THNF-C

Digital Thermocouple connector conditioner
1kHz sampling frequency, CAN bus output

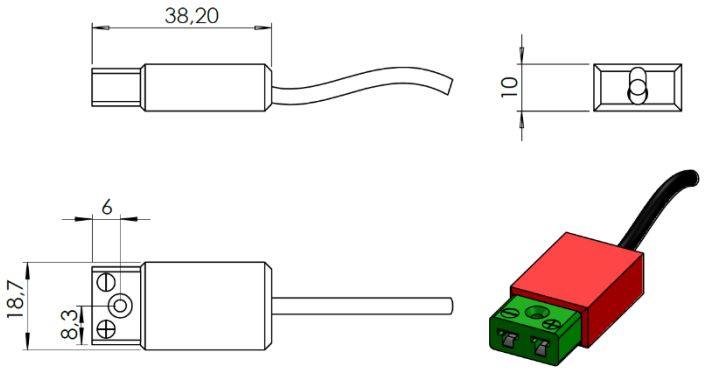
Texense sensors are designed for data logging. Should the users want to include this sensor in a closed loop system, they must undertake total responsibility from doing so.

Measurement features			
Range	-100°C min to +2300 max (see §Available ranges)		°C
Type	K, C, R, J, N, B, S, T		
Calibrator	Fluke 714B or 753		
Sampling frequency	1		kHz
Integration time	1 to 128		ms
Sampling error	±0.2		%FS
Max probe impedance	300		Ω
Cold junction error	Type K, R, J, N, B, S, T	±0.7	°C
	Type C	±5	°C
Accuracy	Range ≤ 400°C	1	°C
	Range > 400°C	0.25	%FS
CAN bus output			
Standard	2.0A or B		
Termination	R=120 Ω, switchable via CAN bus		
Baudrate	125kbps to 1Mbps		
Resolution	0.1°C or 0.1°F		
Electrical features			
Supply Voltage	5V version(1)	5±0.1	V
	24V version	6 to 25	
Supply Current	<25		mA
Mechanical features			
Dimension	38.2x18.7x10		mm
Material	Aluminum		
Weight	15		g
Environment			
Protection	IP53		
Vibration test	20Gpp5'		
Shock	500		G
Operating Temp	-40 to +125		°C
Storage Temp	-40 to +125		°C

(1) No regulation, absolute maximum rating 5.5V

Cable		
5x26 AWG FEP tinned copper braided cable 250V 200°C Length: 1000mm Tubing: ..... Connector:		
Color	Function	Pin
Red	Supply input	
Black	0V	
Green	CAN High	
White	CAN Low	
Yellow	Do not connect and isolate	
Braid		

The Thermocouple probe wires must be isolated from supply ground



Available Types and Connector Color		
Type	Standard	Color
K	IEC	Green
	ANSI	Yellow
C	IEC	White
R	IEC	Orange
S	IEC	
J	IEC	Black
	ANSI	
N	IEC	Pink
B	IEC	Grey
T	IEC	Brown

CAN data output

Tx ID 0x3F0 (Default)	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB
	Thermocouple T°		Ambient T° (2)	

(1) Ambient temperature is refreshed at 1Hz.

Resolution is 0.1°C or 0.1°F, depending on degree unit configuration.

CAN parameters

Must be setup according to Texense CAN protocol, or by using the tWist® software (texense Windows software tool) with the tSIB (texense Smart Interface Box).

Address	Parameter	Raw values	values	Comments	
0x00	Baudrate	0x**0**0	CAN2.0**A** 1Mbps	Default	
		0x**0**1	CAN2.0**A** 500 Kbps		
		0x**0**2	CAN2.0**A** 250 Kbps		
		0x**0**3	CAN2.0**A** 125 Kbps		
		0x**1**0	CAN2.0**B** 1Mbps		
		0x**1**1	CAN2.0**B** 500 Kbps		
		0x**1**2	CAN2.0**B** 250 Kbps		
		0x**1**3	CAN2.0**B** 125 Kbps		
0x01	Emission frequency	0x00	Rx frame trig	Triggering mode – 500Hz max.	
		0x01	1 Hz		
		0x02	10 Hz	Default	
		0x03	50 Hz		
		0x04	100 Hz		
		0x05	200 Hz		
		0x06	500 Hz		
		0x07	1kHz		
0x02	RxTrig frame ID	if CAN2.0A: 0x1 to 0x7F0 if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		MSB	Default
0x03				LSB	0x07F0
0x04	Tx frame ID	if CAN2.0A: 0x1 to 0x7F0 if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		MSB	Default
0x05				LSB	0x03F0
0x06	Don't care (may be changed without consequence)				
0x07					
0x08					
0x09					
0x0A	Degree	0	Fahrenheit		
		1	Celsius	Default	
0x0B	CAN Bus Termination Resistor	0	Not connected	Default	
		1	Connected		
0x0C	Don't care (may be changed without consequence)				
0x0D	Integration Time	0x00	No Integration (1 sample)		
		0x01	8ms (8 samples)		
		0x02	16ms (16 samples)		
		0x03	32ms (32 samples)		
		0x04	64ms (64 samples)	Default	
		0x05	128ms (128 samples)		

For complete information, contact us at info@texense.com

Available ranges

Type	Ordering code
K	K-100+400
	K-100+800
	K-100+1300
	K-50+200
	K-40+150
	K-40+300
	K-40+1370
	K0+120
	K0+300
	K0+800
	K0+900
	K0+1000
	K0+1100
	K0+1250
	K-50+1050
C	C0+2300

Type	Ordering code
R	R0+1250
	R0+1800
J	J-100+400
	J-100+800
	J-50+200
	J0+100
	J0+1250
N	N-100+1000
B	B0+1800
S	S0+1500
T	T-100+300
	T-100+400
	T-50+200
	T-40+150
	T-20+150

Ordering information

Ordering ref:

THNF- *Output* – *Type/Range* – *Supply* – *Color Standard*

C: CAN output

K-100+400 : K type -100°C to +400°C
K-100+800 : K type -100°C to +800°C
…
T-20+150 : T type -20°C to +150°C

5: 5V supply (not regulated)
24: 6V to 25V supply

IEC: IEC standard
ANSI: ANSI standard

ex: THNF-C-K-100+400-24-IEC