



## Incremental encoders DDS50

DDS50E-S4PT00500



**Model Name** > **DDS50E-S4PT00500**  
**Part No.** > **1038812**



*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

**Note: The product has been phased out on 12/31/2011. The replacement depends on the application. A replacement option can be found in the DFS60 product family.**

**Please contact your national subsidiary/agent for further information.**



#### Performance

Error limits:	$\pm 0.05^\circ$
Measuring step deviation:	$\pm 0.018^\circ$ <sup>1)</sup>
Measuring step:	$0.18^\circ$ <sup>2)</sup>
Pulses per revolution:	500

<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 x 10 <sup>5</sup> rad/s <sup>2</sup>
Permissible shaft loading radial/axial:	50 N, 30 N

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

### Electrical data

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Electrical interface:	4.5 V ... 5.5 V, Open Collector NPN, Cable, axial, 5 m
Connection type:	Cable, axial, 5 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

### Ambient data

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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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