = Teflon (for 06 only)
	09 = 480 °C (900 °F)	E, K, J		4 = Glass (for 09 only)
	12 = 650 °C (1200 °F)	E, K		5 = Silica (for 12 only)
	22 = 1200 °C (2200 °F)	K		Q = Ceramic Fiber (for 22 only)

*Max. Temperature for T is 400 °C.

Welded Wire Sensors

SPECIFICATIONS	
Sensing Tip	Welded Junction
Handle	None
Standard Lead	55" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted.
Accuracy	ASTM E-230 standard limits (p.17)
Response Time	<3 Seconds to 95% of reading



RTD Button Sensors



These sensors can be configured for all environmental control systems

This lacquer coated brass sensor is designed for temperature measurement applications requiring a sensor that must be installed with a finished professional look. The button sensor can be installed into wood, plastic or plaster materials such as those used in commercial and industrial moldings. Installation is simple and fast; a standard 1/4" hole is drilled and the sensor is press fit into location. A plastic installation tool is available to ensure a clean, mar-free installation.

This sensor can be manufactured as a 2, 3 or 4 wire Resistance Temperature Detector (RTD) or as a thermocouple. Standard leads are nine inches but other lengths can be supplied upon request. For RTD sensors only Class A elements are used and for thermocouples only precision limits of error wire are used, guaranteeing accurate reliable measurements. Each sensor can be supplied with calibrated temperature to resistance values at an additional cost.

Note: These sensors may be finished to your specific color requirements. Please inquire for pricing.

Great for Interior Design!

Order Information - Refer to page 2 for ordering instructions.

MODEL	RESISTANCE	CURVE	DIAMETER	LEAD
SPPT-1447-C - Brass RTD Button	1000 ohms	0.00385	0.6"	2 Wire
RT-INSRT - Plastic Installation Tool	(Installation tool is free with order of 10 or more Sensors)			

SPECIFICATIONS	
Sensing Tip	0.6" Diameter
Lead	2 Wire w/ 12" pigtails
Range	-50 °C to 100 °C
RTD	1000 ohms
Accuracy	Available in class A or B
Termination	Supplied Unterminated
Curve	0.00385 (0.00392 Optional)

RTD Environmental Air Sensors



Sealed & ideally suited for wash down environments such as food preparation or hatcheries

EDL's Environmental Air Sensor is the perfect solution for critical monitoring applications such as laboratories, refrigerated areas, incubators, and hatcheries. The RTD sensor is located inside of a cage with a high open area for fast response. A small plastic or Stainless Steel mounting base can easily be affixed to walls or ceilings in either a vertical or horizontal position.

The sensor's high accuracy and fast response time helps to improve environmental control and monitoring. The sensing element is sealed and embedded in a Stainless Steel tube so the sensor may be used in wash down applications. The shield protects the element while allowing sufficient airflow for an accurate reading. It is available with extended lead lengths so that no line splicing is required.

Order Information - Refer to page 2 for ordering instructions.

MODEL	RESISTANCE	CURVE	LEAD	LEAD LENGTH
RTAES - Air Sensor	1 = 100 ohms	8 = 0.00385	2W = 2 Wire	30'
	10 = 1000 ohms		3W = 3 Wire	
		9 = 0.00392	4W = 4 Wire	50'
				100'

SPECIFICATIONS	
Sensing Element	1 1/2" - 3" Diameter
Lead	Teflon® / Teflon®
Range	-50 °C to 200 °C
Accuracy	Available in class A or B
RTD	100 ohms
Termination	Supplied Unterminated
Curve	0.00385

RTD Center Sharp Needle



Features:

- Hard conical tip ideal for insertion into solid or semi-solid materials
- Ideal for spot testing of nearly all food products
- Stainless Steel construction can be easily cleaned & sanitized
- High accuracy & stability due to aged platinum RTD elements
- High accuracy Class A RTD element
- Available in 3 or 4 wire 100 ohm configuration

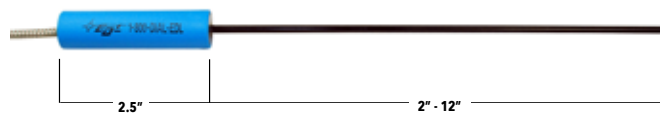
Order Information - Refer to page 2 for ordering instructions.

MODEL	RESISTANCE	RANGE	DIAMETER	CURVE	LENGTH	LEAD
RTNCS - RTD Needle	1 = 100 ohms	6 = 315 °C (600 °F)	Q = 0.093" D = 0.125" V = 0.187" A = 0.250"	8 = 0.00385 9 = 0.00392	1.25"	2W = 2 Wire 3W = 3 Wire 4W = 4 Wire

SPECIFICATIONS	
Sensing Tip	0.093" Diameter, 1.25" long
Handle	2" Stainless Steel covered with polyolefin
Lead	3 Wire with 10' long
Range	-80 °C to 200 °C
RTD	100 ohms
Accuracy	Available in class A or B
Termination	Supplied Unterminated
Curve	0.00385

Features:

- Ideal for etching, plating, & chemical cleaning tanks
- Sensors clean easily & most materials will not stick to the PFA Coating
- Precision limit material in Type K, J, or E thermocouples
- Available as standard thermocouple sensor or RTD upon request
- PFA (Teflon®) coating resists most acids & alkali solutions



SPECIFICATIONS	
Handle	2.5" L 0.625" Diameter
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Range	-80 °C to 260 °C
Accuracy	ASTM E-230 standard limits

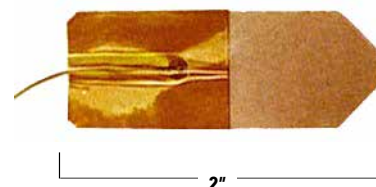
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	JUNCTION	ALLOY	T/C	NOMINAL DIAMETER	LENGTH	TERMINATION
NIA - Blunt Teflon® Coated Needle	05 = 260 °C (500 °F)	U	S4	E J K *T	D = 0.125" V = 0.187" A = 0.250" Other Diameters Available	2" - 12" Longer Lengths Available	M = Mini-plug (Digital) P = Phonoplug (Analog) A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Underterminated E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)

*Max. Temperature for T is 400 °C. More diameters & lengths are available - Call for pricing!

Self-Adhesive Thermocouple

Self-Adhesive Thermocouples utilize a high strength Teflon® or Kapton tape material with a high temperature silicone based adhesive. Within this tape is embedded a #36 gauge fine wire thermocouple. The fine gauge thermocouple provides excellent sensitivity and extremely fast response times. These sensors are available in all thermocouple types and may be ordered with all types of standard terminations. In addition, custom lengths may be ordered. Extension cable may also be used to facilitate connecting transmitters and control panels as well as local monitoring. The Self-Adhesive Thermocouple may be trimmed to suit your particular application. EDL's Self-Adhesive Thermocouples are packaged in a quantity of 5 to a box and are optionally available with traceable calibration certification. These sensors come standard with a 32" Teflon® Zip Lead.



SPECIFICATIONS	
Sensing Tip	Kapton
Handle	none
Lead	32" Long thermocouple grade Teflon® zip wire
Range	-40 °C to 200 °C
Accuracy	1%

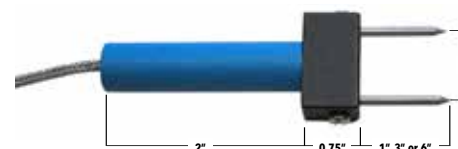
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	WIRE GAUGE	TERMINATION
WADK - Kapton Tape	04 = 200 °C (400 °F)	E* J K T**	N = 30G	M = Mini-plug (Digital) L = Standard Plug (Add \$12.00) U = Underterminated

*Thermocouple Type E is Digital Only. **Max. Temperature for T is 400 °C.

Heavy Duty Prong Sensor

EDL's Heavy Duty Prong Sensors are engineered to give fast accurate readings on rough, uneven metal surfaces. The two fixed heavy duty 1", 3", or 6" long replaceable prongs are center sharpened for positive contact into any metal surface. The prongs are mounted into a high temperature block with a 2.5" powder coated Aluminum handle for secure grip allowing firm pressure against the object under test. These sensors are ideal for Aluminum castings and most foundry applications. They do require a pressure of 5-7 pounds of force for reliable readings.



Prongs are easily replaced and may be re-sharpened as needed. All EDL Heavy Duty Prong Sensors come standard with a 32" lead with Stainless Steel overbraid.

Order Information - Refer to page 2 for ordering instructions.

SPECIFICATIONS	
Sensing Tip	Thermocouple material
Handle	2 1/2" Powder coated
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Range	-40 °C to 815 °C
Accuracy	1%

MODEL	TEMPERATURE	T/C	LENGTH	TERMINATION
SHP - Heavy Duty Prong	15 = 815 °C (1500 °F)	E J K	1" 2" 3" 4" 5" 6"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Underterminated E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)
RHP - Replacement Prongs			1" - 2" 3" - 4" 5" - 6"	

Prongs are easily resharpened!

Platen Surface Sensor



Features:

- Platens & press plates can be closed & their surface temperature measured using this sensor
- Spring loaded sensing element
- Will withstand 20,000 psi of clamping pressure
- Platens or press plates may be closed to 3/8"
- All Stainless Steel rugged construction

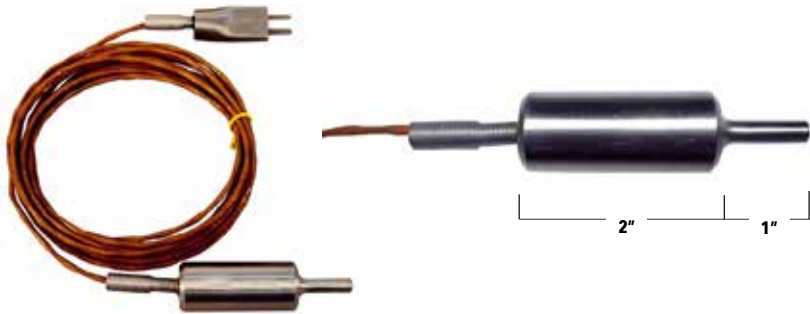
Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	DIAMETER	TERMINATION
SPM - Platen Surface Sensor	10 = 500 °C (1000 °F)	E J K *T	1 1/2" 3"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated E = Mini-plug (No lead) (-\$23.00) R = Must use HDRT holder (-\$5.00)

*Max. Temperature for **T** is 400 °C.

SPECIFICATIONS	
Sensing Element	1 1/2" or 3" Diameter Spring Loaded
Lead	32" Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Range	-40 °C to 500 °C
Accuracy	1%
Shank Length	6"

Weighted Fluid Sensor



Features:

- Sensor will sink in most fluid
- For tanks, drums & other liquid vessels
- Stainless Steel & Teflon® construction is durable & easy to clean
- Sensing tip is tapered to maintain accuracy & response time
- Teflon® coating available upon request

**Sinks to set depth even in viscous material!
PERFECT for curing tanks!**

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	DIAMETER	TERMINATION
NBW - Weighted Fluid Sensor	05 = 250 °C (500 °F)	E J K *T	A = 0.250"	M = Mini-plug (Digital) P = Phonoplug (Analog) C = Coilcord w/ Mini-plug A = Spade Lugs (Analog-IP) L = Standard Plug (Add \$12.00) U = Unterminated

*Max. Temperature for **T** is 400 °C.

SPECIFICATIONS	
Sensing Element	1 1/2" - 3" Diameter
Lead	10' Long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid
Range	-100 °C to 250 °C
Accuracy	1%

Mini-Spade Lug Sensor



Features:

- Small footprint & low mass makes it ideal for tight applications
- Easily installed using a #2 to #6 screw
- Thermocouple junction brazed to lug
- Front of spade lug may be formed for angled or curved installation

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	TERMINATION
SMSL - Mini-Spade Lug	09 = 480 °C (900 °F)	K J	M = Mini-plug (Digital) U = Unterminated

*Max. Temperature for **T** is 400 °C.

SPECIFICATIONS	
Lead	#24 glass/glass, 32" long
Range	-80 °C to 480 °C
Accuracy	1%

RTD Mini-Grabber Clips provide a continuous connection from bare wires to the measuring instrument without attaching plugs and eliminates the need to use copper connections. EDL's connectors save time and improves accuracy and efficiency of your measurement application.

Features:

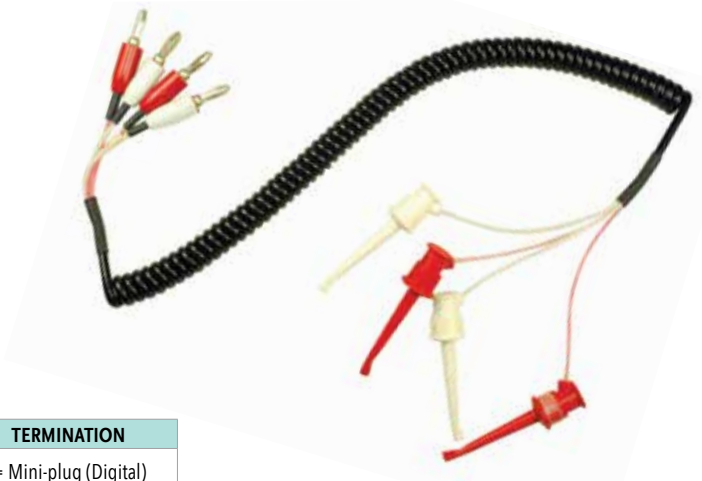
- RTD material from the tip to the Banana Plug
- Available with convenient coil cords or Teflon
- Allows fast connections to bare RTD wires
- Eliminates multiple cold-end junctions
- 3 or 4 wire copper/copper

Order Information - Refer to page 2 for ordering instructions.

MODEL	WIRES	LEAD TYPE	LEAD LENGTH	TERMINATION
MG - RTD Mini-Grabber Clips	R3 = 3 wire	C = Coil Cord	1- 1' extends to 5' 3- 3' extends to 15' (add \$32.00)	M = Mini-plug (Digital) J = Mini-jack B = Banana Plug L = Standard Plug **
		T = TFE-TFE	H- 5' Teflon/Teflon	

** Add to base price: \$12.00 for L (standard plug)

MODEL	WIRES	LEAD TYPE	LEAD LENGTH	TERMINATION
MG - RTD Mini-Grabber Clips	R4 = 4 wire	C = Coil Cord	1- 1' extends to 5' 3- 3' extends to 15' (add \$32.00)	U = Underminated B = Banana Plug
		T = TFE-TFE	H- 5' Teflon/Teflon	



RTD Extender leads available!
Call for details: 1.800.342.5335

RTD Mini-Grabber Alligator Clips

Features:

- Ideal for transmitter connections
- Wide opening jaw
- Available with convenient coil cords or Teflon/Teflon
- Ideal for connecting wires inside process connection heads
- 3 or 4 wire copper/copper

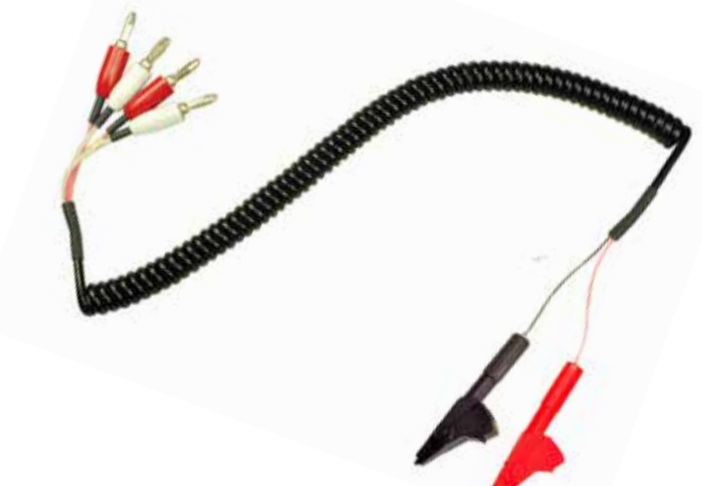
SPECIFICATIONS	
Length:	3.3"
Width:	0.5"
Jaw Width At Tip:	0.218"
Maximum Opening:	0.25"
Coil Cords:	1' or 3'
TFE:	5'

Order Information - Refer to page 2 for ordering instructions.

MODEL	WIRES	LEAD TYPE	LEAD LENGTH	TERMINATION
MGA - RTD Mini-Grabber Alligator	R3 = 3 wire	C = Coil Cord	1- 1' extends to 5' 3- 3' extends to 15' (add \$32.00)	M = Mini-plug (Digital) J = Mini-jack B = Banana Plug L = Standard Plug **
		T = TFE	H- 5' Teflon	

** Add to base price: \$12.00 for L (standard plug)

MODEL	WIRES	LEAD TYPE	LEAD LENGTH	TERMINATION
MGA - RTD Mini-Grabber Alligator	R4 = 4 wire	C = Coil Cord	1- 1' extends to 5' 3- 3' extends to 15' (add \$32.00)	U = Underminated B = Banana Plug
		T = TFE	H- 5' Teflon	



RTD Extender leads available!
Call for details: 1.800.342.5335

Thermocouple Mini-Grabber Clips

Thermocouple compensated Mini-Grabbers provide a continuous thermocouple connection from bare wires to the measuring instrument without attaching plugs.

These connectors will save time and improve the accuracy of your measurement. Stop making thermocouple measurements with copper connections!

Features:

- Thermocouple material from the tip to the Mini-plug
- Available with convenient coil cords or Teflon
- Available in all ASTM thermocouple types
- Allows fast simple connections to bare thermocouple wires
- Ideal for connecting thermocouple wires inside process connection heads
- Eliminates multiple cold end junctions
- Also available in copper/copper

Available As A Set:

Available individually or as base metal complete set.

