



## Absolute encoders A3M60 PROFIBUS

A3M60A-S4PB014X17



**Model Name** > A3M60A-S4PB014X17  
**Part No.** > 1053341



*Illustration may differ*

#### At a glance

- Robust absolute multiturn encoder with up to 31 bits (14 bits singleturn and 17 bits multiturn)
- Face mount flange, servo flange or blind hollow shaft
- Compact design (
- Integrated PROFIBUS interface with DP V0, V1 and V2 functionality (dependent on type)
- Connection system: 3x M12 connectors
- Protection class up to IP67
- Operating temperature: -30 °C to +80 (dependent on type)

#### Your benefits

- High level of system reliability even in extreme environmental conditions
- Lower maintenance costs due to non-contact single and multiturn magnetic scanning
- Space-saving, cost-efficient design ensures easy integration into applications with limited space
- High level of productivity due to quick communication and position calculation
- Immune to contamination and condensation, making it ideal for harsh environmental conditions
- Very good price-performance ratio



#### Performance

|                                      |                                |
|--------------------------------------|--------------------------------|
| Max. number of steps per revolution: | 16,384                         |
| Max. number of revolutions:          | 131,072                        |
| Resolution power:                    | 16,384 x 131,072               |
| Resolution:                          | 14 bit x 17 bit                |
| Error limits:                        | ± 0.35 ° (at room temperature) |
| Repeatability (Ta not constant):     | ± 0.15 ° (at room temperature) |
| Initialization time:                 | Ca. 1 s                        |

#### Mechanical data

|                                     |                                |
|-------------------------------------|--------------------------------|
| Mechanical interface:               | Solid shaft, Face mount flange |
| Shaft diameter:                     | 10 mm                          |
| Mass:                               | 0.28 kg                        |
| Start up torque:                    | 20 °C                          |
| Operating torque:                   | 0.8 Ncm (20 °C)                |
| Permissible Load capacity of shaft: | 40 N (axial), 80 N (radial)    |

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Bearing lifetime:                | 3.0 x 10 <sup>9</sup> revolutions |
| Max. angular acceleration:       | 500,000 rad/s <sup>2</sup>        |
| Shaft material:                  | Stainless steel                   |
| Flange material:                 | Aluminum                          |
| Housing material:                | Aluminum                          |
| Start up torque with shaft seal: | 1 Ncm                             |

## Electrical data

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|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Operating voltage range:               | 10 V ... 32 V                       |
| MTTFd: mean time to dangerous failure: | 60 a (EN ISO 13849-1) <sup>1)</sup> |

<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive.

Calculation based on nominal load of components, average ambient

temperature 40°C, frequency of use 8760 h/a. All

electronic failures are considered hazardous. For more information, see document no. 8015532.

## Interfaces

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|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Electrical interface:               | 3 x M12, 5-pin, axial               |
| Bus:                                | Profibus DP                         |
| Data protocol:                      | PROFIBUS DP V0, PROFIBUS DP V1 + V2 |
| Data transmission rate (baud rate): | 12 MBaud                            |
| Bus termination:                    | DIP switch                          |

## Ambient data

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|                                |                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------|
| EMC:                           | (according to EN 61000-6-2 and EN 61000-6-3)                                                       |
| Enclosure rating::             | IP 67 (according to IEC 60529), housing, IP 67 (according to IEC 60529),<br>Shaft <sup>1) 2)</sup> |
| Permissible relative humidity: | 95 % (Condensation not permitted)                                                                  |
| Working temperature range:     | -30 °C ... 80 °C                                                                                   |
| Storage temperature range:     | -40 °C ... 100 °C                                                                                  |
| Resistance to shocks:          | 80 g (according to EN 60068-2-27)                                                                  |
| Resistance to vibration:       | 30 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)                                               |

<sup>1) 2)</sup> With mating connector fitted



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