

# SDI-12 Shaft Encoder

## 56-0540-400-DTR



### Overview

Measures stage (level) of rivers, streams, reservoirs, & other bodies of water

- ▶ Groundwater monitoring
- ▶ Gate position indicator
- ▶ Compatible with SDI-12 Data Loggers

### Features

- ▶ Revolves one rotation of the 5/16 in. input shaft into 400 increments
- ▶ Low power (less than 2.5mA from a 12VDC supply @ 2.5 rev/sec)
- ▶ Uses solid state, low power optical sensor technology Low starting torque (less than 0.25 ounce/inch)
- ▶ Surge protected
- ▶ Externally accessible, internal back-up battery. Can use standard AA battery.
- ▶ Accepts commands and returns data in the industry standard SDI-12 format, allowing it to interface with dataloggers that have SDI-12 communications ports such as the Xpert Datalogger
- ▶ User selectable resolution.
- ▶ User specified scaling (Does not require specific circumference wheel).
- ▶ User selectable direction for increasing counts (CW or CCW).
- ▶ 32 bit resolution counter.
- ▶ Range limited by SDI-12 to 7 digits. With 2 decimal place resolution, +99999.99. With 3 decimal place resolution, +9999.999.
- ▶ Programmable rate of change tracking. Factory default 2.5 rev/sec.
- ▶ Built-in 2 line by 8 character LCD display with backlight
- ▶ Internal back-up battery voltage readable via SDI-12
- ▶ Excessive shaft speed indicated on display.
- ▶ Display turned on by depressing "DISPLAY" button
- ▶ Display is continuously update with current value.
- ▶ Communications interfaces: SDI-12, SDI-12 protocol over RS-485, RS-232
- ▶ Double bearing design to support up to 10 lbs on the shaft.



SPECIFICATIONS	
<i>Specifications subject to change without notice</i>	
<b>Input Voltage</b>	7 to 16 VDC over voltage and reverse voltage protected
<b>Power Consumption</b>	< 3.5 mA @ 12 VDC and 2.5 rev/sec
<b>Starting Torque</b>	< 0.25 inch-ounce
<b>Shaft Diameter</b>	5/16 in. with both threads & a flat
<b>Rotation Resolution</b>	400 count per revolution
<b>Counter Resolution</b>	32 bit
<b>Reported Resolution</b>	User Selectable Range 7 decimal digits (examples: ±99999.99 or ±9999.999)
<b>Display</b>	2 line, 8 character/line w/ backlight Backup AA Battery, 1.5V or 3.6V accepted
<b>Bearing Supports</b>	Double bearing arrangement supports up to 10 lb. shaft load
<b>Supported Wheels</b>	User specified wheel size No required circumference
<b>Support Units</b>	User specified
<b>Rotation Speed</b>	User specified - default 2.5 rev/s
<b>Maximum Rotation Speed</b>	5 rev/s
<b>Temperature Range</b>	-40°C to +60°C (Display viewable -20°C to +60°C)
<b>Communication Interfaces</b>	SDI-12, RS-232, SDI-12 protocol over RS-485 (on -DT unit)
<b>SDI-12 Support</b>	V1.3 - will work with V1.0, V1.1, V1.2, and V1.3 dataloggers
DIMENSIONS	
<b>Height</b>	5 inches (12.7 cm.)
<b>Width</b>	6.74 inches (17.12 cm.)
<b>Length</b>	6.2 inches (15.75 cm.)
<b>Weight</b>	2.7 lbs. (1.3 Kg.)

ORDERING	
<b>56-0540-400-DTR</b>	Ruggedized SDI 12 Shaft Encoder, 400 count resolution with display and terminal strip
ACCESSORIES	
<b>5100-0502</b>	Float wheel, perforated tape, for 5/16 in. shaft, 1 ft./revolution (nylon insert)
<b>5100-0530-1</b>	Float, 6 inch copper
<b>5100-0530-2</b>	Float, 6 inch PVC
<b>5100-0550</b>	Counterweight, 8 ounces 5100-0620-1 End hook set