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| COND-USB Option U-US | USB DIGITISER MODULE FOR LOAD CELLS AND TORQUE TRANSDUCERS |

The COND-USB is a compact, **high** performance **digital signal conditioner** with USB connectivity aimed at applications which require high-accuracy measurement repeatability.

- Its rugged metal enclosure makes the device suitable for harsh environment.
- Simply by plugging the device into a PC, data can be extracted from most strain gauge based sensors (full Wheatstone bridge) and computed by specific application software.
- No additional power supply is required. Although ideal for 1 to 1 interface the device can connect with multiple sensors with the use of a suitable hub.
- A choice of MODBUS RTU or ASCII protocols is currently available.
- Quick and easy connectivity via USB
- Digital I/O
- High speed to 500 readings/second
- Real mV/V calibration
- Peak & trough recordings

Specifications

	Min	Typical	Max	Units	Notes
Supply Voltage Range	4.35	5	5.25	Volts	
Stand-by Current	-	100	500	µA	
Average Operational Current (normal mode)	-	70	80	mA	Note 1
Operating Temperature Range	-40	-	85	°C	
Storage Temperature Range	-40	-	85	°C	
Humidity	0		95	%RH	

Notes: 1. When connected to a 350 Ohm Load Cell.

	Min	Typical	Max	Units
Strain Gauge Excitation System			4 wire	
Strain Gauge Excitation Voltage	4. 5	5	5.25	VDC
Strain Gauge Drive Capability	320	-	5000	Ohms
Strain Gauge Sensitivity	-3	2.5	3	mV/V
Offset Temperature Stability		5	10	ppm/°C
Gain Temperature Stability		30	50	ppm/°C
Offset Stability with Time		35	160	ppm of full range
Gain Stability with Time			300	ppm of full range
Non Linearity before Linearization		5	25	ppm of full range
Internal Resolution		16 Million		Counts / Divs
Resolution @ 1Hz Readings (Noise Stable) over 100s		66		Counts / Divs
Resolution @ 10Hz Readings (Noise Stable) over 100s		40		Counts / Divs
Resolution @ 100Hz Readings (Noise Stable) over 100s		10		Counts / Divs
Signal Filter	Dynamic recursive type user programmable			

Communications (USB)

The Load Cell to USB Adaptor will communicate as a simple serial device rather than a 'native' USB device. Once the device is plugged into a PC and the supplied drivers are installed, the device will appear as a Virtual Serial Port to the PC.

Standard Modbus drivers, configurations and libraries can be used with this device.

Because each device, when plugged into a PC, creates an additional serial port, the total number of devices that can be attached to the PC may be limited by the communication software's ability to utilise these multiple ports i.e. an existing Modbus communication program may only support COM1 to COM4.

Software

SENSY propose a wide choice of application software's and can develop new one on request.

Product Order Codes

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COND-USB-ASCI	USB Industrial Digitiser ASCII protocol with enclosure
COND-USB-MODBUS	USB Industrial Digitiser Modbus protocol with enclosure
U-USB-ASCI	Industrial Stability USB with ASCII protocol
U-USB-MODBUS	Industrial Stability USB with Modbus protocol

Mechanical Dimensions

COND-USB

26.13mm
1.0287″

57.13mm
2.2492″

85mm
3.3465″

U-USB

28mm
1.1024″

43mm
1.6929″

Cased 85 x 57.13 x 26.13mm (3.3465 x 2.2492 x 1.0287 inches) excluding connectors, with USB cable length 136 cm (4.462 feet)
Case material: Extruded Aluminum 6063
Bezels: Polycarbonate
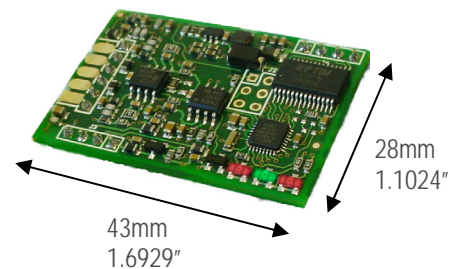
PCB 43 x 28 x 12mm (1.6929 x 1.1024 x 0.4724 inches)

CE & Environmental

Storage temperature	- 40 to + 85ºC	EMC Emissions	BS EN 55011:2007
Operating temperature	- 40 to + 85ºC		
Relative humidity	95% maximum non condensing	EMC Immunity	BS EN 61000-42002
Safety/Low Voltage Directive	73/23/EEC amended by 93/68/EEC		BS EN 61000-4-4:2004
	BS EN 61010-1:2001, IEC 1010-1-1990		BS EN 61000-4-11:2004:1995
			BS EN 61000-4-3:2
EMC Directive	89/336/EEC		
	Basic Standard BS EN 61326:1998		