

Style "MMRL" Molded Transition Mineral Insulated Ring Lug Thermocouples

The "MMRL" ring lug thermocouple eliminates the lack of consistency and accuracy associated with common general purpose ring lug thermocouples. The "MMRL" ring lug thermocouple design places the measuring junction directly on or embedded in the component surface to reduce or eliminate the effects of both poor heat transfer to the junction and heat losses from the mounting hardware. The superior ring design coupled with our molded transition design results in the ideal combination of measurement precision, fast response, reliability and low cost demanded by modern thermal processing equipment.

Our mineral insulated Style "MMRL" thermocouples feature a metal sleeved high temperature molded thermoset lead transition. This durable and cost effective molded transition provides maximum strength, heat resistance and moisture resistance for demanding applications. The precision welded element and lead connections are totally encapsulated by the high temperature thermoset material which is molded directly into the protective stainless steel sleeve.

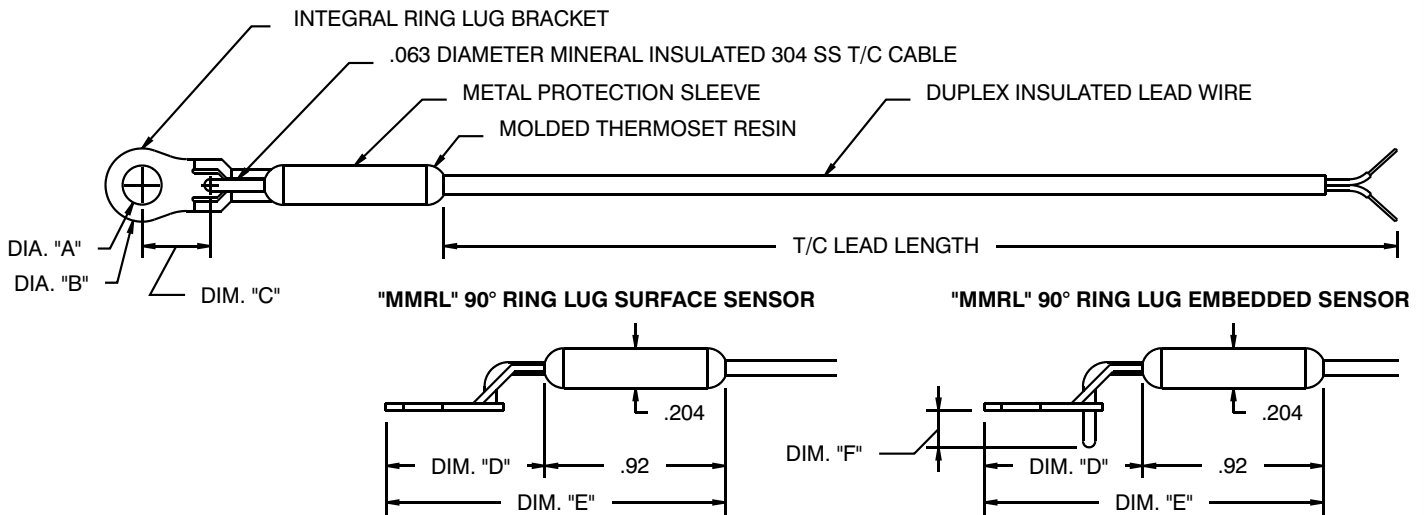
These high quality thermocouples are manufactured to stringent specifications and have gained a reputation for unsurpassed performance and reliability. Our "MMRL" thermocouples can be readily installed on sealing bars, heated plates, heated manifold systems and a wide variety of other controlled heating applications.

Standard thermocouple variations include 0° and 90° lead exit configurations, surface and embedded sensor elements and three optional lug sizes. Each high performance thermocouple is equipped with a .063 inch diameter mineral insulated 304 SS T/C cable in a grounded or ungrounded junction configuration silver brazed to the stainless steel ring lug bracket. Type "J" calibration is standard but the thermocouples are also available in type "K", type "T" and type "E" calibrations.

