

A-CAN-DG-V2-

Analog to CAN Converter
8 Analog + 2 Digital Inputs

SN: _____ Software version: _____

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.

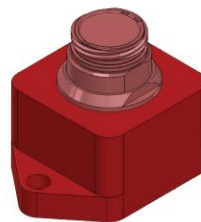
Analog Inputs	Range	0-5 or ±10 ⁽¹⁾	Volts
	Resolution	0.0763 / 0.305 or 1	mV/bit
	Pull-up	internal	
	Accuracy	0.5 (-40 / 125°C)	% FS
	Max input impedance	10	kΩ
	Sampling (per channel)	500	Hz
Anti-Aliasing Filter (optional) ⁽²⁾	type	Low pass, Linear phase 5th-Order	
	Cut off frequency	Programmable from 15 to 250Hz	
⁽¹⁾ For ±10V input range, filter option is not available. ⁽²⁾ If filter option is used: → the speed inputs are disabled. → pin 11 and 12 must not be connected. → frame Tx3 not sent.			
Digital Inputs ⁽²⁾	Square wave level	0 to 5 or NPN open collector	V
	Pull up to 5V	1	MΩ
	Freq. max ⁽³⁾	8	kHz
	Tops	1 to 100	Tops/rev
	⁽³⁾ Check max frequency for digital inputs as below: Ex1: 8000rpm with 48 tops/rev → 8000/60x48 = 6.4KHz. Ex2: 360km/h with 2m wheel circumference and 100 tops/rev → 360/3.6 / 2 x 100 = 5 KHz.		
Wheel Speed ⁽²⁾	Range	0 to 500	km/h 0 to 500 mph
	Circumference	300 to 5000	rev. (mm)
	Wheel tops/rev.	1 to 100	Top/rev
	Resolution	0.01	kmh/bit mph/bit
Engine Revs	Range	0 to 20000	rpm
	Engine tops/rev.	1 to 100	Top/rev
	Resolution	1	rpm/bit
Wheel Speed and Engine Revs calculation	200	Hz max	
Sensor supply Output	Protected supply 6 to 16V (0.5A max) 5V 100mA @85°C		
CAN bus 2.0 A or B Baud rate	120Ω : <input type="checkbox"/> yes <input type="checkbox"/> no 125k to 1Mbps		
Parameters	identifiers, baudrate, frequency, digital and analog inputs parameters.		
Output Frequency	1Hz to 500Hz**, request mode.		
Output Data	16 bits per channel		
Output format	16bits or mV		
Supply Voltage	6 to 16	V	
Typical Supply Current	35	mA	
Dimensions	48x30x33	mm	
Material	Aluminum		
Weight	45	g	
Protection	IP67		
Vibration test	20Gpp 5'		
Operating Temp	-40 to +125	°C	
Storage Temp	-40 to +125	°C	

**500Hz: Only with baudrate 1Mbps
Wheel Speed and Engine Revs are not available at this frequency.

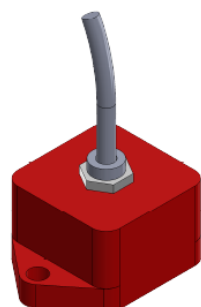
Setup parameters			
CAN	2.0A	2.0B	-
Baudrate			bps
Frequency			Hz
Rx trig ID			Hex
Tx1 ID			Hex
Tx2 ID			Hex
Tx3 ID ⁽²⁾			Hex
Output format	16bits	mV	-
Cut off frequency ⁽¹⁾			Hz
Speed Unit ⁽²⁾	km/h	mph	-
Wheel circumference ⁽²⁾			mm
Wheel tops / rev ⁽²⁾			tops / rev
Engine tops/rev ⁽²⁾			tops / rev

Function	Description	Pin	Wire color	Ring
Supply	Supply (6 to 16 V)	1	Red	Brown
	GND*	2	Black	Red
Analog Inputs	Channel 1	3	White	Orange
	Channel 2	4		Yellow
	Channel 3	5		Green
	Channel 4	6		Blue
	Channel 5	7		Violet
	Channel 6	8		Grey
	Channel 7	9		White
	Channel 8	10		Brown Black
Digital Inputs	Wheel Speed	11	Orange	Brown Brown
	Engine Speed	12		Brown Red
CAN	CAN HIGH	13	Yellow	Brown Orange
	CAN LOW	14	Blue	Brown Yellow
manufacturer reserved	do not connect	15	Green	Brown green
Sensor supply	Protected supply 6 to 16V (0.5A max)	16	Red	Brown Blue
	5V	17	Red	Brown Violet
	GND*	18	Black	Brown Grey
	GND*	19	Black	Brown White

* Ground pins are internally connected



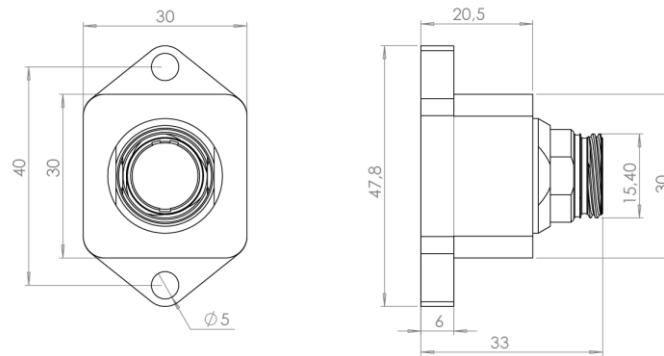
Standard version:
Connector: LEMO HES.2M.319.XLDP
Mating connector: LEMO FGS.2M.319.XLM



