# DBS36 Core

The MultiFit Incremental Encoder

**INCREMENTAL ENCODERS**

**SICK**
Sensor Intelligence.

# DBS36 Core
## INCREMENTAL ENCODERS
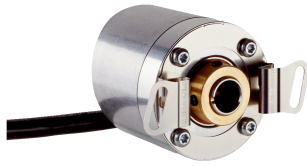
## Technical data overview

| | |
|---|---|
| **Pulses per revolution** | 0 ... 2,500 |
| **Mechanical design** | Solid shaft, Servo flange<br>Solid shaft, face mount flange<br>Blind hollow shaft |
| **Shaft diameter** | 6 mm feather key groove<br>6 mm<br>1/4"<br>8 mm [1] |
| **Connection type** | Cable, 8-wire, universal<br>Cable, 8-wire, with male connector, M12, 8-pin, universal<br>Cable, 8-wire, with male connector, M23, 12-pin, universal<br>Cable, 5-wire, universal |
| **Communication interface** | Incremental |
| **Communication Interface detail** | TTL / RS-422<br>HTL / Push pull<br>Open Collector |
| **Supply voltage** | 4.5 ... 5.5 V<br>7 ... 30 V<br>7 ... 27 V<br>4.5 ... 30 V |
| **Enclosure rating** | IP65 |
| **Output frequency** | ≤ 300 kHz |
| **Operating temperature range** | –20 °C ... +85 °C<br>–20 °C ... +70 °C |

[1] Order collets for 5 mm, 6 mm and 1/4" mm separately as accessories.

## Product description

The DBS36 Core incremental encoder features impressively high mechanical flexibility, excellent technical properties, and a number of variations. A blind hollow shaft with a shaft diameter of up to 8 mm and a face mount flange with 6 mm and 1/4" solid shaft are available. The type with face mount flange offers 2 different flanges with 6 different mounting hole patterns and a servo groove for mounting with servo clamps. The hollow shaft type has a universal stator coupling that can be used for multiple typical mounting hole circles. All models have compact dimensions and a universal cable connection that allows for cables to run in an axial or radial direction.

## At a glance

- Universal cable connection
- Types with blind hollow shaft or face mount flange with solid shaft
- Face mount flange with 6 mounting hole patterns and servo groove
- Communication interfaces: TTL/RS-422, HTL/push pull, Open Collector
- Number of lines from 10 to 2,500 possible
- Temperature range: –20 °C ... +85 °C
- Enclosure rating: IP65

## Your benefits

- The universal cable connection enables the device to be used in tight spaces and provides cable routing flexibility
- Different flanges and the universal stator coupling make it possible to mount the device without changing the application
- Shafts in metric and US type enable worldwide use
- The high flexibility of the mechanical interface of the encoders and the available accessories allow a single type to be used in many applications
- The compact housing diameter saves valuable space
- Long-term and reliable operation thanks to a high enclosure rating, temperature resistance and bearing lifetime
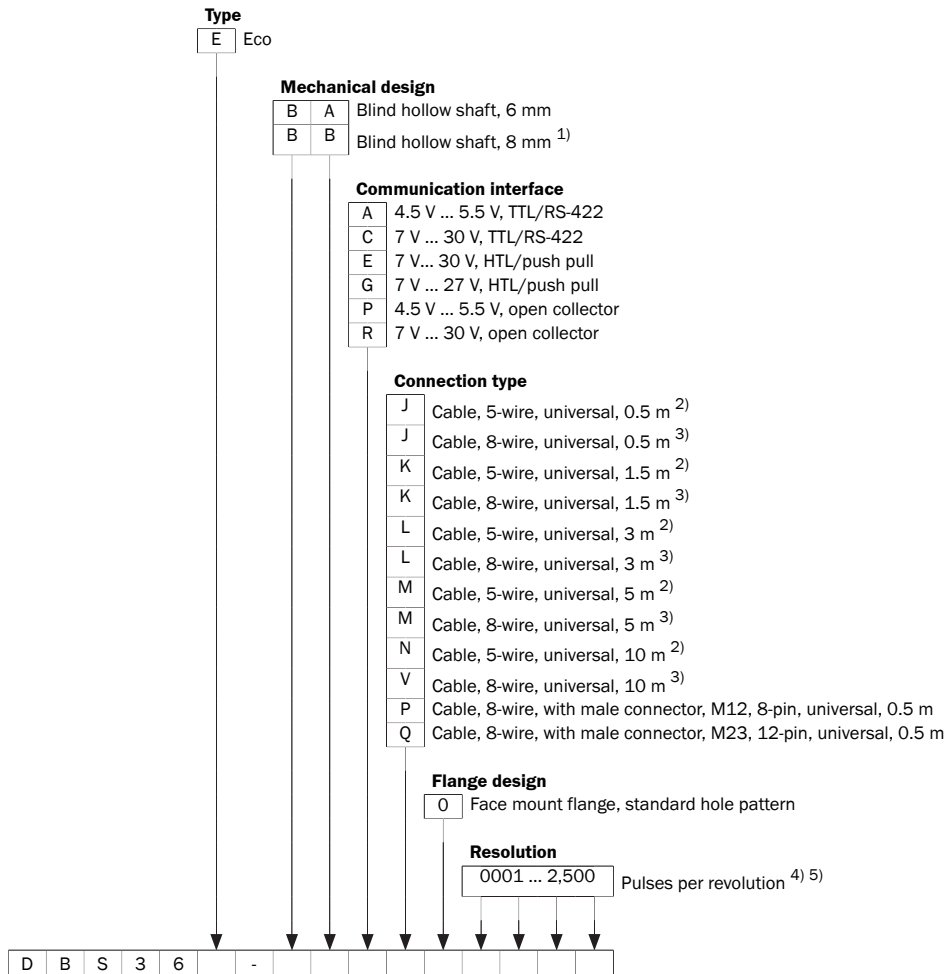
## Fields of application

