



Safe speed monitors

Reliable and safe speed monitoring.

The compact base module of the Safety-M compact series is a complete speed monitor in the smallest possible space (50 mm wide). The detachable operating and diagnostic display (OLED) stands for simple parameterization. The safe inputs/outputs and integrated signal splitter allow integration into existing safety circuits and upgrade of old machines.

kuebler.com/safe-speed-monitors



Reliable individual components alone do not lead to a reliable overall application.

A reliable speed monitor and the corresponding reliable sensor technology are required for a reliable connection from the motor to the control unit. Kübler offers SIL2 and SIL3 certified encoders for both incremental and absolute measurements (see pages 60, 61). kuebler.com/functional_safety

Find the right Kübler accessories



Display and programming unit



Programming cable, set



EMC shield terminal for encoder cable



Cordset pre-assembled



Parameterization software SafeConfig

Enter order code and find accessories:
kuebler.com/accessories

Safety modules Safety-M compact

| | | Monitoring - number of axes | Encoder systems | Safe digital input lines | Signal splitter / USB programming interface | Relay output lines | Safe digitale output lines | Analog output lines | Encoder interface | Power supply in V DC | Module width in mm [inch] | RoHS compliant | Approvals |
|--|---|-----------------------------|-----------------|--------------------------|---|--------------------|----------------------------|---------------------|--------------------|----------------------|---------------------------|----------------|-------------------------|
|  | Speed monitoring 1 axis / 1 encoder system SMC1.1 | 1 | 1 | 4/2 | 1 | 1 | 8 / 4 | 1 opt. | SinCos | 24 | 50 | • | SIL3 PL _e |
|  | Speed monitoring 1 axis / 2 encoder systems SMC2.2 | 1 | 2 | 4/2 | 1 | 1 | 8 / 4 | 1 opt. | HTL/TTL/ SinCos | 24 | 50 | • | SIL3 PL _e |
|  | new Speed monitoring 1 axis / 1 encoder system SMC1.3 | 1 | 1 | 8/4 | 1 | 2 | 8 / 4 | 1 opt. | HTL/TTL | 24 | 50 | • | SIL2 PL _d |
|  | new Speed monitoring 1 axis / 2 encoder systems SMC2.4 | 1 | 2 | 8/4 | 1 | 2 | 8 / 4 | 1 opt. | HTL/TTL | 24 | 50 | • | SIL3 PL _e |

Incremental encoders
for Functional Safety

| | | Ø Dimensions in mm [inch] | Magnetic (accuracy ±1°) | Optical (accuracy ≤ ±0.015°) | Resolution max. in ppr | Push-pull | RS422 | SinCos | Open Collector | Ø Hollow shaft max. in mm [inch] | Speed max. in min ⁻¹ (shaft/hollow shaft) | Temperature range in °C [°F] | Protection max. | Type of connection | Power supply in V DC | Pulse frequency max. in kHz | RoHS compliant | Approvals |
|---|---|---------------------------|-------------------------|------------------------------|------------------------|-----------|-------|--------|----------------|----------------------------------|---|-------------------------------|-----------------|---------------------|----------------------|-----------------------------|----------------|---|
|  | Standard, optical sine wave output, SIL2 / PLd Sendix 5814FS2 (shaft) Sendix 5834FS2 (hollow shaft) | 58 [2.28] | - | • | 1.024 and 2.048 | - | - | • | - | 14 | 12.000/ 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M12 M23 | 5 10 ... 30 | 400 | • |  |
|  | Standard, optical sine wave output, SIL3 / PLe Sendix 5814FS3 (shaft) Sendix 5834FS3 (hollow shaft) | 58 [2.28] | - | • | 1.024 and 2.048 | - | - | • | - | 14 | 12.000/ 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M12 M23 | 5 10 ... 30 | 400 | • |  |

Absolute encoders for Functional Safety

| | | Ø Dimensions in mm [inch] | Magnetic (accuracy ±1°) | Optical (accuracy ≤ ±0.015°) | Resolution max. in bit | SSI interface | BiSS interface | Additional incremental track | Speed max. in min ⁻¹ (shaft / hollow shaft) | Temperature range in °C [°F] | Protection max. | Type of connection | Power supply in V DC | RoHS compliant | Approvals |
|---|--|---------------------------|-------------------------|------------------------------|------------------------|---------------|----------------|------------------------------|---|-------------------------------|-----------------|--------------------|----------------------|----------------|---|
| Singleturn | | | | | | | | | | | | | | | |
|  | Standard, optical SIL2 / PLd Sendix 5853FS2 (shaft) Sendix 5873FS2 (hollow shaft) | 58 | – | • | 17 | • | • | Sin Cos | 12.000/ 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M23 | 5 10 ... 30 | • |  |
|  | Standard, optical SIL3 / PLe Sendix 5853FS3 (shaft) Sendix 5873FS3 (hollow shaft) | 58 | – | • | 17 | • | • | Sin Cos | 12.000/ 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M23 | 5 10 ... 30 | • |  |
| Multiturn | | | | | | | | | | | | | | | |
|  | Standard, optical mechanical multiturn SIL2 / PLd Sendix 5863FS2 (shaft) Sendix 5883FS2 (hollow shaft) | 58 | – | • | 17 +12 | • | • | SinCos | 12.000 / 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M23 | 5 10 ... 30 | • |  |
|  | Standard, optical mechanical multiturn SIL3 / PLe Sendix 5863FS3 (shaft) Sendix 5883FS3 (hollow shaft) | 58 | – | • | 17 +12 | • | • | SinCos | 12.000 / 9.000 | -40 ... +90 [-40 ... +194] | IP67 | cable M23 | 5 10 ... 30 | • |  |