



## Incremental encoders DDS50

DDS50E-S4GS00300



**Model Name** > **DDS50E-S4GS00300**  
**Part No.** > **1038753**



*Illustration may differ*

**At a glance**

- Compact diameter of 50 mm
- Choice of various electric interfaces: TTL/RS-422, HTL/push pull and open collector NPN
- Face mount flange with solid shaft
- Connection type using axial cable outlet
- Line counts from 100 up to 2,500 possible
- 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

**The product has been discontinued. Please follow the "replacement product" link for information about alternative products.**



**Performance**

Error limits:	$\pm 0.09^\circ$
Measuring step deviation:	$\pm 0.03^\circ$ <sup>1)</sup>
Measuring step:	$0.3^\circ$ <sup>2)</sup>
Pulses per revolution:	300

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

**Mechanical data**

Mechanical interface:	Solid shaft, Face mount flange
Shaft diameter:	8 mm x 15.5 mm
Mass:	145 g
Start up torque:	1 Ncm (20 °C)
Operating torque:	4 Nmm (20 °C)
Maximum operating speed:	6,000 U/min <sup>1)</sup>
Moment of inertia of the rotor:	0.8 kg/mm <sup>2</sup>
Bearing lifetime:	2 x 10 <sup>9</sup> revolutions

Max. angular acceleration:  $5 \times 10^5 \text{ rad/s}^2$   
Permissible shaft loading radial/axial: 50 N, 30 N

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

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### Electrical data

Electrical interface: 7 V ... 24 V, HTL/Push pull, Cable, axial, 3 m  
Connection type: Cable, axial, 3 m  
Operating power consumption (no load): 100 mA  
Supply voltage: 7 V ... 24 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  
Protection class housing side with cable outlet: IP 65  
Protection class shaft side: IP 65  
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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