

IRN2	
Linear Analog & Digital Infrared temperature sensor	
Ref :	
SN :	Software version :

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.

Range	from -20 to 100 to 300 to 1200	°C
Accuracy	2	% FS
Ambient temperature error	+/-0,5	°C
Sensitivity	Linear output See calibration table	mV/°C
Response time (0-90%)	50	ms
Supply Voltage	3.3 to 30	V
Supply Current	4	mA
Output Voltage (Standard) (Supply > 5V)	0 to 5	V
Output Voltage (optional) Depending on supply voltage	0 to 3 or 0 to 10	V
Output Impedance	47	Ω
Digital output *	Ascii data @ 50	Hz
Parameters *	°C/°F, Gain factor, Digital Output On/Off	
Sensitive Element	Thermopile with Silicon Lens (Si)	
Wave Length	8 to 14	µm
Measurement distance	20 to 150	mm
Field of view (90% radiation) Range < 400°C	4 : 1 @ 50 mm	
Field of view (90% radiation) Range > 400°C	5 : 1 @ 50 mm	
Calibrators	<input type="checkbox"/> Fluke 4181 <input checked="" type="checkbox"/> Land P550P / R1200P	
Emissivity (factory tuning)	Fluke 4181	95 %
	Land P550P/R1200P	>99
Emissivity / Distance Tuning *	Gain Factor 0.1 to 10	
Dimension "T" type	27x17x11	mm
Dimension "V" type	M12 x 1 x length 32	mm
Material	Aluminium	
Weight (without cable)	15	g
Protection	IP65	
Vibration test	20Gpp5'	
Shock	500G	
Operating Temp	-20 to +120	°C
Storage Temp	-25 to +125	°C

* Only with Texense USB-Connect 3V

Ordering ref:			
IRN2 - Housing - Range - Output			
T (27x17x11)	150	3	(0-3V)
V (M12x32)	300	5	(0-5V)
	1000	10	(0-10V)
	...		
ex: IRN2-T-300-5			

Sensor Readings	
..... V	at °C
..... V	at °C

Cable: 4x26AWG FEP tinned copper braided cable 250V 200°C

Length: mm Tubing:

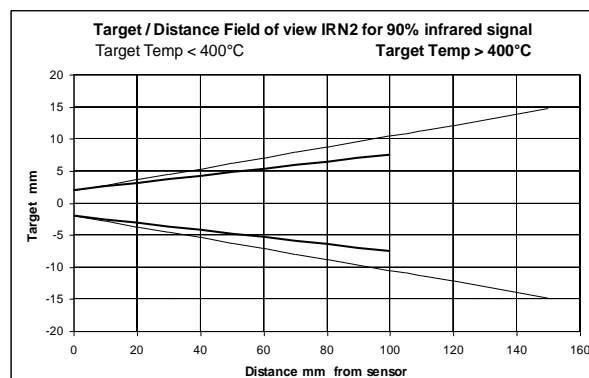
Connector:

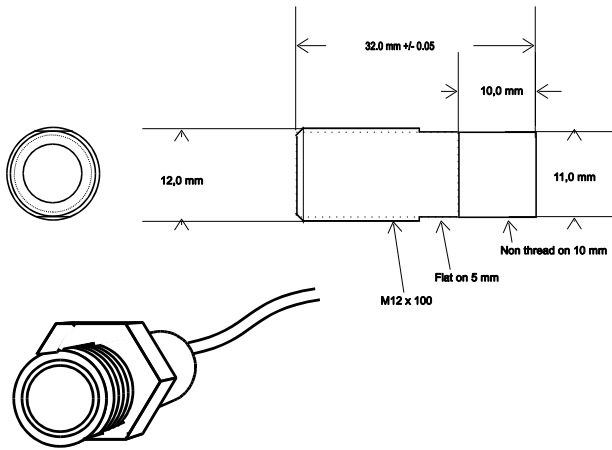
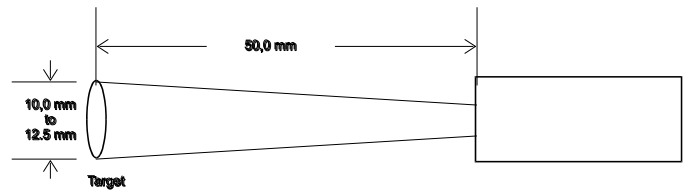
Setup parameters	
Digital output	OFF
Degree	Celsius
Gain factor	

Colour	Function	Pin
Red	Supply	
Black	0V	
White	Analog Signal	
Green *	Digital Signal	
Braid		

