



Incremental encoders DDS50

DDS50E-S4AR02048



Model Name > [DDS50E-S4AR02048](#)
Part No. > [1038664](#)



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:	$\pm 0.01^\circ$
Measuring step deviation:	$\pm 0.004^\circ$ ¹⁾
Measuring step:	0.04° ²⁾
Pulses per revolution:	2,048

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

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 ¹⁾
Moment of inertia of the rotor:	0.8 kg/mm ²
Bearing lifetime:	2 x 10 ⁹ revolutions

Max. angular acceleration: $5 \times 10^5 \text{ rad/s}^2$

Permissible shaft loading radial/axial: 50 N, 30 N

¹⁾ Self-warming 3.3 K per 1,000 1/min

Electrical data

Electrical interface:	4.5 V ... 5.5 V, TTL/RS422, Cable, axial, 1.5 m
Connection type:	Cable, axial, 1.5 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

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 % ¹⁾
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

¹⁾ Condensation of the optical scanning not permitted

Australia

Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com