



DGS3x

Large hollow shaft encoders for rough environmental conditions

INCREMENTAL ENCODERS

SICK
Sensor Intelligence.



Technical data overview

Pulses per revolution	120 ... 16,384
Mechanical design	Blind hollow shaft / through hollow shaft (depending on type)
Shaft diameter	1" ¹⁾ 30 mm ²⁾
Connection type	Cable, 11-wire, radial Male connector, MS, 10-pin, radial
Communication interface	Incremental
Communication interface detail	TTL / RS-422 HTL / Push pull TTL / HTL Open Collector
Supply voltage	4.5 ... 5.5 V 8 ... 24 V 5 ... 15 V
Enclosure rating	IP66
Output frequency	300 kHz
Operating temperature range	-20 °C ... +70 °C

¹⁾ Separately order collets for 1/2", 3/4", 5/8", 7/8", 10 mm, 12 mm, 14 mm, 15 mm, 18 mm, 20 mm, 22 mm, 24 mm and 25 mm as accessories.

²⁾ Separately order collets for 24 mm and 25 mm as accessories.

Product description

The high-resolution DGS34/DGS35 hollow shaft incremental encoder family is a rugged solution for very challenging encoder applications. With generous hollow shaft diameters of up to 1-1/8" or 30 mm, they are ideal for mounting directly on the motor shaft.

At a glance

- Incremental encoder Ø 3.5"
- Electrical interface
- 5V TTL / RS422
- 8 ... 24V TTL / RS422
- 8 ... 24V HTL / push pull
- 8 ... 24V Open Collector"
- Blind hollow shaft Ø 30 mm; 1", 1/2", 5/8", 3/4", 7/8"
- Cable connection with 1 m, 1.5 m, 3 m, 5 m, 10 m
- Number of lines 120 ... 16,384

Your benefits

- The high output frequency means that mechanical gear reduction is not required.
- Hollow shaft design does not require couplings or mounting bracket.
- Large selection of stator couplings available for virtually any AC asynchronous motor

Fields of application

- Crane winches
- Stages and theaters
- Steel industry
- Elevators
- Packaging industry

Ordering information

Other models and accessories → www.sick.com/DGS3x

Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
Blind hollow shaft	1" ¹⁾	Incremental / HTL / Push pull	8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-5HK01024	7101733
					2,048	DGS34-5HK02048	7101734
					360	DGS34-5HK00360	7101732
					4,096	DGS34-5HK04096	7101735
					8,192	DGS34-5HK08192	7101736
	1" ¹⁾	Incremental / HTL / Push pull	8 V ... 24 V	Male connector, MS, 10-pin, radial	1,024	DGS34-5H401024	7101718
					2,048	DGS34-5H402048	7101719
					360	DGS34-5H400360	7101717
					4,096	DGS34-5J400360	1073724
					4,096	DGS34-5H404096	7101720
1" ¹⁾	Incremental / TTL / HTL	5 V ... 15 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-7HK01024	7101738	
				2,048	DGS34-7HK02048	7101739	
				360	DGS34-7HK00360	7101737	
				4,096	DGS34-7HK04096	7101740	
				8,192	DGS34-7HK08192	7101741	

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Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
				Male connector, MS, 10-pin, radial	1,024	DGS34-7H401024	7101723
					2,048	DGS34-7H402048	7101724
					360	DGS34-7H400360	7101722
					4,096	DGS34-7H404096	7101725
					8,192	DGS34-7H408192	7101726
		Incremental / TTL / RS-422	4.5 V ... 5.5 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-1HK01024	7101728
					2,048	DGS34-1HK02048	7101729
					360	DGS34-1HK00360	7101727
					4,096	DGS34-1HK04096	7101730
					8,192	DGS34-1HK08192	7101731
	Male connector, MS, 10-pin, radial				1,024	DGS34-1H401024	7101713
					2,048	DGS34-1H402048	7101714
					360	DGS34-1H400360	7101712
					4,096	DGS34-1H404096	7101715
					8,192	DGS34-1H408192	7101716
	30 mm ²⁾	Incremental / HTL / Push pull	8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-5LK01024	7101763
					2,048	DGS34-5LK02048	7101764
					360	DGS34-5LK00360	7101762
					4,096	DGS34-5LK04096	7101765
					8,192	DGS34-5LK08192	7101766
Blind hollow shaft	30 mm ²⁾	Incremental / HTL / Push pull	8 V ... 24 V	Male connector, MS, 10-pin, radial	1,024	DGS34-5L401024	7101748
					2,048	DGS34-5L402048	7101749
					360	DGS34-5L400360	7101747
					4,096	DGS34-5L404096	7101750
					8,192	DGS34-5L408192	7101751

