

CXTD

DIGITAL TILT & ACCELERATION SENSOR

- ▼ Roll and Pitch Angle Measurement at High Accuracy
- ▼ 360° Range
- ▼ 3-Axis Digital Acceleration Output
- ▼ Fully Temperature Calibrated
- ▼ ~80dB Signal to Noise Ratio

Applications

- ▼ Seismic Monitoring
- ▼ Structural Monitoring
- ▼ High-Accuracy Tilt

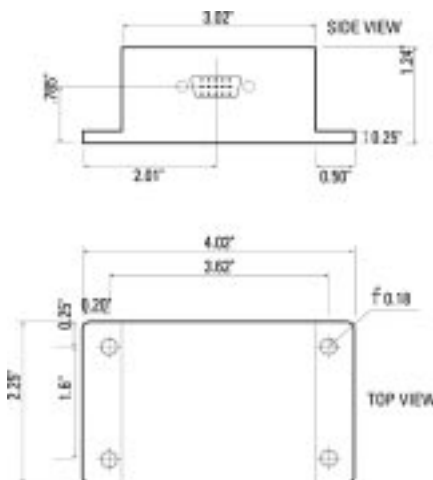
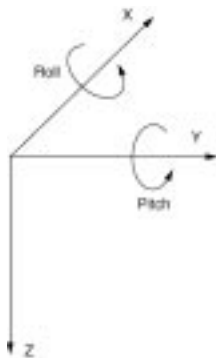


CXTD02

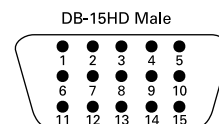
The CXTD02 offers outstanding resolution and accuracy in measuring tilt angles on an object with respect to gravity. The CXTD02 measures tilt using a triaxial MEMS accelerometer that is responsive to gravity. The triaxial accelerometer allows sensing over the entire 360° roll range and 180° pitch range. The CXTD02 provides superior performance in more demanding measurement applications, where high accuracy must be maintained over the wide industrial temperature range of -40 to +85°. Each CXTD02 is tested and temperature compensated over the full temperature range. In addition, alignment, scale factor, and non-linearity compensation are computed internal to the sensor with the on-board DSP processor.

The CXTD02 can also be used as a precision accelerometer. The low-noise floor and true DC response make it an excellent choice for long-term structural and seismic monitoring applications. The digital RS-232 output makes it easy to collect data in real-time without external data-acquisition or Analog-Digital converter cards.

The CXTD02 comes with a User's Manual offering helpful hints on programming, installation, and product information. In addition, Crossbow's GYRO-VIEW software is included to assist you in system development and evaluation, and allows you to perform data acquisition.



Specifications	CXTD02	Remarks
Performance		
Update Rate (Hz)	> 100	Continuous Update Mode
Start-up Time Valid Data (sec)	< 1	
Range: Roll, Pitch (°)	± 180, ± 90	
Accuracy (°) Over Temperature	± 0.3	± 20° Tilt Range
Accuracy (°)	± 0.5	± 45° Tilt Range
Resolution (°)	< 0.1	
Acceleration		
Input Range: X/Y/Z (g)	± 2	
Bias: X/Y/Z (mg)	<± 8.5	
Scale Factor Accuracy (%)	< 1	
Non-Linearity (% FS)	< 1	
Resolution (mg)	< 0.25	
Bandwidth (Hz)	> 25	-3 dB point
Random Walk (m/s/hr ^{1/2})	< 0.1	
Environment		
Operating Temperature (°C)	-40 to +85	
Non-Operating Temperature (°C)	-55 to +85	
Non-Operating Vibration (g rms)	6	20 Hz - 2 KHz random
Non-Operating Shock (g)	1000	1 ms half sine wave
Electrical		
Input Voltage (VDC)	7 to 30	
Input Current (mA)	< 100	
Power Consumption (W)	< 1.2	at 12 VDC
Digital Output Format	RS-232	See "User's manual"
Physical		
Size (in)	4.02 x 2.26 x 1.24	Includ. mounting flanges
(cm)	10.21 x 5.74 x 3.15	Includ. mounting flanges
Weight (oz)	< 8	
(kg)	< 0.23	
Connector	15 pin sub-miniature high-density male	

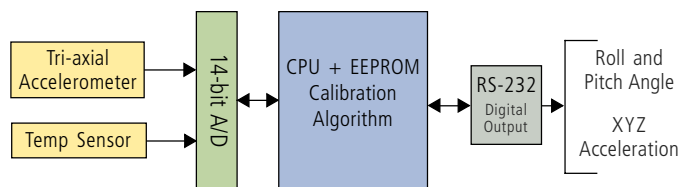


Pin	Function
4	Transmit Data
3	Receive Data
1	GND
11	Input Power

Pin Diagram

Notes

Specifications subject to change without notice



CXTD Block Diagram

Ordering Information

Model	Description	Angular Range	Temperature Range	Accuracy (± 20°)	Accuracy (± 45°)
CXTD02	Precision Inclinometer	± 180°	-40 to +85°C	± 0.3°	± 0.5°

CALL FACTORY FOR OTHER CONFIGURATIONS

SUNSTAR 商斯达实业集团是集研发、生产、工程、销售、代理经销、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一，是一家专业代理和分销世界各大品牌 IC 芯片和电子元器件的连锁经营综合性国际公司，专业经营进口、国产名厂名牌电子元件，型号、种类齐全。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商，已在全国范围内建成强大统一的供货和代理分销网络。我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。商斯达实业公司拥有庞大的资料库，有数位毕业于著名高校——有中国电子工业摇篮之称的西安电子科技大学（西军电）并长期从事国防尖端科技研究的高级工程师为您精挑细选、量身订做各种高科技电子元器件，并解决各种技术问题。

更多产品请看本公司产品专用销售网站：

商斯达中国传感器科技信息网：<http://www.sensor-ic.com/>

商斯达工控安防网：<http://www.pc-ps.net/>

商斯达电子元器件网：<http://www.sunstare.com/>

商斯达微波光电产品网：[HTTP://www.rfoe.net/](http://www.rfoe.net/)

商斯达消费电子产品网：<http://www.icasic.com/>

商斯达实业科技产品网：<http://www.sunstars.cn/>

传感器销售热线：

地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

电话：0755-83370250 83376489 83376549 83607652 83370251 82500323

传真：0755-83376182 (0) 13902971329 MSN: SUNS8888@hotmail.com

邮编：518033 E-mail:szss20@163.com QQ: 195847376

深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 25059422

技术支持：0755-83394033 13501568376

欢迎索取免费详细资料、设计指南和光盘；产品凡多，未能尽录，欢迎来电查询。

北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

TEL: 010-81159046 82615020 13501189838 FAX: 010-62543996

上海分公司：上海市北京东路 668 号上海赛格电子市场 2B35 号

TEL: 021-28311762 56703037 13701955389 FAX: 021-56703037

西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

西安劳动南路 88 号电子商城二楼 D23 号

TEL: 029-81022619 13072977981 FAX:029-88789382