



# MOC3SA-BAB43D31

Speed Monitor

SAFE MOTION MONITORING AND CONTROL

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type            | part no. |
|-----------------|----------|
| MOC3SA-BAB43D31 | 6034247  |

Other models and accessories → [www.sick.com/Speed\\_Monitor](http://www.sick.com/Speed_Monitor)

### Detailed technical data

#### Safety-related parameters

|                                                                           |                                     |
|---------------------------------------------------------------------------|-------------------------------------|
| <b>Safety integrity level</b>                                             | SIL 3 (IEC 61508)                   |
| <b>Category</b>                                                           | Category 4 (EN ISO 13849)           |
| <b>Performance level</b>                                                  | PL e (EN ISO 13849)                 |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | $5.0 \times 10^{-9}$ (EN ISO 13849) |
| <b>T<sub>M</sub> (mission time)</b>                                       | 20 years (EN ISO 13849)             |
| <b>Stop category</b>                                                      | 0 (EN 60204)                        |

#### Functions

|                               |                                                                         |
|-------------------------------|-------------------------------------------------------------------------|
| <b>Drive safety functions</b> | Standstill<br>Safely-limited speed (SLS)<br>Safe speed monitoring (SSM) |
|-------------------------------|-------------------------------------------------------------------------|

#### Interfaces

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| <b>Connection type</b>   | Screw-type terminals                               |
| <b>Encoder interface</b> | Proxy<br>A/B incremental encoder, HTL 12 V or 24 V |

#### Electrical data - Operating data

|                                     |                        |
|-------------------------------------|------------------------|
| <b>Protection class</b>             | III (EN 61140)         |
| <b>Voltage type</b>                 | DC                     |
| <b>Supply voltage V<sub>s</sub></b> | 24 V (19.2 V ... 30 V) |
| <b>Residual ripple</b>              | (≤ 10 %) <sup>1)</sup> |
| <b>Power consumption</b>            | (≤ 3 W)                |

<sup>1)</sup> Within the limits of V<sub>s</sub>.

#### Electrical data - Input circuits S1, S2, I5, I6

|                      |  |
|----------------------|--|
| <b>Input voltage</b> |  |
|----------------------|--|

|                        |      |                    |
|------------------------|------|--------------------|
|                        | HIGH | (13 V ... 30 V)    |
|                        | LOW  | -5 V ... 5 V       |
| <b>Input current</b>   | HIGH | 2.4 mA ... 3.8 mA  |
|                        | LOW  | -2.5 mA ... 2.1 mA |
| <b>Switch-on time</b>  |      | ≥ 70 ms            |
| <b>Switch-off time</b> |      | 70 ms              |

## Electrical data - Input circuits I1, I2, I3, I4

|                         |      |                     |
|-------------------------|------|---------------------|
| <b>Input voltage</b>    | HIGH | (13 V ... 30 V)     |
|                         | LOW  | -5 V ... 5 V        |
| <b>Input current</b>    | HIGH | 2.4 mA ... 3.8 mA   |
|                         | LOW  | -2.5 mA ... 2.1 mA  |
| <b>Limit frequency</b>  |      | 2 kHz <sup>1)</sup> |
| <b>Frequency change</b> |      | 21 kHz/s            |

<sup>1)</sup> Duty cycle 3:2.

## Electrical data - Output circuits X1, X2

|                       |                       |
|-----------------------|-----------------------|
| <b>Output voltage</b> | 18.4 V DC ... 30 V DC |
| <b>Output current</b> | ≤ 120 mA              |

## Electrical data - Output circuits Q1, Q2, Q3, Q4

|                       |                       |
|-----------------------|-----------------------|
| <b>Output voltage</b> | 18.4 V DC ... 30 V DC |
| <b>Output current</b> | 2 A <sup>1)</sup>     |
| <b>Total current</b>  | 4 A <sup>2)</sup>     |

<sup>1)</sup> 1.6 A at 45 °C < Tu < 55 °C.<sup>2)</sup> 5 A at 45 °C < Tu < 55 °C.