There are numerous application possibilities for positioning and speed measurement, such as in the textile industry, propulsion technology, storage and conveyor, packaging machines, printing presses, glass industry, and elevators

## Type code

Hollow shaft

**Type**
| E | Eco |

**Mechanical design**
| B | A | Blind hollow shaft, 6 mm |
| B | B | Blind hollow shaft, 8 mm [1] |

**Communication interface**
| A | 4.5 V ... 5.5 V, TTL/RS-422 |
| C | 7 V ... 30 V, TTL/RS-422 |
| E | 7 V... 30 V, HTL/push pull |
| G | 7 V ... 27 V, HTL/push pull |
| P | 4.5 V ... 5.5 V, open collector |
| R | 7 V ... 30 V, open collector |

**Connection type**
| J | Cable, 5-wire, universal, 0.5 m [2] |
| J | Cable, 8-wire, universal, 0.5 m [3] |
| K | Cable, 5-wire, universal, 1.5 m [2] |
| K | Cable, 8-wire, universal, 1.5 m [3] |
| L | Cable, 5-wire, universal, 3 m [2] |
| L | Cable, 8-wire, universal, 3 m [3] |
| M | Cable, 5-wire, universal, 5 m [2] |
| M | Cable, 8-wire, universal, 5 m [3] |
| N | Cable, 5-wire, universal, 10 m [2] |
| V | Cable, 8-wire, universal, 10 m [3] |
| P | Cable, 8-wire, with male connector, M12, 8-pin, universal, 0.5 m |
| Q | Cable, 8-wire, with male connector, M23, 12-pin, universal, 0.5 m |

