

SHAFT ENCODER

MODEL AD375MA/AD375MAL

INTRODUCTION

Special points of interest:

- High Accuracy 0.01% F.S.
- 4-20mA, SDI-12, RS232
- Programmable LCD
- Level reading, range
- Takes standard float kits
- Digitises water level readings
- Absolute level readings
- Robust construction
- Lithium battery backup
- Optional in-built logger
- Optional Plug in USB memory

The Hydrological Services Absolute Shaft Encoder model AD375MA & AD375MAL is low power, microprocessor controlled shaft encoder designed for field operation to enable measurement of water level. The internal CMOS circuitry enables the encoder to output measured levels in absolute format.

The absolute shaft encoder measures the angular position as the shaft rotates, totalises the signal and outputs either 4 to 20 mA, SDI12 or RS232. This signal relates to absolute level change from a set datum.

The signal can be viewed via the LCD display showing 4-20mA range and current water level and battery voltages

The shaft encoder can be float operated or connected to other servo mechanical sensors, chart recorders and weir gates with drive gears or chain and sprocket assemblies.



SHAFT ENCODER AD375MA



**SHAFT ENCODER AD375MAL
WITH INBUILT DATA LOGGER AND
PLUG IN USB MEMORY**

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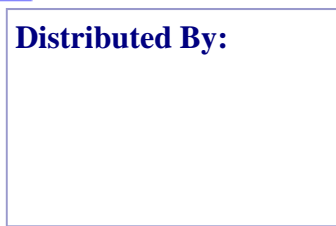
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Specifications for AD375MA

Physical and Environmental

Size: 245(L) x 125 (H) x 150 (D)
 Material: Diecast Aluminium enclosure (IP65)
 Weight: 1.5kg

Temperature

Range: -10 °C to 60 °C (14 °F to 140 °F)
 LCD: -10 °C to 60 °C (14 °F to 140 °F)
 Humidity: 95% non-condensing

Mechanical

Follow Rate: 10 metres per minute
 Pulses/Rev :
 375 pulses per revolution (AD375MA) metric
 150 pulses per revolution (AD150MA) metric
 100 pulses per revolution (AD100MA) imperial

Resolution : AD375MA - 1mm (375 pulses/rev)
 AD150MA - 2.5mm (150 pulses/rev)
 AD100MA - 0.01ft (100 pulses/rev)

Electrical

Operating Voltage: 9.6 to 16VDC operation ie. from SDI-12 + 12 volt supply
 Current Drain: 5mA @ 12V
 Output: 4-20mA current loop drive (9V to 30V DC) used as a 2-wire current loop transducer, SDI-12 (converted to RS232 with an adaptor)

Battery Backup : Internal microprocessor operation is guaranteed by a factory fitted lithium battery for 3 years minimum. Backup of water level tracking is selectable on LCD.

Resolution: 1mm
 Max Error: +/-1mm

LCD Display

Screen: 2 lines x 16 characters LCD
 Backlight: Powered via SDI-12 port (9.6 to 16 VDC)
 Display: Range, current water level and battery Voltage
 Parameters: User selectable via push buttons on the shaft encoder housing

Data Storage & Collection

None

Packing Details

Dimensions: 270 x 170 x 200 mm
 Weight: 2.0 kg

Specifications for AD375MAL

Physical and Environmental

Size: 245(L) x 125 (H) x 150 (D)
 Material: Diecast Aluminium enclosure (IP65)
 Weight: 1.5kg

Temperature

Range: -10 °C to 60 °C (14 °F to 140 °F)
 LCD: -10 °C to 60 °C (14 °F to 140 °F)
 Humidity: 95% non-condensing

Mechanical

Follow Rate: 10 metres per minute
 Pulses/Rev :
 375 pulses per revolution (AD375MAL) metric
 150 pulses per revolution (AD150MAL) metric
 100 pulses per revolution (AD100MAL) imperial

Resolution : AD375MAL - 1mm (375 pulses/rev)
 AD150MAL - 2.5mm (150 pulses/rev)
 AD100MAL - 0.01ft (100 pulses/rev)

Electrical

Operating Voltage: 9.6 to 16VDC operation ie. from SDI-12 + 12 volt supply
 Current Drain: 5mA @ 12V
 Output: 4-20mA current loop drive (9V to 30V DC) used as a 2-wire current loop transducer, SDI-12 (converted to RS232 with an adaptor), USB type A (to memory), USB type B (to PC), RS232 to external modem

Battery Backup : Internal microprocessor operation is guaranteed by a factory fitted lithium battery for 3 years minimum. Backup of water level tracking is selectable on LCD.