Set includes types K, J, T, & E.

MG-SET-C-1-M (1' Lead)

MG-SET-C-3-M (3' Lead)



Types Available:



Thermocouple Type K



Thermocouple Type J



Thermocouple Type E



Thermocouple Type N



Thermocouple Type T



Uncompensated Cu/Cu
Copper/Copper



Order Information

EDL Mini-Grabbers are ordered by part number. The numbering system listed below is designed so you can easily identify the thermocouple type, lead type, lead length, & termination.

Mini-Grabber Part # Example

Mini-Grabber - Type K - Coil Cord - 1' Lead - w/ Mini-plug Termination

MG - K - C - 1 - M

TC Type - Lead Type - Lead Length - Termination

MODEL	T/C	LEAD TYPE	LEAD LENGTH	TERMINATION
MG - Thermocouple Mini-Grabber	*T E J K CU	C = Coil Cord	1 = 1' & extends to 5' 3 = 3' & extends to 15' (Add \$32.00)	M = Mini-plug (Digital) J = Mini-jack L = Standard Plug (Add \$12.00) U = Untermated
	R S	T = TFE	H = 5' Teflon for "T" lead type only	
	**N			
MG-SET-C-1-M	SET	C = Coil Cord	1 = 1' & extends to 5'	M = Mini-plug (Digital)
MG-SET-C-3-M	SET	C = Coil Cord	3 = 3' & extends to 15'	M = Mini-plug (Digital)

*Max. Temperature for T is 400 °C.

**N is available only in 1' lead length.

Thermocouple compensated alligator clips provide the perfect solution for taking temperature measurements via terminal strips and screw head connections.

These clips will not add an additional junction; they are thermocouple material from the tip back to the plug. They are available in all base metal thermocouple types and in uncompensated versions for other connections.

Alligator Clips may be purchased with coil cords and your choice of termination. All of the clips open a full 0.25" making them suitable for binding posts, screw heads or large diameter wire.

Add confidence to your thermocouple measurements by using compensated leads. See our Thermocouple Mini-Grabbers for smaller wires and screws (p.23).



Features:

- Thermocouple material at tip
- Available with convenient coil cords or Teflon
- Available in all ASTM thermocouple types
- Allows fast simple connections to bare thermocouple wires
- Ideal for connecting thermocouple wires inside process connection heads
- Eliminates multiple cold end junctions
- Also available in copper/copper

Available As A Set

Available individually
or as base metal complete set.
Set includes types K, J, T, & E.

MGA-SET-C-1-M (1' Lead)
MGA-SET-C-3-M (3' Lead)



Order Information

EDL Thermocouple Mini-Grabber Alligator Clips are ordered by part #. The numbering system listed below is designed so you can easily identify the thermocouple type, lead type, lead length, & termination.

Mini-Grabber Alligator Clips Part # Example

Mini-Grabber Alligator – Type K – Coil Cord – 1’ Lead – w/ Mini-plug Termination

MGA - K - C - 1 - M

Mini-Grabber Alligator–TC Type – Lead Type – Lead Length – Termination

SPECIFICATIONS	
Length	3.3"
Width	0.5"
Jaw Width (At Tip)	0.218"
Maximum Opening	0.25"
Coil Cords	1' & 3'
TFE	5'

MODEL	T/C	LEAD TYPE	LEAD LENGTH	TERMINATION
MGA - Thermocouple Mini-Grabber Alligator	*T E J K CU	C = Coil Cord	1 = 1' & extends to 5' 3 = 3' & extends to 15' (Add \$32.00)	M = Mini-plug (Digital) J = Mini-jack L = Standard Plug (Add \$12.00) U = Untermated
	R S	T = TFE	H = 5' Teflon for "T" lead type only	
	**N			
MGA-SET-C-1-M	SET	C = Coil Cord	1 = 1' & extends to 5'	M = Mini-plug (Digital)
MGA-SET-C-3-M	SET	C = Coil Cord	3 = 3' & extends to 15'	M = Mini-plug (Digital)

*Max. Temperature for T is 400 °C.
**N is available only in 1' lead length.

Sensor Accessories - Delta Clamp

SPECIFICATIONS	
Operating Temperature	Max. 121 °C (250 °F)
Lead	32" long thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted w/ Stainless Steel overbraid



Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C	TERMINATION
HDC - Delta Clamp	E	M = Mini-plug (Digital)
	J	P = Phonoplug (Analog)
	K	C = Coilcord w/ Mini-plug
	*T	A = Spade Lugs (Analog-IP)
		L = Standard Plug (Add \$12.00)
		U = Unterminated

*Max. Temperature for **T** is 400 °C.

Features:

- For use with #20 to #36 gauge wire
- A spring loaded compensated clip-on connection
- Versatile holder for fast & easy connection of fine wire thermocouples
- Jaws are color coded & lined with thermocouple material

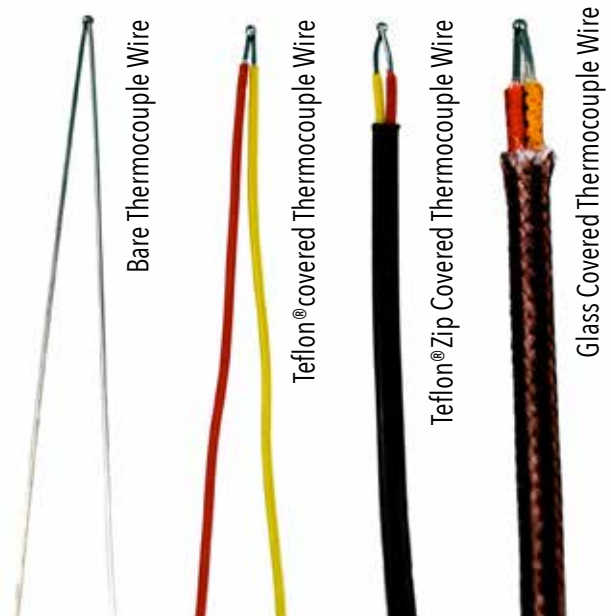
Precalibrated Replaceable Fine Wire Thermocouples

These inexpensive thermocouples are great for measuring the temperature of air, liquids, and surfaces of very small mass. All fine wire thermocouples have welded junctions to assure reliable accurate readings. They are easy to replace and may be used with a variety of holders or fastened to the input source for a readout. Wires are color coded for easy identification. Different insulations are available depending on the application. Complete response may take a few seconds depending on the object under test and the method of measurement.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	WIRE GAUGE	T/C	LENGTH
WRFT - Teflon® Covered	260 °C (500 °F)	L = #26 N = #30	E J K *T	6"
				12"
				24"
WRFZ - Teflon® Zip Covered	425 °C (800 °F)	L = #26 N = #30	E J K *T	6"
				12"
				24"
WRFG - Glass Covered	815 °C (1500 °F)	L = #26 N = #30	E J K *T	6"
				12"
				24"
WRFU - Bare	815 °C (1500 °F)	L = #26 N = #30	E J K *T	6"
				12"
				24"

*Max. Temperature for **T** is 400 °C.



Sensor Accessories - Termination Adaptors

EDL color-coded thermocouple termination (color indicates thermocouple) type adaptors allow you to change a sensor's termination. If, for example, you have a sensor from an EDL analog instrument which has a long life plug termination, you can adapt the sensor to plug into a digital instrument - utilizing our miniature plug to long life jack adapter. They must be the same thermocouple type.

Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C
TA-M-LLJ - Miniature plug to long life jack	E
TA-MJ-L - Miniature jack to standard plug	J
TA-M-LJ - Miniature plug to standard jack	K *T

*Max. Temperature for **T** is 400 °C.

TA-M-LLJ

- Miniature plug to long life jack
 - Analog sensor to digital instrument
- Type **E**



TA-MJ-L

- Standard plug to miniature jack
 - Standard plug for heavy duty industry
- Type **J, K, & T**



TA-M-LJ

- Miniature plug to standard jack
 - Standard plug for process control industry
- Type **J, K, & T**



Features:

- **Designed for use with Surface or Roller Contact Surface Sensors**
- **Handle is strong & lightweight**
- **Standard Universal Handle is 12" long & 0.625" diameter**
- **Each extension is supplied with locking pins**
- **Attach sections as needed**
- **Handles available in one-piece fabrications**

EDL's extension handles are constructed from Stainless Steel and feature a comfortable foam grip. The handles are standard 12" long (additional lengths are available) with 5/8" diameter. The extension handles allow the user to add any additional length Stainless Steel sections from 12" to 6' long. The additional extensions are available in 12" sections with locking pins or specified for one piece fabrication.

Each attachment has an integral swivel joint that allows the positioning of a sensor at any angle. EDL extension handles are strong and lightweight, designed for use with Surface or Roller Contact Sensors. The sensors are coupled to the handle via the SA and RCA attachments.

Note: When adding handles and extensions to sensors, we recommend ordering longer lead lengths on sensors or the use of sensor extension leads.

Universal Handle



HUD-12" to HUD-72"

Order Information - Refer to page 2 for ordering instructions.

UNIVERSAL HANDLE		
MODEL	SIZE	DESCRIPTION
HUD-12	12"	Stainless Steel Universal Handle w/Foam Grip (Required for use with all Extension Attachments)
HUD-24	24"	
HUD-48	48"	
HUD-72	72"	

HUD-RCA Attachment

Used to mount Roller Contact Sensors. The HUD-RCA attachment and universal handle allows the user to reach difficult areas safely during testing. The sensor may be positioned at any angle.



HUD-SA Attachment

Used to mount any sensor that has a 0.625" diameter handle. The HUD-SA attachment and universal handle allow the user to reach difficult areas safely in test applications. The sensor may be positioned at any angle.



Order Information - Refer to page 2 for ordering instructions.

HUD-RCA & HUD-SA ATTACHMENTS	
MODEL	DESCRIPTIONS
HUD-SA	Fits sensor handles with a 0.625" diameter
HUD-RCA	Fits roller contact sensors with a nylon block

Extension Handle Attachment



HUD-GXT-12" to GXT-72"

Order Information - Refer to page 2 for ordering instructions.

EXTENSION HANDLE ATTACHMENT		
MODEL	SIZE	DESCRIPTION
HUD-GXT-12	12"	Stainless Steel Extension Attachment (Will not work without the Universal Handle)
HUD-GXT-24	24"	
HUD-GXT-48	48"	
HUD-GXT-72	72"	

Sensor Accessories - Extender Leads



Mini-plug SS Overbraided Extender Lead



Mini-plug Coil Cord Extender Lead

Features:

- **We recommend 18" of additional lead length for each 12" extension piece used for maximum flexibility.**
- **Instead of ordering additional sensor lengths, you may elect to use an Extender Lead (ET) of the proper length to attach to your standard sensor.**
- **Leads available in thermocouple grade stranded #20 gauge wire, Teflon® insulated & twisted with Stainless Steel overbraid or in PVC coil cord that extends out from the set length.**

**RTD Extender leads available!
Call for details: 1.800.342.5335**

Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C	TERMINATIONS
ET-M-MJ-36- Mini-plug extender lead	J K E *T	Mini-plug- 36" length #20 gauge T/C wire w/SS overbraid & Mini-jack to Mini-plug connected by 36" length T/C grade wire 2/ SS overbraid with T/C grade designation at the end. (E - digital only)
ET-M-MJ-1FTC- 1' Coil Cord extender lead	J K *T	Coil Cord - comes in 1', 2', and 3'. PVC coated coil cord adapter cable with Mini-plug to mini-jack. 1' coil extends to 5', 2' coil extends to 10' and 3' coil extends to 15'. Great for short and long extensions. Call for details on 1' & 2' in T/C Type E.
ET-M-MJ-2FTC- 2' Coil Cord extender lead		
ET-M-MJ-3FTC- 3' Coil Cord extender lead		

*Max. Temperature for T is 400 °C.

Process Thermocouple (PTC)

Features:

- Available in thermocouple types J, K, T, E, R, S, & N
- Designed with compensated wires for easy wiring when combined with EDL's Protection Heads
- Fits all standard 6" 0.260" bore Thermowells (Thermowells sold separately)
- Probe length = stem length + fitting + clearance
- Adjustable self-gripping spring allows for use in shorter length Thermowells
- Large selection of optional thermowells and extension cables available
- Probe Lengths May Be Made to Fit Any Thermowell Stem Length
- Available with Grounded or Ungrounded Junctions



EDL's Process Thermocouples are ideal for general and specific process and laboratory applications. They are available in K, J, T, E, R, S and N thermocouple types.

The EDL PTC was designed to provide our customers with a simple way of adapting our PTC thermocouple sensors for use in Thermowells. The addition of a spring loading feature to the sensor ensures that you get the proper contact between sensor and Thermowell every time you spot check.

The PTC consists of three parts: the sensor probe, a hex nut with a 1/2" NPT mounting thread, and a self-gripping adjustable spring.

The PTC may also be used as a back-up sensor for a variety of applications. The spring loading feature can be adjusted to fit a variety of Thermowells. The spring loading fitting can be removed altogether and replaced with a compression type fitting if a fixed position is needed. This flexibility in mounting options makes the EDL PTC the perfect solution for a wide variety of applications.

When ordering your PTC, don't forget your thermocouple extension cable. EDL offers thermocouple extension cables in a variety of materials, including PVC and PFA insulated cables with optional stainless steel braid or hose for improved mechanical protection. All of EDL's wide selection of thermocouple connectors are available for connection to your pyrometer.

SPECIFICATIONS	
Metal Parts:	304/310 Stainless Steel Sheath & Housing
Standard Probe Diameter:	Thermocouple Type K, 1/4"
Spring Material:	0.035" Diameter

Note: These Thermocouple Sensors Require a Thermocouple Extension Cable to Connect the Sensor to Your Instrument.

Process RTD (IPRT)

Features:

- Fits All Standard 0.260" Bore Thermowells (Thermowells Sold Separately)
- Probe Length = Thermowell Stem Length
- Adjustable Self-Gripping Spring Allows for Use in Shorter Length Thermowells
- Large Selection of Optional Thermowells and Extension Cables Available



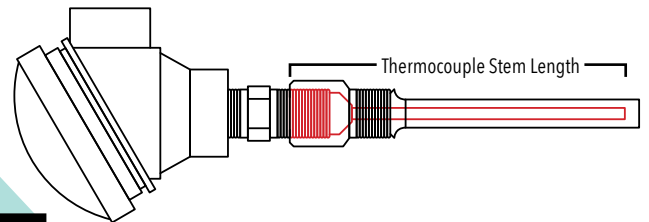
EDL's Process RTDs are ideal for general and specific process and laboratory applications. The advantages of RTDs include stable output for long periods of time, ease of recalibration and accurate readings over a relatively narrow temperature span. The EDL IPRT was designed to provide our customers with a simple way of adapting our RTD sensors for use in thermowells. The addition of a spring loading feature to the sensor ensures that you get the proper contact between sensor and thermowell.

The IPRT consists of three parts: the sensor probe, a hex nut with a 1/2" NPT mounting thread, and a self-gripping adjustable spring.

The IPRT may also be used as a back-up sensor for a variety of applications. The spring loading feature can be adjusted to fit a variety of Thermowells. The spring loading fitting can be removed altogether and replaced with a compression type fitting if a fixed position is needed. This flexibility in mounting options makes the EDL PTC the perfect solution for a wide variety of applications.

SPECIFICATIONS	
Metal Parts	304 Stainless Steel Sheath and Housing
Standard Probe Diameter	1/4"
Spring Material	0.035" Diameter
Standard Probe Lengths	May be made to fit any thermowell stem length

Note: These RTD Sensors Require a Thermocouple Extension Cable to Connect the Sensor to Your Instrument.



Sizing Process Thermocouples & Process RTDs

To determine the length of the PTC or IPRT needed, simply measure the depth of the sensor bore in the Thermowell from the end of the Thermowell to the bottom of the bore.

The EDL PTC and EDL IPRT assemblies are designed to fit into a Thermowell with a stem length equal to that specified in the model number. Simply slide the sensor assembly into the Thermowell until bottomed and then compress the spring while making the 1/2" NPT connection. Thread sealant tape or thread compound may be used on the 1/2" NPT mounting thread to insure easy removal at a later time. The position of the self-gripping spring can be adjusted so that the sensor can be used in a shorter Thermowell. Simply twist the spring while sliding it along the probe stem until the needed position is reached.

When ordering your PTC, don't forget your thermocouple extension cable. EDL offers thermocouple extension cables in a variety of materials, including PVC and PFA insulated cables with optional stainless steel braid or hose for improved mechanical protection. All of EDL's wide selection of thermocouple connectors are available for connection to your pyrometer.



EDL's thermocouple probes are a convenient way to measure the temperature in your process. These thermocouple probes are available as Type K thermocouples with 316 Stainless Steel sheaths or as Type J thermocouples with 304 Stainless Steel sheaths. Standard probe size is 1/4" diameter, 12" long. These thermocouples may be customized, please call EDL Sales (434.799.0807) for help with ordering additional lengths.

With a variety of standard mounting threads, these probes can easily be configured to match your specific requirements. Fractionally sized 1/4" diameter probes are available with 1/2" NPT, 3/8" NPT, 1/4" NPT or with no mounting threads. The non-threaded versions of the sensor can be used as-is or mounted into your process using one of EDL's Compression Fittings. Please call EDL Sales for information on Compression Fittings.

