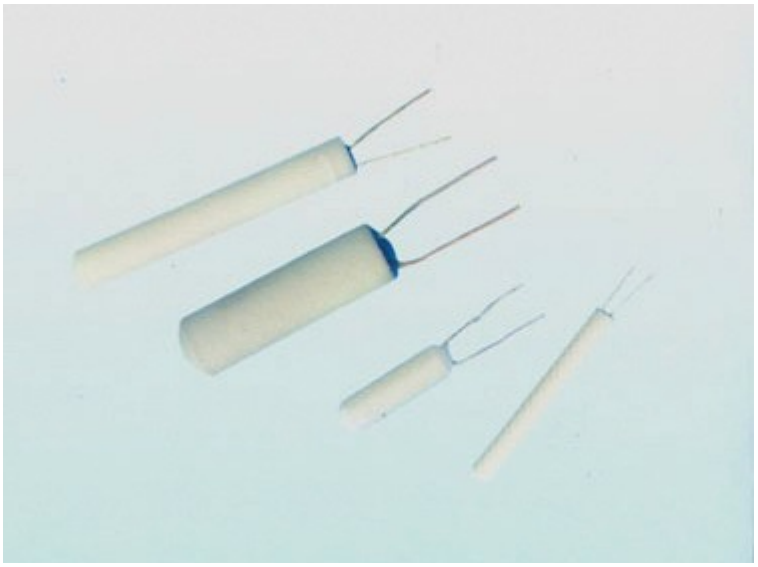
kamet
thermocomponents

Platinum
Ceramic Resistance Elements



General information

Technical Information
All devices are manufactured from traceable materials and their construction is controlled by BS EN ISO 9001: 2008 approved Quality System, using the latest techniques in production and testing.

Temperature Range
Normal operating temperature range is between -200ºC and +600ºC. Extra care, however, should be taken to avoid contamination of the Platinum wire above +450ºC by the correct choice of insulation materials, and protection sheaths.

Stability
Stability is greatly enhanced during the manufacturing process when all detectors are subject to pre-aging at elevated temperatures. All devices easily comply with the requirements of BS EN 60751:1996 showing a typical ice point shift of no more than 0.05% when subjected to 10 consecutive cycles between -200ºC and +600ºC.

Vibration
When correctly housed, standard detectors are capable of withstanding vibration and acceleration levels of up to 30G over the frequency range 10Hz to 1 kHz.

Pressure and Moisture
Detector accuracy wilL remain unaffected by large changes in pressure. They are NOT, however, hermeticaIly sealed. Therefore devices must be housed in suitable protective sheaths when in contact with fluids or saturated atmospheres. Detectors can be supplied glass covered to improve hermetical sealing.

Self Heating
All detectors comply with the requirements of BS EN 60751:1996 and will show rises of less than 0.3ºC in a stirred ice bath while dissipating 10mW. However, with the more usual 1mA measuring current the rise for a typical detector would be less than 0.002ºC.

Construction
Detectors manufactured by RTD Products are of the partially supported, wirewound type which offer the user, the best available balance of accuracy, stability and ruggedness. They are produced in a comprehensive range of standard diameters and lengths. Non standard sizes are also available - please contact the sales department.

Tolerances
Detectors are available in the two BS EN 60751:1996 tolerance classes A or B. Class A is the closer tolerance device offering an interchangeaility of +/-0.06 Ohms (0.15ºC) at 0ºC. The figures for class B are +/-0.12 Ohms (0.3ºC) at 0ºC.
Closer tolerance devices are available, commonly known as 1/3, 1/5, or 1/10 DIN. these offer tolerances of 1/3, 1/5 or 1/10 of the class B figures shown above. Detectors can also be made to the Japanese standards JIS C1604:1992.

Lead Resistance
Devices up to 1.6mm dia are fitted with pure Platinum leadouts, larger sizes use Platinum / Palladium wires. In all cases lead length is 7mm +/-1 mm minimum. Longer leads are available at extra cost.

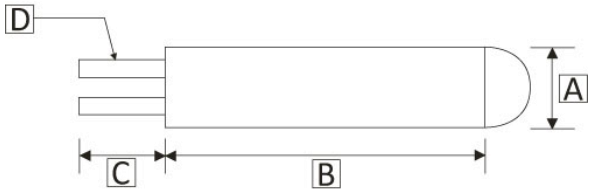
Leads
Detector leadouts are designed to withstand a straight pull of 500 or 2000 gf depending on size, however the ceramic body and the glass anchoring the leads will be damaged by excessive bending or twisting. Ideally, extension leads should be spot welded, but brazing or soldering will be satisfactory provided ALL traces of flux residue are removed.

Calibration
The specific calibration point for all detectors is 5mm from the ceramic body. Certification of calibration traceable to UKAS at specific temperatures (normally 0ºC or 100ºC) can be provided from our comprehensive calibration laboratory at extra cost.

