

SA-IRxxxxV6-000

Infrared temperature sensor



Key Features:

- *Measures temperatures without contact to the medium, based on the principal of infrared radiation*
- *Fast response time*
- *Ambient temperature correction*
- *Housing optimized for best sensor protection without influence of thermal effect*
- *5 to 16V power supply with internal power stabilization*
- *Output buffer for driving long cables*

Technical specifications

Electrical characteristics			
Supply voltage	V	5-16	
Supply current(typical)	mA	1	
Object temperature ranges			
SA-IR200V6-000	°C	-30 to 200	
SA-IR1000V6-000	°C	0 to 1000	
Accuracy(combined linearity, hysteresis, repeatability)	% of FS	±2	
Measurement distance	mm	20 to 200	
Response time	ms	10	
Measured angle range		See figure 1	
Environmental data			
Ambient operating range	°C	-40 to +125	
Mechanical characteristics			
Aluminum Housing			
Dimensions	mm	24 x 15x 15	
Weight	g	25	
Cable			
Wire cross section	mm ²	3x 0.4	
Type		Raychem EPD	
Length	mm	800	
connector		Open wires	
Ordering information			
For ordering this product use 2D			
Article number :			
Standard			
SA-IR1000V6-000			
SA-IR200V6-000			
Option (Binder719 5PM)			
SA-IR1000V6-001			
SA-IR200V6-001			

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Dimensions

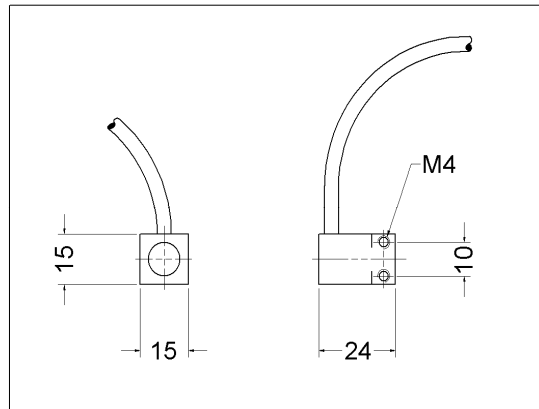


figure 1

Calibration with 2D system

Table	description	Resolution	Table	description	Resolution
IR61012B	blackbody radiator, 1000°C	12 Bit	IR60212B	blackbody radiator, 200°C	12 Bit
IR61012C	carbon brake disk, 1000°C	12 Bit	IR60212C	carbon brake disk, 200°C	12 Bit
IR61012S	steel brake disk, 1000°C	12 Bit	IR60212S	steel brake disk, 200°C	12 Bit
IR61012T	Tire, 1000°C	12 Bit	IR60212T	Tire, 200°C	12 Bit
IR61016B	blackbody radiator, 1000°C	16 Bit	IR60216B	blackbody radiator, 200°C	16 Bit
IR61016C	carbon brake disk, 1000°C	16 Bit	IR60216C	carbon brake disk, 200°C	16 Bit
IR61016S	steel brake disk, 1000°C	16 Bit	IR60216S	steel brake disk, 200°C	16 Bit
IR61016T	Tire, 1000°C	16 Bit	IR60216T	Tire, 200°C	16 Bit

Connection

Name	Description	Color
AGND	Analog ground	black
+12V	Power supply	red
Signal	Analog signal	white

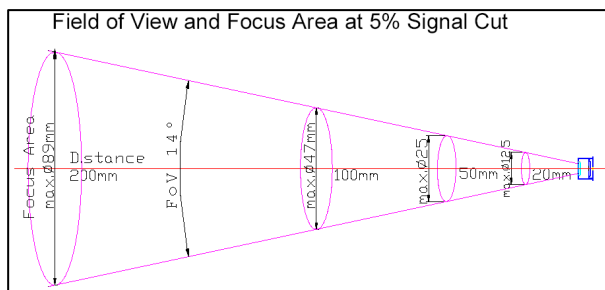


figure 2

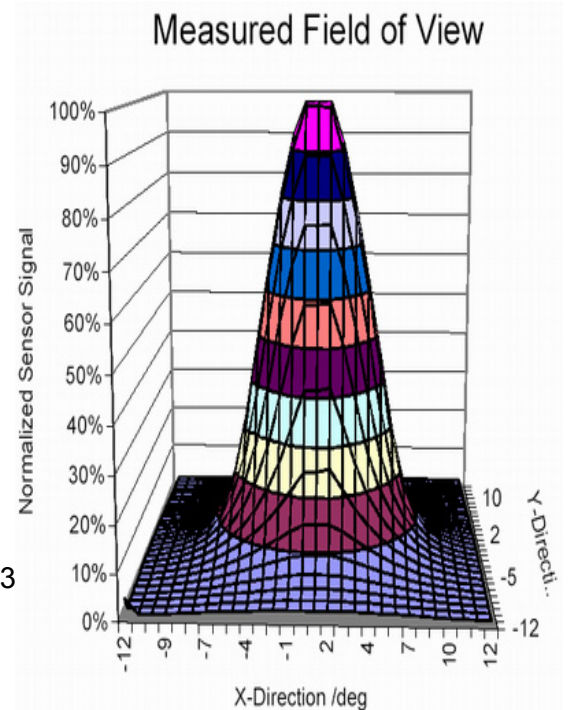


figure 3

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!!Calibration only valid if operating temperature (housing temperature) ≤ object temperature (measurement temperature)!!