Connect your PTC thermocouple probe to one of EDL's wide variety of controllers, data loggers, hand held thermometers, PLCs or other measurement/process control products to complete your measurement or control system.

Features:

- Available in Thermocouple Types K or J
- Single Element Configuration Standard, Dual
- Element Styles Available Upon Request
- Ungrounded & Grounded Junctions Available
- Standard 6mm Diameter in a Variety of Lengths & Mounting Threads
- All Sensors Supplied with a Stainless Steel Transition
- We Offer a Variety of Thermocouple Extension Cables for Installing Your Thermocouple

These sensors give you a basic finished sensor that you can work with and adapt for your own applications.

Note: These sensors require an Extension Cable to connect the sensor to your instrument.

SPECIFICATIONS		
Thermocouple Type	Type J	Type K
Sheath	304 Stainless Steel	316 Stainless Steel
Housing	316 Stainless Steel	316 Stainless Steel
Temperature Range at End	600 °C	1150 °C
Size	1/4" Diameter	1/4" Diameter
Length	12" Standard	12" Standard
Insulation Resistance	1 gigohm minimum at 100 VDC for ungrounded sensors	1 gigohm minimum at 100 VDC for ungrounded sensors

Bayonet Thermocouples (IB)



Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C	JUNCTION	SHEATH	DIAMETER	LENGTH
IB - Bayonet Thermocouple	*T	G	S0 = 310SS	D = 0.125"	2"
	E			V = 0.181"	4"
	J			A = 0.250"	6"
	K				

*Max. Temperature for T is 400 °C.

EDL's IB Thermocouples have a grounded junction to reduce response times and increase accuracy. These bayonet mount thermocouples use a quick release twist lock mount for easy interchangeability. If you require very fast, highly accurate measurements, see our line of Needle Thermocouples. These sensors are also available in RTD elements. Universal design allows for quick thermocouple or RTD installation into existing twist-lock adapters often found in molding machines and extruders.

The Bayonet Style Sensor comes standard with 24" unterminated Stainless Steel over braid over glass or 1" terminated spiral lock over glass. Base price includes standard lengths up to 6" and standard diameters (0.125", 0.187", and 0.250"). Additional sizes are available, please call to inquire.

General Process - Weld Pad Thermocouples (IB)

These heavy gauge weld-pad thermocouples are designed for use where long-term surface temperatures are required. The Stainless Steel weldable pad is a full 1/8" thick around the edges. Two designs are available, one having only high temperature leads, the other having a Stainless Steel stem coming from the weld-pad. The entire sensor has a range of -149 °C to 871 °C (-300 °F to 1600 °F). Response time is about 30 seconds; accuracy is better than 99% of reading.



Built to Your Specifications

Features:

- Designed for use in chemical, petroleum, water plants, & power houses
- Ideal for process control applications such as monitoring the temperature of furnaces & boiler tube skins
- Built to customer's specifications
- Ideal for preventative analysis, as it is effective in determining errors & tube skin fatigue
- Applications include tanks and fluid lines, furnace profile studies, engine manifolds - anywhere accurate, conveniently installed measurements are required.

Resistance Temperature Detectors

The standard probe contains a wire wound element with MgO insulation in a 310 Stainless Steel sheath with a general purpose Aluminum head. A terminal block is mounted in the interior of the head. The head typically has 1/2" NPT mounting threads for conduit and process openings.

Industrial RTDs are typically made in a 3-wire design. This design allows the readout instrument to perform lead compensation. Simple 2-wire designs are available, but they tend to give you less accuracy, because of lead resistance error, unless you are using short leads or high resistance elements. 4-wire designs give you the highest accuracy, because they allow for highly accurate lead compensation.

RTD Sensors are produced in multiple styles. Typically, they have a slightly slower response time and may tend to be larger. However, their advantage is their long-term repeatability.

Features:

- 1/4", 3/16" Probe Diameters Standard
- 12" Length Standard
- 1/2" NPT Mounting Threads Standard

Please contact EDL Sales at 1.800.342.5335 for price and delivery on PFA-coated assemblies and other specialized heads.



Ideal for the Power & Utilities Industry!

Screw-In RTD (IPRTS)

Screw-in RTDs are designed for easy installation in industrial and commercial environments and may be mounted on machines, against process pipes, or embedded directly into a machined part.

To request a quote on EDL's Screw-In RTDs (IPRTS), please contact EDL sales at 1.800.342.5335.



Die-Cast Aluminum Heads

Hinged Terminal Connection Heads

Features:

- Nema 4 rated
- Convient flip-top design
- Stainless Steel hinge pins & latches
- Silicon gasket (rated to 600 °F)
- Available: polypropylene continuous (rated to 198 °F)
- 3/4" NPT conduit port size



Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION
EHH-HD-ALH1/8	Aluminum Head, Hinged 1/8 x 3/4 NPT
EHH-HD-ALH1/2	Aluminum Head, Hinged 1/2 x 3/4 NPT
EHH-HD-ALH3/4	Aluminum Head, Hinged 3/4 x 3/4 NPT

Die-Cast Aluminum Heads

Features:

- Nema 4 rated indoor/outdoor non-hazardous use
- Screw-top seal design for easy access & closure
- Nitrile rubber gasket (rated to 750 °F)



Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION
EHH-HDAL3/4-1/8	Aluminum Head, 3/4 NPT Conduit, 1/8 Process
EHH-HDAL3/4-1/2	Aluminum Head, 3/4 NPT Conduit, 1/2 Process
EHH-HDAL3/4-3/4	Aluminum Head, 3/4 NPT Conduit, 3/4 Process

Spring-Loaded Terminal Blocks



Duplex or Triplex Terminal Blocks



Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION
EHT-BLC/SH-2T	DIN 2 Terminal Block w/ Solder Hooks
EHT-BLC/SH-4T	DIN 4 Terminal Block w/ Solder Hooks
EHT-BLC/SH-6T	DIN 6 Terminal Block w/ Solder Hooks
EHH-HD-ALH1/2XH	Aluminum Head for Spring Mount Terminal Block

Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION
EHB-BLS	Single Block
EHB-BLD-4T	Duplex Block - 4 Terminals
EHB-BLT-3T	Triplex Block - 3 Terminals
EHB-BLT-4T	Triplex Block - 4 Terminals
EHB-BLT-6T	Triplex Block - 6 Terminals
EHB-BLT-6TSS	Triplex Block - 6 Terminals, Stainless Steel

Transmitters

DIN-Rail and In-Head Transmitters



For process control, heavy industrial use & long lead lengths

- Convert the low-level sensor output to an amplified signal to reduce electrical disturbance
- Convert the nonlinear sensor output to a linear temperature output. This will allow for the use of standard instruments and PLCs and DCSs
- Improve the safety of the temperature measurement by allowing the transmitter to supervise sensor leads
- Transmitters compensate for sensor errors improving the accuracy of the temperature measurement

Awards and Associations

In any industry, it's not just what you know, but also who you know. Since the very start of our seven decade legacy, we've never stopped making connections, earning certificates, winning awards, and being recognized for our achievements. Below are just some of the accolades we've earned over the years.



Innovation Award - Virginia's Center for Innovative Technology



Award of Excellence - Defense General Supply Center



Member of NTMA Precision - National Tooling & Machining Association



AHAM-NARDA Refrigerant Recovery Certificate Program



Certificate Holder in Training for the American Vacuum Society



SWaM Certificate - #659089



Certificate Holder in United States Department of Commerce NIST program on Temperature Measurement by Radiation Thermometry

SPECIFICATIONS	
Accuracy	2 °C (0.4 °F)
Resolution	0.1 °C (0.2 °F)
Display	Multifunctional LCD
Battery	9 Volt
Input Connector	3 Wire RTD
Dimensions	7.5" x 3.5" x 2"
Weight	454g (16oz)

For Automotive, Chemical, Food Industry, Paper & Pulp Applications

- Features:**
- 4 1/2" Digit LCD display
 - Switchable between temperature/resistance tables (Pt385 for European curve and Pt3926 for American curve)
 - Over range display feature
 - Auto power off feature when inactive for more than 30 minutes
 - Dual input allows for T1-T2 calculation automatically



Order Information - Refer to page 2 for ordering instructions.

MODEL	INPUT	TEMPERATURE RANGE
VT-3	RTD	Pt385 (100 ohms) -200 °C to 800 °C (-328 °F to 1472 °F) Pt3926 (100 ohms) -200 °C to 630 °C (-328 °F to 1166 °F)

VT-11 Dual Channel Data Logger

The VT-11 is a precision microprocessor controlled thermometer (digital temperature indicator). This high accuracy thermometer works with the seven most popular thermocouple types - K, J, T, E, R, S & N. It is designed to deliver years of trouble-free service: lab use, preventative maintenance, heat-treating, product quality, and general measurements. For the most accurate readings with the lowest margin for error, it is recommended to use EDL assured accuracy sensors.

- Features:**
- Wireless data transmission
 - USB interface
 - DC 12V adapter
 - Basic accuracy: 0.05%
 - Dual inputs with K/J/E/T/R/S/N thermocouples
 - Display with adjustable backlight
 - Real time clock & calendar
 - Audible warning with Hi/Lo setting
 - Max/Min/Avg/Rel/Hold function
 - Main display for T1-T2
 - Third display for T1-T2, with real time clock & calendar

TEMPERATURE SPECIFICATIONS	
K-Type	(0.1 °, 1 ° above 2000 °F) -200 °C to 1372 °C (-328 °F to 2501 °F)
J-Type	(0.1 °, 1 ° For above 2000 °F) -210 °C to 1200 °C (-346 °F to 2192 °F)
T-Type	(0.1 °) -200 °C to 400 °C (-328 °F to 752 °F)
E-Type	(0.1 °) -210 °C to 1000 °C (-346 °F to 1832 °F)
R-Type	(1 °) 0 °C to 1767 °C (32 °F to 3212 °F)
S-Type	(1 °) 0 °C to 1767 °C (32 °F to 3212 °F)
N-Type	(0.1 °, 1 ° For above 2000 °F) -50 °C to 1300 °C (-58 °F to 2372 °F)

According to temperature standard ITS-90.

ACCURACY	
K/J/T/E-Type	(0.05% rdg+0.7 °C) -210 °C to -50 °C (0.05% rdg+0.3 °C) -50 °C to 1372 °C (0.05% rdg+1.4 °F) -346 °F to -58 °F (0.05% rdg+0.6 °F) -58 °F to 2501 °F
N-Type	(0.05% rdg+0.8 °C) -50 °C to 0 °C (0.05% rdg+0.4 °C) 0 °C to 1300 °C (0.05% rdg+1.6 °F) -58 °F to 32 °F (0.05% rdg+0.8 °F) 32 °F to 2372 °F
R/S-Type	(0.05% rdg+2 °C) 0 °C to 1767 °C (0.05% rdg+4 °F) 32 °F to 3212 °F



DATA LOGGER CAPACITY	
Save Data:	256 samples with real-time data
Data Logger:	16 sets, Max 16,000 data capacity
Easy to read data with up / down keys	

Order Information

MODEL
VT-11



EDL's Pocket-Probe Analog Pyrometers were developed in the 1960's. These long time trusted pyrometers are dependable, compact, and portable temperature measuring instruments for industrial and laboratory use. EDL engineered an exclusive bi-metal and thermistor compensation network to automatically adjust for changes in room temperatures. This innovation distinguished the Pocket-Probe as the industry standard. Pocket-Probe Analog pyrometers require no batteries for operation, thus eliminating potential sparks. This feature makes these instruments ideal for explosion hazard areas where fumes and gases may pose a potential safety issue. Unlike digital displays, you can visually track readings as they increase or decrease. Analog meters are not affected by RF noise and other electrical interferences making these instruments immune to any adverse effects to readability and accuracy.

Today, the rugged Pocket-Probe Analog Pyrometer still offers unmatched performance for reliability and accuracy. All meter movements are hand assembled by experienced craftsmen. All of EDL's instruments are constructed with only the finest components to ensure years of reliable service. The Pocket-Probe Analog Pyrometer is backed by an unconditional 12 month warranty.

Glass window display available.

NIST Report of Calibration

EDL's Metrology Laboratory will supply any sensor and instrument complete with a report of calibration that is traceable to NIST, contact us for current pricing!



Kits are available (page 44).

The US Navy's #1 Favorite Read-Out Device!

These self-powered, analog devices have been used by submarine crews for over half a century. That's reliability that pays for itself! Get yours today.

National Stock Number: 6685-01-133-9042

Applications include Fuel, Nuclear, Shipping Vessels, Gas, & Electric (Utilities)

Features:

- Red-Knife pointer for easy readability
- Spring-cushioned jewels absorb shock
- Portable for mobile or bench top applications
- Large, easy to read scale
- Automatically adjusts to changes in ambient temperatures
- Automatic transit switch
- 12 month warranty

SPECIFICATIONS	
Accuracy	1% of reading
Scale	87mm (3.5")
Magnet	Aged high flux Alnico
Open Sensor Indication	Room temperature
Thermocouple Type	Type E, Phonoplug (P)
Case	ABS Nylon Alloy
Dimensions	5.75" x 3.9" x 2.2"
Weight	616g (22.0 oz.)
Tested Ambient	50 ° to 120 °F
Response Time	Continuous

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE CODE	TEMPERATURE RANGE	DEGREES PER DIVISION
NMP	02	-50 ° to 300 °F	5 °F
	06	0 ° to 600 °F	10 °F
	10	0 ° to 1000 °F	20 °F
DW		Glass Window Display (Part # example: NMP-DW-06)	
CC-NMP		Black Cordura Carrying Case	

Pocket-Probe Digital Pyrometer

For Glass Manufacturing, Metals Industry, Chemicals, & Plastics

Features:

- Switchable between °C & °F
- Calibrated reference junction: ≤ 0.5 °C
- Operates from 0 °C to 60 °C ambient
- 5-year warranty
- Portable high precision, high quality
- Resolution of 0.1 ° to 199.9 °C or °F
- Full thermocouple ranges - K, J, E, or T
- Fast response, high noise immunity
- Durable case, operates with cover closed for added protection

The Pocket-Probe Digital Pyrometer is engineered to be rugged, reliable, and consistently accurate with repeatable measurements. These pyrometers feature full range measurements and offer 0.1 ° resolution up to 199.9 °F or °C. Perfect for use on the production floor as well as in the lab! Made in the USA, this pyrometer is constructed from the finest materials and is backed with an unconditional 5-year warranty!

Available Option Package consists of:

- Peak Hold Memory** - Highest reading taken is stored in memory
- Peak Hold Reset** - Clears "Peak Hold" memory & allows additional measurements
- Magnetic Mounting** - Adheres to any iron or steel surface

Order Information - Refer to page 2 for ordering instructions.

MODEL	THERMOCOUPLE TYPE	TEMPERATURE RANGE
PD	K J *T E	-270 ° to 1372 °C (-454 ° to 1999 °F)
		-210 ° to 1200 °C (-346 ° to 1999 °F)
		-270 ° to 400 °C (-454 ° to 752 °F)
		-270 ° to 1000 °C (-454 ° to 1832 °F)
O	Options Package (Add "O" to model #)	
X	Lexan® display window - will not shatter (Add "X" to model #)	
CC-PD	Black Cordura Carrying Case	

*Max. Temperature for T is 400 °C.



SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K, J, T, or E
Dimensions	5.75" x 3.9" x 2.2"
Case	ABS Nylon Alloy
Weight	476 (17oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

Steel-Cased Pocket-Probe Digital Pyrometer

For The Harshest Environments!

EDL's Steel Cased Pocket-Probe Digital Pyrometers are designed for extremely harsh industrial or laboratory conditions. The steel case enclosure reduces RF and electro-magnetic interference. These high precision industrial pyrometers deliver reliable, accurate temperature measurement with 1/10% accuracy, 1/10% resolution, and 1/2% repeatability.

As an assurance of durable and reliable operation, EDL's line of Pocket-Probe Digital Pyrometers are backed with an unconditional 5-year warranty.

Available Option Package consists of:

- Peak Hold Memory** - Highest reading taken is stored in memory
- Peak Hold Reset** - Clears "Peak Hold" memory & allows additional measurements
- Magnetic Mounting** - Adheres to any iron or steel surface

Order Information - Refer to page 2 for ordering instructions.

MODEL	THERMOCOUPLE TYPE	STEEL CASE	TEMPERATURE RANGE
PD	K J *T E	SC	-270 ° to 1372 °C (-454 ° to 1999 °F)
			-210 ° to 1200 °C (-346 ° to 1999 °F)
			-270 ° to 400 °C (-454 ° to 752 °F)
			-270 ° to 1000 °C (-454 ° to 1832 °F)
O	Options Package (Add "O" to model #)		
X	Lexan® display window - will not shatter (Add "X" to model #)		
CC-PD	Black Cordura Carrying Case		

*Max. Temperature for T is 400 °C.



SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K, J, T, or E
Dimensions	5.75" x 3.9" x 2.2"
Case	Steel
Weight	448g (16oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

For Glass Manufacturing, Metals Industry, Chemicals, & Plastics

Features:

- Operates from -30 °C to 72 °C ambient
- Switchable between °C & °F
- Calibrated reference junction: ≤ 0.5 °C
- 5-year warranty
- Portable high precision, high quality
- Resolution of 0.1 ° to 199.9 °C or °F
- Full thermocouple ranges - K, J, E, or T
- Fast response, high noise immunity
- Durable case, operates with cover closed for added protection

EDL's continuous improvements have resulted in the newest addition to the Digital Pocket-Probe Pyrometer line. The new Pocket-Probe Extended Range Pyrometer operates in sub-zero temperatures. The lower temperatures have a dramatic impact on your pyrometers performance by displays not operating correctly, sluggish performance, and slow response times. Some pyrometer manufacturers don't recommend their instruments be used in cold weather, but with EDL's Pocket-Probe Extended Range Pyrometer you are guaranteed smooth functioning even in temperatures as low as -30 °F.

