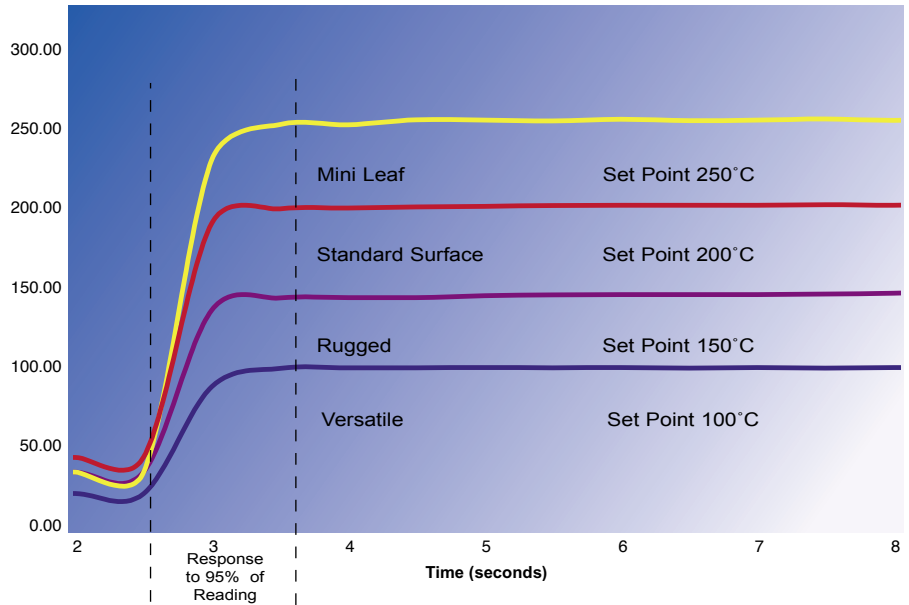


EDL Surface Sensors

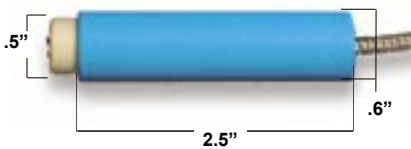
The unique design and proprietary manufacturing process make EDL surface sensors the only logical choice for dependable and accurate surface temperature measurement. Designed to measure all flat, smooth surfaces, they deliver extremely fast response times and high accuracy. Surface sensors are used for direct measurements in many applications, as well as accessing those hard to reach places. Characteristics such as range, accuracy, durability, and sensitivity result in quality measurements for many industrial processes.

Response Times of EDL Surface Sensors



All EDL Surface Sensors come standard with a 32" lead with stainless steel overbraid. (Various lead lengths available)
All part numbers are Red and/or Bold

Straight Surface Sensor (SS-)

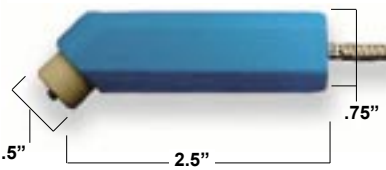


- Designed to measure all flat, smooth surfaces
- Two coil design improves response time and accuracy
- Rated up to 650°C (1200°F)
- Ideal for use in plastics and glass processing and many other industrial applications

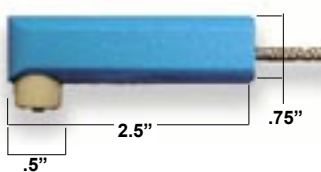
Specifications

Sensing Tip0.50" diameter ceramic two-coil type
 Handle2.5" long, .625" diameter aluminum
with 3.0" removable plastic extension
 Lead32" long thermocouple grade stranded #20
 wire. Teflon insulated and twisted with woven stainless
 steel overbraid
 Accuracy ±3°C or 1%, whichever is greater
 Response time < 3 seconds to 95% of reading

45° Surface Sensor (SS45-)



90° Surface Sensor (SS90-)



