



## Incremental encoders DDS36

DDS36E-BBAS00256



**Model Name** > **DDS36E-BBAS00256**  
**Part No.** > **1038500**



*Illustration may differ*

#### At a glance

- Compact diameter of 36 mm
- Choice of various electric interfaces: TTL/RS-422, HTL/push pull and open collector NPN
- Designs with blind hollow shaft or face mount flange with solid shaft
- Connection with axial cable outlet
- Line counts from 100 up to 2,500
- Working temperature range: -10 °C ... +70 °C
- Enclosure rating: IP65

#### Your benefits

- Compact design easily fits in applications with limited installation space
- Extensive incremental encoders product portfolio means users can select the right solution for their requirements
- Excellent price-performance ratio with a rugged IP 65 enclosure rating



#### Performance

|                           |                                 |
|---------------------------|---------------------------------|
| Error limits:             | $\pm 0.11^\circ$                |
| Measuring step deviation: | $\pm 0.035^\circ$ <sup>1)</sup> |
| Measuring step:           | $0.35^\circ$ <sup>2)</sup>      |
| Pulses per revolution:    | 256                             |

<sup>1)</sup> Measuring step x 0.1    <sup>2)</sup>  $360^\circ / (\text{number of lines} \times 4)$

#### Mechanical data

|                                             |                                          |
|---------------------------------------------|------------------------------------------|
| Mechanical interface:                       | Blind hollow shaft                       |
| Shaft diameter:                             | 8 mm                                     |
| Mass:                                       | 130 g                                    |
| Start up torque:                            | 1 Ncm (20 °C)                            |
| Operating torque:                           | 0.8 Ncm (20 °C)                          |
| Permissible movement axial static/dynamic:  | $\pm 0.5 \text{ mm}, \pm 0.2 \text{ mm}$ |
| Permissible movement radial static/dynamic: | $\pm 0.3 \text{ mm}, \pm 0.1 \text{ mm}$ |
| Maximum operating speed:                    | 6,000 U/min <sup>1)</sup>                |
| Moment of inertia of the rotor:             | 1.5 kg/mm <sup>2</sup>                   |
| Bearing lifetime:                           | 2 x 10 <sup>9</sup> revolutions          |
| Max. angular acceleration:                  | 5 x 10 <sup>5</sup> rad/s <sup>2</sup>   |

<sup>1)</sup> Self-warming 3.3 K per 1,000 1/min

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**Electrical data**

|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Electrical interface:                  | 4.5 V ... 5.5 V, TTL/RS422, Cable, axial, 3 m |
| Connection type:                       | Cable, axial, 3 m                             |
| Operating power consumption (no load): | 100 mA                                        |
| Supply voltage:                        | 4.5 V ... 5.5 V                               |
| Output current:                        | 20 mA                                         |
| Maximum output frequency:              | 300 kHz                                       |
| Reference signal, number:              | 1                                             |
| Reference signal, position:            | 90 °, electronically, gated with A and B      |

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**Ambient data**

|                            |                                      |
|----------------------------|--------------------------------------|
| EMC:                       | EN 61000-6-2, EN 61000-6-4           |
| Air humidity:              | 90 % <sup>1)</sup>                   |
| Working temperature range: | -10 °C ... 70 °C                     |
| Storage temperature range: | -25 °C ... 85 °C, without package    |
| Resistance to shocks:      | 100 g, 6 ms (EN 60068-2-27)          |
| Resistance to vibration:   | 5 g, 10 Hz ... 200 Hz (EN 60068-2-6) |
| Enclosure rating:          | IP 65                                |

<sup>1)</sup> Condensation of the optical scanning not permitted

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