Available Option Package consists of:

- Peak Hold Memory:** Highest reading taken is stored in memory
- Peak Hold Reset:** Clears "Peak Hold" memory & allows additional measurements
- Magnetic Mounting:** Adheres to any iron or steel surface

Calibration Certificates are available upon request.

Engineered to be rugged, reliable, and consistently accurate with repeatable measurements, and backed by an unconditional 5-year warranty.



Standard Pocket-Probe Extended Range

Operates From -30 °C to 72 °C Ambient
(-22 °F to 160 °F)



Steel-Cased Pocket-Probe Extended Range

Operates From -30 °C to 72 °C Ambient
(-22 °F to 160 °F)



With the new Pocket-Probe Extended Range Pyrometer you avoid all of the aggravation and remove the cost of lost production associated with non-functioning instruments in sub-zero conditions. This pyrometer is ideal for industries that must operate in cold temperatures - utilities and gas industry and other areas where extreme conditions exist. Available in thermocouple types K, J, T, or E - this pyrometer is compatible with all EDL sensors with mini plug terminations. Also available with Lexan window and the Options Package (Peak Hold Memory, Peak Hold Reset, and Magnetic Mounting).

SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K, J, T, or E
Dimensions	5.75" x 3.9" x 2.2"
Case	ABS Nylon Alloy
Weight	448g (16oz)
Tested Ambient	-22 ° to 160 °F (-30 to 72 °C)
Response Time	3 Readings Per Second

EDL's Steel Case Extended Range Pocket-Probe Digital Pyrometers are designed for extremely harsh industrial or laboratory conditions. The steel case enclosure reduces RF and electromagnetic interference. This pyrometer allows for operation in sub-zero environments. These high precision industrial pyrometers deliver reliable, accurate temperature measurement with 1/10% accuracy, 1/10% resolution, and 1/2% repeatability.

Backed with an unconditional five year warranty, these pyrometers are made to continually perform in the harshest of environments.

SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K, J, T, or E
Dimensions	5.75" x 3.9" x 2.2"
Case	Steel
Weight	448g (16oz)
Tested Ambient	-22 ° to 160 °F (-30 to 72 °C)
Response Time	3 Readings Per Second

MODEL	THERMOCOUPLE TYPE	TEMPERATURE RANGE
PDK-ER	K	-270 ° to 1372 °C (-454 ° to 1999 °F)
PDJ-ER	J	-210 ° to 1200 °C (-346 ° to 1999 °F)
PDT-ER	*T	-270 ° to 400 °C (-454 ° to 752 °F)
PDE-ER	E	-270 ° to 1000 °C (-454 ° to 1832 °F)
O	Options Package (Add "O" to model #)	
X	Lexan® display window - will not shatter (Add "X" to model #)	
CC-PD	Black Cordura Carrying Case	

*Max. Temperature for T is 400 °C.

MODEL	THERMOCOUPLE TYPE	TEMPERATURE RANGE
PDK-ER-SC	K	-270 ° to 1372 °C (-454 ° to 1999 °F)
PDJ-ER-SC	J	-210 ° to 1200 °C (-346 ° to 1999 °F)
PDT-ER-SC	*T	-270 ° to 400 °C (-454 ° to 752 °F)
PDE-ER-SC	E	-270 ° to 1000 °C (-454 ° to 1832 °F)
O	Options Package (Add "O" to model #)	
X	Lexan® display window - will not shatter (Add "X" to model #)	
CC-PD	Black Cordura Carrying Case	

*Max. Temperature for T is 400 °C.



The ONLY portable pyrometer with TRUE one-hand operation!

The Pocket-Probe V Industrial Pyrometer offers true one-hand operation and accurate, dependable temperature readings. This instrument is equipped with peak hold memory (recording and storing the highest temperature reading). This highly reliable & rugged, hand held, pyrometer uses direct plug in elements utilizing sensor tips, thus excluding the need for sensor lead wires. In the event a sensor breaks, or an application requires a different sensor style, the Pocket-Probe V uses the EDL line of interchangeable sensor tips eliminating the need for buying new sensors (only requiring sensor tips be replaced), and provides you with access to over 30 different styles of sensors.

This instrument is housed in a heavy 16-gauge Stainless Steel enclosure with reinforced welded corners. This instrument accurately delivers results under the most extreme conditions and protection from the roughest of abuses in the plant, laboratory, and in the field.

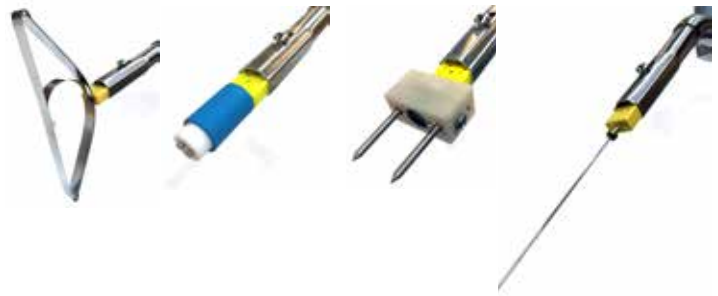
The Pocket-Probe V offers true one hand operation, an unconditional 5-year warranty, real reliability, and actual value - savings in time & money.

Order Information - Refer to page 2 for ordering instructions.

MODEL	THERMOCOUPLE TYPE	TEMPERATURE RANGE
PDV	K	0 ° to 1372 °C (35 to 1999 °F)
	J	0 ° to 1200 °C (35 to 1999 °F)
	T	0 ° to 400 °C (35 to 752 °F)
	E	0 ° to 1000 °C (35 to 1832 °F)

To order, simply specify thermocouple type: ex: PDVK (for TC type K)
 * Please note, unless specified, unit will come as °F; if °C is required, please add "C" to end of part number (Ex: PDVK-C)

- Features:**
- For Glass Manufacturing, Metals Industry, Chemicals, & Plastics
 - One Hand, One Button Operation!
 - Peak Hold Memory
 - Available in Either °C or °F
 - Available in Thermocouple Types J, K, E, T or N
 - Tempered Glass Display Window
 - Extra Protection for Internal Circuitry
 - Stainless Steel Cover & Holder
 - Traceable to NIST Standards (optional)
 - Over 30 Sensor Tip Styles Available
 - Comfortable, Foam Grip Handle
 - 5-Year Warranty



Over 30 Sensor Tip Styles Available!

Pocket-Probe Sealed Digital Pyrometer

SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K, J, E, or T
Dimensions	5.5" x 4.3" x 2.5"
Case	ABS Nylon Alloy
Weight	448g (16oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

- Features:**
- Case sealed against moisture, contaminants & dust
 - Available in all thermocouple types
 - Peak hold memory standard
 - Magnetic backing for hands free use
 - Switchable from °F to °C
 - Easily cleaned & disinfected
 - 2-year warranty

Order Information - Refer to page 2 for ordering instructions.

MODEL	TYPE	TEMPERATURE RANGE
PSK	K	-270 ° to 1372 °C (-454 to 1999 °F)
PSJ	J	-210 ° to 1200 °C (-346 to 1999 °F)
PSE	E	-270 ° to 1000 °C (-454 to 1832 °F)
PST	T	-270 ° to 400 °C (-454 to 752 °F)
X	-	Lexan® Window - will not shatter (Add "X" to model #)
CC-PS	-	Black Cordura Carrying Case



For General Purpose, Food Industry, Manufacturing, Utility, Gas, Pipeline and more!

SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	J or K Mini-plug
Dimensions	4.8" x 2.7" x 1.0"
Case	ABS Nylon Alloy
Weight	174g (6.2 oz)
Tested Ambient (EZ-Probe)	4° to 49 °C (40° to 120 °F)
Tested Ambient (EZ-Probe Ultra)	-10° to 50 °C (15° to 120°F)
Response Time	3 Readings Per Second
Resolution	1 °C (1 °F)

The E-Z Probe Pyrometer offers many of the same functions as more expensive units, but at a fraction of the cost. This pyrometer is well suited for people on the move – completely portable, compact, and lightweight, this pyrometer delivers reliable accuracy and rugged durability all at an economical price. Rugged enough to withstand daily use in laboratory and industrial applications, the E-Z Probe is one of the most dependable and trusted pyrometers on the market. This instrument is equipped with two input jacks located on the top and bottom of the instrument, allowing complete user versatility. The E-Z Probe features an ABS Nylon Alloy case with internal ribbing for added strength. This instrument is also backed by an unconditional one year warranty.

Just released in Fall 2017, is our newest addition to the E-Z Probe Pyrometer line - the E-Z Probe Ultra. The E-Z Probe Ultra (EZK-U & EZJ-U) is an upgraded version of the E-Z Probe General Purpose Pyrometer, but it has been tested at an ambient operating temperature of 15 °F to 120 °F! This unit was designed for greater accuracy outdoors in extreme temperatures – it is perfect for the pipeline construction, utility, and gas industries. This unit is available with the Lexan window option and offers an unbeatable 1 year warranty. The E-Z Probe Ultra is compatible with all sensors of the same thermocouple type with mini-plug termination.



For General Purpose, Food Industry, Manufacturing, Utility, Gas, Pipeline and more!

- Economical price
- Input jacks at top and bottom
- Magnetic backing
- Low battery indicator
- Open sensor indicator
- 12-month warranty

Order Information - Refer to page 2 for ordering instructions.

STANDARD	TYPE	TEMPERATURE RANGE	ACCURACY
EZK-C	K	-35° to 985 °C (-30° to 1800 °F)	± 1 °
EZJ-C	J	-35° to 985 °C (-30° to 1800 °F)	± 1 °
X	-	Lexan® display window (Add "X" to model #)	
CC-EZ	-	Black Cordura Carrying Case	

ULTRA	TYPE	TEMPERATURE RANGE	ACCURACY
EZK-U	K	-35° to 985 °C (-30° to 1800 °F)	± 1 °
EZJ-U	J	-100 °C to 620 °C (-280° to 1100 °F)	± 1 °
X	-	Lexan® display window (Add "X" to model #)	
CC-EZ	-	Black Cordura Carrying Case	

Accu-Therm Multi-Zone Pyrometer



NIST Report of Calibration

EDL's Metrology Laboratory will supply any sensor and instrument complete with a report of calibration that is traceable to NIST! Call for pricing!

Order Information - Refer to page 2 for ordering instructions.

MODEL	TYPE	TEMPERATURE RANGE
ATK	K	-100° to 1200 °C (-280° to 2000 °F)
ATJ	J	-100° to 595 °C (-280° to 1100 °F)
-20		Optional 20 plug Channels (add "-20" to one of above part #s)
X		Lexan® Window (Add "X" to part #)

* T/C types T & E available on request.

Engineered to function flawlessly, the Accu-Therm is a Portable Temperature Monitoring System for recognizing potential problems in temperature related applications for peak performance, production, and efficiency.

The convenient Accu-Therm Portable Temperature Monitoring System is housed in an ABS Plastic case, uses terminated sensor leads, and models are available to monitor 5, 10, or 20 zones.

Features:

- The Accu-Therm is ideal for monitoring multiple zones in plastics processing applications.
- Preventative maintenance in the diesel engine industry and engine applications.
- Useful in heat-treating facilities and foundries.
- Applicable in the rubber and glass industries and any application where multiple temperature zones are monitored.
- Used in food processing, furniture manufacturing and numerous other industries!
- The Accu-Therm Temperature Monitoring system is available as a panel mount instrument for permanent applications.
- Accu-Therm comes standard with 10 plug channels (20 available).

SPECIFICATIONS	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F) up to 199.9 °C and °F
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass or Lexan®
Thermocouple Type	K or J Mini-plug
Dimensions	8.9" x 7.8" x 3.5"
Case	ABS Plastic
Channels	Standard 10 or Optional 20
Tested Ambient	29° to 79 °C (-20° to 175 °F)
Response Time	3 Readings Per Second
Warranty	2 Year

Multi-Point 5-Zone Thermocouple Switch

The compact sized Multi-Point Switch allows easy, hassle free, monitoring of up to 5 separate temperature zones. Easy to use, the outlet plug enables a secure, direct connection to EDL's Portable Pyrometers.

The Multi-Point Switch utilizes miniature thermocouple jacks to accept any miniature plug terminated sensor. The Multi-Point Switch may be used with other EDL pyrometers when used with an extension lead.

SPECIFICATIONS	
Switch	Rotary Switch
Switch Life	25,000 Cycles min.
Input Connectors	Mini color-coded thermocouple jacks
TC Inputs	5
TC Types	E, J, K or T
Case	Formed anodized Aluminum
Weight	140g (5oz)

Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C TYPE	CHANNELS
5MTS-	E, J, K, T	Determined by Instrument



(Pyrometers sold separately)



Features:

- Monitor up to 5 separate temperature zones
- Accepts any Mini-plug terminated sensor
- Can be used with any EDL pyrometer

Multi-Zone Thermocouple Switch

The Multi-Zone Thermocouple Switch allows for easy monitoring of up to 20 thermocouples from one central location! The self-contained thermocouple switch mounts easily and is available in 5, 10, or 20 position switch models.

Designed with large rotary dials, this unit is easy to see and switching positions is a breeze! Inputs are miniature thermocouple jacks which accept Mini-plug terminated sensors. The rugged Aluminum case was built to resist abuse. This unit comes with an extension lead for use with any pyrometer. This unit comes standard with a 12-month warranty.

SPECIFICATIONS	
Switch	Rotary Switch
Switch Life	25,000 Cycles/minute
Input Connectors	Mini color-coded thermocouple jacks
TC Inputs	5, 10, or 20
TC Types	E, J, K or T
Case	ABS Plastic
Size	8.9" x 7.8" x 3.5"
Weight	1000g (35oz)

Order Information - Refer to page 2 for ordering instructions.

MODEL	T/C TYPE	TEMPERATURE RANGE	T/C INPUTS
TP-5SSB	E, J, K, T	Determined by Instrument	5
TP-10SSB			10
TP-20SSB			20

*Includes ET-M-M-36K Extender Lead



Features:

- Monitor 5, 10, or 20 thermocouples from one location
- Self contained thermocouple switch can be used anywhere
- Large rotary dial with easy to read position label
- Accepts Mini-plug or Phonoplug terminated sensors
- Heavy duty ABS Plastic case
- Comes with extension lead for use with any pyrometer
- 12-month warranty



High-Temp Probes Available!

Temperature measuring and monitoring is fast and simple with EDL's Plastic Molding Temperature Kit, recommended by leading plastic industry professionals. With this kit it is a breeze to take air shots, check barrels, and measure mold surfaces.

In today's economy, it is critical for companies to conserve resources and minimize costly mistakes caused by erroneous readings from faulty equipment. Accurate temperature measurements are important in all industries; however, in the plastics industry accurate mold temperatures, melt temperatures and barrel temperatures are crucial. With an E-Z Probe Temperature Kit you will be armed with the tools necessary to ensure you get the most accurate measurements every time you test. The EDL E-Z Probe pyrometer is durable and rugged, and offers reliable and precise measurements at an economical price. These kits are a must-have for every industry professional who needs absolute trust in measurement.

The Plastics Molding Temperature Kit Details:

- Available in thermocouple types J or K
- E-Z Probe Pyrometer (EZK-C or EZJ-C)
- BET Interchangeable Handle & Lead System (HBET-KM or HBET-JM)
- (2) Melt Probes (NB-06GS4KF4E or NB-06GS4JF4E)
- (2) Mold Probes (SS90-12KE or SS90-12JE)
- Convenient Cordura protective carrying case (CC-EZ).

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-EZK-C	K	-35 °C to 985 °C (-30 °F to 1800 °F)
KIT-EZJ-C	J	-35 °C to 985 °C (-30 °F to 1800 °F)

SPECIFICATIONS FOR E-Z PROBE	
Accuracy	1 °C (1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass
Thermocouple Type	K or J with Mini-plug
Dimensions	4.8" x 2.7" x 1.0"
Case	ABS Nylon Alloy
Weight	174g (6.2oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

Pocket-Probe Plastics Molding Temperature Kit



High-Temp Probes Available!

For the more exacting professionals in the field, the Pocket-Probe Plastics Molding Temperature Kit is unmatched with its increased resolution and rugged durability. Industry professionals have relied on EDL's Pocket-Probe Plastic & Molding Temperature Kits for over two decades. EDL's Precision Pocket-Probe Pyrometer is a hand-held instrument that was engineered to be rugged, reliable, as well as consistently accurate with repeatable measurements.

This kit is ideal for use in the lab or on the production floor, and you will immediately save money the first time replacement tips are purchased instead of complete sensors with leads. The contents of this kit provide every tool needed for accurate mold, melt and barrel temperatures.

Pocket-Probe Plastics Molding Temperature Kit Details:

- Available in thermocouple types J or K
- Pocket-Probe Pyrometer (PDK or PDJ)
- BET Interchangeable Handle & Lead System (HBET-KM or HBET-JM)
- (2) Melt Probes (NB-06GS4KF4E or NB-06GS4JF4E)
- (2) Mold Probes (SS90-12KE or SS90-12JE)
- Convenient Cordura protective carrying case (CC-PD).
- Also available with the option package.