Resolution: 1mm
 Max Error: +/-1mm

LCD Display

Screen: 2 lines x 16 characters LCD
 Backlight: Powered via SDI-12 port (9.6 to 16 VDC)
 Display: Range, current water level and battery Voltage
 Parameters: User selectable via push buttons on the shaft encoder housing

Data Storage & Collection

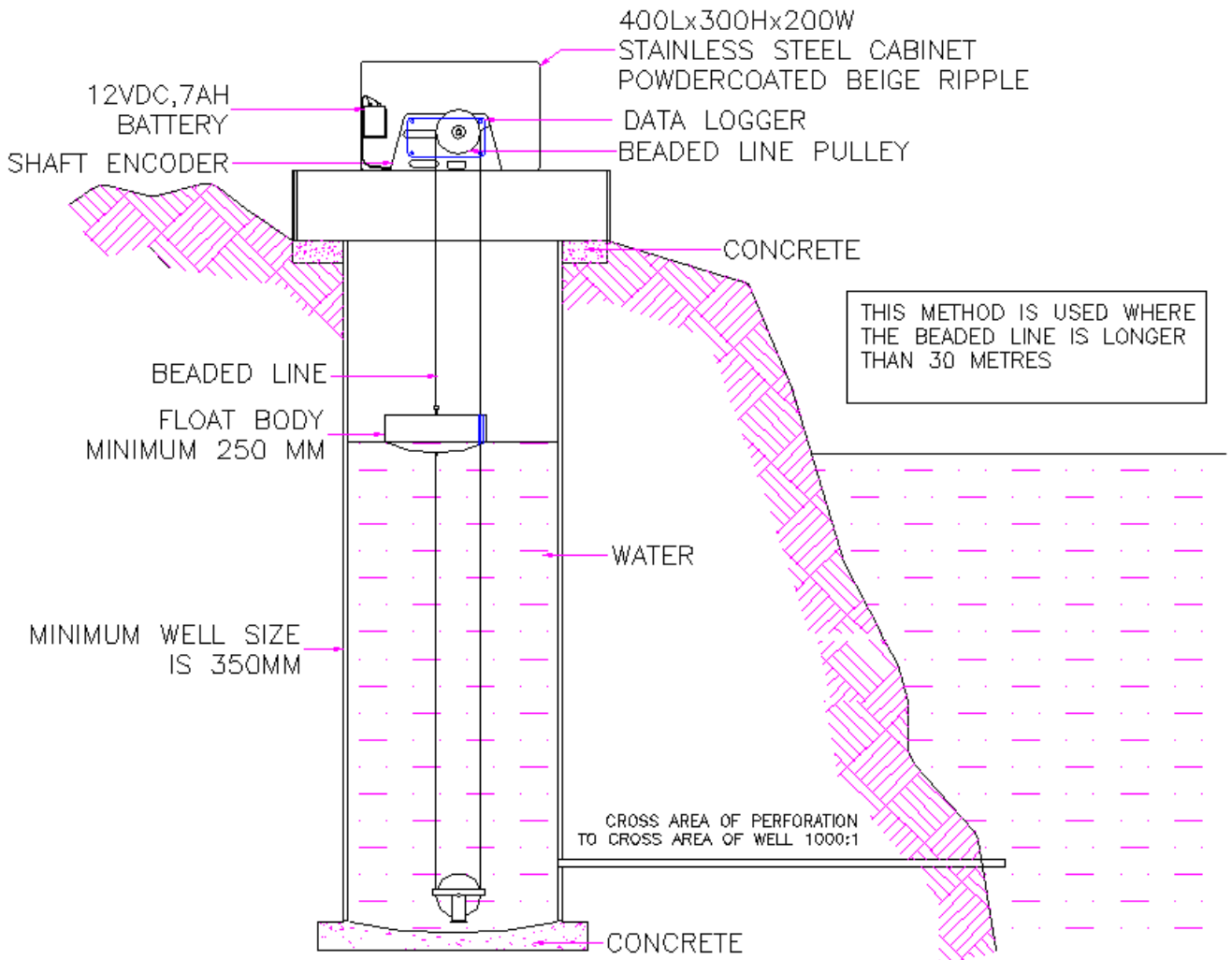
On board 4 Mbytes memory to store 200,000 events. Plug in USB memory stick to copy data to file **OR** leave stick plugged in for continuous logging

Packing Details

Dimensions: 270 x 170 x 200 mm
 Weight: 2.0 kg

Installation

TYPICAL WATER LEVEL INSTALLATION USING SHAFT ENCODER & BALANCED FLOAT LINE



- Accessories**
- Floats and Counterweights
 - Float Pulley Wheels
 - Beaded or Borehole Float Line
 - Wire Gate Mounting Kits
 - Chain and Sprocket
 - Gear Drives
 - Mechanical Counter Kit

Installation

TYPICAL WATER LEVEL INSTALLATION USING SHAFT ENCODER