Winding Details
The Platinum wire is wound into a very small coil which is inserted into the bores in a high purity alumina tube, where it is “partially supported” by a small amount of high temperature glass. This form of construction results in a detector combining excellent stability with good resistance to high levels of vibration. Duplex winding are also available.

Models

Model number	Diameter ± 0.075mm (A)	Length ± 0.5mm (B)	Temperature Range	Lead Diameter (D)	Lead Resistance Ohms/mm/lead (nominal)	Lead Length ±1mm (C)	Lead Material	Sensing Length	Calibration Point (from ceramic body)
KMW-0815	0.80	15.00	-200...+600°C	0.15	0.006398	7.00	Pure Pt	13	5 mm
KMW-0915	0.90	15.00	-200...+600°C	0.15	0.006398	7.00	Pure Pt	13	5 mm
KMW-1210	1.20	10.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	8	5 mm
KMW-1215	1.20	15.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	13	5 mm
KMW-1415	1.40	15.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	13	5 mm
KMW-1415 duplex	1.40	15.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	13	5 mm
KMW-1425	1.40	25.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	22	5 mm
KMW-1425 duplex	1.40	25.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	22	5 mm
KMW-1515	1.50	15.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	13	5 mm
KMW-1515 duplex	1.50	15.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	13	5 mm
KMW-1608	1.60	8.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	8	5 mm
KMW-1615	1.60	15.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	13	5 mm
KMW-1615 duplex	1.60	15.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	13	5 mm
KMW1625	1.60	25.00	-200...+600°C	0.23	0.002721	7.00	Pure Pt	22	5 mm
KMW-1625 duplex	1.60	25.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	22	5 mm
KMW2006	2.00	6.00	-200...+600°C	0.25	0.002303	7.00	Pure Pt	6	5 mm
KMW-2015	2.00	15.00	-200...+600°C	0.35	0.001175	7.00	Pure Pt	13	5 mm
KMW-2015 duplex	2.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-2808	2.80	8.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	8	5 mm
KMW-2815	2.80	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-2815 duplex	2.80	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-2825	2.80	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-2825 duplex	2.80	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3015	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3015 duplex	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3025	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3025 duplex	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3208	3.00	8.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	8	5 mm
KMW-3215	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3215 duplex	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3225	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3225 duplex	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3815	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3815 duplex	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-3825	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-3825 duplex	3.00	25.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	22	5 mm
KMW-4515	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-4515 duplex	3.00	15.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	13	5 mm
KMW-4530	3.00	30.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	26	5 mm
KMW-4530 duplex	3.00	30.00	-200...+600°C	0.35	0.001039	7.00	10%Pt plated Pd	26	5 mm

