

# IR-BK-F-E-4

4-CHANNEL INFRARED SENSOR FOR BRAKE DISC WITH CAN BUS INTERFACE – In line housing

Ref: IR-BK-F-E-4-1200

SN: I#####

SW version: v#.##

Texys 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	0 to +1200	°C
Measurement	4 channels in line	
Accuracy at FS	See accuracy table	
Response time	5 (default)	ms
CAN bus	2.0A or B	
Output Data	Calibrated temperature and Ambient temperature: 2 bytes per channel (signed int)	
Resolution	0.1	°/bit
Parameters	CAN type / Baud rate / Frequency / Identifiers / Gain factor	
Baud rate	125k to 1Mbps	
Frequency	1Hz to 200Hz, request mode	
Supply Voltage	6 to 16	V
Supply Current	27	mA
Sensitive Element	Thermopile with Silicon Lens	
Wave Length	8 to 14	µm
Measurement distance	30 to 100	mm
Calibrator	Land 1200 P	
Emissivity	99%	
Field of view (90% radiation)	8.8	°
Mean Angle between channels	12.5	°
Total width	See Table (total angle 46°)	
Lens protection	ZnSe window	
Dimensions	27.4x18.5x11	mm
Material	Aluminum	
Weight (without cable)	12	g
Protection	IP64	
Vibration test	20Gpp 5'	
Shock	500	G
Operating Temp (static)	-20 to +150	°C
Operating Temp (peak)	-20 to +160	°C
Storage Temp	-40 to +125	°C

Sensor Readings		
channel	400 °C	1000 °C
1		
2		
3		
4		

Setup parameters	
CAN type	2.0A
Baudrate	1Mbps
Frequency	200Hz
Gain factor	1000
Rx trig ID	0x7F0
Tx1 ID	0x5F0
Tx2 ID	0x3F0
CAN termination resistor	Not connected

Accuracy table % FS				
Target temperature	Sensor ambient temperature			
	25°C	85°C	125°C	150°C
≤200°	2	2	2	3
200°	1	1	1.5	2
400°	1	1	1	1
600°	1	1	1	1
800°	1	1	1	1
1000°	1	1	1	1
1200°	1	1	1	1

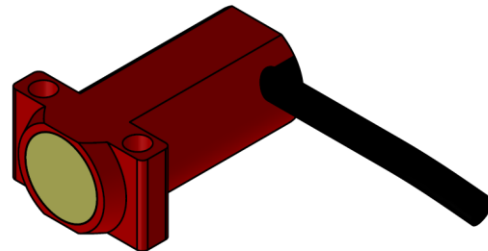
### Cable specification:

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

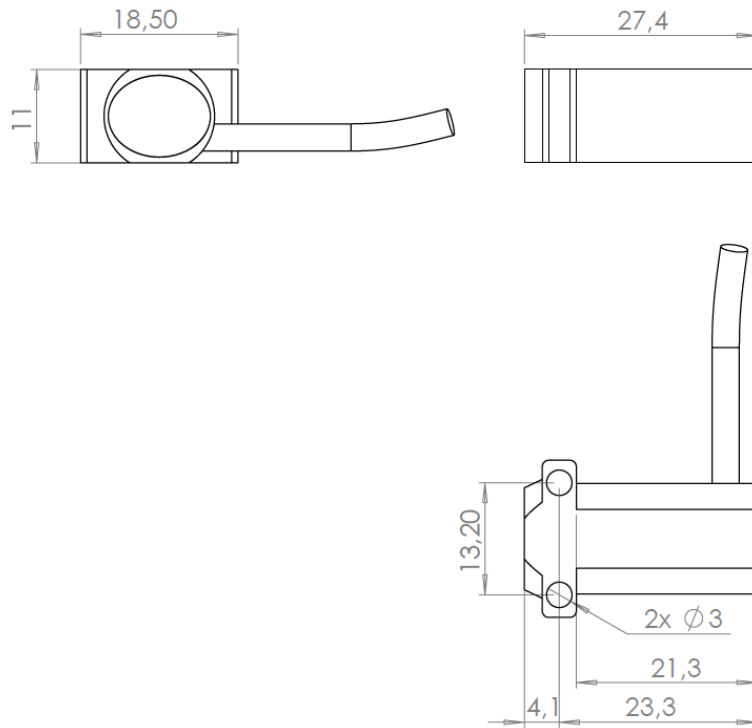
EPD116760A

Length: 1000mm Tubing: .....