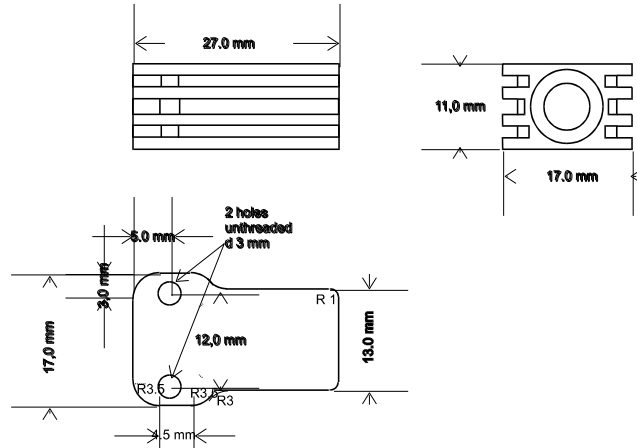
Calibration tables (Examples for 0-5V output)						
°C	100°C 35mV/°C	200°C 20mV/°C	300°C 12,5mV/°C	500°C 9mV/°C	1000°C 4mV/°C	1200°C 3,5mV/°C
-20	0.30	0.10	0.50	0.07	-	-
0	1.00	0.50	0.75	0.25	-	-
25	1.88	1.00	1.06	0.475	0.60	0.59
50	2.75	1.50	1.38	0.7	0.70	0.68
75	3.63	2.00	1.69	0.925	0.80	0.76
100	4.50	2.50	2.00	1.15	0.90	0.85
150		3.50	2.63	1.6	1.10	1.025
200		4.50	3.25	2.05	1.30	1.20
300			4.50	2.95	1.70	1.55
500				4.75	2.50	2.25
700					3.30	2.95
900					4.10	3.65
1000					4.50	4.00
1100						4.35
1200						4.70

Accuracy not guaranteed for grey cells



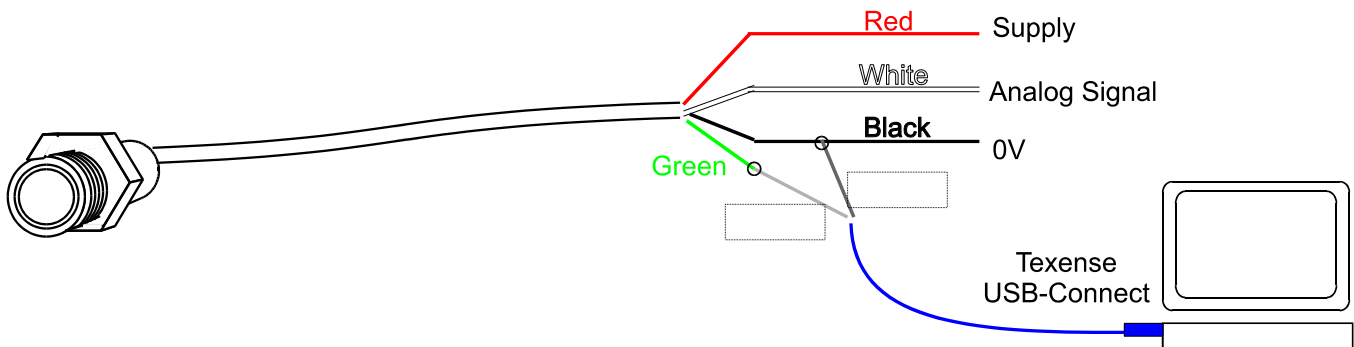


V housing



T housing

Connection



Drivers and operating mode for digital output and settings

It is necessary to download a VCP driver (Virtual Com Port) [FTR232R](http://www.ftdichip.com/Drivers/VCP.htm) to convert the USB port in serial com port at the following address: www.ftdichip.com/Drivers/VCP.htm
 More info @ www.ftdichip.com/Documents/InstallGuides.htm

Use HyperTerminal of Windows (for Vista and 7 : www.hilgraeve.com/hpte/download.html)

Config : 115200 bauds if cable length < 1.5m, 38400 bauds otherwise, 8 bits data, no parity, 1 bit stop, no flow control, recommended font Courier New

At power up, the sensor sends the following header :
 type, range, version, serial number and settings

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TEXYS(r)   IRN2 1000  V1.0  SN00000000

'u': digital output on/off      OFF
'd': degree      C / F         Celsius
'f': gain factor  =            1024
  
```

If the digital output is active (digital output ON, the header is not displayed).
 To change a parameter, press a key :

- Digital output 'u' : toggle between active (ON) or not(OFF) for the digital output (default : OFF)
- Degree 'd' : toggle between Celsius and Fahrenheit (default : Celsius)
- Gain factor 'f' + number from 100 to 10000. (in 1024th) (default: 1024)
 Factor from 0.098 to 9.76, intended to adjust the output signal versus target emissivity or distance

Digital output format at 50Hz :

Line feed return (0x0D 0x0A) + 5
 ASCII char for the temperature in tenths of degree

```

Ex: temperature of 145.6°
01456
01456
01457
01458
.....
Ex: temperature of -5.6°
-0056
-0057
-0058
.....
  
```