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Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.	
		Incremental / TTL / HTL	5 V ... 15 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-7LK01024	7101768	
					2,048	DGS34-7LK02048	7101769	
					360	DGS34-7LK00360	7101767	
					4,096	DGS34-7LK04096	7101770	
					8,192	DGS34-7LK08192	7101771	
				Male connector, MS, 10-pin, radial	1,024	DGS34-7L401024	7101753	
					2,048	DGS34-7L402048	7101754	
					360	DGS34-7L400360	7101752	
					4,096	DGS34-7L404096	7101755	
		Incremental / TTL / RS-422	4.5 V ... 5.5 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS34-1LK01024	7101758	
					2,048	DGS34-1LK02048	7101759	
					360	DGS34-1LK00360	7101757	
					4,096	DGS34-1LK04096	7101760	
					8,192	DGS34-1LK08192	7101761	
				Male connector, MS, 10-pin, radial	1,024	DGS34-1L401024	7101743	
					2,048	DGS34-1L402048	7101744	
					360	DGS34-1L400360	7101742	
					4,096	DGS34-1L404096	7101745	
Through hollow shaft	1" ¹⁾	Incremental / HTL / Push pull	8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-5HK01024	7101673	
					120	DGS35-5HK00120	7130703	
					2,048	DGS35-5HK02048	7101674	
	1" ¹⁾	Incremental / HTL / Push pull	8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	360	DGS35-5HK00360	7101672	
					4,096	DGS35-5HK04096	7101675	
					8,192	DGS35-5HK08192	7101676	
Male connector, MS, 10-pin, radial	1,024	DGS35-5H401024	7101658					
	Through hollow shaft	1" ¹⁾	Incremental / HTL / Push pull	8 V ... 24 V	Male connector, MS, 10-pin, radial	2,048	DGS35-5H402048	7101659
						360	DGS35-5H400360	7101657
4,096						DGS35-5H404096	7101660	
8,192						DGS35-5H408192	7101661	

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Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.		
		Incremental / TTL / HTL	5 V ... 15 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-7HK01024	7101678		
					2,048	DGS35-7HK02048	7101679		
					360	DGS35-7HK00360	7101677		
					4,096	DGS35-7HK04096	7101680		
					8,192	DGS35-7HK08192	7101681		
				Male connector, MS, 10-pin, radial	1,024	DGS35-7H401024	7101663		
					2,048	DGS35-7H402048	7101664		
					360	DGS35-7H400360	7101662		
					4,096	DGS35-7H404096	7101665		
		Incremental / TTL / RS-422	4.5 V ... 5.5 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-1HK01024	7101668		
					2,048	DGS35-1HK02048	7101669		
					360	DGS35-1HK00360	7101667		
					4,096	DGS35-1HK04096	7101670		
					8,192	DGS35-1HK08192	7101671		
			Cable, 11-wire, radial, 3 m	1,024	DGS35-1JL01024	7134504			
				8 V ... 24 V	Male connector, MS, 10-pin, radial	1,024	DGS35-3J401024	7126765	
			30 mm ²⁾	Incremental / HTL / Push pull		8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-5KK01024
					2,048			DGS35-5LK01024	7101703
								DGS35-5LK02048	7101704
	360				DGS35-5LK00360			7101702	
Through hollow shaft	30 mm ²⁾	Incremental / HTL / Push pull			8 V ... 24 V			Cable, 11-wire, radial, 1.5 m	4,096
			8,192	DGS35-5LK08192		7101706			
			Male connector, MS, 10-pin, radial	1,024		DGS35-5K401024	7134312		
						DGS35-5L401024	7101688		
				120		DGS35-5L400120	1094046		

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Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.				
					2,048	DGS35-5K402048	1062811				
						DGS35-5L402048	7101689				
					2,500	DGS35-5K402500	7134638				
						360	DGS35-5L400360	7101687			
							4,096	DGS35-5L404096	7101690		
							5,000	DGS35-5K405000	7130624		
							8,192	DGS35-5L408192	7101691		
						Incremental / Open Collector	8 V ... 24 V	Male connector, MS, 10-pin, radial	120	DGS35-9L400120	7130710
					Incremental / TTL / HTL	5 V ... 15 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-7LK01024	7101708	
									2,048	DGS35-7LK02048	7101709
									360	DGS35-7LK00360	7101707
									4,096	DGS35-7LK04096	7101710
		8,192	DGS35-7LK08192	7101711							
		Male connector, MS, 10-pin, radial	1,024	DGS35-7L401024				7101693			
			2,048	DGS35-7L402048				7101694			
			360	DGS35-7L400360				7101692			
			4,096	DGS35-7L404096				7101695			
			8,192	DGS35-7L408192				7101696			
		Incremental / TTL / RS-422	4.5 V ... 5.5 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-1KK01024	1049552				
						DGS35-1LK01024	7101698				
Through hollow shaft	30 mm ²⁾	Incremental / TTL / RS-422	4.5 V ... 5.5 V	Cable, 11-wire, radial, 1.5 m	2,048	DGS35-1LK02048	7101699				
						DGS35-YLK02048	1099109				
					2,500	DGS35-1KK02500	1055330				
						360	DGS35-1LK00360	7101697			
							4,096	DGS35-1LK04096	7101700		

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Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
					8,192	DGS35-1LK08192	7101701
				Cable, 11-wire, radial, 1 m	120	DGS35-1K200120	1063526
					4,096	DGS35-YK204096	1096705
				Male connector, MS, 10-pin, radial	1,024	DGS35-1L401024	7101683
					2,048	DGS35-1K402048	7130548
						DGS35-1L402048	7101684
					360	DGS35-1L400360	7101682
					4,096	DGS35-1L404096	7101685
					8,192	DGS35-1K408192	1118935
						DGS35-1L408192	7101686
			8 V ... 24 V	Cable, 11-wire, radial, 1.5 m	1,024	DGS35-3KK01024	1057039
					16,384	DGS35-2LK16384	1080222
					2,048	DGS35-3KK02048	1062810
						DGS35-3LK02048	1062354
				Cable, 11-wire, radial, 3 m	1,024	DGS35-3LL01024	1055112
				Cable, 11-wire, radial, 5 m	5,000	DGS35-2KM05000	1096730
				Male connector, MS, 10-pin, radial	1,024	DGS35-3K401024	1058110
					2,048	DGS35-3K402048	1060264
						DGS35-3L402048	1062795
					5,000	DGS35-2K405000	1100127

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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.”

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