**Flange design**
| 0 | Face mount flange, standard hole pattern |

**Resolution**
| 0001 ... 2,500 | Pulses per revolution [4] [5] |

| D | B | S | 3 | 6 | | - | | | | | | | | | |

[1] Collets for 5 mm and 6 mm and 1/4" as accessories, separate order item.
[2] Only for G, P and R communication interface.
[3] Only for A, C and E communication interface.
[4] See "Pulses per revolution" table.
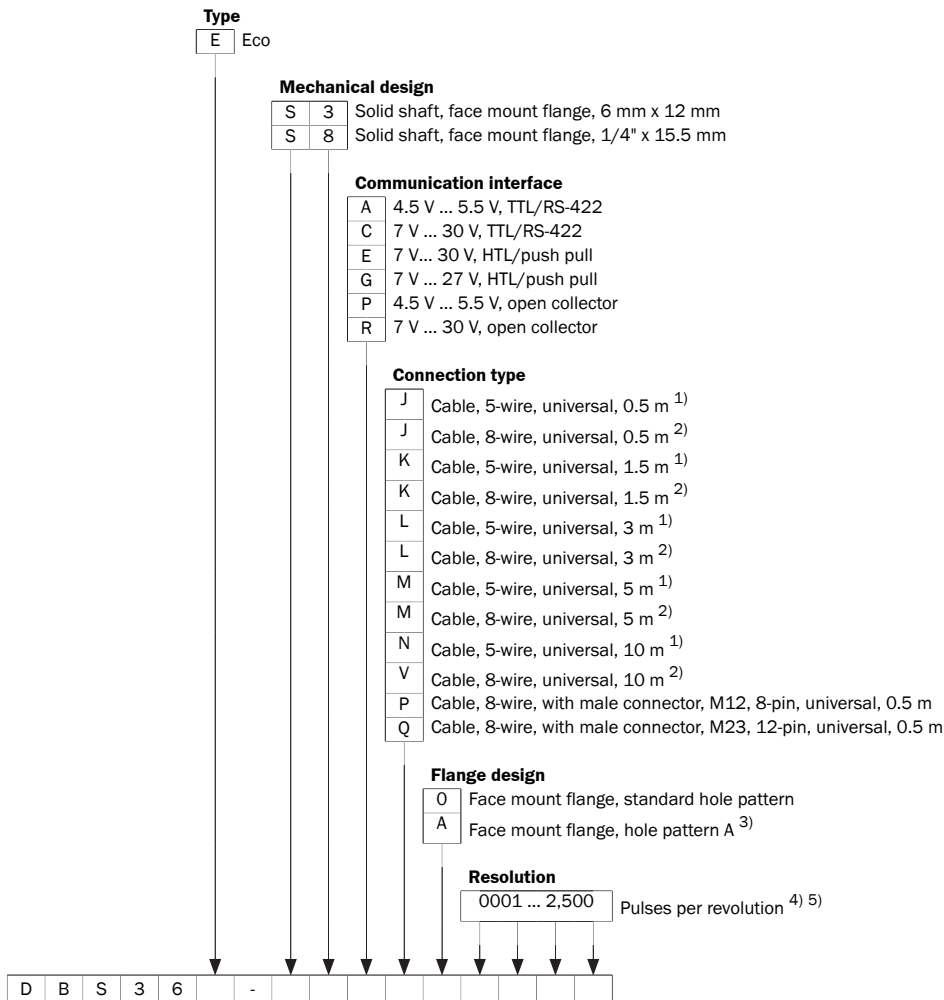[5] Other pulses upon request.

## Pulses per revolution (other pulses upon request)

| DBS36 | | |
|---|---|---|
| 010 | 0250 | 0600 |
| 020 | 0256 | 1000 |
| 050 | 0300 | 1024 |
| 0100 | 0360 | 1200 |
| 0120 | 0400 | 2000 |
| 0125 | 0500 | 2048 |

| DBS36 | | |
|---|---|---|
| 0200 | 0512 | 2500 |

## Solid shaft

**Type**
| E | Eco |

**Mechanical design**
| S | 3 | Solid shaft, face mount flange, 6 mm x 12 mm |
| S | 8 | Solid shaft, face mount flange, 1/4" x 15.5 mm |

**Communication interface**
| A | 4.5 V … 5.5 V, TTL/RS-422 |
| C | 7 V … 30 V, TTL/RS-422 |
| E | 7 V… 30 V, HTL/push pull |
| G | 7 V … 27 V, HTL/push pull |
| P | 4.5 V … 5.5 V, open collector |
| R | 7 V … 30 V, open collector |

**Connection type**
| J | Cable, 5-wire, universal, 0.5 m [1] |
| J | Cable, 8-wire, universal, 0.5 m [2] |
| K | Cable, 5-wire, universal, 1.5 m [1] |
| K | Cable, 8-wire, universal, 1.5 m [2] |
| L | Cable, 5-wire, universal, 3 m [1] |
| L | Cable, 8-wire, universal, 3 m [2] |
| M | Cable, 5-wire, universal, 5 m [1] |
| M | Cable, 8-wire, universal, 5 m [2] |
| N | Cable, 5-wire, universal, 10 m [1] |
| V | Cable, 8-wire, universal, 10 m [2] |
| P | Cable, 8-wire, with male connector, M12, 8-pin, universal, 0.5 m |
| Q | Cable, 8-wire, with male connector, M23, 12-pin, universal, 0.5 m |

**Flange design**
| 0 | Face mount flange, standard hole pattern |
| A | Face mount flange, hole pattern A [3] |

**Resolution**
| 0001 … 2,500 | Pulses per revolution [4] [5] |

| D | B | S | 3 | 6 | | - | | | | | | | | | |

[1] Only for G, P and R communication interface.

[2] Only for A, C and E communication interface.

[3] Only for mechanical version S3.

[4] See "Pulses per revolution" table.

[5] Other pulses upon request.

## Pulses per revolution (other pulses upon request)

| DBS36 | | |
|---|---|---|
| 010 | 0250 | 0600 |
| 020 | 0256 | 1000 |
| 050 | 0300 | 1024 |
| 0100 | 0360 | 1200 |
| 0120 | 0400 | 2000 |
| 0125 | 0500 | 2048 |
| 0200 | 0512 | 2500 |

## 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:

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