Available Option Package:

(Add \$58.00 to kit for Option Package & 'O' to model number (ex: **KIT-PDJ-O**).

Peak Hold Memory

Highest reading taken is stored in memory

Peak Hold Reset

Clears "Peak Hold" memory

Magnetic Mounting

Adheres to any iron or steel surface

SPECIFICATIONS FOR POCKET-PROBE	
Accuracy	1 °C (1 °F)
Resolution	0.1 °C (0.1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass
Thermocouple Type	K, J, T, or E
Dimensions	5.75" x 3.9" x 2.2"
Case	ABS Nylon Alloy
Weight	448g (16oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-PDJ	J	-210 °C to 1200 °C (-346 °F to 1999 °F)
KIT-PDK	K	-270 °C to 1372 °C (-454 °F to 1999 °F)
-O		Options Package

E-Z Probe - Tire & Rubber Industry Temperature Kit



EDL's E-Z Probe Pyrometers are the toughest, most reliable and affordable pyrometers available. Designed for the tire and rubber industry, this kit is perfect for those who require fast readings and complete versatility.

This version of the E-Z Probe Pyrometer gives instantaneous readings in 5° increments for quick, precise results and easy to remember temperatures. Ideal for situations that require speed and accuracy, the LCD has a backlight (perfect for the pit and night racing), input jacks on the top and bottom of the pyrometer, a convenient belt clip and sensor holder for easy access and storage, and the ability to switch between °F and °C! Also included in the kit is an EDL Reinforced Fine Hypodermic Sharp Needle Sensor (NHFR-06GS4KEHC) made specifically for this industry. This kit provides the many resources needed for fast testing and quick results.

Tire & Rubber Industry Temperature Kit Details:

- Available in thermocouple type K or J
- (1) accurate and durable compact E-Z Probe Pyrometer (EZK-CR or EZJ-CR)
- (1) Reinforced Fine Hypodermic Sharp Needle Sensor (NHFR-06GS4KEHC or NHFR-06GS4JEHC)
- Convenient protective carrying case (CC-EZ)

Features:

- Reads in 5° Increments!
- LCD Display with Backlight for Pit & Night Racing!
- Input Jacks at Top & Bottom
- May be switched between °F and °C
- 12-Month Warranty on Pyrometer!

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-EZK-CR-TR-R1	K	-35 °C to 985 °C (-30 °F to 1800 °F)
KIT-EZJ-CR-TR-R1	J	-35 °C to 985 °C (-30 °F to 1800 °F)

SPECIFICATIONS FOR E-Z PROBE

Accuracy	1 °C (1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass
Thermocouple Type	K or J with Mini-plug
Dimensions	4.8" x 2.7" x 1.0"
Case	ABS Nylon Alloy
Weight	174g (6.2oz)
Tested Ambient	4 ° to 49 °C (40 ° to 120 °F)
Response Time	3 Readings Per Second

Pocket-Probe Analog Gas & Utility Temperature Kit



Used in many fields including Fuel, Nuclear, Shipping Vessels, Gas, & Electric (Utilities) and more!

The Pocket-Probe Analog Gas & Utility Temperature Kit is perfect for use in high temperature RF environments or EMI applications where mobility is key. This kit is valuable out in the field, in manufacturing facilities, or in the lab for quick and accurate temperature measurement. EDL engineered an exclusive bi-metal and thermistor compensation network to automatically adjust for changes in room temperatures. Unlike digital displays, you can visually track readings as they increase or decrease. Accuracy of analog meters is not affected by RF noise and electrical interference.

Pocket-Probe Analog Pyrometers require no batteries for operation, thus eliminating potential sparks. This feature makes EDL's analog pyrometers well suited for explosion hazard areas where fumes and gases may pose a potential safety issue. All EDL Pocket-Probe Analog Pyrometers are thermocouple type E.

Pocket-Probe Analog Gas & Utility Temperature Kit Details:

- (1) Pocket-Probe Analog Pyrometer (NMP-06)
- (2) Straight Surface Sensors (SS-12EP)
- Convenient Cordura protective carrying case (CC-NMP)

Features:

- Red-Knife Pointer for Easy Readability
- Spring-Cushioned Jewels Absorb Shock
- Portable for Mobile or Bench-top Applications
- Large, Easy to Read Scale
- Automatically Adjusts to Changes in Ambient Temperatures
- Automatic Transit Switch
- 12-month warranty on pyrometer!

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-NMP-GU	E	0 ° to 600 °F

SPECIFICATIONS

Accuracy	1% of Reading
Scale	87mm (3.5")
Magnet	Aged High Flux Alnico
Open Sensor Indication	Room Temperature
Thermocouple Type	Type E, Phonoplug (P)
Case	ABS Nylon Alloy
Dimensions	146mm (5.75") x 99mm (3.9") x 56mm (2.2")
Weight	616g (22 oz.)
Tested Ambient	10 °C to 49 °C (50 °F to 120 °F)
Response Time	Continuous

Quality Assurance is a must for all companies. EDL's economical QA & Maintenance Kit provides you with the basic tools needed to handle crucial temperature requirements found throughout your plant. This kit includes the accurate and durable E-Z Probe pyrometer and a variety of sensors - including a surface sensor, roller contact sensor, insertion sensor, and welded wire sensor.

We have included our long time trusted straight surface sensor which was designed to measure all flat, smooth surfaces with accurate and fast response times. Also included in the kit is a 2.5" roller contact sensor that provides speed and accuracy when measuring cylindrical surfaces. We have also included a standard 2" needle sensor for general use in liquids and sub surfaces along with a welded wire sensor with a 55" lead, ideal for heated enclosures, ovens, vents, ducts, HVAC or wherever simple temperature measurements are practical. The sensors and pyrometer are easily stored and protected in the convenient carrying case! Everything you need in order to trust your measurements.

SPECIFICATIONS FOR E-Z PROBE	
Accuracy	1 °C (1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Tempered Glass
Thermocouple Type	K or J with Mini-plug
Dimensions	4.8" x 2.7" x 1.0"
Case	ABS Nylon Alloy
Weight	174g (6.2oz)
Tested Ambient	4° to 49 °C (40° to 120 °F)
Response Time	3 Readings Per Second

The QA & Maintenance Temperature Kit Details:

- Available in thermocouple type K or J
- (1) E-Z Probe Pyrometer (EZK-C or EZJ-C)
- (1) Straight Surface Sensor (SS-12KM or SS-12JM)
- (1) Blunt Needle Sensor (NB-06GS4KK2M or NB-06GS4JK2M)
- (1) Roller Contact Sensor (RC2.5-08KM or RC2.5-08JM)
- (1) Welded Wire Sensor (WU-06KM7 or WU-06JM7)
- Convenient Cordura protective carrying case (CC-EZ)
- 12-month warranty on pyrometer

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-EZK-C-QA	K	-35 °C to 985 °C (-30 °F to 1800 °F)
KIT-EZJ-C-QA	J	-35 °C to 985 °C (-30 °F to 1800 °F)



E-Z Probe - Food & Beverage Temperature Kit

The E-Z Probe Food & Beverage Kit is the ideal solution for accurate temperature measurements in industrial and commercial food environments. Whether you are checking a fryer or grill, calibrating an oven or verifying a refrigerator - this kit is perfect for any food industry professional!

SPECIFICATIONS FOR E-Z PROBE	
Accuracy	1 °C (1 °F)
Display	127mm (1/2") LCD
Battery	9 Volt
Window	Lexan®
Thermocouple Type	K or J with Mini-plug
Dimensions	4.8" x 2.7" x 1.0"
Case	ABS Nylon Alloy
Weight	174g (6.2oz)
Tested Ambient	4° to 49 °C (40° to 120 °F)
Response Time	3 Readings Per Second

The Food & Beverage Temperature Kit Details:

- Available in Type K or J Thermocouple
- Shatter-proof Display
- (1) accurate and durable compact E-Z Probe Pyrometer (EZK-CX or EZJ-CX)
- (1) 45 ° Rugged Surface Sensor (SR45-12KM or SR45-12JM)
- (1) Mini-Versatile Surface Sensor (SVSM-05KM or SVSM-05JM)
- (1) 4" Blunt Needle Sensor (NB-06GS4KQ4M or NB-06GS4JQ4M)
- (1) Welded Wire Sensor (WU-06KM7 or WU-06JM7)
- (1) Reinforced Center Sharp Needle Sensor (NCR-06GS4KF4M or NCR-06GS4JF4M)
- Convenient Cordura protective carrying case (CC-EZ)
- 12-month warranty on pyrometer

Order Information - Refer to page 2 for ordering instructions.

MODEL	TC TYPE	TEMPERATURE RANGE
KIT-EZK-CX-FB	K	-35 °C to 985 °C (-30 °F to 1800 °F)
KIT-EZJ-CX-FB	J	-35 °C to 985 °C (-30 °F to 1800 °F)



Includes Shatterproof Lexan® Display for Food Safety!

EDL Temperature & Humidity Kit

Our temperature and humidity testing equipment is uniquely suited to the challenging measurement conditions in the paper industry. EDL has the only complete measurement kit on the market for testing temperature and relative humidity on the production floor. This kit gives you "peace of mind" because of its high accuracy and easy to use features. The telescoping poles offer fast and solid adjustment thus improving your safety around the equipment you are measuring. All items sold in the kit are also available for individual purchase, but by buying the kit you get a 10% discount! Contact EDL for more information (434.799.0807, sales@edl-inc.com).



The Temperature and Humidity Kit includes instruments and sensors that allow for both thermocouple and RTD testing. The items below are referenced to the right with their individual price and part numbers.



Round DIN Style Plugs for RTDs



RAB-KM-5"-SWB
Replaceable Roller Probe Holder w/Swivel



RHW---1EA3DC
Humidity Block



VT-3
Versa-Temp 3



EZK-C
EZ-Probe



RTD-4POLER1
Pole for Humidity Block



TC-4POLE
Pole for Roller Probe



RNBD061EA3SDT4HH
Insertion Sensor



RNBD061EASDT4HW
Insertion Sensor with wick

Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION	QUANTITY
EZK-C EZ-Probe	Thermocouple Instrument, Type K Switch between °F & °C (see p.41 for more info.)	1
VT-3 Versa-Temp 3	RTD input digital pyrometer, round DIN plug (see p.36 for more info)	1
RHW---1EA3DC--- (Old Part # SPPT-1834B) Humidity Block	Wet/dry bulb humidity sensor, circular connector, WBDB-BOTTLE included	2
TC-4POLE Pole for Roller Probe	Telescoping pole 46" long extends to 13' 7" for thermocouple band sensor with 25' long Teflon®lead & Mini-plug	1
RAB-KM-5"-SWB (Old Part #SPPT-1970) Replaceable Roller Probe Holder w/Swivel	Roller Contact Sensor Holder, thermocouple type K, 5" lead w/Mini-plug, and mounted bracket with swivel	1
R5-08K 5" Replaceable Roller Probe Bands	5" replaceable roller probe band, type K, 800 °F	2
RTD-4POLER1 Pole for Humidity Block	Telescoping pole 46" long extends to 13' 7" for RTD sensor with 25' long 3 wire Teflon®lead, round DIN plug	1
RNBD061EA3SDT4HH (Old Part # SPPT-1459AR1) Insertion Sensor	1/8" Insertion sensor, 3 wire RTD 6" long, 5' Teflon®lead, round DIN plug	1
RNBD061EA3SDT4HW (Old Part #SPPT-1459BR1) Insertion sensor w/ wick	1/8" Insertion sensor with wick on needle. 3 wire RTD 6" long, 5' Teflon®lead, round DIN plug	1
WRENCH-17MM	17 Millimeter Wrench	1
TORXDR10	#10 Torx Driver	1
SCREWDRPH1	Phillips Screwdriver	1
WBDB-BOTTLE	Fill bottle with needle. Water bottle with needle for filling Wet/Dry bulb block	1
PKGCLIP-WICK	Copper clips w/ 36" wick, pack of 10	1
CC - POLE/CASE	Case w/ foam cutout, waterproof case protects & holds all humidity instruments & accessories (shown in left photo)	1
INST-HUMKIT	Humidity Kit Instruction Manual	1

*Prices differ when purchased as individual items. Individual items and prices are listed in the chart above.

MODEL
KIT-HUMKIT1-EV3

MX Temperature Controller Self Contained Pre-Wired Controller

The MX series temperature controller is a totally self-contained, pre-wired system that incorporates the FUJI PXR Series Controllers. There is no need for relays, circuit breakers, or power switches. All that is needed is an outlet with 120 VAC or 240 VAC power. The MX Controller is efficient, convenient, and portable.

The MX Temperature Controller is designed with safety in mind. The on/off switch features a built in circuit breaker to protect process components if an overload occurs. If an input sensor should break, the automatic sensor break protection will detect the fault and shut down the process before damage occurs. The MX comes pre-wired for your specific sensor. Standard thermocouple sensors J, K, R, B, S, T, E, N are supported, as are 3 wire RTD sensors. Thermocouple sensors with 4 – 20 mA and 1- 5 VDC outputs are also available. An optional 12, 15 or 24 VDC source is available to power external sensors such as Temperature Transmitters or Infrared Sensors.

The FUJI PXR controllers use a patented Fuzzy Logic Algorithm with PID Autotune. The controller “learns your process” using the PID parameters as a starting point for all decisions made by the controller. Your process will reach its set point in the shortest time possible while virtually eliminating overshoot. If the process should experience a disturbance the controller correctively reacts to insure the process maintains a stable temperature. In addition, they can be programmed for 16 Ramp and Soak segments or two 8 segment patterns.



Dual Zone MX Temperature Controller

Perfect for Quick & Easy setups where temperature control is critical!

Single Zone MX Temperature Controller Features

- Controls temperatures from ambient to maximum sensor range
- Selectable resolution
- Switchable between °C or °F
- Patented fuzzy logic with PID Autotune
- 16 segment ramp/soak programming
- Accepts thermocouple types J, K, R, B, S, T, E, N, RTD type, PT100, 4-20mA, & 1 - 5 VDC inputs
- Available with either dual or single channels
- 120 or 240VAC - 15 or 20 amp models
- 12-month warranty



Order Information - Refer to page 2 for ordering instructions.

MODEL	DESCRIPTION
MX (TC TYPE)-11-1	MX 120 VAC 15 Amp Single Zone Controller
MX (TC TYPE)-11-2	MX 120 VAC 20 Amp Single Zone Controller
MX (TC TYPE)-12-1	MX 240 VAC 15 Amp Single Zone Controller
MX (TC TYPE)-12-2	MX 240 VAC 20 Amp Single Zone Controller
MX (TC TYPE)-21-1	MX 120 VAC 15 Amp Dual Zone Controller*
MX (TC TYPE)-21-2	MX 120 VAC 20 Amp Dual Zone Controller**
MX (TC TYPE V)-22-1	MX 240 VAC 15 Amp Dual Zone Controller*
MX (TC TYPE V)-22-2	MX 240 VAC 20 Amp Dual Zone Controller**

* Dual Zone 15 Amp controller requires 20 Amp service

** Dual Zone 20 Amp controller requires 30 Amp service

SPECIFICATIONS	
Thermocouple Types	K, J, R, B, S, T, E, N RTD: Pt100; 4-20 mA, 1-5 VDC
Single Zone Size	8.25cm x 15.24cm x 15.24cm (3.25" x 6" x 6")
Single Zone Weight	0.09kg, 0.17g (2 lbs, 6oz.)
Dual Zone Size	21.59cm x 16.256cm x 23.368cm (8.5"x6.4"x9.2")(not including handle)
Dual Zone Weight	3.90kg. (8.6 lbs)
Resolution	1.0 °, 0.1 °
Process Value Accuracy	±0.5% at Full Scale
Control Action	Fuzzy Logic, PID w/ Autotune
Ramp/Soak	16 Ramp - 16 Soak
Input Power	120/240 VAC 50/60 HZ
Display	4 Digit LED
Operation Temperature	14 to 122 F/C Equivalent
Operation Humidity	90% RH Max
Storage Temperature	-4 ° to 140 °F/C Equivalent

Instrument Carrying Cases

Features:

- Made of durable Cordura material
- Works with most EDL Pyrometers
- Foam insert keeps instrument safe and secure
- Ideal for safe travel and storage
- Case can accommodate an entire sensing kit

Order Information

MODEL	FITS INSTRUMENTS
CC-NMP	Pocket-Probe Analog (p.36)
CC-PD	Pocket-Probe Digital (p.37)
CC-EZ	E-Z Probe (p.38)



(Instruments and sensors sold separately)

Sealed Pocket-Probe Carrying Case

Features:

- Made of durable Cordura material
- For Pocket-Probe Series Sealed Pyrometer
- Clip-on strap for hands free operation
- Openings for LCD display and Mini-plug input
- Separate compartments for sensors & other accessories

Order Information

MODEL	FITS INSTRUMENTS
CC-PS	Pocket-Probe Sealed (Black Case)
CC-PS-Y	Pocket-Probe Sealed (Yellow Case)



CC-PS-Y
(Yellow Case)

CC-PS
(Black Case)

(Instruments and sensors sold separately)

Leatherette Carrying Case

Features:

- Made of durable leather with felt lined Instrument compartment
- For use with E-Z Probe pyrometers
- Foam insert keeps instrument safe & secure
- Includes flap with locking clasp & belt strap
- Separate compartment for sensors & other accessories

Order Information

MODEL	FITS TYPES
CC-DCC	E-Z Probe
CC-TCC	Dyna-Temp



CC-DCC
(E-Z Probe Case)

CC-TCC
(Dyna-Temp Case)

(Instruments and sensors sold separately)



EDL's high quality lugs are ideal for all connections where a crimp style connector is required for low resistance, low microvolt offset, and to reduce the effects of corrosion. The EDL instrument lug is a high quality connector, suitable for laboratory and industrial instrument connections. The gold plated thermally conductive copper fork terminal reduces thermal EMF at the terminal.

