


ONLINE DATA SHEET
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# Incremental encoders
# DFS60

DFS60E-S1WA00720



SICK
Sensor Intelligence.

# Incremental encoders
# DFS60

**Model Name** > DFS60E-S1WA00720
**Part No.** > 1058645



*Illustration may differ*

### At a glance

- Compact installation depth
- High resolution up to 16 bits
- Optionally programmable: Output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: Radial or axial cable outlet, M23 or M12 connector, axial or radial
- Electrical interfaces: 5V & 24V TTL/RS-422, 24 V HTL/push pull
- Mechanical interfaces: face mount or servo flange, blind or through hollow shaft
- Remote zero set possible

### Your benefits

- Reduced storage costs and downtime due to customer-specific programming
- Variety of different mechanical and electrical interfaces enable the encoder to be optimally adjusted to fit the installation situation
- Excellent concentricity even at high speeds
- High resolution of up to 16 bits ensures precise measurements
- Permanent and safe operation due to a high enclosure rating, temperature resistance and a long bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly according to customer needs
- Programmable zero pulse position simplifies installation

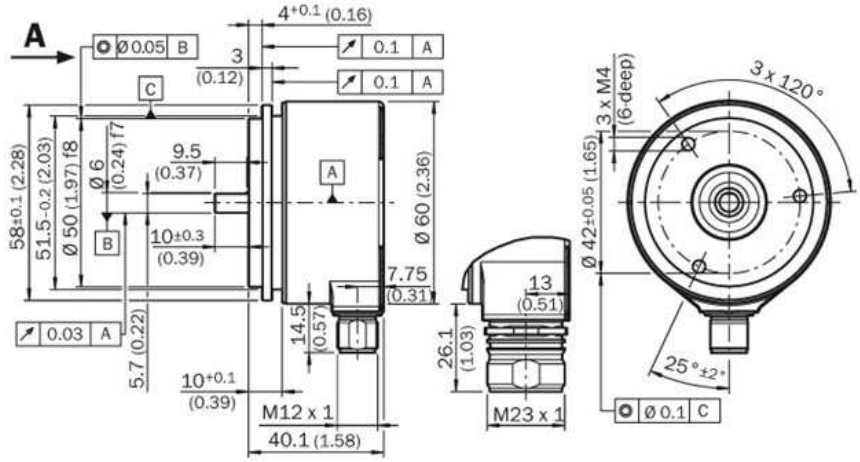
## Electrical data

MTTFd: mean time to dangerous failure: 300 a (EN ISO 13849-1) [1)]

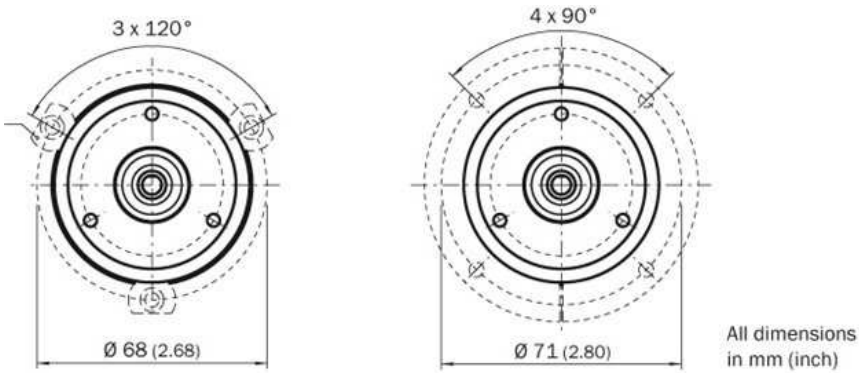
[1)] This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.


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## Dimensional drawing




## Proposed fitting



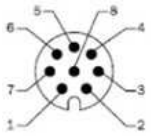


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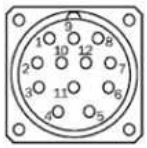
## PIN assignment

**8-core cable**

View of M12 device connector on encoder




View of M23 device connector on encoder




| PIN, 8-pin, M12 connector | PIN, 12-pin, M23 connector | Core colors of encoders with cable outlet | TTL/HTL signal | Explanation |
|---|---|---|---|---|
| 1 | 6 | Brown | $\overline{A}$ | Signal cable |
| 2 | 5 | White | A | Signal cable |
| 3 | 1 | Black | $\overline{B}$ | Signal cable |
| 4 | 8 | Pink | B | Signal cable |
| 5 | 4 | Yellow | $\overline{Z}$ | Signal cable |
| 6 | 3 | Lilac | Z | Signal cable |
| 7 | 10 | Blue | GND | Ground connection of the encoder |
| 8 | 12 | Red | $+U_s$ | Supply voltage (volt-free to housing) |
| – | 9 | – | N.C. | Not assigned |
| – | 2 | – | N.C. | Not assigned |
| – | 11 | – | N.C. | Not assigned |
| – | 7 [1] | – | SET | Zero pulse teach |
| Shield | Shield | Shield | Shield | Shield connected to housing on side of encoder. Connected to ground on side of control. |

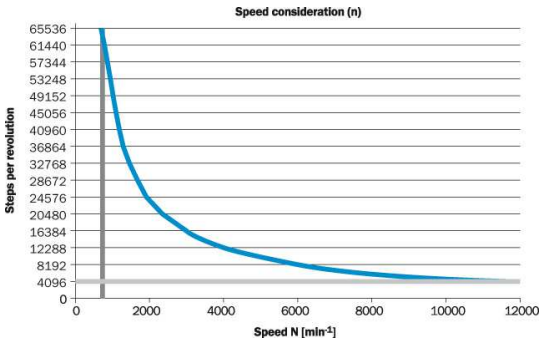
[1] Only at 4.5 ... 32 V, TTL/HTL programmable

The SET input serves to carry out the zero pulse teach function. If the SET input is applied to $U_s$ for longer than 250 ms, after it has was open for at least 1,000 ms or applied to GND, the current shaft position is assigned the zero pulse signal "Z".

## Signalausgänge

Image Unavailable

## Drehzahlbetrachtung





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