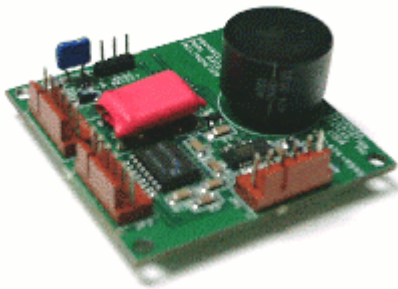




KuSaBa Engineers Pvt. Ltd.

EZ-TILT-2000-008-rev2 Multi-Output Dual Axis High Res. Conversion Module w/RS232



EZ-TILT-2000 rev-2 advanced programmable dual/single axis LINEAR Analog/Digital output tilt module is built around a customized state of the art CMOS Microprocessor. A 2"x 2" assembled PCB provides concurrent Analog, PWM and RS-232 inclination information in two axis of tilt.

The module is fully temperature compensated for NULL and GAIN. The system includes full range linearity correction for each axis of tile and two software adjustable threshold detectors. The module utilizes DX-008D dual axis sensors for dual axis mode, or one SX type single axis LINEAR inclination sensors for single axis mode and provides an economical and reliable tilt sensing solution for applications requiring superior Nulling capabilities with concurrent excellent Mid-Wide range LINEARITY, resolution, repeatability and symmetry. That makes these sensors perfectly suitable for numerous high precision OEM, military, medical, optical, automotive, range finder, alignment, automation, robotics and construction angle measurement applications.

EZ-TILT-2000 rev-2 also includes two fully programmable level threshold detector lines what allow the user to set level sensitive alarms for pitch and roll. Innovative design, four mounting holes and small size facilitate uncomplicated mounting. For hazardous applications tilt sensors could be remotely located. Both Analog and PWM outputs are fully software programmable and are updated each read cycle for each enabled axis.

The analog output range is top limited by 4Vdc and bottom limited by 1Vdc for the full set angular range. The PWM will output 10% to 90% duty cycle for the set angular range at base frequency of 37Hz.

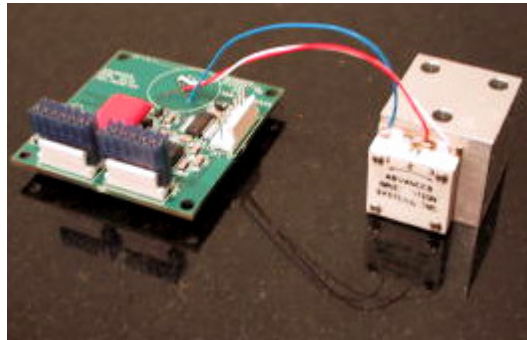
Exceptionally stable and consistent performance in temperature variable environments and it's LOW cost make EZ-TILT-2000 rev-2 the perfect choice for high accuracy leveling applications. In addition to digital filtering the electrolyte may be modified to mechanically filter out errors induced by shock & vibration. Test data could be supplied on 3.5" disk upon special request. Module is able to operate in a stand-alone mode with a 4 line x 20 character serial LCD display. The wide range model could operate to +90 arcdeg covering a total span of 180 arcdeg.

Module is also available on 0.9" x 3.0" PCB for angle measurement in bore hole, tunneling, logging and oil drilling applications. The system includes software adjustable temperature correction coefficients. The user has an option of changing temperature correction coefficients to actively remove NULL and GAIN drift due to continuously changing thermal conditions.

Specification	Data	Description/units
RANGE	-15 to +15	Arcdeg
Analog Out	1Vdc to 4Vdc	adjustable gain for Full Scale
PWM Out	10% to 90% @ 37Hz	adjustable for Full Scale
2 Thresholds	0Vdc to 5Vdc transition	adjustable angle for each axis
SUPPLY	6 to 12	Vdc
RESOLUTION	12	Bit
RESPONSE TIME	40 Ms	10% - 90% Output *#
REPEATABILITY	<0.02 arcdeg	Typical
SYMMETRY	<0.3% @ 8°	after correction
LINEARITY	<0.3% @ 8°	after correction
SENSING ELEMENT	Dual axis DX-008	(Included)
CONSTRUCTION	Shatter proof	Hi Temp Advanced Polymer
TEMPERATURE	-40 to +60	Deg.C
RS232	300-38Kbs,8,N,1	any standard COM port

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EZ-VIB-2000-005 / EZ-VIB-2000-015 RS232 /ANALOG /PWM Linear Vibration Resistant Single Axis Tilt Systems



EZ-TILT-2000 rev-2 advanced programmable dual/single axis LINEAR Analog/Digital output tilt module is built around a customized state of the art CMOS Microprocessor. A 2"x 2" assembled PCB provides concurrent Analog, PWM and RS-232 inclination information up to two axis of tilt. The module is fully temperature compensated for NULL and GAIN. The system includes full range linearity correction for each axis of tile and two software adjustable threshold detectors. In this configuration the module utilizes SX-VIB type (SX-005D-VIB or SX-015D-VIB) single axis Vibration resistant LINEAR inclination sensors for single axis mode and provides an economical and reliable tilt sensing solution for high vibration applications requiring superior Nulling capabilities with concurrent excellent Mid-Wide range LINEARITY, resolution, repeatability and symmetry. Rugged construction make these sensors perfectly suitable for numerous high Vibration precision OEM, military, medical, optical, automotive, range finder, alignment, automation, robotics and construction angle measurement applications. EZ-TILT-2000 rev-2 also includes two fully programmable level threshold detector lines what allow the user to set level sensitive alarms for pitch and roll. Innovative design, four mounting holes and small size facilitate uncomplicated mounting. For hazardous applications tilt sensors could be remotely located. Both Analog and PWM outputs are fully software programmable and are updated each read cycle for each enabled axis. The analog output range is top limited by 4Vdc and bottom limited by 1Vdc for the full set angular range. The PWM will output 10% to 90% duty cycle for the set angular range at base frequency of 37Hz. Exceptionally stable and consistent performance in temperature variable environments and it's LOW cost make EZ-TILT-2000 rev-2 the perfect choice for high accuracy leveling applications. In addition to digital filtering the electrolyte may be modified to mechanically filter out errors induced by shock & vibration. Test data could be supplied on 3.5" disk upon special request. Module is able to operate in a stand-alone mode with a 4 line x 20 character serial LCD display. The wide range model could operate to +90 arcdeg covering a total span of 180 arcdeg. Module may also be available on 0.9" x 3.0" PCB for angle measurement in bore hole, tunneling, logging and oil drilling applications. The system includes software adjustable temperature correction coefficients. The user has an option of changing temperature correction coefficients to actively remove NULL and GAIN drift due to continuously changing thermal conditions.

Specification	EZ-TILT-2000-005-VIB	EZ-TILT-2000-015-VIB	Comments/Units
Range	-5 to +5	-15 to 15	arcdeg linear
Resolution	12	12	Bit
Repeatability	0.02	0.02	arcdeg typical
Linearity	<0.2% @ 5°	<0.2% @ 15°	CCW & CW
Response time	<60 msec	<60	msec * #
Time constant	<1100 msec	<100 msec	msec ** #
Tot. settling time	<1000 msec	<1000	msec *** #
Temperature	-30 to +85	-30 to +85	deg C operational
Temperature	-55 to +125	-55 to +125	deg C storage
Sensor Construction	ceramic	ceramic	Consistently molded VIB type
Power	6 to 12	6 to 12	Vdc

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