

# RESISTANCE TEMPERATURE DEVICES (RTDS)

#1	DESCRIPTION	
3	RTD	
#2	ELEMENT TYPE [3-4, 9, 10, 11, 15, 18, 22, 24]	100 Ω Platinum 0.00385 alpha (Ω/Ω°C) unless otherwise stated
	Resistor Accuracy at 0°C	Thermometer Class [pg. 3-18]
B	± 0.30°C (Competitor's Std)	B
E	± 0.15°C (Standard)	A
P*	± 0.06°C	AA
S*	± 0.03°C (Best Accuracy)	1/4 A
N	± 0.74°C (120 Ω Nickel α=0.00672)	Non-Standard
M	± 0.30°C (1000 Ω)	B
X	Other, specify [3-22]	--
	Resistor Class [pg. 3-18]	
	≥ F 0.3	
	≥ F 0.15	
	≥ 1/2 F 0.1	
	≥ 1/10 W 0.3	
	Non-Standard	
	≥ F 0.3	
	--	
#3	ELEMENT CONSTRUCTION [4]	
S	Single Standard construction	SV Single High vibration construction
D	Dual Standard construction	DV Dual High vibration construction
J	Single Swaged construction	
K	Dual Swaged construction	
X	Other, specify	
	<b>Note:</b> Use swaged for high temperature, bendability, and/or longer than 90".	
#4	TUBE DIAMETER MUST CHOOSE 1	TIP CONSTRUCTION [1-13] MUST CHOOSE 1
P	1/2" (.500")	N Normal, closed tip (Standard)
A	3/8" (.375")	K Pointed tip, 45°
Y	5/16" (.313")	M Weld pad
B	1/4" (.250")	O Weld pad, removable
R	6mm (.236")	R2 Gas/Air, exposed
C	3/16" (.188")	W* Enlarged tip
	D 1/8" (.125")	Y2 Reduced tip
	X Other, specify	X Other specify
	Z N/A	
	<b>* Provide length and enlarged diameter description when selecting this option.</b>	

[ ] Brackets indicate page numbers where additional helpful information can be found in our technical catalog. Now available online at [www.JMS-SE.com/TechnicalCatalog](http://www.JMS-SE.com/TechnicalCatalog)

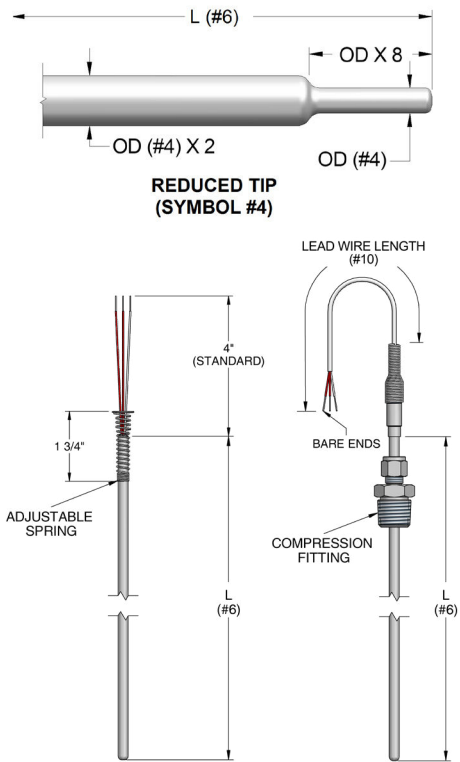
#5	TUBE MATERIAL [3-11, 3-13]	
K	316 stainless steel	C Teflon coated, stainless steel
L	316L stainless steel	S Titanium
M	I-600 (Use if symbol #7 >500°F)	Q Hastelloy C-276
		X Other, specify

#6	LENGTH (L) (See illustrations on pages 3-1 and 3-2 for "L" dimension)
"	Immersion length in inches (lengths greater than 90" may be coiled for shipment)

