

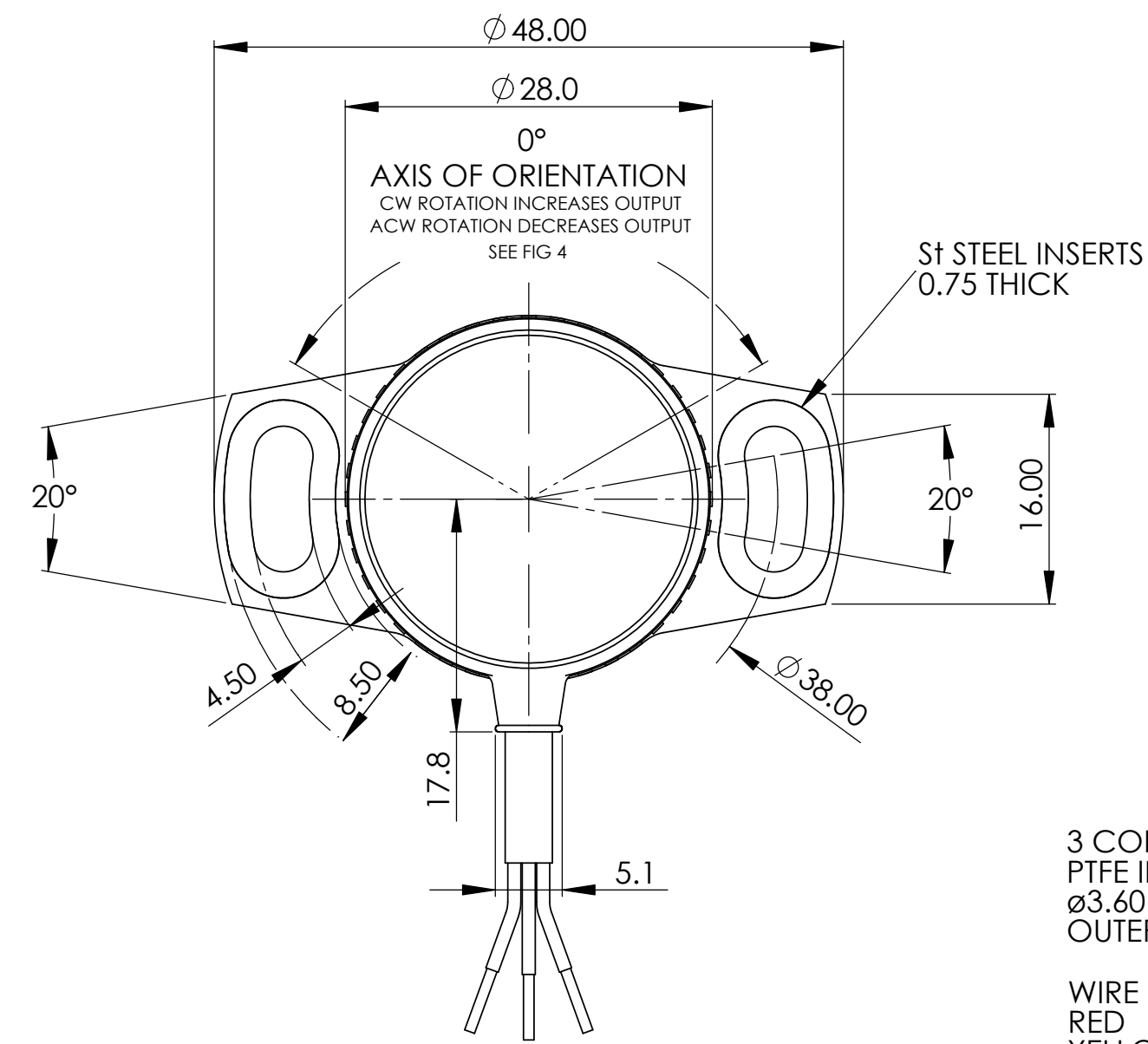