The output voltage is related to the stated object emissivity without a filter and a distance to object of 30mm at 30mm object diameter.

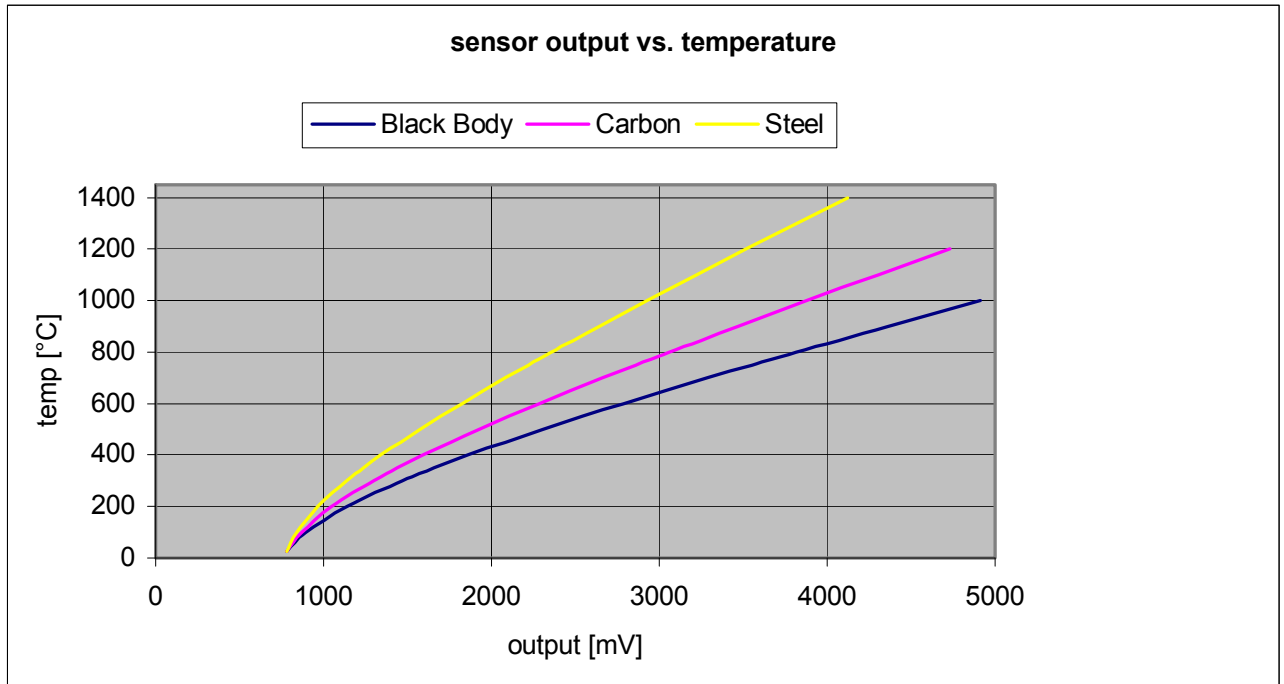
SA-IR1000V6-xxx				
	Black Body	Tire	Carbon	Steel
Temp [°C]	Output [mv]	Output [mv]	Output [mv]	Output [mv]
	E=1	E=0,95	E=0,75	E=0,5
25	780	780	780	780
100	895	889	866	840
200	1140	1122	1050	967
300	1470	1436	1298	1139
350	1660	1616	1440	1238
400	1864	1810	1593	1344
450	2081	2016	1756	1457
500	2307	2231	1925	1574
550	2542	2454	2102	1696
600	2785	2685	2284	1823
650	3034	2921	2471	1952
700	3290	3165	2663	2085
750	3550	3412	2858	2220
800	3815	3663	3056	2358
900	4356	4177	3462	2498
1000	4910	4704	3878	2640
1100			4301	2928
1200			4730	3221
1300				3518

SA-IR200V6-xxx				
	Black Body	Tire	Carbon	Steel
Temp [°C]	Output [mv]	Output [mv]	Output [mv]	Output [mv]
	E=1	E=0,95	E=0,75	E=0,5
0	1058	1066	1100	1142
10	1119	1124	1146	1172
25	1225	1225	1225	1225
30	1264	1262	1254	1245
40	1348	1342	1317	1287
50	1441	1430	1387	1333
60	1542	1526	1463	1384
70	1652	1631	1545	1439
80	1770	1743	1634	1498
90	1898	1864	1730	1562
100	2035	1995	1833	1630
120	2336	2280	2058	1781
140	2676	2603	2313	1951
160	3054	2963	2597	2140
180	3471	3359	2910	2348
200	3927	3792	3252	2567
220	4421	4261	3622	2823
240	4953	4767	4021	3089
260			449	3374
280			4903	3677
300				4000
320				4339
340				4697

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