Absolute encoders
ATM60 PROFIBUS

ATM60-P4H13X13
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Model Name  > ATM60-P4H13X13
Part No.    > 1030013

At a glance
- Extremely robust, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: Face mount flange, servo flange, blind hollow shaft and extensive adapter accessories
- Zero-set and preset functions via hardware or software
- No battery required
- Electrical interface: PROFIBUS DP as per IEC61158 / RS 485 , electrically isolated.
- Electronically adjustable, configurable resolution
- Magnetic scanning

Your benefits
- Reduced variants due to one encoder for all resolutions, single turn and multiturn, freely programmable
- Variable due to a variety of electrical connection adapters (3x PG, 3x M12)
- Maintenance-free encoder, long service life
- One basic device with flexible application possibilities thanks to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero-set/preset function either at the press of the button on the device or via software
- Reliable applications due to highly reliable shock and vibration values
- Worldwide availability and service

Performance
Max. number of steps per revolution: 8,192
Max. number of revolutions: 8,192
Resolution power: 8,192 x 8,192
Resolution: 13 bit x 13 bit
Error limits: ± 0.25 °
Repeat accuracy: 0.1 °
Measuring step: 0.043 °
Initialization time: 1,250 ms ¹)

¹) Valid positional data can be read once this time has elapsed

Mechanical data
Mechanical interface: Solid shaft, Face mount flange
Shaft diameter: 10 mm
Mass: 0.59 kg
Permissible Load capacity of shaft: 300 N (radial) 50 N (axial)
Moment of inertia of the rotor: 35 gcm²
Bearing lifetime: 3.6 x 10⁹ revolutions
Max. angular acceleration: 500,000 rad/s²
Start up torque with shaft seal: 2.5 Ncm
Start up torque without shaft seal: 0.5 Ncm
Operating torque with shaft seal: 1.8 Ncm
Operating torque without shaft seal: 0.3 Ncm

1) If the shaft seal has been removed by the customer

Electrical data
Operating voltage range: 10 V … 32 V
Power consumption max.: 2 W

Interfaces
Electrical interface: Bus adaptor with cable screw fixings or connector
SET (electronic adjustment): Via PRESET push button or protocol
Bus: Profibus DP
Bus interface:: RS-485 2) 3) 4)
Data protocol: Profile for encoders (07hex) - Class 2
Address setting: 0 … 127, DIP-switches or protocol
Data transmission rate (baud rate): 9.6 kBaud / 12 MBaud / automatic detection
Status information: LED green (operation), LED red (bus activity)
Bus termination: DIP switch

1) Please order the Profibus adaptor separately 2) EN 50 170-2 3) DIN 19245 part 1-3 4) DC isolated via opto-couplers

Ambient data
EMC: According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating: IP 67, according to IEC 60529, with shaft seal
IP 43, according to IEC 60529, without shaft seal, on encoder flange not sealed
IP 66, according to IEC 60529, without shaft seal, on encoder flange sealed
Permissible relative humidity: 98 %
Working temperature range: -20 °C … 80 °C
Storage temperature range: -40 °C … 125 °C, without package
Resistance to shocks: 6 g (according to EN 60068-2-27)
Resistance to vibration: 20 g, 10 Hz … 2,000 Hz (according to EN 60068-2-6)
Dimensional drawing

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