

GenWM	
RF MASTER	
Ref: GenWM	
SN: U#####	Software 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.

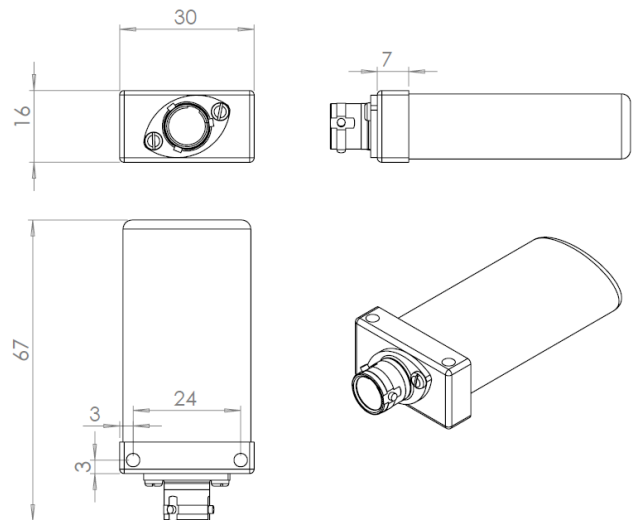
CAN bus	2.0A or 2.0B	
CAN bus termination	120Ω : switchable (Default : Not connected)	
Output data	Sensor battery voltage: 1 byte per sensor. Format: Vbat = 2.5 + (0.01 * raw)	
	Sensor internal temperature OR RSSI: Resolution 1dBm / bit	
Parameters	See table below	
Baud rate	250 K to 1M	bps
Frequency	1Hz, 10Hz, 50Hz, 100Hz	
RF Frequency	868MHz/902MHz/920MHz	
Receiver Sensitivity	-112 dBm	
Slave RF Emission Power	0 to 14 dBm (1 to 20mW)	
Supply Voltage	6 to 16	V
Max supply Current @25°C	45	mA
Dimensions	66x30x16	mm
Material	Plastic	
Weight	20	g
Protection	IP64	
Vibration test	20Gpp 5'	
Shock	500	G
Operating Temp	-20 to +85	°C
Storage Temp	-20 to +85	°C

Setup parameters		
CAN type	2.0A 2.0B	-
CAN baudrate	1 M	bps
CAN Emission frequency	1Hz mono 10Hz mono 50Hz mono 50Hz multi 100Hz mono 100Hz multi	Hz
Tx01 frame ID	0x7F0	-
Tx02 frame ID	0x3F0	-
CAN bus termination	120Ω : <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	-
Optional data	Slave Temp. RSSI	-
RF Emission power	14	dBm
RF Band	868 902 920	MHz
RF Channel jump sequence	0 1 2	-
System ID	00	-
CAN message format	MUX STD	-

Connector : 8STA00406PN

Mating connector : 8STA60406SN

PIN	Function
1	Supply
2	0 V
3	CAN Low
4	CAN High
5	Reserved, do not connect
6	Reserved, do not connect



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

CAN Parameters:

N°	Parameter	Raw values	values	Comments
0x00	CAN Baudrate and Type	0x00	CAN2.0A 1 Mbps	default
		0x01	CAN2.0A 500 Kbps	
		0x02	CAN2.0A 250 Kbps	
		0x10	CAN2.0B 1 Mbps	
		0x11	CAN2.0B 500 Kbps	
		0x12	CAN2.0B 250 Kbps	
0x01	CAN Emission frequency	0x01	1 Hz mono-frequency	
		0x02	10 Hz mono-frequency	default
		0x03	50 Hz mono-frequency	
		0x04	100 Hz mono-frequency	
		0x05	50 Hz multi-frequency	
		0x06	100 Hz multi-frequency	
0x02	Tx01 frame ID	if CAN2.0A: 0 to 0x7F0		MSB
0x03		if CAN2.0B: 0 to 0xFFFF except 0x7F1 and 0x7F3		LSB
0x04	Tx02 frame ID	if CAN2.0A: 0 to 0x7F0		MSB
0x05		if CAN2.0B: 0 to 0xFFFF except 0x7F1 and 0x7F3		LSB
0x06	Not used			
...				
0x27				
0x28	RF Emission power	0 to 14		dBm
0x29	RF Band	0x00	868	MHz
		0x01	902	
		0x02	920	
0x2A	RF Channel jump sequence	0x00	Sequence 0	Default
		0x01	Sequence 1	
		0x02	Sequence 2	
0x2B	System ID	0x00 to 0x0F		Default: 0x00
0x2C	Internal 120 Ohms resistor for CAN	0x00	Not connected	Default
		0x01	Connected	
0x2D	Optional data (Byte 6, Frame #03)	0x00	Slave temperature	Default : 0x00
		0x01	RSSI	
0x2E	CAN messages format	0x00	STD: Standard format, 3 CAN ID per slave	
		0x01	MUX: Muxed format: single CAN ID for all slaves	Default

CAN data output

1. Free running counter

This frame is sent every second continuously even if no slave is connected.

Tx01 Frame #01 (default Frame ID: 0x07F0)

CAN ID	Byte 0
0x07F0	Time counter
	1bit/second

2. Slave data

Depending on CAN message format chosen by end user, CAN frame ID are defined as the following.

1. MUX mode

There is one single CAN ID: TX02 frame ID (default value 0x3F0) is used for all slave ID.

