

UNICONTROLS™



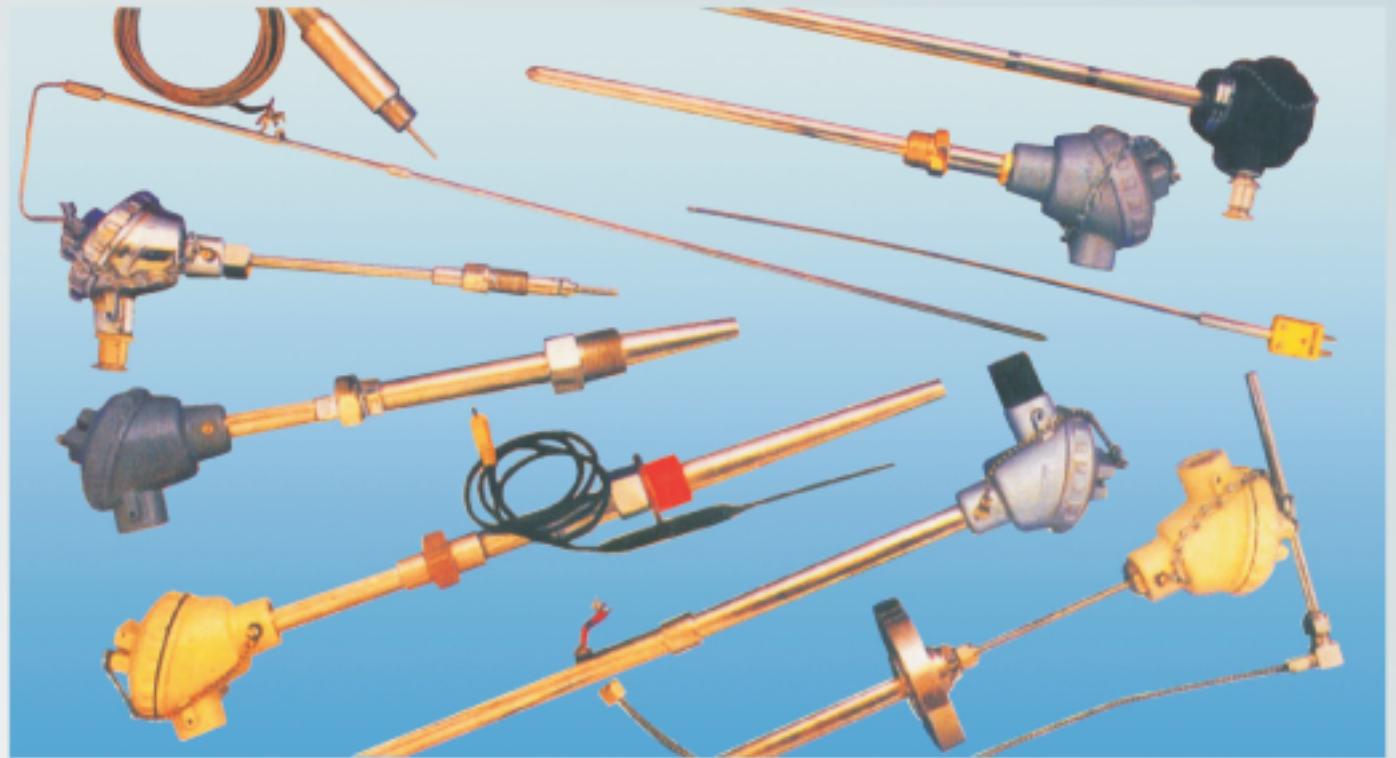
DNV



NABCB

ISO 9001-2008 QMS

Temperature Sensors with Thermowells



Thermocouples & RTD's





Compensating Cables

Between the sensor and the instrument, is the cabling. Thermocouple cables are specially calibrated according to BS, DIN, ANSI or other international standards. There are used to connect thermocouples to instrumentation in convenient locations. Insulation varies according to the condition in which it will have to work. PVC, polythene, nylon, teflon, fibreglass or asbestos are substitutes. Screened, braided and armoured are also available for special protection.



INTERNATIONAL COLOUR CODES FOR THERMOCOUPLE CABLE INSULATION

Thermocouple Type	BRITISH	AMERICAN	GERMAN	INDIAN	Material of Extension Cable	mV Output		
	 BS : 1843	 ANSI MC 96-1	 DIN 43710-4	 IS : 8784		(+) Lead	(-ve Lead)	100°C
EXTENSION								
K Chromel/Alumel					Ni/Cr	Ni/Al	4.10	8.13
J Iron/Constantan					Iron	Constantan	5.26	10.77
T Copper/Constantan					Copper	Constantan	4.24	9.17
E Chromel/Constantan					Ni/Cr	Constantan	6.31	13.42
COMPENSATING								
Vx Copper/Constantan (Compensating for type K)					Copper	Constantan	4.10	
Rx/Sx Copper/Cupronic (Compensating for Type R or S)					Copper	Cupronic	0.645	

Reference Table of Platinum Resistance Bulbs to Din 43760

Average temperature coefficient between 0 and 100°C : $3.85 \times 10^{-3}/^{\circ}\text{C}$

Tolerance from characteristics approx. $\pm 0.3\%$

°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω
-220	10.41	-100	60.20	0	100.00	100	138.50	200	175.84	300	212.03	400	247.06	500	280.93
-200	18.53	-90	64.25	+10	103.90	110	142.28	210	179.51	310	215.58	410	250.50	550	297.43
-190	22.78	-80	68.28	90	107.79	120	146.06	220	183.17	320	219.13	420	253.93	600	313.65
-180	27.05	-70	72.29	30	111.67	130	149.82	230	186.62	330	222.66	430	257.34	650	329.57
-170	31.28	-60	76.28	40	115.54	140	153.57	240	190.46	340	226.18	440	260.75	700	345.21
-160	35.48	-50	80.25	50	119.40	150	157.32	250	194.08	350	229.69	450	264.14	750	360.55
-150	39.65	-40	84.21	60	123.24	160	161.04	260	197.70	360	233.19	460	267.52	800	375.61
-140	43.80	-30	88.17	70	127.07	170	164.76	270	201.30	370	236.67	470	270.89	850	390.38
-130	47.93	-20	92.13	80	130.89	180	168.47	280	204.88	380	240.15	480	274.25		
-120	52.04	-10	96.07	90	134.70	190	172.16	290	208.46	390	243.61	490	277.60		
-110	56.13														

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Unicontrols Instruments Pvt. Ltd.

22/S, Sreenath Mukherjee Lane,

Kolkata - 700 030

Ph. (033)-2546 7117 / 2557 5155

<http://www.unicontrols.co.in> / Fax (033)-2556 4891

unicontrols@rediffmail.com / info@unicontrols.co.in