

## ABSOLUTE ENCODER



- Especially designed for heavy-duty Industry.
- 11mm & 12mm solid shaft or Hollow shaft up to 30mm.
- Excellent resistance to shocks/vibrations and to extreme axial/radial loads
- Protection against short-circuits and inversion of polarity
- High protection level IP65
- High resolutions up to 13 Bits ,Turns counting up to 16 Bits.
- High performances in temperature -20°C to 85°C

### MECHANICAL CHARACTERISTICS

Housing	Aluminium
Shaft	Stainless Steel
Bearings	6000 series
Maximum number of revolutions permitted mechanically	6000 rpm
Shaft inertia	≤ 55 g.cm <sup>2</sup>
Starting Torque	≤ 25 N.cm
Maximum load permitted on shaft	Hollow shaft: Axial 50 N, Radial 80 N; Full shaft: Axial 100 N, Radial 200 N
Protection	IP 65
Operating Temperature	-20...+85° C
Storage Temperature	-20...+85° C
Shock resistance	≤ 500m.s <sup>-2</sup> (during 6 ms) (IEC 68-2-27)
Vibration resistance	≤ 100m.s <sup>-2</sup> (10... 2 000 Hz) (IEC 68-2-6)
Weight	0.8kg

### ELECTRICAL CHARACTERISTICS

Power supply	5-30Vdc
Introduction	< 1 s
Consumption (without load)	< 50mA (at 24Vdc)
Accuracy	± 1/2 LSB (13 bits)

### Programmable parameters

**Resolution:** defines the resolution per revolution (0 to 8 192),

**Global resolution:** total amount of codes for the encoder (2 to 536 870 912),

**Transmisson speed:** programmable from 10kBaud (1000m) to 1 Mbaud (40 m) ; value per default: 20 Kbaud,

**Address:** define the software address of the encoder on the bus (1 to 127, value by default: id=1),

**Direction:** define the direction of count of the encoder,

**RAX:** defines the value of its preset position (non turning shaft),

**CAM:** Low and High Limits

## ABSOLUTE ENCODER

### Communication modes

3 modes are available to interrogate the encoder :

**POLLING mode:** (Response to a RTR message): The position value is only given upon request (SDO mode),

**CYCLIC mode:** the encoder transmits its position in an asynchronous manner. The frequency of the transmission is defined by the programmable cyclical timer register from 0 to 65 535 ms,

**SYNCHRO mode:** the encoder transmits its position on a synchronous demand by the master.

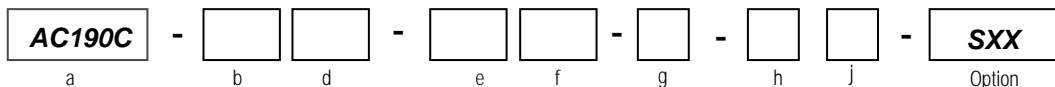
### CANOPEN CONNECTION

1	2	3	4	5	6	7	8, 9, 11	10	12
Reserved	CAN LOW	CAN GND	Reserved	Reserved	Reserved	CAN HIGH	Reserved	OV	+ 5-30Vdc

Pinout 3 (CAN GND) and 10 (OV) are connected together (intern the encoder).

Nota : Refer to the bus standards for the maximal derivation length.

### ORDERING CODE



**a Series**

Absolute Encoder

**b Shaft Type/ Flange**

2C=Solid shaft, Clamp  
2S=Solid shaft, Synchro  
5H=Hollow shaft

**d Shaft size**

Solid Shaft: 11, 12 mm  
Hollow shaft: 20, 25, 30 mm

**e Power Supply**

5 = 5-30 V

**f Interface**

CB = CANopen, Binary

**g Nb of Turns / Resolution**

0010 1212 1312  
0012 1213 Option

**h Connector Location**

1=Axial  
2=Radial

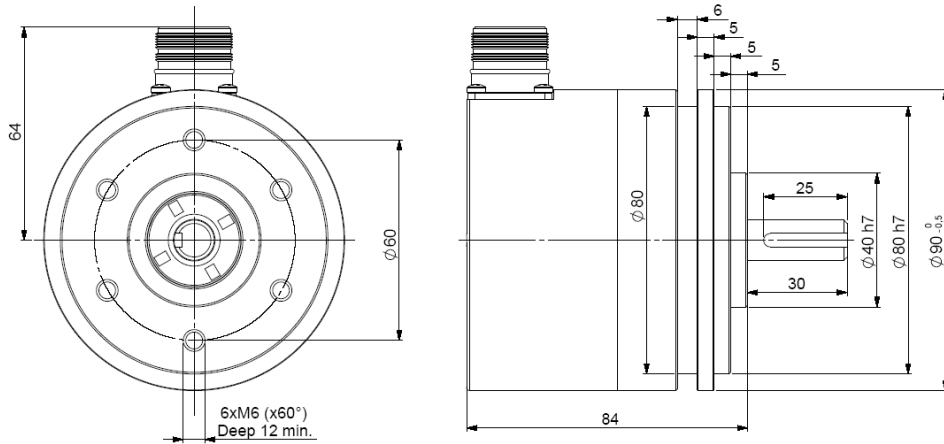
**j Connection**

6= 2m Cable (standard)  
8= M23 Connector

## ABSOLUTE ENCODER

### MECHANICAL DRAWINGS

#### Clamp Flange (s) M23 Connector exit



#### Hollow shaft , M23 connector Radial