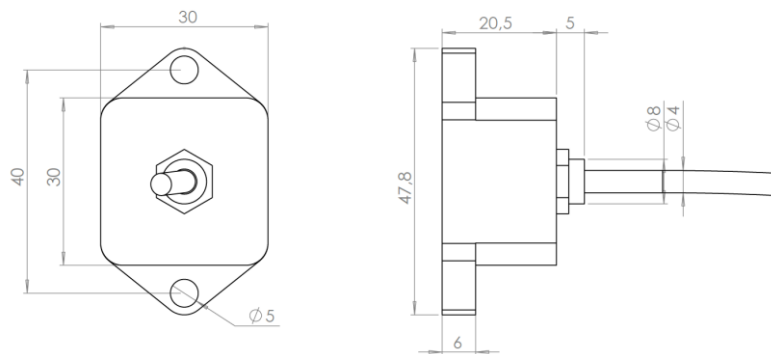
Cable version:
Cable: 19 AWG 28 RW-200-E-3/16
Cable length:mm

Mechanical design

Standard version:



Cable version:



CAN data output

Resolution:

- **ANA voltage signal:**
 - If configured to "output format mV": 1 mV/bit
 - If configured to "output format 16 bits":
 - For 0..5V version : 0.0763mV/bit
 - For -10V...+10V version : 0.305mV/bit
- **Wheel speed:**
 - If configured to "km/h": 0.01 (km/h)/bit
 - If configured to "mph": 0.01 mph/bit
- **Engine revs:** 1 rpm/bit

TX Frame #01

ID	Byte 0		Byte 1		Byte 2		Byte 3		Byte 4		Byte 5		Byte 6		Byte 7	
	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB
0x03F0 (default)	Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
	Channel 1 voltage		Channel 2 voltage		Channel 3 voltage		Channel 4 voltage		Channel 5 voltage		Channel 6 voltage		Channel 7 voltage		Channel 8 voltage	

TX Frame #02

ID	Byte 0		Byte 1		Byte 2		Byte 3		Byte 4		Byte 5		Byte 6		Byte 7	
	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB
0x03F4 (default)	Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits		Signed integer 16bits	
	Channel 5 voltage		Channel 6 voltage		Channel 7 voltage		Channel 8 voltage		Channel 9 voltage		Channel 10 voltage		Channel 11 voltage		Channel 12 voltage	

TX Frame #03 ⁽²⁾

ID	Byte 0		Byte 1		Byte 2		Byte 3		Byte 4		Byte 5		Byte 6		Byte 7	
	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB
0x03F8 (default)	Unsigned integer 16bits		Unsigned integer 16bits		Unsigned integer 16bits		Unsigned integer 16bits		Not used		Not used		Not used		Not used	
	Wheel speed		Engine Revs		Engine Revs		Engine Revs		Not used		Not used		Not used		Not used	

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	Baudrate & A or B (11 or 29bits ID)	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	Request mode - 100Hz max.	
		0x01	1 Hz	default	
		0x02	5 Hz		
		0x03	10 Hz		
		0x04	50 Hz		
		0x05	100 Hz	Only with baudrate 1Mbps. Speeds not available for this speed.	
		0x06	200 Hz		
		0x07	500 Hz**		
0x02	Rx frame ID	if CAN2.0A: 0 to 0x7F0		MSB	Default
0x03		if CAN2.0B: 0 to 0xFFFF		LSB	0x07F0
0x04	Tx1 frame ID	if CAN2.0A: 0 to 0x7F0		MSB	Default
0x05		if CAN2.0B: 0 to 0xFFFF		LSB	0x03F0
0x06	Tx2 frame ID	if CAN2.0A: 0 to 0x7F0		MSB	Default
0x07		if CAN2.0B: 0 to 0xFFFF		LSB	0x03F4
0x08	Tx3 frame ID	if CAN2.0A: 0 to 0x7F0		MSB	Default
0x09		if CAN2.0B: 0 to 0xFFFF		LSB	0x03F8

Digital Input parameters ⁽²⁾:

0x0A	Speed Unit	0	0.01 mph/bit		Default 1
		1	0.01 kmh/bit		
0x0B	Wheel circumference	300 to 5000		MSB	Default 2000
0x0C				LSB	
0x0D	Wheel tops / rev	1 to 100			Default 1
0x0E	Engine tops / rev	1 to 100			1

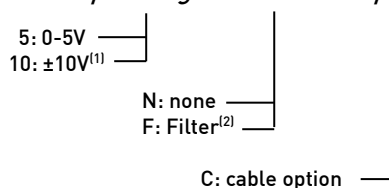
Analog Input parameters:

0x0F	Output format	0	16bits		Default 1
		1	mV		
0x10	cut off frequency ⁽¹⁾	15 to 250			Default 250

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

Ordering reference

A-CAN-DG-V2 – input range – AA filter – option



⁽¹⁾ For ±10V input range, AA filter option is not available.

⁽²⁾ If filter option is used:

- the speed inputs are disabled.
- pin 11 and 12 must not be connected.
- frame Tx3 not sent.

Ex: A-CAN-DG-V2-5-N → 0-5V, no filter.