

## ROTARY ENCODER



### APPLICATIONS

- Food and Waste
- Chemical
- Industrial/Marine
- Wet or oily control or measurement
- Intrinsically safe
- Logging
- High Shock applications

### FEATURES

- Absolute
- Fully sealed to IP68
- Non-contact:
  - ◆ very long life
  - ◆ no wear
  - ◆ no shaft seal
- Magnetic field operates through panels
- High Shock resistance
- High resolution – 12bits
- Full 360° rotation
- Low cost
- Re Programmable for special applications
- Powerful Command Modes:
  - ◆ Digital output - down to 1/hr
  - ◆ Analogue
  - ◆ Set-Point
  - ◆ Servo

### DESCRIPTION

The A3030 is a robust, high resolution shaft encoder. It is based on Autonnic's low-noise fluxgate magnetometer technology to create an industrial component which can resolve shaft angles to 1 part in 4000 – equivalent to 12bits.

The magnetic nature of the device permits its manufacture as a fully encapsulated module which can be operated in wet and oily environments. There are no shaft seals to fail and the shaft alignment is not critical and can be operated with or without bearings. A shaft centre-hole is provided but it is not essential. In addition the device can be placed behind a panel of non-magnetic materials such as aluminium, brass or plastic.

Applications include intrinsically safe, tank level detection, submerged, servo subsystems and where exceptional shock and vibration resistance is important.

An interface unit is also available for this product - see A4036.

### BASIC CHARACTERISTICS

Max Output Rate: 10/s

Min Output Rate: 1/hr

Consumption at max rate: 50mA

Digital Output Resolution: 12 bits

Analogue Output Resolution: 10bits

Max shaft rate 2 rev/s

### ORDER INFORMATION

A3030	Rotary Encoder
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## ABSOLUTE MAXIMUM RATINGS

Storage Temperature -50 to +120°C

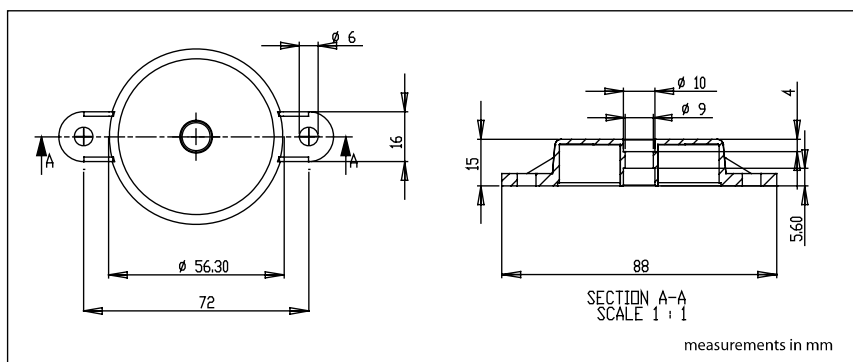
Operating Temperature -20 to +80°C

Input voltage +14V

## CONNECTIONS

Wire	I/O/S	Colour	Function	Abbreviation
1	Supply	Brown	+ve supply voltage 8-15v	V+
2	Supply	Black	-ve supply and signal common	GND
3	Input	Blue	Serial digital command input	SI
4	Output	Green	Output A – either serial digital output or analogue	A
5	Output	Grey	Output B - analogue	B

## MECHANICAL



## COMMAND SUMMARY

The rich command set allows the encoder to be scaled over any range either digitally or with the analogue outputs – A and B independently. Also the outputs can be either high or low for operating switches directly at set points with and without hysteresis—thus for many applications the A3030 can operate as a stand-alone control or alarm system.

Set Output B to mid-scale at MA = vvv.v
Spread A/B analogue range over yyy degrees
Spread A digital range over yyy degrees
Set Output A to digital 100.0 (for '100%')
Set Output A to digital or analogue
Set Output A or B to a low-high transition
Set Output A or B to a high-low transition

Set hysteresis
Query checksum
Set the update rate
Fix Output A to 2.5v
Send Program (using bootloader)
Load Calibration table
Request the serial number

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