Designed to be durable, these lugs will not peel or crack during use - even in severe cases where they are bent. The plating on these lugs is flake resistant and will allow bending and/or shaping as required. Normal soldering will not affect the gold plating; wires may be crimped or soldered into the barrel. These lugs are recommended for use with SPRTs, RTDs and thermistors.

EDL Lugs are compatible with all major instrumentation equipment. These lugs are ideally suited for high accuracy resistance measurements especially when using bridge-type instrumentation. EDL Lugs are capable of handling from 14-gauge to 22-gauge wire with a spade opening of a #6 stud or a 1/4" binding post.

Features:

- **Same day shipping**
- **Will not peel or crack even if bent**
- **Recommended for SPRTs, RTDs, & Thermistors**
- **Suited for high accuracy resistance measurements**
- **Soldering will not affect gold plating**
- **Gold plated conductive copper or solid copper available**
- **Package of 25**

Order Information

MODEL	DESCRIPTION	FORK ID	FORK OD	THICKNESS	WIRE SIZE	PLATING	QUANTITY
THL-SLCUGD	Gold Plated Lugs 1/4" Stud	6.8mm (0.270")	11.2mm (0.44")	0.81mm (0.032")	16 to 22 gauge	Gold	Package of 25
THL-SLCUGD-14	Gold Plated Lugs #6 Stud	3.8mm (0.15")	7.1mm (0.28")	0.81mm (0.032")	14 to 18 gauge	Gold	Package of 25
THL-SLCUCU	Solid Copper Lugs 1/4" Stud	6.8mm (0.270")	11.2mm (0.44")	0.81mm (0.032")	16 to 22 gauge	Copper	Package of 25

*Price is subject to change

Thermocouple Copper Clips



Copper clips are used to finish the terminal side of thermocouple sensors. Many thermocouple cables are wired directly into control cabinets where there can be significant levels of AC noise. To help reduce this potential interference, Stainless Steel braided shielding is recommended. To prevent the shielding from moving, a copper clip is crimped over the shielding to the thermocouple cable.

It is recommended that an inner shrink tube layer be placed over the shielding to prevent the bare wire ends of the Stainless Steel from presenting any issues. Our kits come with 10 copper clips, 10 inner pieces of 1" long shrink tubing, and 10 outer pieces of 1" long shrink tubing.

This system is designed for 3/16" or 1/8" inner diameter shielding. Whenever possible, all Stainless Steel shielding entering control boxes should be covered with shrink tubing to prevent electrical shorts.

Order Information

MODEL	DESCRIPTION	QUANTITY
EHC-CLIPCC020S	Copper Clips	Package of 25



**Custom wire configurations are also available for specific applications
Please contact our helpful sales staff for more detailed information.**

EDL offers a large assortment of high quality thermocouple wire for use in many applications within numerous industries. Our thermocouple wire is produced with the highest quality standards and is available in a variety of spool lengths at very competitive prices. Ideal for use in conjunction with our spade lugs and assorted connectors for producing complete probes or extension cables. Custom wire configurations are also available for specific applications. Please contact our helpful sales staff for more detailed information.

Since 1943, EDL has been known across industries for its prompt service, superior quality products and competitive pricing. Customer satisfaction remains our number one goal. We use only the finest materials available and our parts are hand assembled by skilled craftsmen. Remember, as your needs change, we will evaluate those needs and offer you the products and services that will help you achieve your new goals. As a leading manufacturer we will produce products based on your specifications.

EDL offers the finest thermocouple wire available at the most reasonable prices. We offer a variety of wire material and sizes. For additional sales information, or if you're looking for a wire you don't see here, call EDL's sales department at 1.800.342.5335. Let EDL be your supplier for all things temperature measurement related! Our wire is available in convenient 50, 100, and 200 foot lengths.

Order Information - Refer to page 2 for ordering instructions.

MODEL	TEMPERATURE	T/C	DESCRIPTION
TWE-2026TS2T	260 °C (500 °F)	E	20G TFE Twisted pair Stranded Unshield Thermocouple Grade
TWI-CU3015DTBE		T	Wire Solid Copper conductor 30g PFA insulation
TWJ-2026TS2T		J	20G TFE Twisted pair Stranded Unshield Thermocouple Grade
TWK-2026TS2T		K	20G TFE Twisted pair Stranded Unshield Thermocouple Grade
TWK-2216TS2P		K	22G PFA/PFA; Stranded; twisted pair; Unshielded; Special limits

EDL Custom Engineering

EDL offers extensive custom engineering capabilities for process measurement and control. Our versatile manufacturing and machining allows us to efficiently produce even small quantities of temperature sensors or prototypes that require specially machined components.

Our engineering team delivers the knowledge and experience to customize and develop new products for customer-specific applications. Contact us for a solution to your unique temperature application.

Thermo-Couple Type	U.S. & Canadian (ANSI/MC96.1, ANSI/ASTM E230)				International	International	Czech British	Netherlands German	Japanese	French
	Alloy Combination	Thermocouple Grade	Extension Grade	Plug & Jack	IEC 584-3	IEC 584-3 Intrinsically Safe	BS 1843	DIN 43710	JIS C 1610	NFC 42-324
T	Copper									
	Constantan (Copper-Nickel)			Blue						
J	Iron (Magnetic)									
	Constantan (Copper-Nickel)			Black						
E	Nickel - Chromium									
	Constantan (Copper-Nickel)			Purple						
K	Nickel - Chromium									
	Nickel - Aluminium (Magnetic)			Yellow						
N	Nicrosil (Nickel-Chromium-Silicon)							No Standard (Use American Color Codes)		
	Nisil (Nickel-Silicon-Magnesium)			Orange				No Standard (Use American Color Codes)		
S	Platinum Rhodium 10%	None Established								
	Platinum	None Established		Green						
R	Platinum Rhodium 13%	None Established								
	Platinum	None Established		Green						
B	Platinum Rhodium 30%	None Established					No Standard (Use American Color Codes)			
	Platinum Rhodium 6%	None Established		White (Uncompensated)			No Standard (Use American Color Codes)			
C	Tungsten Rhenium 5%	None Established					No Standard (Use American Color Codes)			
	Tungsten Rhenium 26%	None Established		Red			No Standard (Use American Color Codes)			

Our responsibility as a laboratory is to you, the customer, and to the scientific community as a whole. In reality, it is an awesome challenge to meet on a daily basis. Turning out calibrations is not the challenge; it is the responsibility to assure that all of the work in our lab is done with integrity and with a firm foundation in science and temperature metrology. It is our belief that this work cannot proceed on a daily basis without a commensurate amount of research and investigation into the diverse sciences that affect every measurement we record. This deeper understanding of our work engages us all in a constant need to better our measurements and to improve our confidence in apparently routine calibrations.

Our laboratory is an integral part of the company and it has allowed us to produce high quality products for over 72 years. We are firmly committed to producing a quality product and to providing the highest level of calibration services that we can. These are the ideals by which our calibration laboratory operates.



Since 1943, EDL's lab has specialized in providing a source for unique temperature calibration and testing requirements. From the Cryogenic range to above 1500 °C, EDL will test your sensors to ASTM standards.

EDL calibrates our own sensors & instruments and those purchased elsewhere. Controlled atmosphere testing, power dissipation testing, and response time testing are just a few of EDL's capabilities.

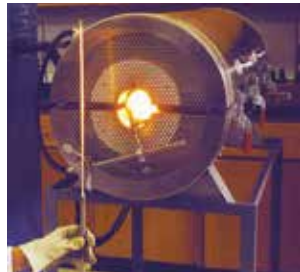


EDL's Calibration laboratory offers the calibration of sensors and/or instruments to meet your Quality Control requirements and improve the accuracy of your measurements. Our laboratory provides a firm scientific foundation and is directly traceable to the International Temperature Scale (ITS90) and the National Institute of Standards of Technology (NIST.)

Currently, our calibration laboratory is neither A2LA nor NAVLAP accredited. We have worked hard to become ANSI/ISO/IEC 17025: 2000 compliant and we are in the process of evaluating the need for accreditation in order to satisfy our customers.

Features:

- Calibration testing in all standard units (°C, K, °F, or Ohms)
- Provides service to outside labs
- Surface sensor calibration
- Testing to ASTM standards
- Calibration on repaired items
- Controlled atmosphere testing
- Power dissipation testing
- Response time testing



EDL has been providing temperature calibrations since its inception in 1943, we believe our services are deeply rooted in the science of temperature measurement and metrology. Initially, EDL provided calibration services only for the products that we manufacture; however, through customer encouragement our calibration services have expanded to include many types of temperature indicating devices. You will note that we only calibrate temperature-monitoring equipment and have remained focused on this parameter since 1943.

EDL is a manufacturer of temperature instruments and sensors for industries ranging from medicine, nuclear processing, Petrochemical, bio-medical, and a wide variety of industrial processes. Our manufacturing expertise has given us a deep understanding of these products and what is required to calibrate them, which often includes the necessity for repair prior to calibration. We still repair instruments that we manufactured over 40 years ago; this commitment to quality and service is why our instruments and calibration services are used throughout the world.

Since 1943, EDL's lab has been in operation supporting the manufacturing division by providing a firm scientific foundation and direct traceability to the national thermodynamic temperature scale ITS90.

Reports of calibration are available in all standard units including °C, °F, K, Volts, and Ohms.

It's hard to imagine what seven decades really represents, but not when you're holding it in your hands.

This catalog represents over seven decades worth of experience EDL has in the temperature measurement field. Every sensor you see here in these pages, every device or kit or calibration machine, is the on-going result of decades worth of refining and each and every one of them is going to be subject to another seventy-five year's worth of refining. That's why EDL is the world's leader in temperature measurement products: being the best isn't nearly enough for us: every year, every day, we push ourselves to go beyond our best. That's why no matter what it is, every EDL product is the most accurate, most cost-effective, most sturdy, and longest lasting in its class.



EDL Products on the cover of Industrial Bulletin Magazine, January 1979



Advertisement Proofs, circa 1970



Acu-Probe Advertisement, 1983

Our ethic of continual improvement has been the core of our company since day one. We were established in 1943 by Nathan Polsky as a repair house for temperature instruments, and it was not long before we were not just repairing instruments, but improving them as well. The drive to be the best made our future obvious: we could make better instruments, so we did.

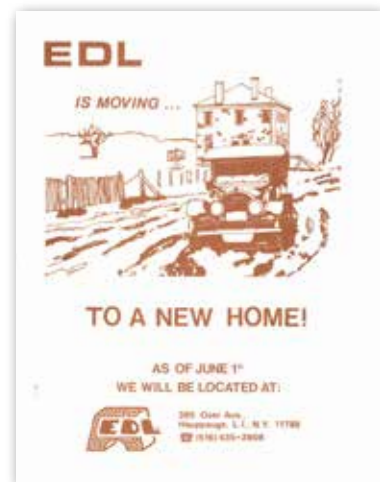
EDL had put down its roots in Manhattan in 1943, but constant expansion required us to pick up and move to Hauppauge, Long Island, in 1982. And only eight years later, in 1990, we had already outgrown Long Island, so we relocated to Danville, VA, purchasing an old school—desks and all—to set up shop, moving every employee down with us. We're committed to being the best temperature equipment manufacturer in America, and that begins with a commitment to our employees.

Throughout all of this, our products have always been at the leading edge of technological advancement. We've helped measure the blast of the very first jet engines. Our products have helped our country harness safe nuclear energy. We've helped regulate oil wells and refineries; we've had a hand in creating new plastics and synthetic materials. Our sensors have helped build the rockets that have taken humans into space; they've played a part in creating silicon chips for computers. At the same time, they've helped bakers bake, construction workers pave roads, fire fighters train, manufacturers build cars, chemists create medicines, and more. Our products don't just make the world go 'round; they make it bigger.

The legacy of EDL is the legacy of innovation and progress of 20th century America. Hand in hand with hundreds of satisfied clients, we're forging ahead in the 21st century, pushing boundaries and preserving the good work that benefit all of us.

If you're a long-time customer, we appreciate the continued support. If you're new to our business, we can't wait to help you build a legacy as long-lasting as ours.

Let's get to work.



Moving announcement, 1982



EDL Employees hard at work in our Danville, VA facility.

Easily Calibrate Your Infrared Pyrometer!

EDL's Black Body Calibrators are the most trusted and reliable IR Calibrators available. Economical, easy to use and compact - EDL's Black Bodies were designed with the user in mind and are easy to setup and easy to use. Simply set the desired temperature from the convenient front panel control buttons, wait a few moments to ensure stability, and point the gun at the target. Radiated energy from the Black Body is measured by your IR thermometer. Simply compare the UUT (IR gun) to the reading on the display and record the difference.

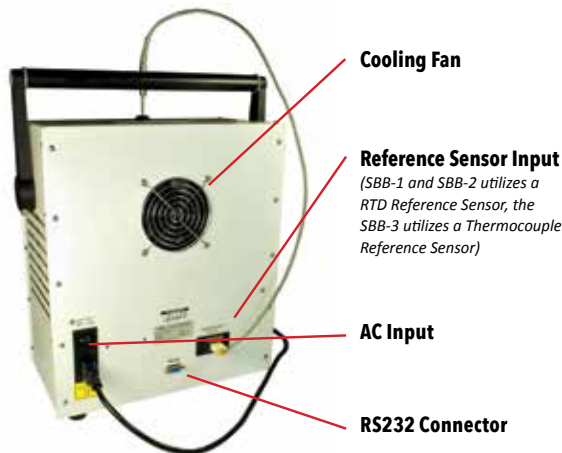
EDL's Single Black Body Infrared (IR) Calibrators provide an easy and reliable method of testing almost any in-line or handheld infrared pyrometer. These IR calibrators provide extremely uniform Black Body targets with a high emissivity of 0.98ε. Perfect for applications requiring only one temperature range, calibrators in the SBB line are compact enough to use in the field or for permanent placement in the lab.

EDL's Single Black Body Infrared Calibrators are available in three temperature ranges - low (-30 to 110 °C), mid (Ambient to 350 °C), and high (Ambient to 650 °C). The advanced engineering of the Black Body features a large 2" diameter target area with a built-in temperature controller that delivers high accuracy, high reliability and an advanced program that allows the user control over the features of the controller. Available in 110VAC and 220VAC versions, with European cord sets as required. Data is easily collected and downloaded to the computer through the RS-232 computer interface which allows the computer control of the set points for automatic testing. The target temperature can be controlled in set-point increments of 0.1 °. These calibrators are designed to use a reference probe inserted into the Black Body and the sensor may be easily removed for independent calibration.

All of EDL's products are made in the USA. We guarantee the highest quality goods that are engineered and built by skilled craftsmen with ample experience in the temperature measurement and calibration field. Since 1943, EDL's focus has been on achieving the highest levels of accuracy that are unmatched by any other company. Let EDL reduce the uncertainty of your measurements - rely on EDL for all of your temperature and calibration needs.

Features:

- **High Stability**
- **Fast Heat-Up & Cool-Down Times**
- **Simple Operation**
- **Rugged & Lightweight**
- **Includes Removable Reference Probes**
- **12-Month Warranty**
- **Adjustable Bail Handle**
- **Optional Aperture Available: See Page 55 for Information**



*** New Feature: External Reference Sensor Input**

Optional Aperture Available!



**Infrared Pyrometer is not included. Optional Aperture is available; see page 55.*

SBB-1 IR Calibrator

If you're calibrating IR guns at cold temperatures, you will love the SBB-1 and its state of the art solid-state cooling technology. The SBB-1 reaches -30 °C (22 °F) in normal Ambient conditions. In addition, ice build-up on the target is avoided simply and efficiently, with no need for expensive gas purging. Our low temperature SBB comes with a foam plug that is inserted into the aperture when reading below 0 °C. This simple method keeps frost from forming on the Black Body and keeps the instrument functioning to the specifications. Nitrogen purging may be added, but we found no need for such an expensive solution to a simple problem. At the upper end of its range, the SBB-1 provides accurate and stable temperature to 110 °C (230 °F). With heating and cooling times of about 20 minutes from Ambient to either extreme, the SBB-1 IR Calibrator gets you to your set temperature quickly and performs superbly when it gets there. Just compare your IR devices (UUT) to the temperature display which is factory calibrated to be within ± 0.5 °C.

SBB-2 IR Calibrator

For IR calibrations above ambient, the model SBB-2 provides a stable Black Body Target up to 350 °C (662 °F). This unit boasts accuracy to ± 0.5 °C and stability to ± 0.05 °C. This unit is able to calibrate most handheld pyrometers and with short heating and cooling times, you won't have to wait long to get your work done. With a heat up rate of > 10 °C per minute, from room temperature to 350 °C (662 °F), the SBB-2 only takes a little over 1/2 hour to heat and is stable within 15 minutes after reaching its set temperature.

SBB-3 IR Calibrator

For IR calibrations above Ambient, the model SBB-3 provides a stable Black Body target up to 650 °C (1200 °F), with accuracy to ± 0.5 °C and stability to ± 0.05 °C. This unit is ideal for calibrating almost any handheld IR pyrometer. Short heating and cooling times mean you won't have to wait long to get your work done. With a heat up rate of > 10 °C per minute, from room temperature to 650 °C (1200 °F), the SBB-3 only takes about an hour to reach full temperature and is stable within 15 minutes after reaching its set temperature.