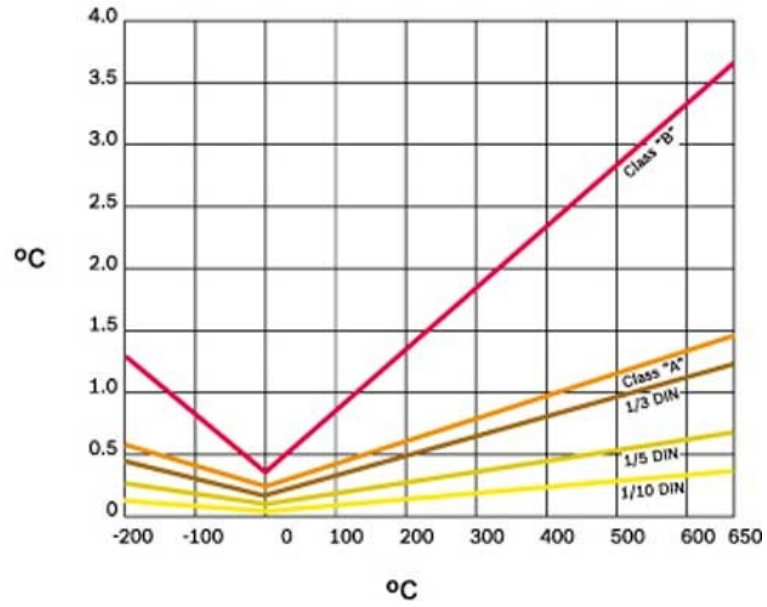


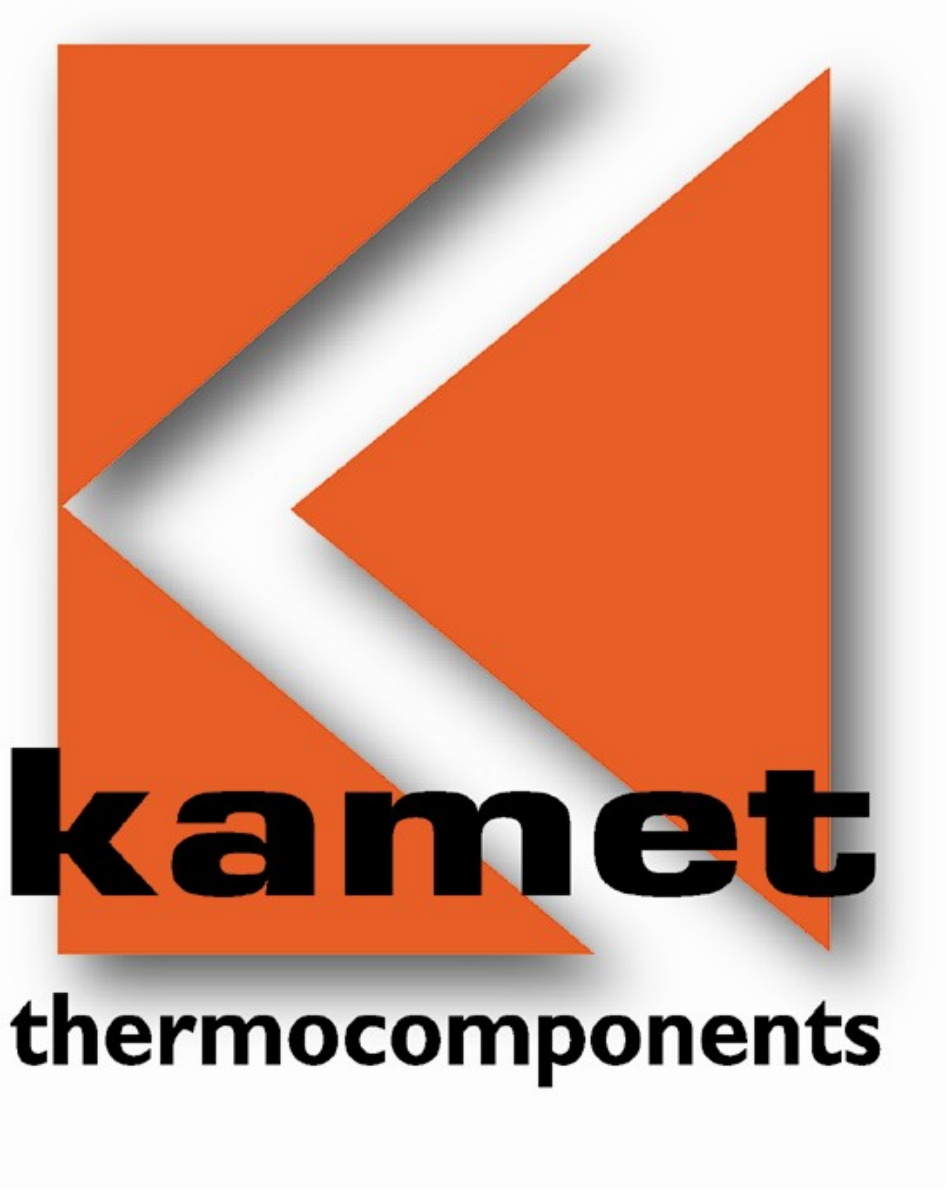
Tolerances for Platinum resistance to EN60751

Temp. °C	Tolerance									
	Class B		Class A		1/3 DIN *		1/5DIN *		1/10DIN *	
	±°C	± Ohms	±°C	± Ohms	±°C	± Ohms	±°C	± Ohms	±°C	± Ohms
-200	1.30	0.56	0.55	0.24	0.44	0.19	0.26	0.11	0.13	0.06
-100	0.80	0.32	0.35	0.14	0.27	0.11	0.16	0.06	0.08	0.03
0	0.30	0.12	0.15	0.06	0.10	0.04	0.06	0.02	0.03	0.01
100	0.80	0.30	0.35	0.13	0.27	0.11	0.16	0.05	0.08	0.03
200	1.30	0.48	0.55	0.20	0.44	0.16	0.25	0.10	0.13	0.05
300	1.80	0.64	0.75	0.27	0.60	0.21	0.36	0.13	-	-
400	2.30	0.79	0.95	0.33	0.77	0.26	-	-	-	-
500	2.80	0.93	1.15	0.38	-	-	-	-	-	-
600	3.30	1.06	1.35	0.43	-	-	-	-	-	-
650	3.60	1.13	1.45	0.46	-	-	-	-	-	-
700	3.80	1.17	-	-	-	-	-	-	-	-
800	4.30	1.28	-	-	-	-	-	-	-	-
850	4.60	1.34	-	-	-	-	-	-	-	-

NOTE

Tolerances are calculated to 2 decimal points and are taken as a fraction of Class B.
* The tabulated values for close tolerance detectors 1/3rd, 1/5th and 1/10th DIN are interpolated and are for guidance only.





Kamet Trading
Franciscusweg 9-10
1216 SK Hilversum

Tel. : +31 (0)35-628 2910
Fax : +31 (0)35-628 2912
E-mail : info@kamet-trading.nl
Internet : www.kamet-trading.nl