

THNF4x-C

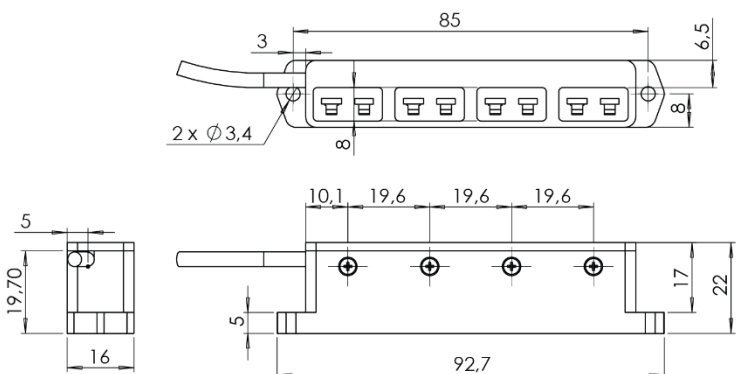
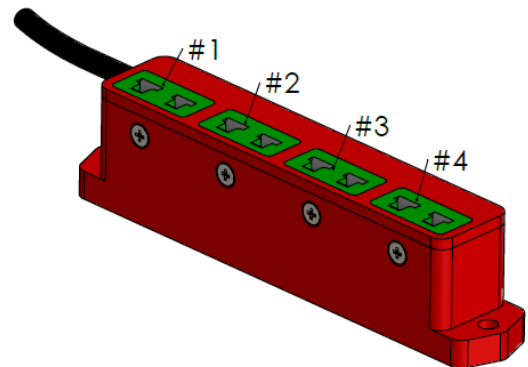
4 Channels Digital Thermocouple conditioner
100Hz sampling frequency, CAN bus output

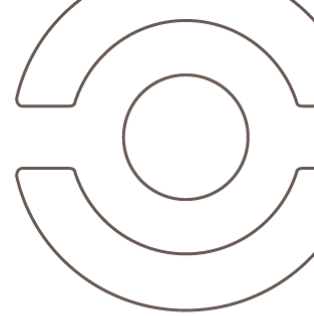
Texense sensors are designed for data logging. Should the users want to include this sensor in a closed loop system, they must undertake total responsibility from doing so.

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 per channel	100		Hz
Integration time	1 to 1280		ms
Sampling error	±0.2		%FS
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	6 to 25		V
Supply Current	<25		mA
Mechanical features			
Dimension	92.7 x 22 x 16		mm
Material	Aluminum		
Weight	65		g
Environment			
Protection	IP53		
Vibration test	20Gpp5'		
Shock	500		G
Operating Temp	-40 to +125		°C
Storage Temp	-40 to +125		°C

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





CAN data output

- 4 thermocouple temperatures (1Hz to 100Hz output rate):

Tx1 ID 0x3F0	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB	Byte 4 MSB	Byte 5 LSB	Byte 6 MSB	Byte 7 LSB
	Temperature #1		Temperature #2		Temperature #3		Temperature #4	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit	

- 2 ambient temperatures (1Hz output rate if activated):

Tx2 ID 0x3F4	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB
	Ambient #1		Ambient #2	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit	

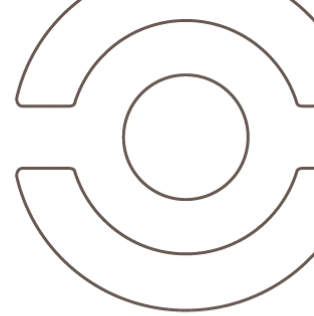
Resolution is 0.1°C or 0.1°F, depending on degree unit configuration.

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	0x00	CAN2.0A 1Mbps	Default
		0x01	CAN2.0A 500 Kbps	
		0x02	CAN2.0A 250 Kbps	
		0x03	CAN2.0A 125 Kbps	
		0x10	CAN2.0B 1Mbps	
		0x11	CAN2.0B 500 Kbps	
		0x12	CAN2.0B 250 Kbps	
		0x13	CAN2.0B 125 Kbps	
0x01	Emission frequency	0x00	Rx frame trig	Triggering mode - 100Hz max.
		0x01	1 Hz	
		0x02	10 Hz	Default
		0x03	50 Hz	
		0x04	100 Hz	
0x02	RxTrig frame ID	if CAN2.0A: 0x1 to 0x7F0		MSB
0x03		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB
0x04	Tx1 frame ID	if CAN2.0A: 0x1 to 0x7F0		MSB
0x05		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB
0x06	Tx2 frame ID	if CAN2.0A: 0x1 to 0x7F0		MSB
0x07		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB
0x08	Don't care (may be changed without consequence)			
0x0A	Degree unit	0	Fahrenheit	
		1	Celsius	Default
0x0B	CAN Bus Termination Resistor	0	Not connected	Default
		1	Connected	
0x0C	Tx2 frame Enable	0	Disable	Default
		1	Enable	This frame is sent at 1Hz
0x0D	Integration time #1	0x00	No Integration (1 sample)	Default
0x0E	Integration time #2	0x01	80ms (8 samples)	
0x0F	Integration time #3	0x02	160ms (16 samples)	
		0x03	320ms (32 samples)	
0x10	Integration time #4	0x04	640ms (64 samples)	
		0x05	1280ms (128 samples)	

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



Available ranges

Ranges				
Type	Ordering code	Type	Ordering code	
K	K-100+400	R	R0+1250	
	K-100+800		R0+1800	
	K-100+1300	J	J-100+400	
	K-50+200		J-100+800	
	K-40+150		J-50+200	
	K-40+300		J0+100	
	K-40+1370		J0+1250	
	K0+120	N	N-100+1000	
	K0+300	B	B0+1800	
	K0+800	S	S0+1500	
	K0+900	T	T-100+300	
	K0+1000		T-100+400	
	K0+1100		T-50+200	
	K0+1250		T-40+150	
	K-50+1050		T-20+150	
	C	C0+2300		

Connectors standard and 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

Ordering information

Ordering ref:

THNF4x-C – Type/Range – Color Standard

K-100+400 : K type -100°C to +400°C

K-100+800 : K type -100°C to +800°C

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T-20+150 : T type -20°C to +150°C

IEC: IEC standard

ANSI: ANSI standard

ex: THNF4x-C-K-100+400-IEC