2. STD mode

Data from a given slave is sent thanks to 3 specific CAN frame IDs that are defined according to the following:

Frame #01 ID = Tx02 Frame ID + ((slave ID - 1) * 4)

Frame #02 ID = Tx02 Frame ID + ((slave ID - 1) * 4) + 1

Frame #03 ID = Tx02 Frame ID + ((slave ID - 1) * 4) + 2

For example:

Default values for slave ID #1 are 0x3F0, 0x3F1 and 0x3F2

Default values for slave ID #2 are 0x3F4, 0x3F5 and 0x3F6

These frames are sent with a minimum inter-frame spacing of 1ms. GenWM can work with multiple different slave types simultaneously. Depending on slave type, the data formatting is different:

- Slave type: IRN8WS4 and IRNRCWS4:

Tx02 Frame #01

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 0	MSB	LSB	MSB	LSB	MSB	LSB
STD: 0x03F0 (for slave #1)			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 1		Channel 2		Channel 3	
			0.1°C/bit		0.1°C/bit		0.1°C/bit	

Tx02 Frame #02

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 1	MSB	LSB	MSB	LSB	MSB	LSB
STD: 0x03F1 (for slave #1)			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 4		Channel 5		Channel 6	
			0.1°C/bit		0.1°C/bit		0.1°C/bit	

Tx02 Frame #03

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
STD: 0x03F2 (for slave #1)			Signed integer 16bits		Signed integer 16bits			
			Channel 7		Channel 8		Unsigned, 0.5°C/bit / Signed, 1dBm/bit	2.5V +0.01V/bit
			0.1°C/bit		0.1°C/bit			

- Slave type: 8XPDIFFW:

Tx02 Frame #01

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 0	MSB	LSB	MSB	LSB	MSB	LSB
STD: 0x03F0 (for slave #1)			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 1		Channel 2		Channel 3	
			0.1 mbar/bit		0.1 mbar/bit		0.1 mbar/bit	

Tx02 Frame #02

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 1	MSB	LSB	MSB	LSB	MSB	LSB
STD: 0x03F1 (for slave #1)			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 4		Channel 5		Channel 6	
			0.1 mbar/bit		0.1 mbar/bit		0.1 mbar/bit	

Tx02 Frame #03

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
STD: 0x03F2 (for slave #1)			Signed integer 16bits		Signed integer 16bits			
			Channel 7		Channel 8		Unsigned, 0.5°C/bit / Signed, 1dBm/bit	2.5V +0.01V/bit
			0.1 mbar/bit		0.1 mbar/bit			

- Slave type: 4XPDIFFW:

Tx02 Frame #02

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F1 (for slave #1)	Slave ID	Muxed Msg ID = 1	MSB	LSB	MSB	LSB	MSB	LSB
			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 1		Channel 2		Channel 3	
			0.1 mbar/bit		0.1 mbar/bit		0.1 mbar/bit	

Tx02 Frame #03

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	Not used	Not used	Slave temperature / RSSI	Battery voltage
			Signed integer 16bits				Unsigned, 0.5°C/bit / Signed, 1dBm/bit	2.5V +0.01V/bit
			Channel 4					
			0.1 mbar/bit					

- Slave type: WTS:

Tx02 Frame #03 (default Frame ID: 0x03F0)

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
			Signed integer 16bits		Signed integer 16bits		Unsigned, 0.5°C/bit / Signed, 1dBm/bit	2.5V +0.01V/bit
			Torque		Shaft Temperature			
			Resolution: please refer to slave datasheet		0.1 °C/bit			

- Slave type: THN2xWS4:

Tx02 Frame #03 (default Frame ID: 0x03F0)

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
			Signed integer 16bits		Signed integer 16bits		Unsigned char** / Signed, 1dBm/bit	2.5V +0.01V/bit
			Channel 1		Channel 2			
			0.1 °/bit*		0.1 °/bit*			

*Unit is °C or °F depending on slave configuration

**Resolution is 0.5°C/bit or 1°F/bit depending on slave configuration

- Slave type: THN4xWS4:

Tx02 Frame #02

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F1 (for slave #1)	Slave ID	Muxed Msg ID = 1	MSB	LSB	MSB	LSB	MSB	LSB
			Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
			Channel 1		Channel 2		Channel 3	
			0.1 °/bit*		0.1 °/bit*		0.1 °/bit*	

Tx02 Frame #03

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	Not used	Not used	Slave temperature / RSSI	Battery voltage
			Signed integer 16bits				Unsigned char** / Signed, 1dBm/bit	2.5V +0.01V/bit
			Channel 4					
			0.1 °/bit*					

*Unit is °C or °F depending on slave configuration

**Resolution is 0.5°C/bit or 1°F/bit depending on slave configuration

- Slave type: ANA2WS4-1:

Tx02 Frame #03 (default Frame ID: 0x03F0)

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
			Signed integer 16bits		Not used	Not used		
			ANA differential voltage					
			1µV/V/bit					

- Slave type: ANA2WS4-2:

Tx02 Frame #03 (default Frame ID: 0x03F0)

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB	LSB	MSB	LSB	Slave temperature / RSSI	Battery voltage
			Unsigned integer 16bits		Unsigned integer 16bits			
			ANA 1 voltage		ANA 2 voltage			
			0.1mV/bit		0.1mV/bit			

- **Slave type: SWAD:**

Tx02 Frame #02

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F1 (for slave #1)	Slave ID	Muxed Msg ID = 1	MSB	LSB	MSB	LSB	Not used	Not used
			Signed integer 16bits		Signed integer 16bits			
			Acc X		Acc Y			
			4mG/bit		4mG/bit			

Tx02 Frame #03

ID	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
MUX: 0x03F0 STD: 0x03F2 (for slave #1)	Slave ID	Muxed Msg ID = 2	MSB			LSB	Slave temperature / RSSI	Battery voltage
			Signed integer 32bits					
			Gyr Z				Unsigned, 0.5°C/bit / Signed, 1dBm/bit	2.5V +0.01V/bit
			0.01°/s/bit					