Type	Temperature	TC	Termination	Price
SS- Straight	12 =650°C (1200°F)	E, J, K or T	M =Miniplug	\$82.00
SS45- 45° Angle			P =Phonoplug (Analog)	"
SS90- 90° Angle		Max. Temp For T is 400°C	C =Coil Cord w/Miniplug	"
			L =Standard Plug	"
			U =Unterminated	"
			A =Spade Lugs	"
			E =Miniplug(no lead)	\$61.00
			R =Must use HDRT Holder	"
SSA- Teflon Tip	05 =260°C (500°F)		Supplied in terminations Shown above	\$95.00

Teflon tip eliminates scratching or marring of delicate surfaces
 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

See Page 42 - 43 for our surface calibrators

Surface Sensors

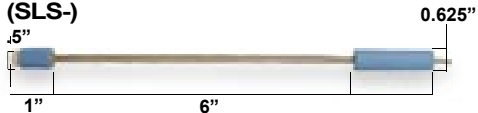
Electronic Development Labs, Inc. takes pride in our ability to produce affordable sensors and equipment to meet your specific temperature measurement needs. Please refer to the Sensor Application guide or call our helpful sales department at 1-800-DIAL-EDL (1-800-342-5335)

Surface Sensor Application Guide

Model	Flat Surface	Rough Surface	Curved Surface	Moving Surface	Rugged	Limited Space	Immersible
Standard SS	✓	✓					
Versatile SVS	✓	✓	✓				
MiniWand SMW	✓					✓	✓
Rugged SRS	✓						
Multi-Purpose SMP	✓						
MiniLead SML	✓	✓	✓	✓		✓	✓
Mini 90° SM90	✓					✓	✓
Long Shank SLS	✓					✓	
Magnetic SH	✓				✓		
Low Profile SLF	✓					✓	

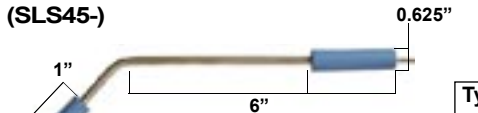
Long Shank Surface Sensors

Long Shank (SLS-)



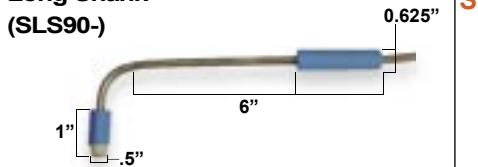
- Allows measurement of hard-to-reach areas safely
- Self aligning two-coil thermocouple design
- Extremely fast response with high accuracy

Long Shank (SLS45-)



- Different shank length or lead length may be specially ordered

Long Shank (SLS90-)

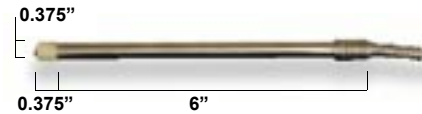


Specifications

Sensing Tip..... 0.50" diameter ceramic two-coil type
 Handle 2.5" long x 0.625" diameter 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 < 4 sec. to 95% of reading

Type	Temperature	T/C	Shank Length	Termination	Price
SLS -Straight	12 =650°C (1200°F)	E, J, K or T Max Temp. for T is 400°C	4"	M =Miniplug	\$101.00
SLS45 -45° Angle			6"	P =Phonoplug(Analog)	"
SLS90 -90° Angle			9"	C =Coilcord w/Miniplug	"
				L =Standard Plug	"
				U =Unterminated	"
				E =Miniplug(no lead)	\$80.00

Multi-Purpose Surface Sensor (SMP-)



SMP

- Requires a flat surface of only 3/8" to give fully accurate readings
- Long shank and small diameter allows multi-purpose sensor to be used in areas where other sensors will not go

Mini 90° Surface Sensor (SM90-)



SM90

- Lower profile than standard right angle surface sensors
- Ideal for spaces less than 3/4" high
- Available with handles up to 12"



• Two Coil design sensing tip minimizes heat loss thus increasing accuracy

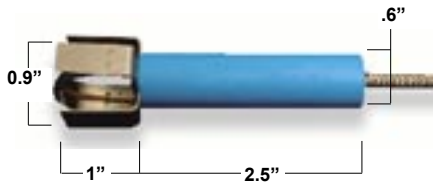
Specifications

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 wire
 Teflon insulated & twisted w/ stainless steel overbraid
 Accuracy ±3°C or 1%, whichever is greater
 Response Time < 3 seconds to 95% of reading

