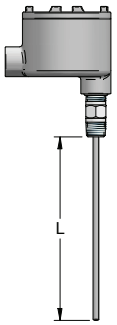
COMBINATION THERMOCOUPLES AND RTDS

JMS Southeast, Inc., manufactures a sensor that contains both a thermocouple and an RTD. The standard design allows the user to check and validate readings with one sensor while using another type for control or monitoring. Although two thermocouples can be used simultaneously, it is not advisable to use the thermocouple and RTD at the same time.

This type of sensor can be used in applications that require two different inputs. One advantage of this system is that the conditions which adversely affect a thermocouple may not affect the RTD and vice versa. Therefore, combination sensors provide a back-up sensor in the same probe. In extremely high temperature applications, this procedure is not recommended. JMS Southeast can also manufacture triple elements of just about any combination. Contact JMS for details.



#1	DESCRIPTION
4C	Combination, 4 wire, dual element, 1/4" diameter, ungrounded/ non isolated thermocouple and RTD

#2	THERMOCOUPLE TYPE		
J K T	J thermocouple K thermocouple T thermocouple	N X	N thermocouple Other, specify

#3	RTD TYPE		
3	Single element 100` Platinum RTD (.00385)	X	Other, specify

#4	TEMPERATURE LIMITS
1 2 3	Hollow tube < 662°F (T/C and RTD are not electrically connected) Sheath <1200°F (Type K & N ONLY - Always dual & TCs are always electically connected to RTD) Hollow tube (TCs and RTDs are electrically connected) **Note:** See drawings below for details.

#5	IMMERSION LENGTH (L)
--"	Immersion in inches

#6	STAND. INDUSTRIAL FITTING [6-13]	COMPRESSION FITTINGS	
S W B X	Spring loaded 1/2"x x1/2" NPT SS fitting Welded 1/2" x 1/2" NPT SS fitting Bayonet style 1/2" process connection Other, specify	Stainless steel w/ SS ferrule	
		H M P X	1/8" NPT 1/4" NPT 1/2" NPT Other, specify

#7	LEAD WIRE INSULATION AND LENGTH IN INCHES [3-2]		
Z 1_"	No lead wire Fiberglass	3_" 5_" X	Teflon Kapton (Standard) Other, specify

#8	TYPE OF TRANSITION [1-16, 3-14]	
T X Z	3/8" OD Other,specify No transition	**Note:** For extra high humidity / moisture environments, put "2" after your selection. For high temp at the transition area use X + type of transition and max temp.

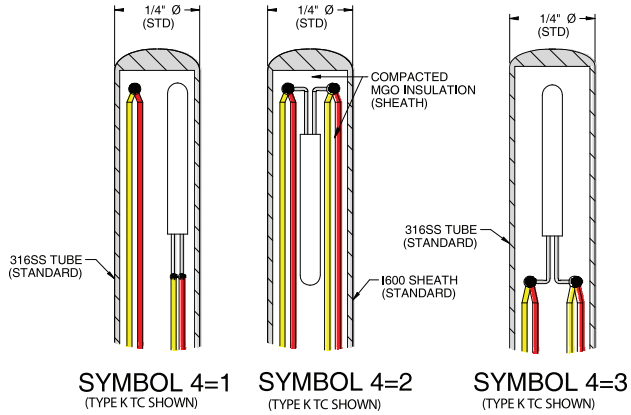
#9	COLD END TERMINATION [Add'l options Pg 1-6]
A	Bare ends
I	Explosion proof NEMA 4X head (6IA / 6B4)
K	Spade lugs (6SL)
L	Aluminum head w/ hinged cover (6L / 6B4)
M	Aluminum head w/ screw cover & chain (6M / 6B4)
N	Cast iron head w/ screw cover (6N / 6B4)
O	Open ceramic terminal block (6B4)
Q	Black nylon Nema 4 head (6Q / 6B4)
R	High dome head (6R)
V*	Hermetic connector (6DC) - Male
W*	Microphone style connector (6DA) - Male
X	Other, use appropriate part numbers from sect.#6

#10	TAG AND CALIBRATION OPTIONS
___	Use only if applicable. See page 1-2 #14 for ordering selections.

* Use double symbol for matching female connector. i.e. W/WW (male with matching female).

WIRING DIAGRAMS

SYMBOL #4=1 (HOLLOW TUBE)	SYMBOL #4=2 (SHEATH)	SYMBOL #4=3 (HOLLOW TUBE)
TC (+), WHITE, WHITE, Pt 100, TC (-), RED, RED	TC (+), TC (+), Pt 100, TC (-), TC (-)	TC (+), TC (+), Pt 100, TC (-), TC (-)
(NOT ELECTRICALLY CONNECTED)	(ELECTRICALLY CONNECTED)	(ELECTRICALLY CONNECTED)



4C	K	3	1	12"	W	Z	Z	N	