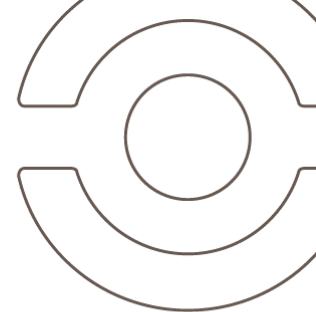




THNM16x

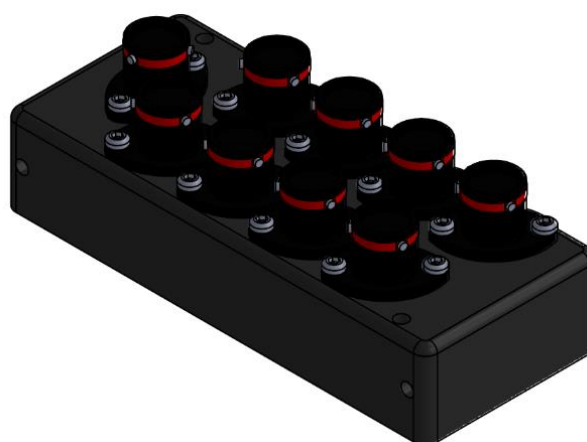
16 Channel insulated digital thermocouple conditioner,
marine application, CAN bus output

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 +1370 max (see \$Available ranges)	°C
Type		K	
Calibrator		Fluke 714B or 753	
Sampling frequency per channel		50	Hz
Cold junction error ⁽¹⁾ (0°C < T ambient < 80°C)		±5	°C
Accuracy	Range ≤ 500°C	±1	°C
	Range > 500°C	0.20	%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 36	V
Supply Current (under 12V supply voltage)		60mA	mA
Insulation resistance (channel to channel & channel to supply)		50MΩ under 50V	
Mechanical features			
Dimension		105 x 44 x 34	mm
Material		POM	
Weight		130	g
Environment			
Protection		IP67	
Vibration test		20Gpp5'	
Shock		500	G
Operating Temp		-40 to +100	°C
Storage Temp		-40 to +125	°C

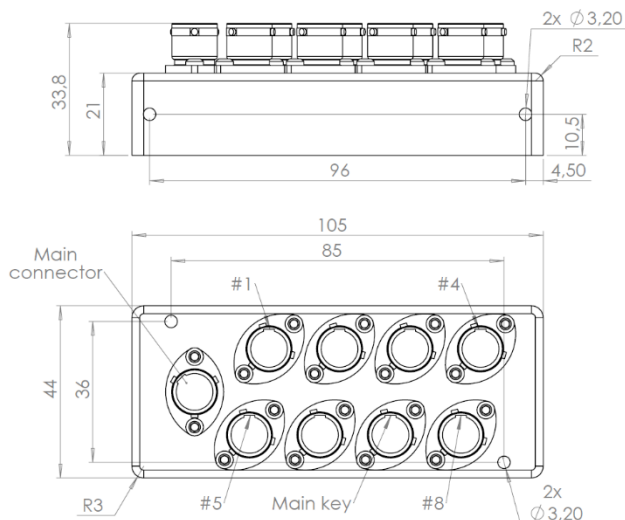
Supply and CAN connector	
Connector: 8STA-0X-0635 PN	
Mating connector: 8STA-6X-0635 SN	
Pin	Function
1	Supply input
2	0V
3	CAN Low
4	CAN High
5	Do not connect and isolate

Thermocouple probe connectors				
Main connector: 8STA-0X-0635 SN				
Mating connector: 8STA-6X-0635 PN				
Pin	Connector#			
	#1	#2	#3	#4
1	TC1+	TC3+	TC5+	TC7+
2	TC1-	TC3-	TC5-	TC7-
3	TC2+	TC4+	TC6+	TC8+
4	TC2-	TC4-	TC6-	TC8-
5	NC	NC	NC	NC
	#5	#6	#7	#8
1	TC9+	TC11+	TC13+	TC15+
2	TC9-	TC11-	TC13-	TC15-
3	TC10+	TC12+	TC14+	TC16+
4	TC10-	TC12-	TC14-	TC16-
5	NC	NC	NC	NC



(1) Pins are gold plated. It is recommended to keep housing and connector to the same temperature to limit cold junction error.

Mechanical drawing



Available ranges

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

CAN data output

- 16 thermocouple temperatures (1Hz to 10Hz output rate):

Tx1 ID Default: 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	

Tx1 ID+1 Default: 0x3F1	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 #5		Temperature #6		Temperature #7		Temperature #8	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit	

Tx1 ID+2 Default: 0x3F2	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 #9		Temperature #10		Temperature #11		Temperature #12	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit	

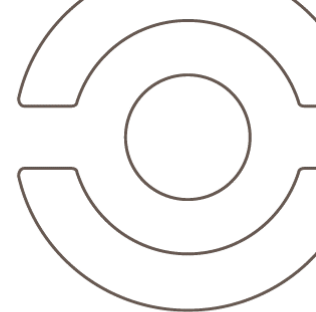
Tx1 ID+3 Default: 0x3F3	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB	Byte 4 MSB	Byte 5 LSB	Byte 6 MSB	Byte 7 LSB
	Temperature #13		Temperature #14		Temperature #15		Temperature #16	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit	

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

Tx2 ID Default: 0x5F0	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB	Byte 4 MSB	Byte 5 LSB	Byte 6 MSB	Byte 7 LSB
	Ambient #1		Ambient #2		Ambient #3		Ambient #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	

Tx2 ID+1 Default: 0x5F1	Byte 0 MSB	Byte 1 LSB	Byte 2 MSB	Byte 3 LSB	Byte 4 MSB	Byte 5 LSB	Byte 6 MSB	Byte 7 LSB
	Ambient #5		Ambient #6		Ambient #7		Ambient #8	
	Signed integer 16bits 0.1°/bit		Signed integer 16bits 0.1°/bit		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	CAN type	0x00	CAN 2.0A (std. 11bits)	Default	
		0x10	CAN 2.0B (ext. 29bits)		
0x01	Baudrate	0x00	CAN2.0A 1Mbps	Default	
		0x01	CAN2.0A 500 Kbps		
		0x02	CAN2.0A 250 Kbps		
		0x03	CAN2.0A 125 Kbps		
0x02	Emission frequency	0x00	Rx frame trig	Triggering mode - 10Hz max. Integration time = 100ms	
		0x01	1 Hz	Integration time = 1s	
		0x02	5 Hz	Integration time = 200ms	
		0x03	10 Hz	Integration time = 100ms (Default)	
0x03	RxTrig frame ID	if CAN2.0A: 0x1 to 0x7F0		MSB	Default 0x07F0
0x04		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB	
0x05	Tx1 frame ID	if CAN2.0A: 0x1 to 0x7F0		MSB	Default 0x03F0
0x06		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB	
0x07	Tx2 frame ID ⁽²⁾	if CAN2.0A: 0x1 to 0x7F0		MSB	Default 0x5F0
0x08		if CAN2.0B: 0x1 to 0xFFFF (except 0x7F1 to 0x7F3)		LSB	
0x09	CAN Bus Termination Resistor	0	Not connected	Default	
		1	Connected		

(2) Both ambient temperature frames can be disable by setting Tx2 frame ID to 0x0000

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

Ordering information

Ordering ref:

THNM16x – Type/Range

K-100+400 : K type -100°C to +400°C

K-100+800 : K type -100°C to +800°C

...

K0+1250 : K type 0°C to +1250°C

ex: THNM16x-K-100+400