Order Information

See Page 55 for information on the Optional Aperture.

SPECIFICATIONS			
Model Number	SBB-1	SBB-2	SBB-3
Black Body Area	50.8mm (2")		
Stability	± 0.05 °C		
Emissivity	0.98 ± 0.02		
Height x Width	41cm (16.25") H x 35cm (13.375") W		
Weight	9kg (~20 lbs.)		
Accuracy	± 0.5 °C		
Computer Interface	RS-232		
Temperature Range	LOW RANGE -30 °C to 110 °C	MID-RANGE Ambient to 350 °C	HIGH RANGE Ambient to 650 °C
Heat Up	22 °C / minute*		
Cool Down	8 °C / minute*		
Power	120VAC, 10amp, 50/60Hz. For 240VAC add -2 to base part number (Ex: SBB-2 w/240VAC is SBB-2-2)		

*± 2 °C Depending on Environment



EDL's Dual Black Body calibrators make infrared (IR) calibrations faster and easier than ever before! You don't have to be an engineer to operate these units – EDL's calibrators are simple to set and control. The Dual Zone Black Body Calibrators (DBB) were designed for calibrating infrared pyrometers with multiple temperature ranges. We offer two versions - the DBB-350 (with a low range of -20 ° to 135 °C and a high range of Ambient to 350 °C) and the DBB-650 (with a low range of -20 ° to 135 °C and a high range of Ambient to 650 °C). The low temperature Black Bodies are powered by convenient and efficient Thermo Electric modules, and our unique design gives you high reliability coupled with high accuracy.

These calibrators ensure accurate calibrations of almost every infrared pyrometer available. With a large target area of 2", and a high accuracy temperature controller, EDL's IR calibrators offer better accuracy and stability over other IR calibrators available on the market. The emissivity of the isothermal target is machined and coated to give a high emissivity of 0.98ε, and the target temperature can be controlled in set point increments of 0.1 °. Fast heating and cooling times make these calibrators very efficient in the lab. With no trouble, they can be checked in the field, thanks to the RTD sensor that is easily removed from the Black Body for independent calibration. These handy infrared calibrators are a breeze to use. Merely set the desired Black Body temperature from the convenient front panel control buttons, wait a few minutes to ensure stability, aim the gun at the target, and shoot. The radiated energy from the Black Body is measured by your IR thermometer. Simply compare its reading to the display on the DBB and record the difference. Data is easily collected and downloaded to the computer through the RS-232 computer interface which allows computer control of the set points and more. A reference sensor is included. Economical, easy to use and compact – EDL's Black Bodies are the number one choice for IR calibrators. When trust in measurement matters, count on EDL.

All of EDL's products are made in the USA. We guarantee the highest quality goods that are engineered and built by skilled craftsmen with ample experience in the temperature measurement and calibration fields. Since 1943, EDL's focus has been on achieving levels of accuracy that are unmatched by any other company. Let EDL reduce the uncertainty of your measurements – rely on EDL for all of your temperature and calibration needs.

Features:

- Easy to Use & Operate
- Hot & Cold Calibration Surfaces
- 12-Month Warranty
- Adjustable Bail Handle
- * New Feature: External Reference Sensor Input

Ideal for simple 2-point calibrations!



Optional Aperture

Universal black body aperture for size and source measurements of all IR pyrometers. We are offering this adjustable aperture for assistance with finding your true spot size during IR calibrations with the EDL line of Black Bodies.

Order Information

MODEL
BB-APP

Specifications		
Model Number	DBB-350-1	DBB-650-1
Black Body Area	50.8mm (2")	
Stability	± 0.05 °C	
Emissivity	0.98 ± 0.02	
Height	41cm (16.25")	
Width	35cm (13.375")	
Weight	9kg (~20 lbs.)	
Accuracy	± 0.5 °C	
Computer Interface	RS-232	
Temperature Range	LOW RANGE: -20 °C to 135 °C HIGH RANGE: 20 °C to 350 °C	LOW RANGE: -20 °C to 135 °C HIGH RANGE: 20 °C to 650 °C
Heat Up	22 °C / minute*	
Cool Down	8 °C / minute*	
Power	120VAC, 10amp, 50/60Hz *for 240VAC add -2 to base part number (Ex: DBB-350-1 with 240VAC is DBB-350-1-2)	

*± 2 °C Depending on Environment on cold side only.

BB-350
RTD Reference Sensor

BB-350 Specifications	
Model:	BB-350 RTD Reference Sensor
Temperature:	-196 °C to 450 °C
Dimensions:	6" long x 0.125" shaft type 304SS with handle and 36" 4 - wire Teflon insulated lead.
Accuracy:	≤ 0.5 °C
Terminations:	Bare, multiple plug types



BB-650
Thermocouple Reference Sensor

BB-650 Specifications	
Model:	BB-650 Thermocouple Reference Sensor
Temperature:	-200 °C to 700 °C
Dimensions:	6" long x 0.125" shaft type 304SS with handle and 36" braided Stainless Steel #20 gauge stranded, Teflon insulated thermocouple wire lead.
Accuracy:	≤ 0.25 °C
Terminations:	Bare, multiple plug types



EDL's Reference Sensors are designed for use as Secondary Standard Reference PRT's. These sensors ensure correct temperature measurement and stability in dry well and bath style calibrators; ideal for industrial temperature calibration applications where stability and accuracy are critical. EDL's Reference Sensors were designed to be extremely stable with very low drift. They offer quick response times, accurate measurements, and may be used in conjunction with any dry well or bath style calibrator. Custom diameters and lengths are available upon request.

Order Information

MODEL	DESCRIPTION
BB-350	Calibrated RTD Reference Sensor
BB-650	Calibrated Thermocouple Reference Sensor

EDL's STS Calibrators are very easy to use – plug it in, set your temperature (wait a few minutes for the unit to reach the set temperature) and begin checking your probes. These calibrators utilize a high quality controller that allows the set point to be set with a resolution of 0.1 °, and they are available in both 120VAC and 240VAC versions. STS calibrators are often used right on the production floor to verify sensors before, during and after a shift. These instruments allow you to remove doubt from your measurements.

The standard line of surface calibrators includes the STS-SC1 (high temperature) and the STS-SC2 (mid-range). Both units weigh only 25lbs., so they are easily transported. The 2" diameter block gives ample surface area for calibrations of almost any surface sensor, up to the maximum temperature of the calibrator. These lightweight and easy to use calibrators are guaranteed to perform better than the larger more expensive drywells available.

These units feature stability of ± 0.05 °C with temperatures as high as 650 °C. All EDL calibrators include a NIST traceable calibration certificate. The STS line is ideal for sensors, digital thermometers, dial gauges, and bulb switches. All data is easily collected and downloaded to the computer through the RS-232 computer interface which allows computer control of the set points for automatic testing. EDL's calibrators are economical, easy to use and compact – they are the number one choice for surface calibrators on the market.

STS-SC1 Surface Calibrator

These calibrators are the perfect choice for a high temperature surface calibrator. They can be used for calibrations from ambient to 650 °C, with stability of ± 0.05 °C. This calibrator is ideal for calibrating surface sensors of all styles and types, in the field, on the production floor, as well as in the lab. Short heating and cooling times mean you will not have to wait long to get your work done. From room temperature to 650 °C (1202 °F), in only 90 minutes, the STS-SC1, makes your calibrations manageable.

STS-SC2 Surface Calibrator

The STS-SC2 is a surface calibrator with a temperature range of Ambient to 350 °C. This model was designed for the most common temperature range and is perfect for quick testing on the production floor or in the field. EDL's STS-SC2 is fast; with a heating block built around an advanced heating element. In addition, these calibrators have a fast cooling fan that helps them cool down almost as quickly as they heat up. STS calibrators make all surface calibrations easy and efficient.



EDL's Surface Transfer Standard Calibrators are perfect for accurate testing of all surface sensors.

SPECIFICATIONS		
Model Number	SC-2 LOW RANGE	SC-1 HIGH RANGE
Temperature Range	Ambient to 350 °C	Ambient to 650 °C
Size	30.4cm (12") x 25.4cm (10") x 34.6cm (14")	30.4cm (12") x 25.4cm (10") x 34.6cm (14")
Weight	11 kg (25 lbs.)	11 kg (25 lbs.)
Stability	0.05 °C (over 30-minute period)	0.05 °C (over 30-minute period)
Resolution	0.1 °C	0.1 °C
Accuracy	± 2.0 °C	± 2.0 °C
Uniformity	± 0.5 °C	± 0.5 °C
Fast Cool	200 °C in ~ 40 minutes	200 °C in ~ 40 minutes
Heat Up	100 °C in ~ 10 minutes 300 °C in ~ 20 minutes	100 °C in ~ 10 minutes 300 °C in ~ 20 minutes
Interface	RS-232	RS-232
Power	120VAC, 10amp, 50/60Hz *for 240VAC, add -2 to base part number (Ex: STS-SC2-1-2)	120VAC, 10amp, 50/60Hz *for 240VAC, add -2 to base part number (Ex: STS-SC1-1-2)

True Accurate Surface Temperatures At An Affordable Price!

**Inquire about the complete STS Reference System!
Call us today: 1.800.342.5335 or
434.799.0807
Monday - Friday 8:00am-5:00pm EST**



EDL's Practi-Cal Drywell Calibrator (PRI-1) was designed for fast and easy testing and verification of surface and insertion sensors. Accurate temperature measurement is vital for quality, compliance, safety, and efficiency. EDL's high quality Drywell Calibrators are exactly what you need for ensuring sensors and instruments are performing properly, by providing reference temperatures for testing and calibrating those devices. The PRI-1 offers a means of testing your temperature devices over a range of Ambient to 350 °C. Our unique design accommodates practically any style, shape and size of sensor you may have a need to test.

Because these units are compact, you can take them virtually anywhere. The small footprint allows for easy placement of the calibrator making it a breeze for testing sensors that are in tough to reach places. The PRI-1 was engineered with a standard removable well, and a reference thermometer can be used to further increase the accuracy of your measurements. Additional custom engineered inserts are available to accommodate almost any size sensor. Please call us for information on how to order custom wells to accommodate your sensors.

Like all EDL calibrators, the PRI-1 is easy to use. Any technician can use this calibrator to achieve highly accurate and stable readings. The PRI-1 has an easy to navigate touch screen that allows for easy settings and set point memory recalls. We use a high quality controller that allows the set point to be set with a resolution of 0.1 °.

With ample surface area, we make surface sensor testing easy to accomplish. Our standard well for insertion probes accommodates three 1/4" sensors plus one reference sensor. These high performance calibrators use a series of internal sensors to allow us to extrapolate the actual surface temperature of the calibration block. This unit has an unbeatable one-year warranty and we offer initial and annual recalibration in our calibration lab.

All of EDL's products are made in the USA. We guarantee the highest quality goods that are engineered and built by skilled craftsmen with ample experience in the temperature measurement and calibration field. Since 1943, EDL's focus has been on achieving levels of accuracy that are unmatched by any other company. Let EDL reduce the uncertainty of your measurements – rely on EDL for all of your temperature and calibration needs.

Features:

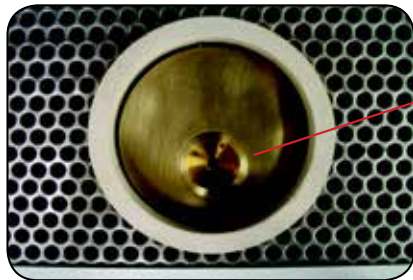
- Interchangeable wells for PRI-1
- Surface thermocouple output
- Expanded uncertainties of ±1.0 °C achieved for entire temperature range
- Easy annual recalibration performed in our lab

Custom Dry Well Blocks

EDL offers a wide variety of custom dry well calibrator blocks to be used with any dry well calibrator. Blocks are offered in Copper, Brass, and Stainless Steel. The blocks holes are drilled based on your specifications, and sensor clearance is taken into account. For example, a 0.25" diameter sensor may be safely placed in the calibrator well as it is drilled to a 0.257" diameter.

The wells may also be drilled to custom metric sizes and unusual standard sizes. We also offer a surface calibrator insert which has an embedded reference thermocouple which allows the user to make surface calibrations.

**For additional information on products and calibration contact us at
434.799.0807 or sales@edl-inc.com**



Dry Well Insertion

Order Information

SPECIFICATIONS		
Model Number	PRI-1	PRI-2-1
Temperature Range	Ambient to 350 °C	Ambient to 650 °C
Size	30.4cm (12") x 25.4cm (10") x 34.6cm (14")	30.4cm (12") x 25.4cm (10") x 34.6cm (14")
Weight	11 kg (25 lbs.)	11 kg (25 lbs.)
Stability	0.05 °C (over 30-minute period)	0.05 °C (over 30-minute period)
Resolution	0.1 °C	0.1 °C
Accuracy	± 2.0 °C	± 2.0 °C
Uniformity	± 0.5 °C	± 0.5 °C
Fast Cool	200 °C in ~ 40 minutes	200 °C in ~ 40 minutes
Heat Up	100 °C in ~ 10 minutes 300 °C in ~ 20 minutes	100 °C in ~ 10 minutes 300 °C in ~ 20 minutes
Interface	RS-232	RS-232
Power	120VAC, 10amp, 50/60Hz *for 240VAC, add -2 to base part number (Ex: PRI-1-1-2)	120VAC, 10amp, 50/60Hz *for 240VAC, add -2 to base part number (Ex: PRI-2-1-2)

The CRYO-CAL®-1 is an alternative to the argon triple point and other cryogenic calibrators. It is used to calibrate temperature sensors such as SPRTs, RTDs, and thermocouples via comparison calibration. The CRYO-CAL® utilizes the phase change point of liquid nitrogen (LN₂) to establish a reference temperature of approximately 77 K (-196 °C).

There are four Teflon® lined bushings that guide sensors into the copper plated equalization block. It is completely immersed in the cryogenic liquid contained within a super-insulated vacuum dewar. The CRYO-CAL®'s copper plated equalization block greatly reduces corrosion and oxidation and contributes to the ± 0.002 K stability and uniformity of the whole system.

Order Information

MODEL	TEMPERATURE POINT
CRYO-CAL®-1	Reference Temp. 77 K (-196 °C)

The Finest in Comparison Calibration!

- Features:**
- **Temperature: 77 K (-196 °C)**
 - **Most stable readings available at LN₂**
 - **Stability: ± 0.002 K**
 - **Uniformity: ± 0.002 K**
 - **Multiple media options (May be used with Dry Ice, Crushed Ice, Endothermic & Exothermic Reactive materials)**

Corrosion resistant
Copper Equalization Block



Cryo-Cal® -2 Cryostat Calibrator

EDL's Comparison Cryostat (CRYO-CAL®-2) is a passively cooled cryostat that allows the user to calibrate temperature measurement devices from 77 K (-196 °C) to Ambient at an affordable price. Using liquid nitrogen as the cooling media eliminates the extreme cost of cascade compressor systems and the cumbersome nature of such baths. Calibrating at 113 K (-160 °C) is no problem, and in fact, any temperature above 77 K (-196 °C) can be accomplished with dwell times greater than 15 minutes. The Cryo-Cal-2® requires no expensive bath fluids and is virtually maintenance free because there are no moving parts or pumping systems. With less than ~13 liters of LN₂, affordable comparison calibrations can be performed at any temperature above 77 K (-196 °C).

All of EDL's products are made in the USA. We guarantee the highest quality goods that are engineered and built by skilled craftsmen with ample experience in the temperature measurement and calibration field. Since 1943, EDL's focus has been on achieving the highest levels of accuracy that are unmatched by any other company. Let EDL reduce the uncertainty of your measurements - rely on EDL for all of your temperature and calibration needs.

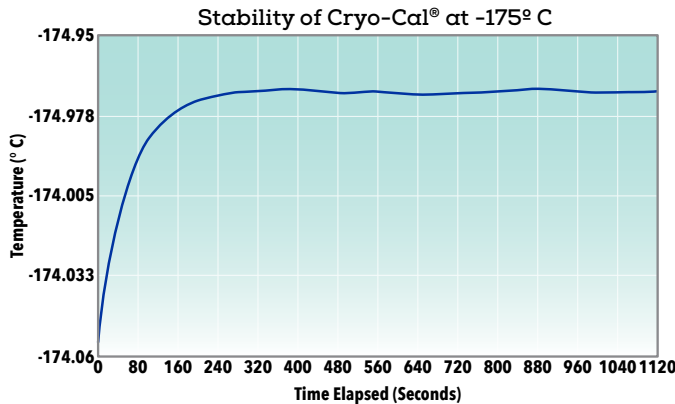
Features:

- **Compact & Easy to Use**
- **Virtually Maintenance Free!**
- **12-Month Warranty**

Corrosion resistant
Copper Equalization Block



A Cryostat at a Calibrator Price!