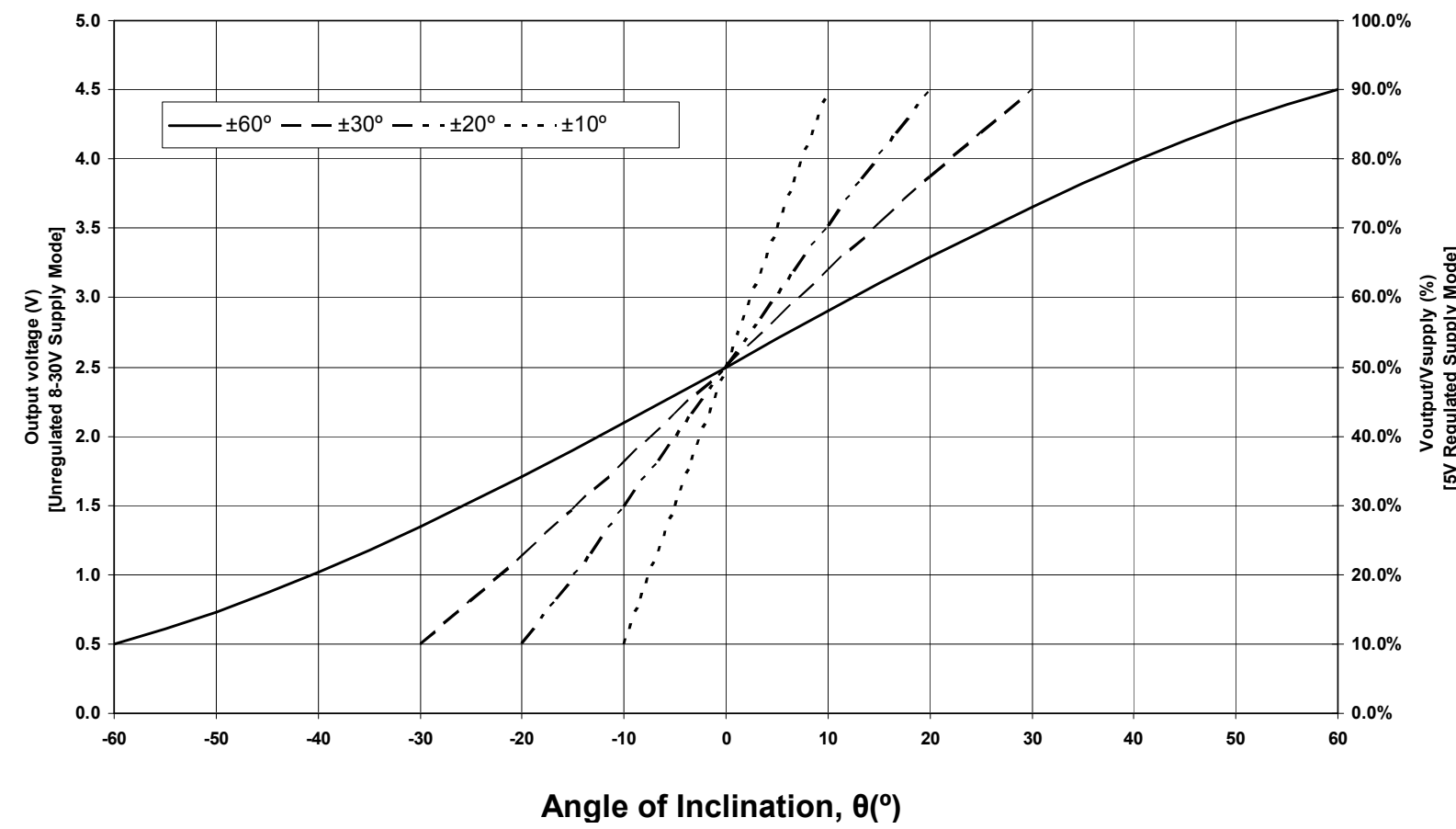
METRIC
IF IN DOUBT ASK