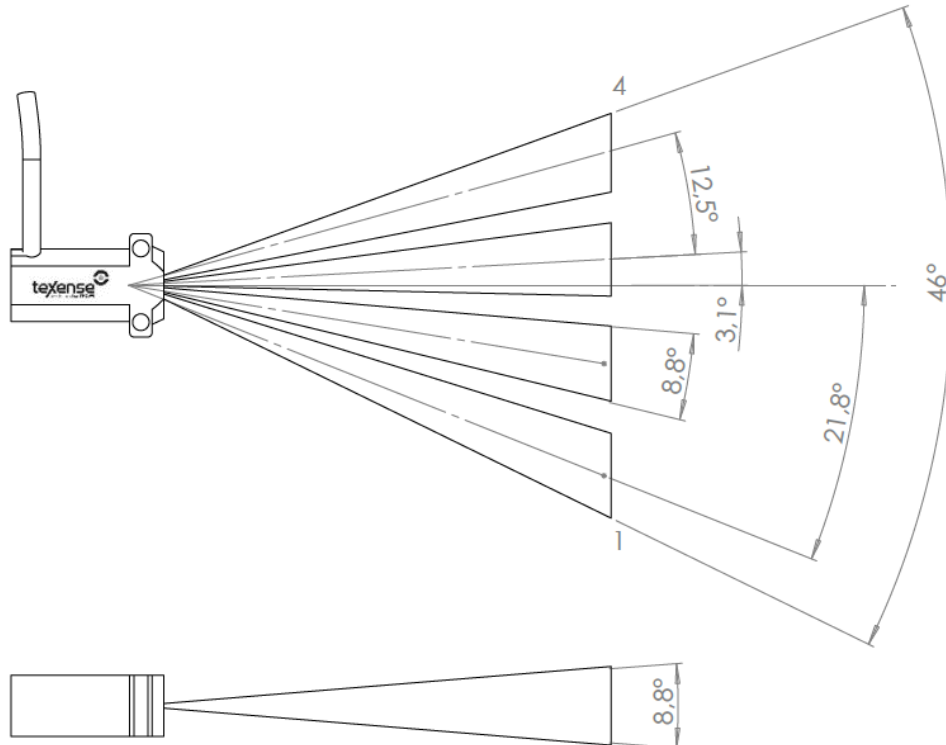
Color	Function	Pin
Red	Supply	
Black	0V	
Green or Blue	CAN High	
White	CAN Low	
Braid		



**Mechanical definition**



**FOV (Field of view)**



## CAN data output

Standard format (STD mode):

Frame #1 (default Tx1 Frame ID: 0x5F0) Output rate 1Hz

ID	Byte 0	Byte 1
0x05F0	T Ambient MSB	T Ambient LSB
Resolution: 0.1°/bit		

Frame #2 (default Tx2 Frame ID: 0x03F0)

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
0x03F0	Channel1 MSB	Channel1 LSB	Channel2 MSB	Channel2 LSB	Channel3 MSB	Channel3 LSB	Channel4 MSB	Channel4 LSB
Resolution: 0.1°/bit		Resolution: 0.1°/bit		Resolution: 0.1°/bit		Resolution: 0.1°/bit		

## Changing parameters

Must be setup according to Texense's CAN protocol, or by using the Texense Android Smart Tool (tAST®) with your android device. Contact us at [info@texense.com](mailto:info@texense.com)

N°	Parameter	Raw values	values	Comments	
0x00	Baudrate	0x00	CAN 2.0A 1000 Kbps	default	
		0x01	CAN 2.0A 500 Kbps		
		0x02	CAN 2.0A 250 Kbps		
		0x03	CAN 2.0A 125 Kbps		
		0x10	CAN 2.0B 1000 Kbps		
		0x11	CAN 2.0B 500 Kbps		
		0x12	CAN 2.0B 250 Kbps		
		0x13	CAN 2.0B 125 Kbps		
0x01	Emission frequency	0x00	Rx frame trig	On request - 10Hz max.	
		0x01	1 Hz	Noise ≤ 0.3°C	
		0x02	2 Hz	Noise ≤ 0.4°C	
		0x03	10 Hz	Noise ≤ 0.5°C	
		0x04	25 Hz	Noise ≤ 0.5°C	
		0x05	50 Hz	Noise ≤ 1°C	
		0x06	100 Hz	Noise ≤ 2°C	
		0x07	200 Hz	Noise ≤ 2°C (Default)	
0x02	Reserved			Do not modify	
0x03	Reserved			Do not modify	
0x04	Gain factor	500 to 2000	1/1000 (0.5 to 2)	MSB	Default 1000
0x05				LSB	
0x06	Rx frame ID	if CAN2.0A: 0x1 to 0x7FF if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		MSB	Default 0x07F0
0x07				LSB	
0x08	Tx1 frame ID	if CAN2.0A: 0x1 to 0x7FF if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		MSB	Default 0x05F0
0x09				LSB	
0x0A	Tx2 frame ID	if CAN2.0A: 0x1 to 0x7FF if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		MSB	Default 0x03F0
0x0B				LSB	

For complete information, contact us at [info@texense.com](mailto:info@texense.com)