## Mechanical data

|                               |                            |
|-------------------------------|----------------------------|
| <b>Dimensions (W x H x D)</b> | 22.5 mm x 96.5 mm x 121 mm |
| <b>Weight</b>                 | 180 g                      |

## Ambient data

|                                            |           |                                  |
|--------------------------------------------|-----------|----------------------------------|
| <b>Enclosure rating</b>                    | Terminals | IP20                             |
|                                            | Housing   | IP40                             |
| <b>Ambient operating temperature</b>       |           | -25 °C ... +55 °C                |
| <b>Storage temperature</b>                 |           | -25 °C ... +70 °C                |
| <b>Air humidity</b>                        |           | ≤ 95 %, Non-condensing           |
| <b>Climate conditions according to</b>     |           | EN 61131-2                       |
| <b>Electromagnetic compatibility (EMC)</b> |           | Class A (EN 61000-6-2, EN 55011) |
| <b>Vibration resistance</b>                |           | 10 Hz ... 55 Hz (EN 60068-2-6)   |
| <b>Shock resistance</b>                    |           |                                  |

|              |                             |
|--------------|-----------------------------|
| Single shock | 30 g, 11 ms (EN 60068-2-27) |
|--------------|-----------------------------|

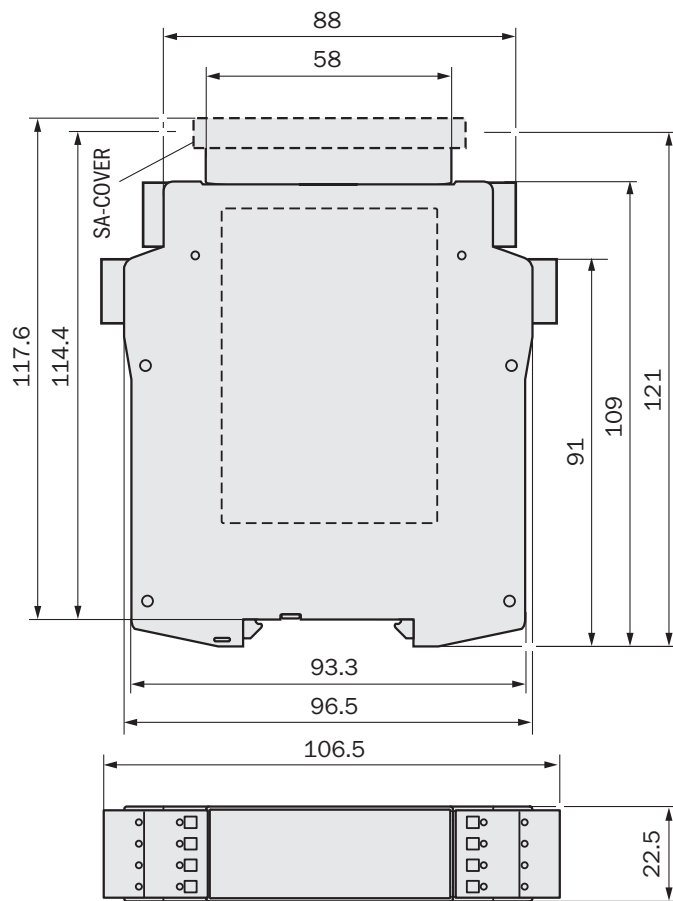
Certificates

|                                |   |
|--------------------------------|---|
| EU declaration of conformity   | ✓ |
| UK declaration of conformity   | ✓ |
| ACMA declaration of conformity | ✓ |
| China RoHS                     | ✓ |
| UK-Type-Examination approval   | ✓ |
| cULus certificate              | ✓ |
| cTUVus certificate             | ✓ |
| EC-Type-Examination approval   | ✓ |