#7	MAX TEMPERATURE AT WHICH TIP WILL BE EXPOSED
A	<0°C (32°F) Cryogenic = 5 Kapton
B	<200°C (392°F) = 3 Teflon*
C	<288°C (550°F) = 5 Kapton*
D	<350°C (662°F) = 1 Fiberglass*
E	<660°C (1220°F) = 4 High temperature fiberglass*
	<b>*If no transition (Z) is in symbol 13, we recommend these corresponding selections for primary wire insulation on hollow tube sensors.</b>

**NEW** Skip to page 1-3 to complete selection #8 if your sensor requires a nipple and/or union extension.

#8	STANDARD INDUSTRIAL ATTACHING DEVICE [1-3, 6-13]	
X	Other, specify	
Z	N/A	No attaching device
G	Single thread (process)	Welded design
F	Single thread (reversed)	
W	Double threaded	
H*	SS w/ SS ferrule	Compression design
I*	SS w/ Teflon ferrule	
J*	SS w/ Lava ferrule	
K*	SS w/ Nylon ferrule	
L*	Brass w/ Brass ferrule	
D	Single threaded (process)	Spring-loaded design
C	Double threaded w/ oil seal	
A	Double w/ threaded retainer	
E	Adjustable spring	
S	Double threaded (most common)	
B	Double threaded bayonet	
BS	Double threaded bayonet w/ oil seal	
BD	Single threaded bayonet	
BDS	Single threaded bayonet w/ oil seal	



**Note:** L is the overall length of the sensor to the transition, wire, plug, head, or fixed attaching device. L excludes non-fixed attaching devices.

3 E S BN K 12" B S OR S { U N 6" H 1 } SEE PAGE 1-3

# RESISTANCE TEMPERATURE DEVICES (RTDS)

#9	PROCESS CONNECTION SIZE & TYPE [3]		
L	1/8" NPT	O	3/4" NPT
M	1/4" NPT	X	Other, specify
A	3/8" NPT	Z	N/A
P	1/2" NPT (Standard)		

**Note:** Threaded bushing may be used for sizes larger than 1/2"

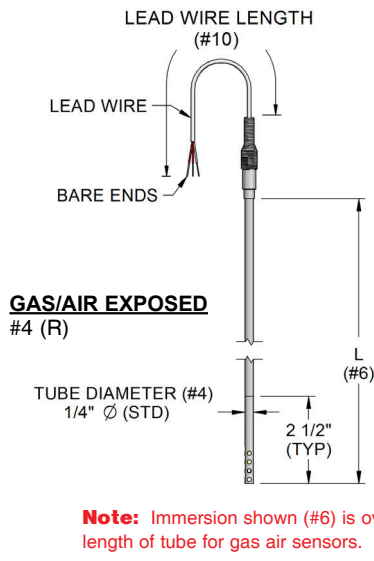
#10	LEAD WIRE TYPE & LENGTH IN INCHES [see section 7]		
1"	Fiberglass braid	X"	Other, specify
3"	Teflon (Standard)	Z"	N/A
4"	High temperature fiberglass braid		
5"	Kapton (Standard for Cryogenic)		

**Note:** All wire in tubes > 1/8" OD will be 24 AWG. Smaller tubes will have a max. of 28 AWG. If no transition or armor is specified, wire may be fragile. JMS standard lead wire for RTDs is stranded plated copper.

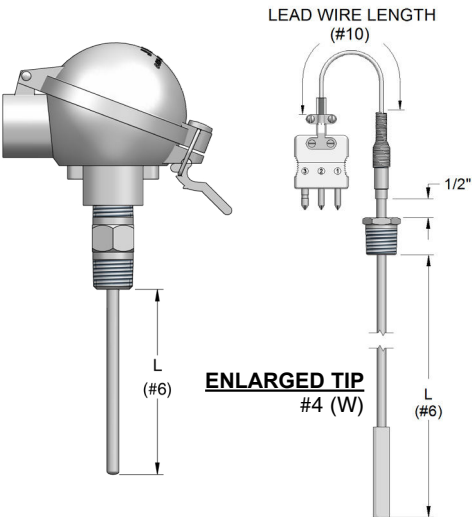
#11	ARMOR OR HEAT SHRINK/JACKET [7-7]		
A	SS flex armor (Standard)	G	Heat shrink/sleeving
B	SS flex armor Teflon coated white	H	Jacket to match primary insulation
C	SS flex armor Teflon coated black	J	Aluminum Mylar shielded and jacketed to match primary insulation
D	1/8" ID SS flex armor	Z	N/A
F	SS overbraid	X	Other, specify