ISS	DATE	DRAWN	ECR No.	CHK	APP
6	23/06/09	AMR	C10539/5	MWB	MWB

STT280 Performance

Electrical Data	
Measurement range	±10°, ±20°, ±30°, ±60°
Maximum supply current	<6.5mA
Supply voltage	8Vdc to 30Vdc unregulated and 5Vdc ± 0.25Vdc Regulated
Supply reverse polarity protection	Yes
Short circuit protection output to Vsupply	Yes – In 5V regulated mode only
Short circuit protection output to GND	Yes
Supply over voltage protection	Up to 40V (-40 to +90°C)

Fig 1. Ideal Output Law



3 CORE CABLE 19/0.15
PTFE INNER SHEATH,
Ø3.60 POLYURETHANE
OUTER JACKET

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

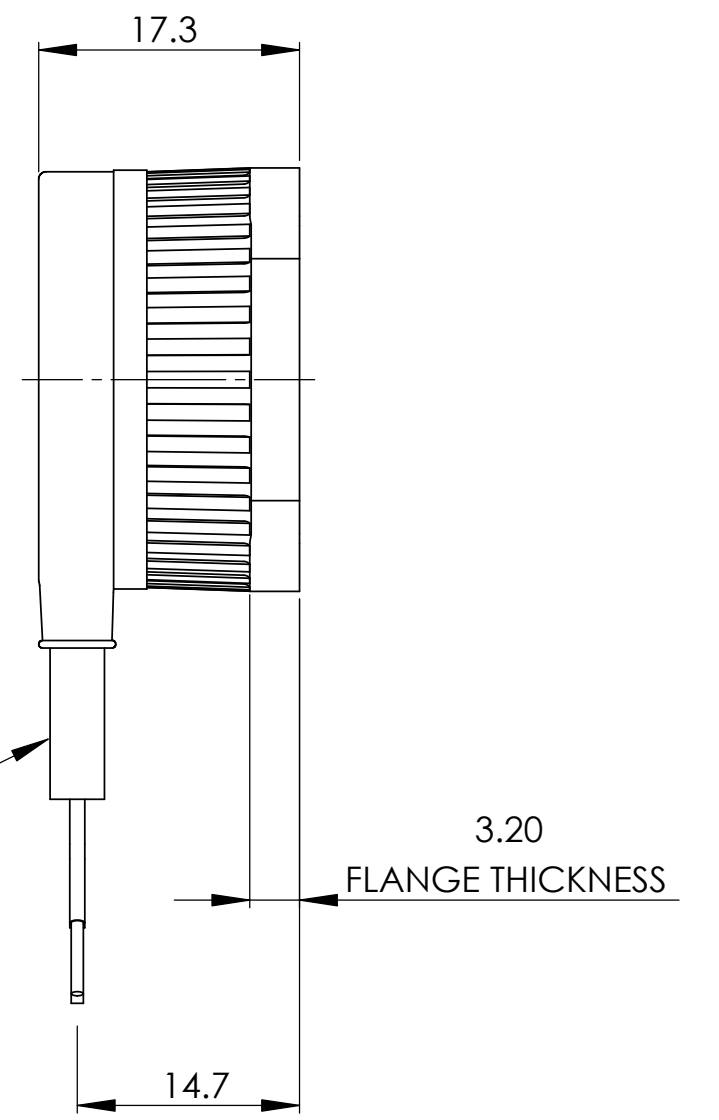


Fig 2

Output Laws

8-30Vdc Supply	5Vdc Supply
Output (Vdc) = (5k * Sin θ + 2.5)	Output = Vsupply (k * Sin θ + 0.5)
Where k =	Where k =
0.4619 for ±60° Device	0.4619 for ±60° Device
0.8 for ±30° Device	0.8 for ±30° Device
1.1695 for ±20° Device	1.1695 for ±20° Device
2.3035 for ±10° Device	2.3035 for ±10° Device

θ = Angle of Inclination

Output Laws	See Fig 1 and Fig 2
Max Deviation from ideal output law	<±1% of span
Zero temperature coefficient	<0.01%/°C
Sensitivity temperature coefficient	<0.015% of measured angle/°C
Minimum Load	10KΩ (Resistive to ground)
Output Noise	<1mVrms
Frequency Response	1.5Hz (-3dB) nominal
Settling time	<500ms to within 1% of final output
Power on settling time	<1s to within 1% of final output
Resolution	±0.07°
Hysteresis and repeatability	±0.07°
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 (Maximum tightening torque 2Nm)
Cable exit	3-core cable (black = GND, yellow = output & red = V+ supply)
Phasing	0° when cable exit is vertically down (See Diagram)

