

PLATINUM THIN FILM RTD ELEMENT

HAYASHI DENKO JAPAN make CRZ series thin film elements are highly stable resistance temperature detectors suitable for temperature range of -70 to 500°C. CRZ elements are produced by state-of-the-art technology using processes like thin film lying by sputtering, ultra fine patterning by photolithography and dry etching, resistance value adjustment by digital laser trimming. After trimming, the element surface is coated with ceramic, so the elements can withstand high voltage and have high insulation resistance. Applicable temperature range: -70 ~ 500°C. Have a good vibration and shock resistibility. Pt500, Pt1000 are available that are suitable for precise measurement.

SPECIAL FEATURES :

In order to make sure to guarantee the quality of our products, we provide all of CRZ elements after inspecting and printing the actual resistance value at 0°C.	The latest high technology enables us to produce Pt 500Ω and Pt 1000Ω elements in addition to Pt 100Ω. Those resistance values are not standardized in IEC and JIS but have been recently getting popular in the industrial measurement field.
The platinum thin films sputtered on ceramic surfaces are outstandingly resistant to vibration and shock.	

STABILITY:

Hayashi Denko Japan make RTD elements are highly stable resistance temperature detectors. After continuously heating CRZ-1632 at 400 °C for 300 hours, the drift at 0°C is within 0.06Ω (0.15°C).

SELF HEATING AND MEASURING CURRENT :

A current used with an element should not exceed the specified current. When a CRZ-1632 is loaded in a 8.0mm hollow protection tube, its resistance rises only 0.02Ω (approx.0.05°C) at 1mA when measured in agitated water at 0°C. But the resistance value rises to 0.86Ω(approx. 2.2°C) at 5mA.

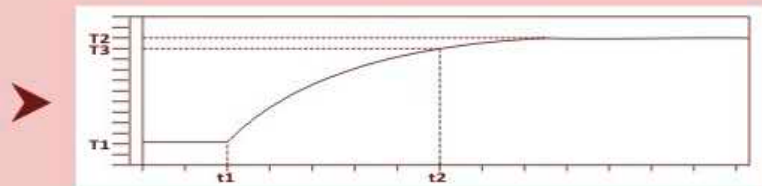


Model	Dimension of Element (mm) W*L*H	Resistance Value	Measurement Current	Dimension of lead Wire (mm) W*H*L	Class	Recommendable Operating Temperature Range
CRZ-1632-100	1.6*3.2*1.0	Pt 100Ω	Not Exceeding 1mA	0.25*0.15*12	1/3 B	1/3 B -20 ~ +250 °C
CRZ-2005-100	2.0*5.0*1.0	Pt 100Ω	Not Exceeding 1mA	0.25*0.15*12	A	A -40 ~ +400 °C
CRZ-2005-1000	2.0*5.0*1.0	Pt 500Ω Pt 1000Ω	Not Exceeding 0.5mA	0.25*0.15*12	B 2B	B and 2B -70 ~ +500 °C

RESPONSE TIME:

Response time is the time required for the element to indicate the stated percent (%) value of the temperature source. The following table indicates response characteristics of the temperature change from T1 to T2. T3 is 90% change of that temperature change and the associated 90% response time is t2 - t1.

Model	Response time (Time constant:63.2%) / Sec.	
	Still Air	Stirred Water
CRZ-1632	4.3	0.3
CRZ-2005	4.8	0.4

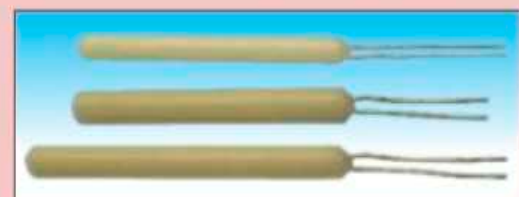


PLATINUM WIRE-WOUND RTD ELEMENT (CERAMIC)

HAYASHI DENKO also provides Platinum wire wound elements in order to catch up with customers' demands that are high quality and downsizing. Its Applicable temperature range is -200 ~ 500°C.

SPECIFICATIONS:

- Applicable temperature range:-200 ~ 500°C.
- The temperature range is relatively wide.
- The long term stability is excellent.
- Double element is available.
- High temperature resistibility.
- TCR is relatively direct proportion even at high temperature.



Model	Dimension (mm)	Class	Measurement Current	Lead Length	Temperature Range
CR-1615	1.6x15	2B	Less Than 2mA	10±3	-200 to +500
CR-2020	2.0x20				