#12	WIRE CONFIGURATION [17, 18]		
T	2 Wire	<b>Note:</b> Use a double symbol for 2 separate multiconductor lead wires, if dual elements. For example, TT.	
Y	3 Wire		
W	4 Wire		

#13	TYPE OF TRANSITION [14]		
H	Heat shrink	<b>Note:</b> For high humidity/moisture environments (≤ 500°F), put a 2 after your selection. For example, R2.	
S	Size on size		
T	3/8" OD	<b>Note:</b> For high temperatures at the transition area (500°F to 1200°F), put a 3 after your selection. For example, T3.	
R	1/4" OD		
Q	Cuttable (Std construction only) [3-12]		
X	Other, specify		
Z	No transition		



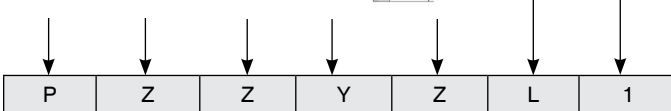
#14	COLD END TERMINATION [Additional options see Pg 1-7] Choose all that apply			
Connectors		Heads [6-1] Visit <a href="http://www.JMS-SE.com/headspecs">www.JMS-SE.com/headspecs</a>		
B	Miniature plug	Exp. Proof	I	Aluminum, NEMA 4X, FM, CSA, IP68 (6IA)
C	Standard plug		J	316 SS, NEMA 4X, FM, CSA, IP68 (6ISS)
F	High temp plug (< 800°F)	Gen. Purpose	P	Aluminum, NEMA 4X, FM, CSA, ATEX, IECEX, IP68 (6IAIEC)
WM	Microphone style plug		U	316 SS, NEMA 4X, FM, ATEX, IECEX, IP68 (6ISSATEX)
D	Miniature jack		L	Aluminum w/ hinged cover (6L)
E	Standard jack		M	Aluminum w/ screw cover & chain (6M)
G	High temp jack (< 800°F)		N	Cast Iron w/ screw cover (6N)
WF	Microphone style jack		Q	Black plastic (6Q)
V	Water resistant plug		R	Aluminum high dome w/ hinged cover (6R)
Y	M12 Water resistant plug		SS	316 SS w/ screw cover & chain (6SS)



Transmitters		Transmitter & Housing [See Pg. 8-2]	
8H	Isolated transmitter	8PS	Indicating with SS housing
8N	Non-isolated transmitter	8PA	Indicating with aluminum housing
8I	Hart Protocol	Other	
8E	Intrinsically safe	A	Bare ends
8D	HART / Intrinsically safe	X	Other, specify
8M	Integral transmitter (see page 3-5)		

#15	OPTIONS (Use only if applicable)		
1	Stainless steel tag	6C*	Premium calibration report.
2	Plastic tag	7 8 M T	Callendar-Van Dusen coefficients will be provided for all CE marking [page XV]
3	Paper tag		Guide 17025 calibration
4	Laser etch on probe		MTR (Sheath, tubing, tip)
5	Calibrate at specified point(s)		Calibration tag
5	Corrections data provided for each point.		
6*	Premium calibration report. Corrections data will be provided for all		

**\*Must specify increments & range (Example: 0 to 300°F, 10° increments)**



COMPLETE PART NUMBER EXAMPLES

-with nipple-union-spring-loaded fitting extension assembly:  
**3ESBNK12"BS[UN6H]PZZYZL1**

-without extension assembly:  
**3ESBNK12"BSPZZYZL1**