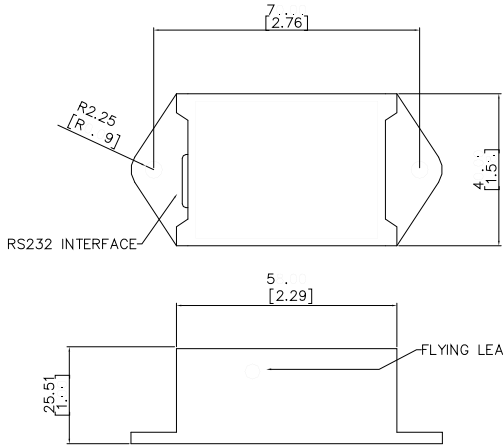


**Electronic Tilt Switch - Microprocessor Controlled - Analogue Output**  
**Part Number : ETS 90XA & ETS 90DA**  
**Product Data Sheet**

**DIMENSIONS** **PICTURE**



Drawings not to scale  
 All dimensions in mm nominal

**✓ RoHS Compliant**

**SPECIFICATION**

|                       |  |
|-----------------------|--|
| Supply Voltage        | 9 to 24Vdc, 25mA typ.                              |
| Measurement           | ETS 90XA Single X Axis, ETS 90DA Dual X and Y Axis |
| Angular Range         | +/- 30 degrees from horizontal                     |
| Accuracy              | +/- 1 degree                                       |
| Analogue Output       | 50mV per degree                                    |
| Response Time         | 150ms (Variable)                                   |
| Alarm Levels          | -10° and +10° both axes (Configurable)             |
| MOSFET Output         | N Channel, Open Drain                              |
| On Resistance         | 150 mOhm Maximum                                   |
| Switching Voltage     | 30 Vdc Maximum                                     |
| Switching Current     | 1.8A Maximum                                       |
| Operating Temperature | -5°C to +75°C                                      |
| Case Material         | Flame Retardant ABS                                |

**Did you know we also sell?**



**Applications**

- Position and limit sensing.
- Security system switch.
- Levelling systems.

| Rev. No. | Revision Note      | Date     | Signature |
|----------|--------------------|----------|-----------|
| 3        | Technical revision | 15-11-11 | ML        |



As part of the company policy of continued product improvement, specifications may change without notice. Our sales office will be pleased to help you with the latest information on this product range and the details of our full design and manufacturing service. All products are supplied to our standard conditions of sale unless otherwise agreed in writing.

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ISO 9001:2008  
 Certificate No. FM21080

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# Electronic Tilt Switch - Microprocessor Controlled - Analogue Output

## Part Number : ETS 90Xa & ETS 90DA

### Product Data Sheet

## FEATURES

The ETS 90XA/DA is an intelligent microprocessor controlled single or dual axis sensor that operates over the range of  $\pm 30^\circ$  from horizontal.

The MOSFET output switching levels are factory pre-set at  $-10^\circ$ , and  $+10^\circ$  for each axis, but are fully configurable via the RS232 interface. The switching levels for the MOSFET outputs operate as follows:

Level 1 is the negative X axis angle level. When the measured angle equals, or becomes more negative than level 1, the X axis MOSFET is turned on.

Level 2 is the positive X axis angle level. When the measured angle equals, or becomes more positive, than level 2, the X axis MOSFET is turned on.

Level 3 is the negative Y axis angle level. When the measured angle equals, or becomes more negative than level 3, the Y axis MOSFET is turned on.

Level 4 is the positive Y axis angle level. When the measured angle equals, or becomes more positive than level 4, the Y axis MOSFET is turned on.

Microprocessor control enables the sensor to be rapidly customised for specific applications. Not only the output alarm levels can be adjusted but also the gain settings and the unit can also be re-calibrated for zero via the RS232 interface. If you have an angle or acceleration application that falls outside of our standard range, then please contact our sales office for technical assistance.

The mating RS232 interface cable, Part No. RS232C/150, connects the sensor directly to the serial port on a PC enabling all parameters to be configured using a terminal program (i.e. Hyperterminal).

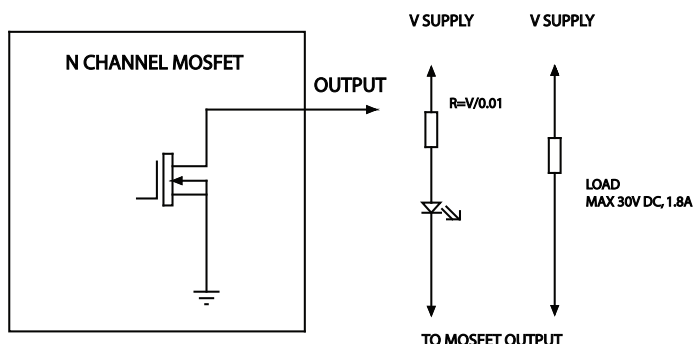
For alternative output configurations please see the other models in the electronic tilt sensor range: ETS 90DP, ETS 90SS and TSS\_SP-001.

## Connections

Supplied with 500mm 4 core 7/0.2 flying lead.

RED = Supply Voltage, 9 to 24Vdc.  
 GREEN = 0V, Ground.  
 BLACK = 0V, Ground.

YELLOW = X Axis Analogue output  
 WHITE = Y Axis Analogue output  
 BLUE = X Axis MOSFET output  
 VIOLET = Y Axis MOSFET output



## Applications Include

Position and limit sensing.  
 Automatic levelling systems.  
 Security systems.  
 Vehicle alarm.

## Did you know we also sell?



Rev. No.

Revision Note

Date

Signature

3

Technical revision

15-11-11

ML



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