

Cable: 5x28 awg Raychem 55M
 Length: 1000 mm +/- 10% Tubing: 1/8 RW-200-E-
 Connector: N/A.

Colour	Function	Pin
Red	Supply	
Black	0V	
White	Signal	
Yellow	PT1000	
Green or blue	PT1000	

INF-V4

INFRARED TEMPERATURE SENSOR

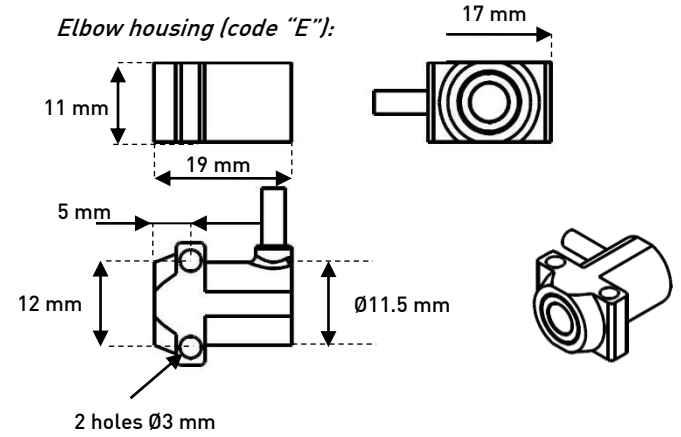
Ref : INF-XXXX-V4-X-XX

SN : IXXXXXXXX

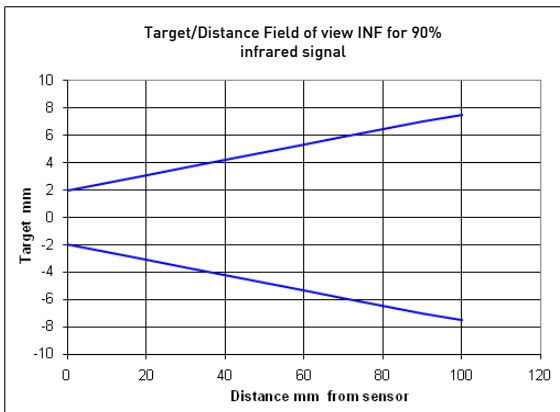
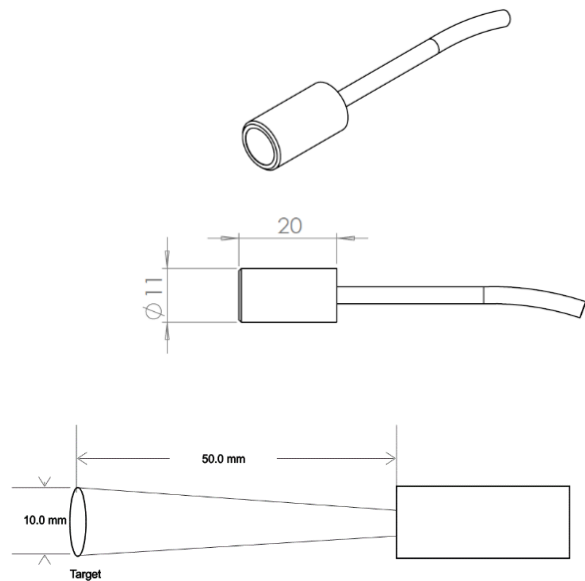
Texsys sensors are designed for data recording. If the user wants to include this sensor in a close loop system or active control, he must assume all responsibility.

Sensor readings
...V at 25°C
...V at 500°C

Range	500 or 1000 or 1200	°C
Response time	50	ms
Supply Voltage	12V supply code: 6 to 16	V
	5V supply code: 5V	
Supply Current	1.5	mA
Output signal	0-5	V
Sensitive Element	Thermopile with Silicium Lens	
Wave Length	8 to 14	µm
Measurement distance	20 to 100	mm
Field of view (90% radiation)	5 : 1 at 50mm	
Calibrator	Land R1200P for 1000 and 1200°C Land 550P for 500°C	
Emissivity	99%	
Material	Aluminium	
Weight (without cable)	5	g
Protection	IP64	
Vibration test	20Gpp 5'	
Shock	500	G
Operating Temp	12V supply code : -20 to +180	°C
	5V supply code : -20 to +200 (1000 hours max above 180°C)	°C
Storage Temp	-40 to +150	°C