Type	Temperature	TC	Termination	Price
SMP - Multi-Purpose Surface	12 =650°C (1200°F)	E, J, K or T Max. Temp. for T is 400°C	M =Miniplug	\$97.00
SM90 - Mini 90° Angle			P =Phonoplug (Analog)	"
			C =Coil Cord w/Miniplug	"
			L =Standard Plug	"
			U =Unterminated"	"
			A =Spade Lugs	"
			E =Miniplug (No Lead)	\$76.00
			R =Must use HDRT holder	"

Surface Sensors

Versatile Surface Sensor (SVS-)



- Designed to minimize amount of heat removed from surface under test
- Unique thermocouple strain relief loop improves accuracy and allows additional flexibility for band junction
- 4 guides align and protect band from damage
- Ideal for use on oily, greasy surfaces, or curved surfaces with more than a 6" radius

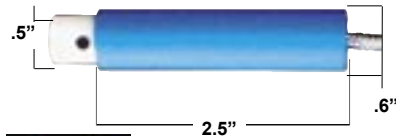
Specifications

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 blue fully potted
 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 <3 seconds to 95% of reading

Type	Temperature	TC	Termination	Price
SVS- Versatile Surface	08 =425°C (800°F)	E, J, K or T	M =Miniplug	\$84.00
	12 =650°C (1200°F)	Max. Temp. for T is 400°C	P =Phonoplug (Analog)	"
			C =Coilcord w/ Miniplug	"
			L =Standard Plug	"
			U =Unterminated	"
			A =Spade Lugs	"
			E =Miniplug (No Lead)	\$63.00
			R =Must use HDRT holder	"

Versatile Surface Sensors come with a removable 3" plastic extension handle

Mini Versatile Surface Sensor (SVSM-)



- Teflon shell supports the tension on the band and minimizes the heat sink effect
 - Allows accurate temp. measurement of areas as small as 0.5" in diameter
- *The major use for these sensors is in applications where there is a high potential for getting contaminants on a standard surface sensor. Plastic Mold temperature measurement is the best example*

Specifications

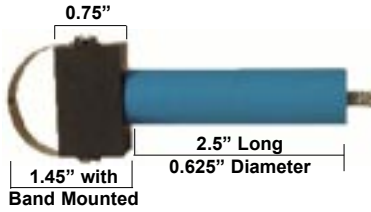
Band 0.005"thick stainless steel
 0.163" wide
 Handle 2.5" long x 0.625" diameter double epoxy powder
 coated blue fully potted
 Lead . . . 32" long thermocouple grade stranded #20 wire
 Teflon insulated & twisted w/ stainless steel overbraid
 Accuracy ±3°C or 1%, whichever is greater
 Response Time <3 seconds to 95% of reading

Type	Temperature	TC	Termination	Price
SVSM- Versatile Surface	05 =260°C (500°F)	E, J, K or T	M =Miniplug	\$90.00
			P =Phonoplug (Analog)	"
			C =Coilcord w/ Miniplug	"
			L =Standard Plug	"
			U =Unterminated	"
			A =Spade Lugs	"
			E =Miniplug (No Lead)	\$69.00
			R =Must use HDRT holder	"

Mini Versatile Surface Sensors come with a removable 3" plastic extension handle
 Mini Versatile Surface Sensors can be made to accomodate HIGH TEMPERATURE APPLICATIONS

Surface Sensors

Flex Band Sensors



- Band can be rotated to desired position
- Designed to measure delicate flat, concave, or convex surfaces
- Unique construction requires only light contact to assume contour of test object
- Bands are sold separately in three thicknesses - see below

Specifications

Band 0.250" wide
 Handle 2.5" long x 0.625" diameter
 Lead 32" long thermocouple grade stranded #20 wire
 Teflon insulated & twisted w/ stainless steel overbraid
 Accuracy ±3° or 1%, whichever is greater
 Response time <3 seconds. to 95% of reading

