

Absolute Shaft Encoder

WATER LEVEL | SURFACE WATER | GROUNDWATER | WATER STORAGE

General Description

The AD375MA is a **rugged, microprocessor-based, power-efficient shaft encoder** for reliable and accurate water level measurement. The built-in **digital technology** determines the **absolute water** level from the reference level and the relative rotational movements at level increase or decrease. This eliminates any further calculation or conversion in downstream data acquisition devices.

LCD display and keypad allow **user interaction without the need of an additional device**. Device settings include user adjustable resolution (375, 150 or 100 pulses per revolution) and adaptation to 3rd party pulleys/chains and sprockets. Furthermore, current system status and measurement data can be read directly from the LCD (water level, battery voltage, ...). Measured values are available simultaneously on 4-20 mA and SDI-12 outputs.

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

Applications

The AD375MA is suitable for capturing the water level in surface waters, groundwater, float shafts, measuring shafts, gauge pipes, etc.

Main Features

- High-resolution measurement 1 mm
- Absolute water level
- Parallel data output via 4-20 mA and SDI-12 (or RS232) to connect to up to two data loggers (redundancy)
- Controls
 - LCD display and two buttons
 - Display: measuring range, water level and battery voltage
 - Sensor configuration
- Slippage reduction via beaded line and matching perforated disc
- Robust construction
- Battery backup

Tailored Solutions

Are you looking for a tailor-made, ready-to-use solution? Our experienced engineers develop individual solutions on the basis of your requirements. Please contact us.



Technical Specification

Resolution	<ul style="list-style-type: none"> ■ 1 mm (maximum error +/-1 mm) ■ 375, 150 or 100 pulses per revolution (user adjustable)
Accuracy	+/-0.01 % FS
Range	Typical up to +/-30 m water head; endless wire set-up available for water level ranges exceeding 30 m
LCD Type	2 lines with 16 characters each, backlighting
Shaft Load	Up to 2 kg; adaptation to higher loads on request
Power Supply	<ul style="list-style-type: none"> ■ Operating: 9.0-16 V DC ■ Current Drain: 5 mA @ 12 V DC ■ Battery back-up: Internal lithium
Enclosure	IP65 powder-coated aluminium
Connectors	Available in 'push-in' type or Mil-Spec type
Operating Conditions	Temperature Range <ul style="list-style-type: none"> ■ -40 °C to +60 °C (encoder only) ■ -10 °C to +60 °C (standard LCD; -40 °C LCD version available on request) Humidity: 95 % non-condensing
Dimensions (L x W x D)	245 x 125 x 150 mm
Mass	1.5 kg

Accessories

AD375MA-SWP: Seawater compatible version of the AD375MA. Case with special display, sealed push-buttons, Mil-Spec plugs, corrosion-resistant IP67. Reinforced stainless steel shaft.



Pulley and beaded line: Pulley with precisely fitting holes for beaded line (steel wire and brass) for slip-free and frost-proof operation. 316 grade stainless. Both accesso-

ries are custom-made by HyQuest Solutions especially for the absolute shaft encoder AD375MA.

Floats and counterweights: Floats with various diameters and matching counterweights made of stainless steel. Also available for boreholes and spring sockets.



Pulleys and end hooks: Pulleys and end hooks suitably dimensioned for float line.

iRIS dataloggers and data modems:

- Robust housing
- IP over one or two channels of your choice: xG / GPRS, satellite, IoT
- I/O: analog, digital, SDI-12, Modbus
- iLink software
- Telemetry or cloud app

Please ask for details.

Reseller

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