

# High Accuracy Digital Protractor With Serial Interface

## PRO 3600

### Features

- Full 360 degree range (90° x 4).
- Easy to read LCD display.
- Maximum accuracy of +/- 0.05° and maximum resolution of 0.01°
- Precision, machined aluminum frame.
- Unit can be recalibrated to factory accuracy in the field without special tools or fixtures.
- RS-232 compatible interface for computer data collection.



### General Description

The **PRO 3600 Digital Protractor** from **SmartTool Technologies** is a revolutionary measuring tool that provides an immediate, digital reading of all angles in a 360° range. The unit utilizes a patented, liquid-filled sensor combined with precision measurement circuitry to provide unparalleled accuracy and stability.

A precision machined aluminum frame provides a rigid, lightweight, ultra-precise platform for extremely accurate measurements. The frame is grooved along the bottom surface to facilitate use with round objects such as pipes or shafts and incorporates threaded holes on the bottom for rigid attachment if desired.

The front panel buttons can be used to capture desired readings or to designate an

alternate reference surface from which subsequent angles are then measured. The unit can also be easily recalibrated in the field to factory accuracy using any available flat surface.

The PRO 3600 features an RS-232 compatible serial interface for transmission of angle measurement data to a computer or other equipment. The unit operates for up to 500 hours on a single 9V battery, incorporates an automatic power down feature, and ships standard with a rigid plastic case.

Additional information about interfacing to the PRO 3600 Digital Protractor is available in Application Note **AN-202: Interfacing to a PRO 3600 Digital Protractor**, available on the web or from **STT** upon request.

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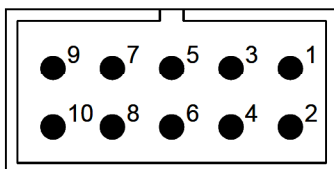
### Electrical Specifications

Parameter	Specification
<b>Range</b>	Full 360°
<b>Accuracy</b>	
0° +/-10°	+/- 0.05°
90° +/-10°	+/- 0.1°
Other angles	+/- 0.2°
<b>Resolution</b>	
Display	0.01°
RS-232 Output	0.00549° Binary, 0.01° ASCII
<b>Time Constant</b>	0.4 seconds, typical
<b>Power Supply</b>	Standard 9VDC battery
<b>Serial Port</b>	
Protocol	RS-232 (except for voltage levels)
Voltage	5 Volts
Baud Rate	9600 baud
Output Impedance	10KΩ

**Notes:**

- 1) Specifications subject to change without notice. Specifications are at 77°F (25°C) unless otherwise stated.
- 2) Average over 360 degrees

### Pin Assignments



Pin Number	Signal	I/O	Description
1	GND	N/A	Signal ground
2	TD	Output	Transmits serial data bits
5	REQ	Input	RS-232 Input; High signal requests data output
9	BATT+	Either	Power input, or output if battery is installed in Protractor
3,4,6-8,10			Unused

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### Physical Specifications

<b>Dimensions</b>	
Width	6.015" (152.8mm)
Height	1.9" (48.3mm)
Depth	1.215" (30.9mm)
<b>Mounting Holes</b>	2 on Bottom of Rail
Thread Size	6-32
Location	Centered on bottom of rail, 4.125" (104.8mm) apart
<b>Weight</b>	10.4 oz (295 gm)
<b>Temperature Range</b>	
Operating	23 to +122°F (5 to +50°C)
Storage	-4 to +149°F (-20 to +65°C)

