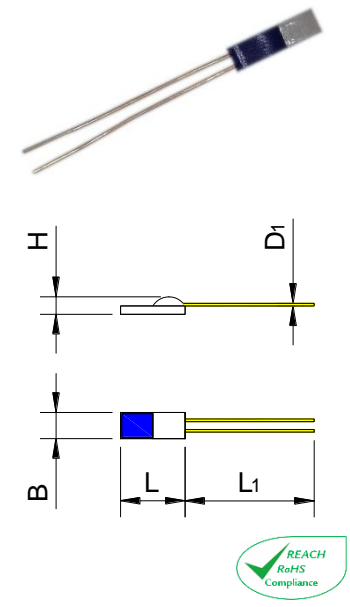


## Platinum-Resistance-Temperature-Detector: CRAG Series

Platinum-chip temperature sensors of the CRAG type can universally use and are suitable for a wide range of applications in low and higher temperature ranges up to 600°C. The gold-plated connecting wires are suitable for all common connection techniques: welding, soldering and crimping.

The application temperature range is -200°C ... +600°C. The CRAG series is available in tolerance classes 1/5B (F0.06) & 1/10B (F0.03).

Type	CRAG Series		
Operating temperature range	-200°C ... +600°C		
Tolerance validity range IEC 60751	1/10B	F0.03	-20°C ... +200°C
	1/5B	F0.06	-20°C ... +200°C
	1/3B	F 0.1	-30°C ... +200°C
	A	F 0.15	-30°C ... +300°C
	B	F 0.3	-70°C ... +600°C
2B	F 0.6	-70°C ... +600°C	
Resistance value	Pt100 also double Pt500 also double Pt1000 also double		
Measuring/maximum current	Pt100: 1 mA ... 7 mA Pt500: 0.7 mA ... 3 mA Pt1000: 0.1 mA ... 1 mA		
Measuring point	2mm from the open end		
Temperature coefficient	3850 ppm/K (3810 , 3750 etc.)		
Long-term stability	max. R <sub>0</sub> -Drift 0.05 %/year		
Max tensile force	5N .. 10N (see table page 2)		



Available models															
Temperature sensor					Lead wire			Tolerance class							
Type	R <sub>0</sub> /Ω	B	L	H	Material	D1	L1	1/10	1/5	1/3	A	B	2B		
CRAG-0803-100	100	0.8	3.0	0.85	Pt clad Ni	0.15	10			•	•	•			
CRAG-1216-100	100	1.2	1.6	1.1		0.2	10	•	•	•	•	•	•		
CRAG-1216-500	500	1.2	1.6	1.1		0.2	10	•	•	•	•	•	•		
CRAG-1216-1000	1000	1.2	1.6	1.1		0.2	10	•	•	•	•	•	•		
CRAG-1605-100	100	1.6	5.0	1.1		0.25	10	•	•	•	•	•	•		
CRAG-1605-1000	1000	1.6	5.0	1.1		0.25	10	•	•	•	•	•	•		
CRAG-1204-100	100	1.2	4.0	1.1		0.25	10	•	•	•	•	•	•		
CRAG-1204-1000	1000	1.2	4.0	1.1		0.25	10	•	•	•	•	•	•		
CRAG-2004-100	100	2.0	4.0	1.1		Au plated Ni	0.25	10	•	•	•	•	•	•	
CRAG-2004-1000	1000	2.0	4.0	1.1			0.25	10	•	•	•	•	•	•	
CRAG-2005-100	100	2.0	5.0	1.1		Pt clad Ni	0.25	10	•	•	•	•	•	•	
CRAG-2005-1000	1000	2.0	5.0	1.1			0.25	10	•	•	•	•	•	•	
CRAG-2023-100	100	2.0	2.3	1.1		Sn plated Ni	0.25	10	•	•	•	•	•	•	
CRAG-2023-500	500	2.0	2.3	1.1			0.25	10	•	•	•	•	•	•	
CRAG-2023-1000	1000	2.0	2.3	1.1			0.25	10	•	•	•	•	•	•	
CRAG-2010-100	100	2.0	10.0	1.3		Silver	0.25	10	•	•	•	•	•	•	
CRAG-2010-1000	1000	2.0	10.0	1.3	0.25		10	•	•	•	•	•	•		
CRAG-3010-100	100	2.9	9.8	1.3	Isolated wire	0.25	10	•	•	•	•	•	•		
CRAG-2804-100	2x 100	2.8	4.4	1.1		0.25	10	•	•	•	•	•	•		
CRAG-2804-500	2x 500	2.8	4.4	1.1		0.25	10					•	•		
CRAG-2804-1000	2x 1000	2.8	4.4	1.1		0.25	10					•	•		

Customized versions on request, e.g. other wire lengths, insulation, dimensions,...

Dimensional tolerances: ΔB = ±0.15 / ΔL = ±0.2 / ΔH = ±0.15 / ΔS = ±0.05 / ΔD1 = ±0.01 / ΔL1 = ±1.0

Dimensions in mm

Changes and errors excepted

Self-heating coefficients and response times				
Type	Self-heating coefficient E in K/mW		Response times in seconds	
	Air (v = 1 m/s)		in water (v = 0.4 m/s)	in Air (v = 1 m/s)
			t <sub>0.9</sub>	t <sub>0.9</sub>
CRAG-0803	0.5		0.12	6
CRAG-1216	0.6		0.15	6
CRAG-2023	0.5		0.2	10
CRAG-1204	0.5		0.2	10
CRAG-2005	0.33		0.4	10
CRAG-2095	0.25		0.4	20
CRAG-3010	0.16		0.5	45
CRAG-2804	0.5		0.2	10
CRAG-2010	0.33		0.35	17

Size in mm			Wire material	Ø wire in mm	Max. tensile force in N
0.8 x 3			Pt-Ni wire	0.15	5
2 x 2.3			Ni-wire, AuNi-wire	0.25	8
2 x 2.3			Ag-wire	0.30	8
2 x 2.3			Pt-Ni wire	0.20	8
2 x 4	2 x 5		Ni-wire, AuNi-wire	0.25	9
2 x 4	2 x 5		Ag-wire	0.30	8
2 x 4	2 x 5		Pt-Ni-wire	0.20	8
2 x 10	3 x 10		Ni-wire, AuNi-wire	0.25	10
2 x 10	3 x 10		Ag-wire	0.30	9
2 x 10	3 x 10		Pt-Ni-wire	0.20	9
1.2 x 1.6	1.2 x 4	1.6 x 5	Ni-wire, AuNi-wire	0.20	6
1.2 x 1.6	1.2 x 4	1.6 x 5	Ag-wire	0.25	5
1.2 x 1.6	1.2 x 4	1.6 x 5	Pt-Ni-wire	0.20	6