Straight housing (code "S"):



Ordering ref:
INF-Range-V4-Housing-Supply

500: 500°C	E: Elbow S: Straight
1000: 1000°C	
1200: 1200°C	
1300: 1300°C	
	5V: Regulated 5V 12V: 6 to 16V

Signal output:

Following formula enables to have target temperature T_C in function of signal output V and ambient temperature T_A given by PT1000:

$$T_C = \sqrt[3]{(V - V_{25^{\circ}\text{C}}) \times \alpha + (T_A + 273)^4} - 273$$

Where T_C : Target temperature in °C
 T_A : Ambient temperature in °C
 V : Signal output voltage in V
 $V_{25^{\circ}\text{C}}$: Signal output voltage in V when target and ambient temperature is 25°C.
 α : table coefficient (depend on temperature range)

Example for **500°C** 0.5V @ 25°C and 4.5V @ 500°C $\alpha=8.728 \times 10^{10}$

Calibration Table in Volt

T_C (°C) / T_A (°C)	25	50	100	150	200	250	300	350	400	450	500
25	0.500	0.534	0.631	0.776	0.983	1.267	1.645	2.136	2.760	3.540	4.500
50	0.466	0.500	0.597	0.742	0.949	1.232	1.610	2.101	2.726	3.506	4.466
100	0.369	0.403	0.500	0.645	0.852	1.135	1.513	2.004	2.629	3.409	4.369
150	0.224	0.258	0.355	0.500	0.707	0.990	1.368	1.859	2.484	3.266	4.224

Error $\geq 5^{\circ}\text{C}$ Error $\leq 5^{\circ}\text{C}$

Example for **1000°C** 0.5V @ 25°C and 4.5V @ 1000°C $\alpha=6.55 \times 10^{11}$

Calibration Table in Volt

T_C (°C) / T_A (°C)	25	100	200	300	400	500	600	700	800	900	1000
25	0.500	0.518	0.564	0.653	0.801	1.033	1.375	1.857	2.512	3.379	4.500
50	0.495	0.513	0.560	0.648	0.797	1.029	1.370	1.852	2.508	3.374	4.493
100	0.482	0.500	0.547	0.635	0.784	1.016	1.357	1.839	2.495	3.361	4.481
150	0.463	0.481	0.528	0.616	0.764	0.996	1.338	1.820	2.475	3.342	4.461

Error $\geq 10^{\circ}\text{C}$ Error $\leq 10^{\circ}\text{C}$

Example for **1200°C** 0.5V @ 25°C and 4.5V @ 1200°C $\alpha=1.175 \times 10^{12}$

Calibration Table in Volt

T_C (°C) / T_A (°C)	25	100	200	300	400	500	600	700	800	900	1000	1100	1200
25	0.500	0.510	0.536	0.585	0.668	0.797	0.988	1.256	1.621	2.104	2.728	3.517	4.500
50	0.497	0.507	0.533	0.582	0.665	0.795	0.985	1.253	1.619	2.102	2.726	3.515	4.497
100	0.490	0.500	0.526	0.575	0.658	0.787	0.978	1.246	1.612	2.095	2.718	3.508	4.490
150	0.479	0.489	0.515	0.564	0.647	0.777	0.967	1.236	1.601	2.084	2.708	3.497	4.479

Error $\geq 12^{\circ}\text{C}$ Error $\leq 12^{\circ}\text{C}$

Example for **1300°C** 0.5V @ 25°C and 4.5V @ 1300°C $\alpha= 1.529 \times 10^{12}$

Calibration Table in Volt

T_C (°C) / T_A (°C)	25	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300
25	0.500	0.508	0.528	0.565	0.629	0.728	0.875	1.081	1.362	1.733	2.213	2.820	3.575	4.500
50	0.498	0.506	0.526	0.563	0.627	0.726	0.873	1.079	1.360	1.731	2.211	2.818	3.573	4.498
100	0.492	0.500	0.520	0.558	0.622	0.721	0.867	1.074	1.355	1.726	2.205	2.812	3.567	4.493
150	0.484	0.492	0.512	0.550	0.613	0.713	0.859	1.065	1.346	1.718	2.197	2.804	3.359	4.484

Error $\geq 13^{\circ}\text{C}$ Error $\leq 13^{\circ}\text{C}$