Classifications

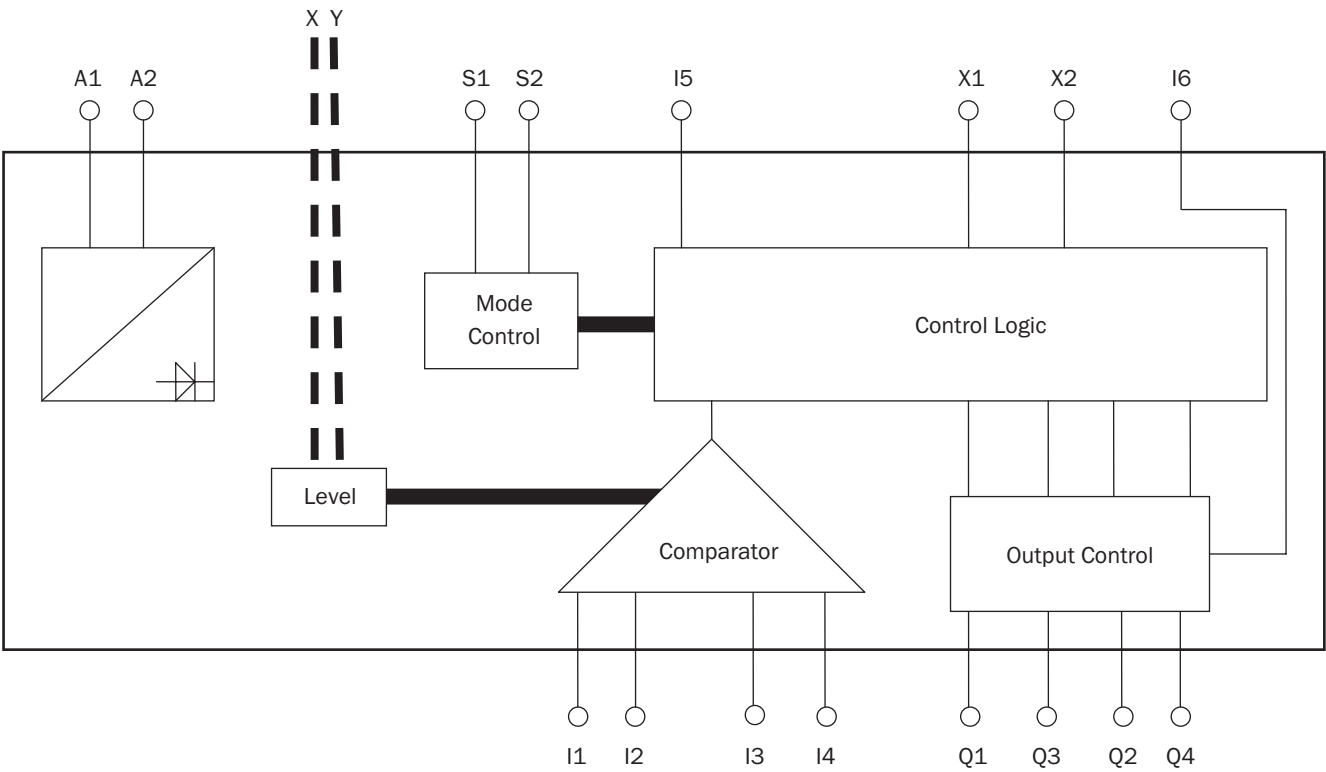
|                |          |
|----------------|----------|
| ECLASS 5.0     | 27371990 |
| ECLASS 5.1.4   | 27371990 |
| ECLASS 6.0     | 27371819 |
| ECLASS 6.2     | 27371819 |
| ECLASS 7.0     | 27371819 |
| ECLASS 8.0     | 27371819 |
| ECLASS 8.1     | 27371819 |
| ECLASS 9.0     | 27371819 |
| ECLASS 10.0    | 27371819 |
| ECLASS 11.0    | 27371819 |
| ECLASS 12.0    | 27371819 |
| ETIM 5.0       | EC001449 |
| ETIM 6.0       | EC001449 |
| ETIM 7.0       | EC001449 |
| ETIM 8.0       | EC001449 |
| UNSPSC 16.0901 | 41113704 |

## Dimensional drawing



Dimensions in mm (inch)

Connection diagram



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)