Model	Temperature	T/C	Termination	Price
RFC- Flex Band Sensor	10 =535°C (1000°F)	E, J, K or T Max. Temp. for T is 400°C	M =Miniplug P =Phonoplug (Analog) C =Coilcord w/ Miniplug L =Standard Plug w/32" Lead U =Unterminated	\$73.00 " " " "
R3R- 0.003" Band	Fastest response time			\$38.00
R5R- 0.005" Band	Standard	E, J, K		"
R7R- 0.007" Band	More durable	or T		"

Flex Band Surface Sensors come with a removable 3" plastic extension handle

Rugged Surface Sensors

Straight Rugged (SR-)



45° Rugged (SR45-)



90° Rugged (SR90-)



- Rugged Surface Sensors require flat areas of only 0.25" for fully accurate readings
- Tip is spring loaded and self centering to help operator achieve precision results
- Unique construction of flexible shaft and cap minimize amount of heat removed from surface under test
- Long reach enables use in areas where other sensors are too bulky or short

Specifications

Flexible Tube and 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
 wire. Teflon insulated & twisted w/ stainless steel
 overbraid
 Accuracy ±3° or 1%, whichever is greater
 Response Time <3 seconds to 95% of reading

Type	Temperature	TC	Termination	Price
SR- Straight	12 =650°C (1200°F)	E, J, K or T Max Temp. for T is 400°C	M =Miniplug P =Phonoplug (Analog) C =Coil Cord w/Miniplug L =Standard Plug U =Unterminated A =Spade Lugs	\$84.00 " " " " "

Surface Sensors

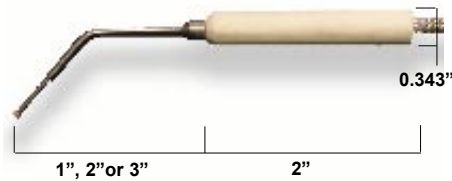
Mini Wand

Surface Sensors

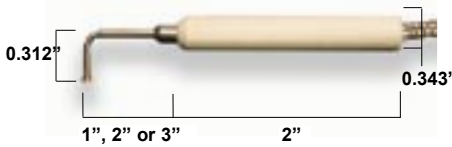
Straight Mini Wand (SMW-)



45° Mini Wand (SMW45-)



90° Mini Wand (SMW90-)



- Ideal for small areas where regular surface sensors will not fit
- Sensing tip is 0.125" in diameter
- Ideal for use in plastics, rubber processing, and circuit board manufacturing
- Fastest response time of all surface sensors

Specifications

Sensing Tip 0.125" diameter alloy disc
 Handle 2" long x 0.343" diameter ceramic
 Lead 32" long thermocouple grade stranded #20 wire. Teflon insulated and twisted with woven stainless steel over braid
 Accuracy ±3° or 1%, whichever is greater
 Response Time < 1 second to 95% of reading

Type	Temperature	TC	Diameter	Length	Termination	Price
SMW-	10 =535°C (1000°F)	K, J, E or T	K =0.059" F =0.072"	1, 2 or 3	M =Miniplug P =Phonoplug (Analog) C =Coilcord w/ Miniplug L =Standard Plug U =Unterminated A =Spade Lugs E =Miniplug (No Lead) R =Must use HDRT Holder N =Aluminum Handle w/ Miniplug and spring Armor Cable plus Strain Relief.	\$89.00 " " " " \$68.00 "
SMW45-						
SMW90-		Max Temp. for T is 400°C				

**** Add \$2.00 per inch above 3" for longer shanks ****

Leaf Surface Sensors

Mini Leaf Sensor (SML-)



- May be used for both stationary or moving surfaces measurements, such as rotating rubber wheels or continuous flow dough lines in food industry
- Low mass stainless steel leaf sensor allows for excellent response time and reduces surface disturbances

Specifications

Sensing Tip 0.005" flexible stainless steel leaf
 0.375" wide
 Handle <2" long x 0.343 diameter ceramic
 Lead 32" long thermocouple grade stranded #20 wire. Teflon insulated and twisted w/ stainless steel over braid
 Accuracy ±3° or 1%, whichever is greater
 Response Time < 4 seconds to 95% of reading

Leaf Sensor (SL-)



- Leaf Sensor is only 0.010" thick, providing fast and accurate readings
- Ideal for readings where closely mated parts need to be measured
- Can be used in liquid