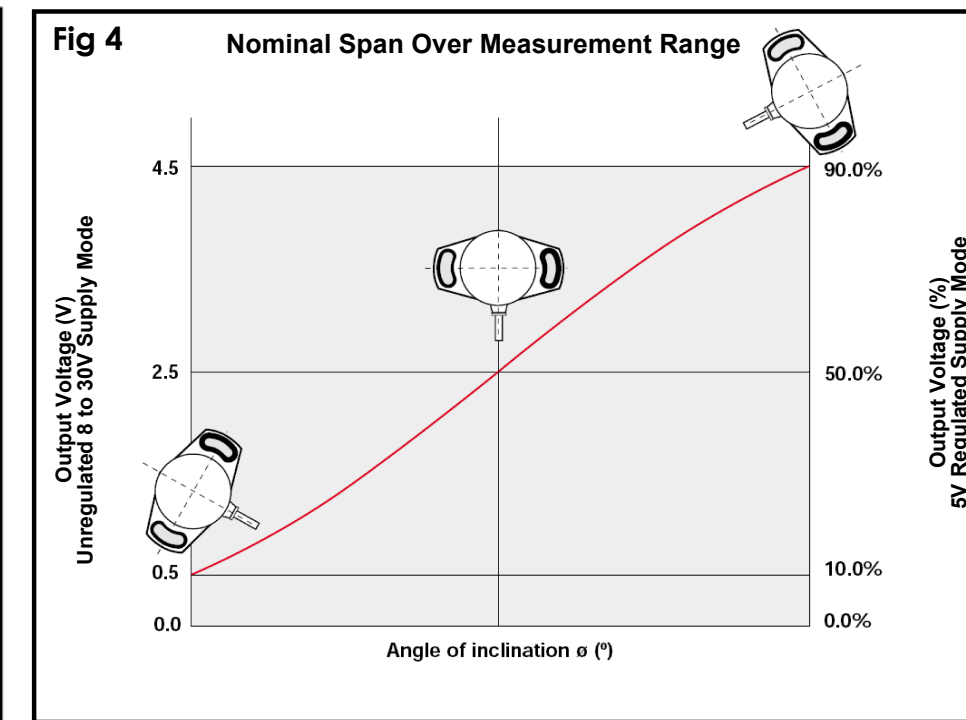
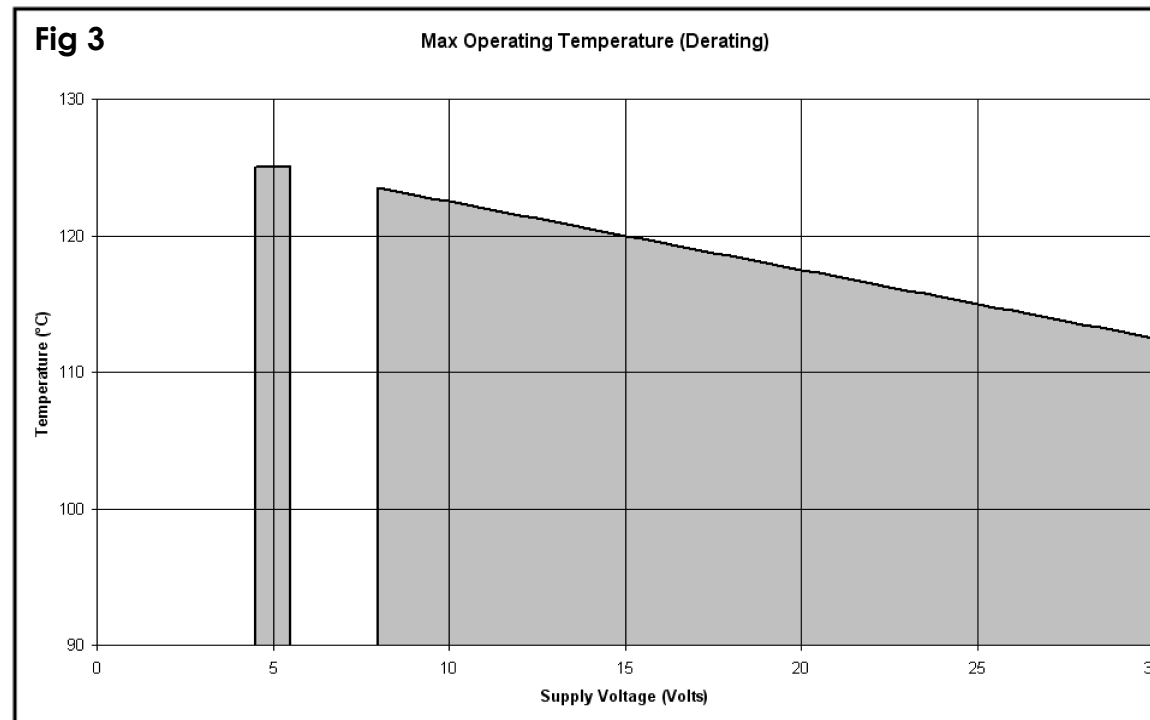
Environmental

