

# STT280

## Sealed Tilt Sensor

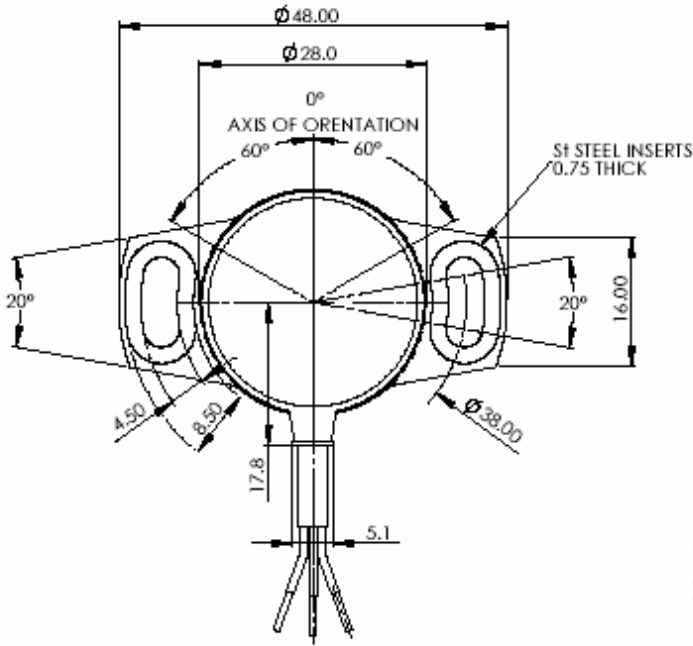
**NEW**



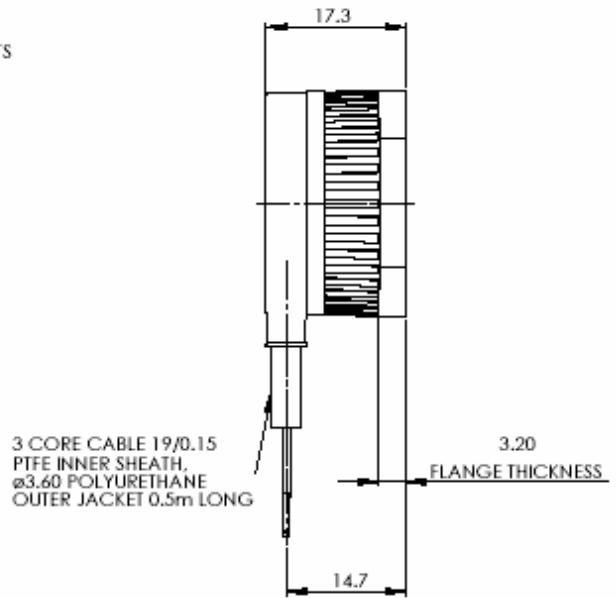
- Contactless – no moving parts
- $\pm 60^\circ$  tilt range with 0.5 to 4.5 Vdc output
- Operates from 5Vdc regulated or 8-30Vdc unregulated supply
- Low power consumption <6.5mA
- Patented over-voltage and reverse polarity protection
- Rugged housing with moulded cable
- Operates from -40 to +125°C (5Vdc input version)
- Sealed to IP68
- Excellent shock and vibration durability
- Available from stock

**Penny+Giles**  
A Curtiss-Wright Company

# STT280 PERFORMANCE

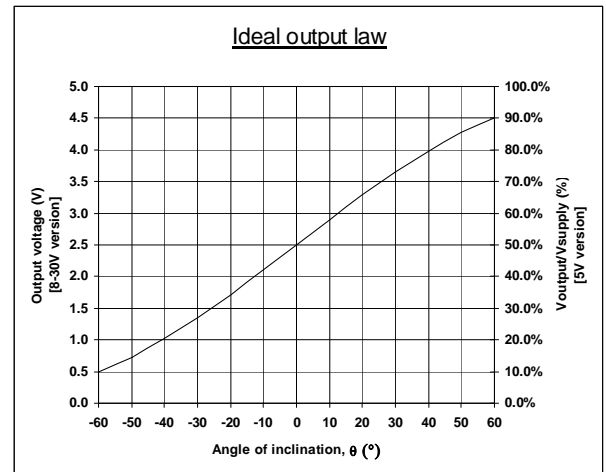


WIRE CONNECTIONS  
 RED = V+ SUPPLY  
 YELLOW = OUTPUT  
 BLACK = GND



## Electrical Data

Measurement Range	Up to ±60°
Maximum Supply Current	<6.5mA
Supply Voltage	8V to 30V unregulated 5V regulated (4.75V to 5.25V)
Over Voltage Protection	Up to 40Vdc (-40 to +90°C)
Reverse Polarity Protection	Yes - indefinitely
Short Circuit Protection Output to GND	Yes - indefinitely
Output Law	
5V Version	Output= Vsupply (0.4619sinθ+0.5) ratiometric
8 to 30V Version	Output= 2.3094sinθ +2.5Vdc absolute
Max Deviation from output law	±1% of span
Temperature coefficient of Zero (θ=0°)	<100ppm/°C of span (-40 to +125°C)
Temperature coefficient of sensitivity	<100ppm/°C (-40 to +85°C) <200ppm/°C (-40 to +125°C)
Output Load	10KΩ minimum (resistive to ground)
Output Noise	<1mVrms
Frequency Response	1.5Hz (-3dB) nominal
Settling time	<500mS to within 1% of final output
Resolution	Infinite
Hysteresis and repeatability	±0.25% of span volts
Cross-axis sensitivity	<4% of normal axis sensitivity (see note)
Note: Cross axis sensitivity determines how much inclination perpendicular to the measuring axis couples to the output.	



## Mechanical Data

Weight	26grms
Mounting	2 x M4 screws
Cable exit	3-core cable (black = GND, yellow = output & red = V+ supply)
Phasing	When cable vertically down 0°

## Environmental

Operational Temperature Range	
(For 5V supply)	-40°C to 125°C
(For 8V to 30V Unregulated supply)	-40 to 122°C @ 8V Input -40 to 100°C @ 30V Input
Sealing	IP68 to 2m
If the max temp is exceeded the voltage regulator will shutdown to protect the device from over heating. Data based on max supply current.	

Tested to:	
Storage Temperature	-55 to 125°C
Vibration	10Hz to 2000Hz (random) 12.6grms - all axes
Shock	3m onto concrete (Absolute maximum 20,000g)
Electromagnetic Interference	BS EN 61000 (100V/m target)

ORDERING CODE

STT280/60/

SUPPLY VOLTAGE

5= 5V  
 8-30= 8-30V



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