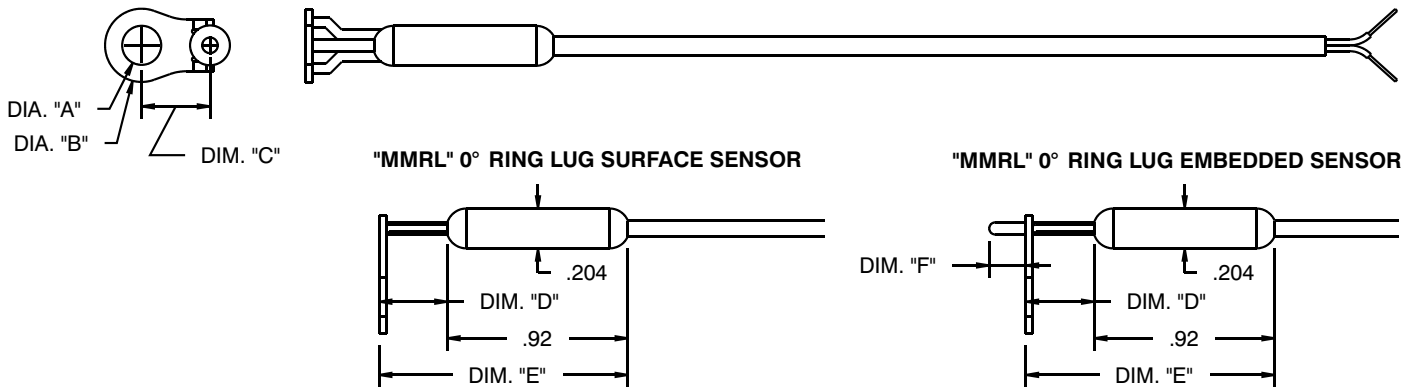
The standard metal sleeved style molded thermoset transition is rated at 800°F. An alternate thermoset resin rated at 900°F. is also available as an option. If the area in the tool where the transition fitting and leads are located is subject to temperatures greater than the 800°F. limit, special lead materials can be supplied to further raise operating temperature capabilities. While not as resistant to abrasion as Kapton insulated leads, fiberglass insulated leads increase the maximum operating temperatures to 900°F. continuous.

The metal sleeve molded thermoset transitions are designed to accommodate a variety of lead protection systems including fiberglass sleeving and stainless steel wire braid. The "MMRL" ring lug thermocouples can be supplied with any desired lead, plug or jack style termination.

"MMRL" 90° LEAD EXIT RING LUG CONFIGURATIONS



"MMRL" 0° LEAD EXIT RING LUG CONFIGURATIONS



Installation Requirements

Installation of the “MMRL” ring lug in the surface sensor configuration requires a single tapped hole corresponding to the recommended screw sizes for the specific ring lug size selected from the table below.

The “MMRL” ring lug in the embedded sensor configuration requires both a tapped hole and a drilled hole with a center to center dimension specified by dimension “C” for the extended probe length. The probe insertion hole should be drilled to .067 diameter with a #51 drill to a depth equal to or greater than the extended probe length specified by dimension “F” in the table below.

Selection And Ordering

Standard versions of these industrial duty ring lug thermocouple assemblies include a .063 diameter type “J” calibration, 304 series stainless steel sheathed mineral insulated cable and choice of grounded or ungrounded junction configuration.

Pre-assembled ring lug assemblies in all standard sizes and configurations are stocked. Leads, transitions and terminations can be installed on stocked ring assemblies for same day shipment. To order by product number replace the codes in the product number example below with your desired specifications.

Style - Ring Lug Size - Lead Exit - Sensor Type	Recommended Screw Sizes	DIA. “A” Ring I.D.	DIA. “B” Ring O.D.	DIM. “C”	DIM. “D”	DIM. “E”	DIM. “F”
“MRL” #8 Ring Lug 90° Surface Sensor	8-32 UNC - M4X0.7	.188	.328	.327	.770	1.690	0
“MRL” #10 Ring Lug 90° Surface Sensor	10-24 UNC - 10-32 UNS - M5X0.8	.200	.375	.350	.816	1.736	0
“MRL” 1/4 Ring Lug 90° Surface Sensor	1/4-20 UNC - 1/4-28 UNS - M6X1	.281	.453	.389	.894	1.814	0
“MRL” #8 Ring Lug 90° Embedded Sensor	8-32 UNC - M4X0.7	.188	.328	.327	.770	1.690	.188
“MRL” #10 Ring Lug 90° Embedded Sensor	10-24 UNC - 10-32 UNS - M5X0.8	.200	.375	.350	.816	1.736	.188
“MRL” 1/4 Ring Lug 90° Embedded Sensor	1/4-20 UNC - 1/4-28 UNS - M6X1	.281	.453	.389	.894	1.814	.188
“MRL” #8 Ring Lug 0° Surface Sensor	8-32 UNC - M4X0.7	.188	.328	.327	.350	1.269	0
“MRL” #10 Ring Lug 0° Surface Sensor	10-24 UNC - 10-32 UNS - M5X0.8	.200	.375	.350	.350	1.269	0
“MRL” 1/4 Ring Lug 0° Surface Sensor	1/4-20 UNC - 1/4-28 UNS - M6X1	.281	.453	.389	.350	1.269	0
“MRL” #8 Ring Lug 0° Embedded Sensor	8-32 UNC - M4X0.7	.188	.328	.327	.350	1.269	.188
“MRL” #10 Ring Lug 0° Embedded Sensor	10-24 UNC - 10-32 UNS - M5X0.8	.200	.375	.350	.350	1.269	.188
“MRL” 1/4 Ring Lug 0° Embedded Sensor	1/4-20 UNC - 1/4-28 UNS - M6X1	.281	.453	.389	.350	1.269	.188

Style “MMRL” Sensor Product Number Definition

MMRL 90 10 062 J GR 0 C 48 K B 0