Operational Temperature Range (@ 5V Supply)	-40°C to +125°C
Operational Temperature Range (@ 8V - 30V Supply)	-40°C to +123°C with V Supply = 8Vdc Derate upper temperature limit by 0.5°C for each 1V increase in V Supply e.g. -40 to 112°C with V Supply = 30Vdc (See Fig 3) and note below
Sealing	IP68 to 2m (Tested for 24 Hours)

Note: Excessive temperature will cause the internal voltage regulator to shut down to protect the circuit from damage through overheating.

Tested to:	
Storage Temperature	-55 to 125°C
Vibration	BS EN60068-2-64; 1995 Sec 8.4 (14gn rms) 20 to 2000Hz Random
Shock	3m onto concrete (Absolute maximum 20,000g)
Electromagnetic Interference	BS EN 61000-4-3 (1999) to(100V/m) 80MHz to 1GHz and 1.4Ghz to 2.7GHz 2004/108/EC

†All Specification Details are preliminary figures only



Ordering Codes

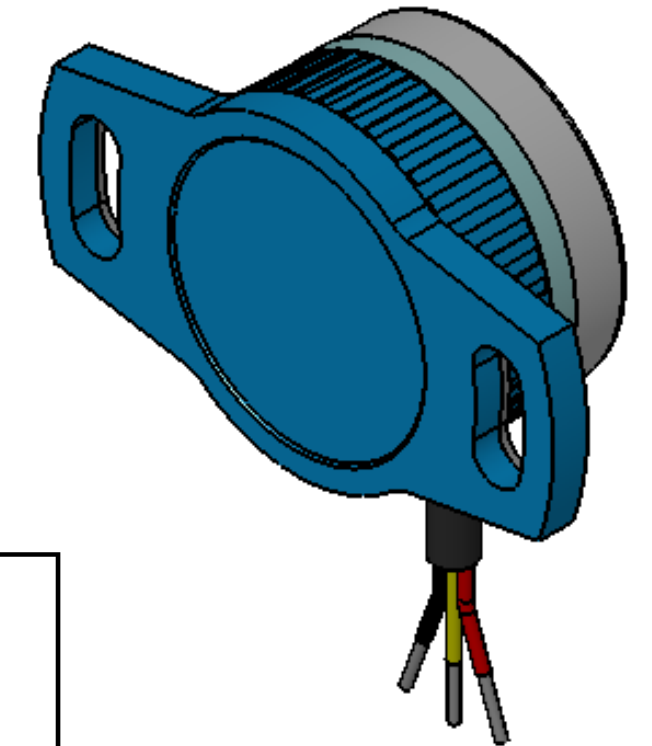
STT280 /-- /--

Measurement Range-----

60 = ±60°
30 = ±30°
20 = ±20°
10 = ±10°

Cable Code -----

P2 = 0.2m
P5 = 0.5m
O2 = 2.0m



SCALE 2:1 UNLESS STATED	IF CONTROL DIMENSIONS (Kc) ARE SPECIFIED THEY ARE TO BE SUBJECT TO 100% INSPECTION OR STATISTICAL PROCESS CONTROL.	D No.	MATERIAL POLYMER CLEAN	TOLERANCES: IN-LINE WITH PENNY & GILES STANDARDS 55-301 SURFACE TEXTURE VALUES IN MICROMETRES (µm) TO BS1134-P12. ALL MACHINED SURFACES TO BE 1.6	TITLE SEALED TILT TRANSDUCER	PENNY + GILES	A2
THIRD ANGLE PROJECTION TO BS 8888	MASS (g)	VOL. (mm ³)	REF.	FINISH CLEAN		PART NUMBER: STT280	SHT 1 OF 1 SHTS