Specifications

Sensing Tip 0.010" thermocouple material
 0.625" wide
 Handle 2.5" long x 0.625 diameter aluminum
 Lead 32" long thermocouple grade stranded #20 wire. Teflon insulated & twisted w/ stainless steel overbraid
 Accuracy ±3° or 1%, whichever is greater
 Response Time < 4 seconds to 95% of reading

Type	Temperature	TC	Width	Length	Price	Termination
SML- Mini Leaf	08 =425°C (800°F) 12 =650°C (1200°F)	E, J, K or T	A =1/4" or 0.250 G =3/8" or 0.375	1.5"	\$89.00	M =Miniplug P =Phonoplug (Analog) C =Coilcord w/ Miniplug L =Standard Plug U =Unterminated A =Spade Lugs
SL- Leaf	15 =815°C (1500°F)	E, J, K		3, 6, 9, or 12"	\$140.00	

Surface Sensors

Pipe Clamp Surface Sensor



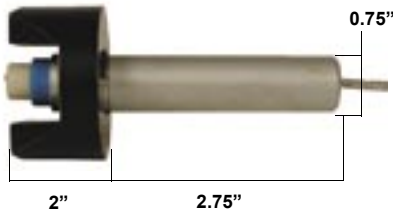
- Attaches to any tube, hose, or pipe from 1" to 8" in diameter
- Can be built to customer specifications and sizes.
- Made of stainless steel and thermocouple grade material.
- Simple hose clamp design allows for easy installation and removal
- Available in larger sizes; please ask our sales staff
- Leads sold separately (See **ET-M-MJ-36** on Page 25)

Specifications

Clamp 1" to 8" diameter 0.562" wide
 Handle No handle
 Accuracy..... ±3° or 1%, whichever is greater
 Response time < 3 sec. to 95% of reading

Type	Diameter	Temperature	TC	Termination	Price
SPC-1- Pipe Clamp	1 1/16" - 2"	06 =315°C (600°F)	E, J, K or T	E =Miniplug (No Lead)	\$27.00
SPC-2- Pipe Clamp	2 1/16" - 3"				\$31.00
SPC-3- Pipe Clamp	3 1/16" - 6"				\$33.00

Magnetic Surface Sensor



- Designed for flat ferrous surfaces
- 40lb. pull holds the sensor securely to any flat ferrous surface
- Eliminates permanent mounting
- EDL two-coil replaceable thermocouple
- Recommended for motors, machinery, mine equipment, coating lines, etc...

Specifications

Sensing Tip. 0.50" diameter. ceramic two-coil type
 Handle .. 2.75" long x 0.75" diameter stainless steel
 Magnet 2" diameter x 1.187", 40 lb. pull
 Lead....32" long thermocouple grade stranded #20 wire. Teflon insulated & twisted w/ stainless steel overbraid
 Accuracy..... ±3° or 1%, whichever is greater
 Response time < 3 sec. to 95% of reading

Type	Temperature	T/C	Termination	Price
SH- Magnetic	08 =425°C (800°F)	E, J, K, or T	M =Miniplug P =Phonoplug(Analog) C =Coilcord w/Miniplug L =Standard Plug U =Unterminated	\$173.00 " " " "
RSS- Surface	Replaceable surface thermocouple tip E, J, K or T			\$60.00

Low Profile Magnetic Surface Sensor



- Magnet does not alter temperature reading
- 18lb. pull magnet holds the SS spring securely against flat ferrous surface
- Terminated with a miniplug (must use an extender lead terminated with a minijack)
- Leads sold separately (See Page 25)

Specifications

Sensing Tip 0.50" diameter ceramic two-coil type
 Magnet 1" diameter x 1" high, 18lb. pull
 Accuracy..... ±3° or 1%, whichever is greater
 Response time < 3 sec. to 95% of reading

Type	Temperature	T/C	Termination	Price
SLP- Magnetic	08 =425°C (800°F)	E, J, K	E =Miniplug only (No Lead) See Page 25 HBET- Holders for SLP Sensor (Required) see page 4	\$130.00 \$70.00
ET-M-MJ-36 Lead w/Miniplug	See Page 25			\$40.50