SPECIFICATIONS

	CRYO-CAL®-2-1
Model Number	CRYO-CAL®-2-1
Temperature Point	-196 °C (77 K) to 0 °C (273 K)
Dewar Dimensions	25.7cm (10 1/8") Diameter x 43.2cm (17") H Weight: 14.5kg (32 lbs.) Capacity: ~ 13 Liters
Linear Bushings	Teflon
Wells	Accommodate Sensors Ranging from 1mm to 7.5mm (0.040 to 0.312")
Block Diameter	44.5mm (1.75")
Insertion Length	27.9cm (11") Minimum
Immersion Depth	144mm (5.66") (In Block)
Dewar Material	Stainless Steel Vacuum Insulated
Block Material	OFHC
Lid Material	Polycarbonate
Minimum Use Temperature	77 K (-196 °C)
Maximum Use Temperature	273 K (0 °C)
Stability	< 2mK
Uniformity	< 2mK
Power	120VAC, 10 amp, 50/60Hz *for 240VAC add (-2) to base part number (Ex: CRYO-CAL®-2-1-2)



EDL brings accurate stirred liquid bath calibrations to field service and the laboratory bench top with the introduction of this product line. Mini-Ultra Baths are high precision portable calibration source instruments that simply outclass even the best dry wells - at an affordable price. At a fraction of the cost of large floor model style baths, accuracies and uniformities better than 20mK are achieved with this temperature calibration unit. MUBs are ideal for lab and field calibration of thermocouples, SPRTs, thermistors, and liquid in-glass thermometers. Our baths offer a wide operating range at a competitive cost, and there is no question that liquid baths will reduce fit and immersion error. With a uniquely designed deep well, this unit is perfect for almost any immersion style sensor.

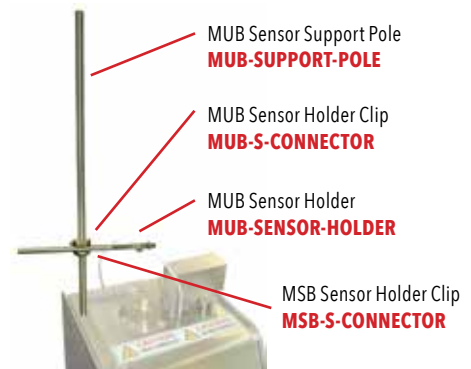
The EDL MUB-20130 was designed for the temperature range of -20 °C to 130 °C - allowing testing at 121 °C, a key sterilization temperature. These baths include an RS-232 interface for use with the supplied i-Tools software. Full function programming, monitoring and graphing from your laptop or PC is available using this open architecture software system.

Features:

- **Sensor Holding System Included**
- **12-Month Warranty**
- **High Strength Aluminum Tank**
- **Protection for RTD Inputs**
- **Sealable Lid for Transport**

Mini-Ultra Bath And Accessories

SPECIFICATIONS	
Model Number	MUB-20130-1
Temperature Range	-20 °C to 130 °C
Dimensions	370mm (14.5") D x 320mm (12.5") W x 470mm (18.5") T
Weight	66 lbs. (30Kg)
Wetted Parts	304 Stainless Steel 3" Dia. x 1 3/4" Deep Insertion Entrance
Fluid Depth	10" 240 Cubic Inches or ~3.9 Liters
Power Relay	250VAC - 25Amp
Resolution	0.1 °C
Stability & Uniformity	-20 °C ±10mK and 130 °C ±10mK
Interface	DB-9 / RS232
Power	120VAC, 10amp, 50/60Hz *for 240VAC add -2 to base part number (Ex: MUB-20130-1-2)



**Replacement Salt for Salt Baths
High Quality Formed Salts**

SALT149-18

Low 149 °C / High 593 °C

Thermal Conductivity:
0.33BTU/HR. SQ. FT., °F/FT

18 kg (39.7 lbs)

Price:



SALT149-27

Low 149 °C / High 593 °C

Thermal Conductivity:
0.33BTU/HR. SQ. FT., °F/FT

27 kg (59.6 lbs)

Price:



The MSB Sensor Holder Clip is used for mounting horizontal MSB Sensor Holder to the MSB Sensor Support Pole. For use with MSB Sensor Support Pole and MSB Sensor Holder.



MSB-500-D-1

- Stirred Media: Salt
- Temperature: 190 °C to 500 °C

MSB-200-D-1

- Stirred Media: Silicone Oil
- Temperature: Ambient to 200 °C

Both of these baths feature ≤ 10mK stability and uniformity, with approximately 20 lbs. of media.

Features:

- Small Footprint - Shipped via UPS/FedEx!
- Built-in Sensor Holders
- 12-Month Warranty
- Independent High Temperature Shutdown Feature
- Improved Stirring System

Both the MSB-200-D and MSB-500-D have a 15" square foot print and are well suited for bench top laboratory use as well as easy portability for use in the field. Fluid immersion depths of over 12" make these units suitable for comparison calibrations of SPRTs, industrial thermometers, and thermocouples in a wide temperature range. The MSB line of calibrators offer a short neck distance of 2.1" from the top of the neck to the actual fluid. This short neck distance allows you to get your shorter sensors submerged into the bath easily, and the good vertical uniformity makes it easier to perform calibrations with all of your sensors.

An intuitive touch screen allows for easy bath control and several prefixed points are included for simple, fast and reliable setups. Communication to a computer is easily accomplished through the use of an RS-232 port on the side of the bath. Communication is typically accomplished through the use of a simple USB interface plugged into the host computer. I-Tools is an easy to use program that allows for full bath control.

These calibrators feature impressive start up times – heating from Ambient to 200 °C in only ~ 90 minutes. Because of the fast heat-up times you can perform more calibrations in less time. With this easy to use bath, heating rates greater than 2.6 °C per minute allow the user to calibrate numerous points throughout the day; roughly 75 minutes from 200 °C to 400 °C.

The tank on these baths is large enough to accommodate an optional high temperature equalization block which can further improve the stability and uniformity. Our high temperature equalization blocks are made from Stainless Steel and can be customized as needed. The typical block will have five or more fluid filled sensor wells and is typically greater than 6" deep. For the MSB-200-D equalization blocks are available in Brass and Copper as well as Stainless Steel.

These baths are true laboratory baths, not drywells. While drywell calibrators offer convenience, they do not offer the stability and repeatability of a stirred liquid bath. With EDL's Mini-Salt Baths, there is no restriction on the number of holes drilled in the equalization block, no limits on the insertion length, and no need to worry about the size of the well hole to the diameter of the sensor being tested.

All MSB calibration baths feature high stability and uniformity. This is largely a result of the advanced stirring system in the bath and the advanced engineering in the design and location of the heaters. These baths typically achieve a standard deviation of ± 0.005 K=2.

All calibration baths are rigorously tested in our labs for stability and uniformity before they leave our facility. We even make shipping a breeze – because of the small size of the units they may be shipped by FedEx or UPS with no need for freight services. All MSB calibrators ship with 2 mounting plates on top of the bath; these plates are predrilled and threaded to accept up to 10 MSB-SUPPORT-POLES. These poles are designed to give support and allow vertical adjustment for mounting the MSB-S-CONNECTOR and the MSB-SENSOR-HOLDER. These accessories make it easy to mount your sensors into the bath. In addition, these accessories allow you to quickly change and adjust the sensors in the bath. The MSB line of baths are available in both 120VAC and 240VAC. You may request the cord configuration to match your home country's power requirement.

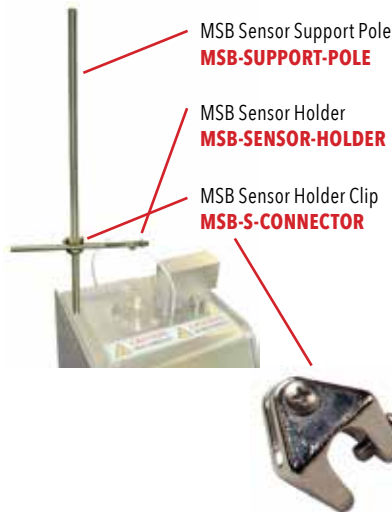
All of EDL's products are made in the USA. We guarantee the highest quality goods that are engineered and built by skilled craftsmen with ample experience in the temperature measurement and calibration field. Since 1943, EDL's focus has been on achieving levels of accuracy that are unmatched by any other company. Let EDL reduce the uncertainty of your measurements – rely on EDL for all of your temperature and calibration needs.

SPECIFICATIONS		
Model Number	MSB-200-D-1 (SILICONE OIL)	MSB-500-D-1 (SALT)
Temperature Range	Dictated by Type of Oil (typically Ambient to 200 °C)	200 °C to 500 °C
Dimensions	370mm (14.5") D x 320mm (12.5") W x 470mm (18.5") T	
Weight	66 lbs. (30Kg) including oil	66 lbs. (30Kg) including salt
Wetted Parts	304 Stainless Steel. 3" Dia. x 1 3/4" Deep Insertion Entrance	
Fluid Depth	13" 300 Cubic Inches or 4.9 Liters	
Resolution	0.1 °C	
Stability & Uniformity	200.0 °C ± 10mK	-20 °C ±10mK and 130 °C ±10mK
Heat Up	Approx. 2 °C/minute	
Cool Down	< 0.5 °C/minute	< 1 °C/minute
Interface	RS-232	
Built-In Sensor Holder Mounts	Included	
Power	120VAC, 10amp, 50/60Hz *for 240VAC add -2 to base part number (Ex: MSB-200-D-1-2)	

Note: See Page 62 for information on accessories.

Custom Dry Well Blocks

EDL offers a wide variety of custom dry well calibrator blocks to be used with any dry well calibrator. Blocks are offered in Copper, Brass, and Stainless Steel. The block's holes are drilled based on your specifications with sensor clearance. For example, a 0.250" diameter sensor may be safely placed in the calibrator's well as it is drilled to a 0.257" diameter. The wells may also be drilled to custom metric and unusual sizes. We also offer a surface calibrator insert which has an embedded reference thermocouple which allows the user to make surface calibrations. Call for current pricing.



The MSB Sensor Holder Clip is used for mounting horizontal MSB Sensor Holder to the MSB Sensor Support Pole. For use with MSB Sensor Support Pole and MSB Sensor Holder.

Replacement Salt for Salt Baths High Quality Formed Salts

SALT149-18
Low 149 °C / High 593 °C

Thermal Conductivity:
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18 kg (39.7 lbs)
Price:



SALT149-27
Low 149 °C / High 593 °C

Thermal Conductivity:
0.33BTU/HR. SQ. FT., °F/FT

27 kg (59.6 lbs)
Price:



Ultra-Bath Stirred Silicone or Salt Bath

EDL is proud to offer the Ultra-Bath line of stirred liquid baths. The Ultra-Baths incorporate new designs that are packed with features that facilitate quick, accurate, and easy calibrations. The design and features of the Ultra-Bath line are the result of years of researching and use of commercially available stirred liquid baths.

If you need to reach the maximum temperature possible in a salt bath, EDLs UB-2050 goes from 200 °C to 550 °C and is up to 100 times more stable than alternative calibration instruments. Most labs use them as salt baths for calibration of thermocouples, RTDs, and SPRTs. These efficient baths enable you to do comparison calibrations of SPRTs and are typically stable to 10mK @ 550 °C.

SPECIFICATIONS			
Model Number	UB-4010-1	UB-1020-1	UB-2050-1
Temperature Range	-40 °C - 100 °C	50 °C to 200 °C	200 °C - 550 °C
Exterior Dimensions	30cm (12") x 30cm (12") x 45cm (18")		
Tank Dimensions	22cm (8.5") x 28cm (11")		
Inside Tank Depth	46cm Dia. (18")		
Opening	14cm (5) x 27cm (10.5")		
Capacity	42 Liters, 11 Gallons		
Wetted Parts	304 Stainless Steel		
Resolution	1 mK		
Stability & Uniformity	80.0 °C - 5.0mk -30 °C - 5mk	150 °C - 5 mK	550 °C - 1 v0mk 220 °C - 10mk
Stirred Liquid	Silicone Oil	Silicone Oil	Salt
Interface	RS-232		
Built-In Sensor Holder Mounts	Included		
Power	120VAC, 10amp, 50/60Hz. *For 240VAC add -2 to base part number (Ex: UB-4010-1-2)		



EDL's FUR-1500 Ultra High Temperature Calibration Furnace was designed for accurate testing of both thermocouples and RTDs. Calibrations between 300 °C and 1500 °C are easily, quickly and accurately achieved with this innovative split-tube, 3-zone furnace with Silicon Carbide elements. Engineered with unique features that make thermocouple calibrations both more efficient and more accurate, the FUR-1500 is specially designed to perform high accuracy calibrations as well as long term drift and temperature cycle tests. Highly stable and uniform temperature fields are accomplished with the use of an internal equalization block and a high purity ceramic liner over 5mm thick. This protective tube diffuses the element's energy helping to create a more uniform and stable temperature field for the most accurate measurements.

The FUR-1500 is available with a test cycling option that allows the user to cycle their sensors through a temperature, time and dwell cycle. The cycle is accomplished by moving the sensors in and out of the hot-zone using a front mounted air cylinder. The process is controlled by an imbedded micro-controller that can be interfaced to the user's computer for profile programming. This type of testing allows the user to see initial shifts that may occur due to thermal cycling. Sensors are subject to extreme temperature shifts during use, even when used in a non-static environment. Industrial laboratories have begun assessing the effects of cycling on their temperature sensors and our cycle test option on the FUR-1500 allows the user to test for and identify hysteresis.

Features:

- **Excellent for High Accuracy Calibration of RTDs and Thermocouples**
- **Stability < 1 °C**
- **12-Month Warranty**
- **Highly Stable and Uniform Temperature Field**



SPECIFICATIONS		
Model Number	FUR-1200-1	FUR-1500-1
Temperature Range	300 °C to 1200 °C (with intermittent operation to 1250 °C)	300 °C to 1500 °C
Dimensions	~ 61cm (24") L x ~ 51cm (20") W x ~ 53cm (21") H	66cm (26") L x 38cm (15")
Weight	~ 113kg (250 lbs.)	~113 kg (250 lbs.)
Internal Equalization Block Length		~31cm (12")
Minimum Use Temperature	300 °C	300 °C
Maximum Use Temperature	1200 °C (with intermittent operation to 1250 °C)	1500 °C
Stability	Stability over 15 Min @ 300 °C: < 0.065 °C Stability over 15 Min @ 815 °C: < 0.065 °C Stability over 15 Min @ 1100 °C: < 0.065 °C	< 1 °C over 30 minutes
Three Zone Block Uniformity	< 0.25 °C	< 1 °C
Heating Element	Wound, Non-Insulated	12 Silicon Carbide RR Elements
Insulation	Low (K) Factor Vacuum Cast Ceramic; Alumina Tube with Ceramic Spacers	Low (K) Factor Vacuum Cast Ceramic; Alumina Tube with Ceramic Spacers
Inside Diameter	~7.2cm (2.8")	~9.1cm (3.6")
Power	240VAC, 10amp, 50/60Hz	240VAC, 10amp, 50/60Hz
Power Requirement	240VAC, 6400 watts	240VAC, 9000 watts
Current Rating	30 A	50 A
Controller Power	240 VAC	240 VAC
Control Thermocouple	(3) Type K Thermocouples	(3) Type B Thermocouples



EDL's T-VAL is a small and completely portable field calibrator that simplifies the on-site calibration of immersion or insertion sensors. With a compact design, the T-VAL system gives unparalleled portability and enables in-field calibrations to be performed on hard to reach sensors - without the removal or disconnection of sensor cables and harnesses. This reduces the time necessary to perform a calibration and also allows electrical loop validation to be made while testing the sensor - greatly facilitating the troubleshooting process.

The T-VAL easily and cost effectively identifies shut down sensors and was originally designed for in situ testing of sensors in helicopter engines over extremely high temperatures. T-VAL is now used in various applications including smoke stacks, overhead piping, burn buildings/ live training centers, and utility/power plants.

Highly developed features have been incorporated into the T-VAL portable Drywell System: the internal heating of the calibration block is evenly distributed and each heater is independently grounded and isolated, the block is shielded from excessive line noise or ground loops, and in the event of an internal sensor malfunction, the controller is set to immediately shut-off power to the calibration block.

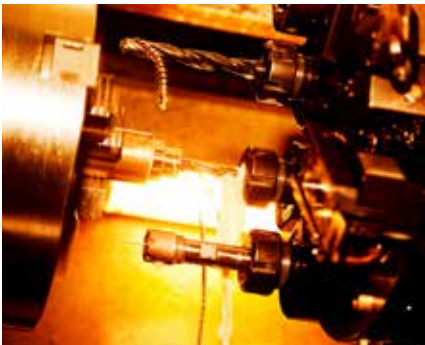
The T-VAL Drywell is perfect for fire departments to aid in the calibration of sensors used during controlled live burns for training purposes.

These heroes put their lives on the line every day and they trust EDL's equipment to protect them. We can't think of any better endorsement for our products than that!

Order Information

SPECIFICATIONS	
Model Number	T-VAL-1
Well	Fully Isolated
Heaters	120VAC, 10 amp, 50/60Hz
Controller	11/16 DIN
Cable Length	20' Cable*
Case	Injection Modded (ABS)
Calibrator Block	8.3cm (3.3") x 13cm (5.3") with 13cm (5.0") L Handle
Block Weight	1.3kg (2.9lbs.)
Block Well	6.3mm (0.250") ID
Temperature Range	Ambient to 700 °C (1292 °F)
Accuracy Over Full Temperature Range	±3.5 °C (6.3 °F)
Stability	±0.5 °C / °F over 15-minute period
Warm Up	10 minutes from Ambient to 649 °C (1200 °F) / ~ 100 °C per minute
Power	120VAC, 10amp, 50/60Hz *for 240VAC add -2 to base part number (Ex: T-VAL-1-2)

* Custom Lengths Available



Electronic Development Labs, Inc.





Electronic Development Labs, Inc.

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