

Encoder WDG 67Q



2.65" encoder

- 3/8" stainless steel shaft
- Up to 25000 PPR by use of high grad electronics
- Protection to IP67, shaft sealed to IP65
- Full connection protection with 10 VDC up to 30 VDC
- With light reserve warning
- Optional: -40 °C up to +80 °C [-40 °F up to +176 °F]
Protection to IP67 all around

www.wachendorff-automation.com/wdg67q

Available PPR up to 25000 PPR

Mechanical Data

Housing

- Square flange: Aluminium
- Cap: Aluminium, powder coated

Shaft

- Material: Ø 9.525 mm [3/8"] stainless steel
- Permitted load on shaft end: max. 220 N radial [22434 kp]
max. 120 N axial [12237 kp]
- Starting torque: approx. 1 Ncm [1.416 in-ozf] at ambient temperature

Bearings

- Type: 2 precision ball bearings
- Service life: 1 x 10⁹ revs. at 100 % rated shaft load
1 x 10¹⁰ revs. at 40 % rated shaft load
1 x 10¹¹ revs. at 20 % rated shaft load

Max. operating speed: 8000 rpm

Weight: approx. 300 g [10582 oz]

Connections: cable or connector

Protection rating: IP67, shaft sealed to IP65
(EN 60529)

Operating temperature: -20 °C up to +80 °C [-4 °F up to +176 °F]
1 Vss: -10 °C up to +70 °C, [14 °F up to 158 °F]

Storage temperature: -30 °C up to +80 °C [-22 °F up to +176 °F]

Electrical Data

Power supply/ 4.75 VDC up to 5.5 VDC: max. 100 mA
Open circuit current 5 VDC up to 30 VDC: max. 70 mA
consumption: 10 VDC up to 30 VDC: max. 100 mA

Output circuit: TTL, RS422 compatible
HTL
1 Vss Sin/Cos

Pulse frequency: TTL ≤ 5000 PPR: max. 200 kHz
HTL ≤ 5000 PPR: max. 200 kHz
TTL > 5000 PPR: max. 2 MHz
HTL > 5000 PPR: max. 600 kHz
1 Vss Sin/Cos: max. 100 kHz

Channels: AB, ABN and inverted signals

Load: max. 40 mA/channel,
@ 1 Vss Sin/Cos: 120 Ohm termination

Circuit protection: circuit type F24, G24, H24, I24, P24, R24 only

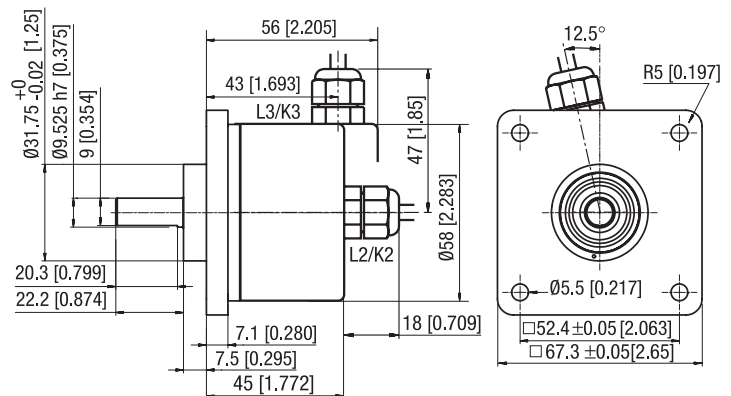
Accuracy: Phase offset: 90° ± max. 7.5 %
of the pulse length
pulse-/pause-ratio: 50 % ± max. 7 %

Further technical information on:

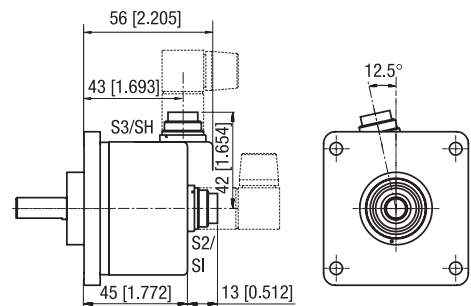
www.wachendorff-automation.com/gtd

Matching accessories on: www.wachendorff-automation.com/acs

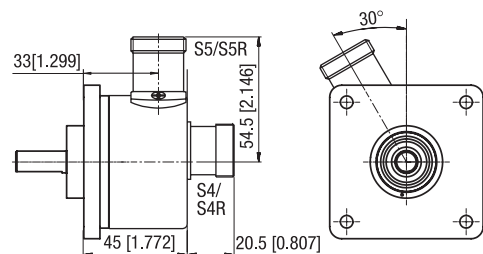
Cable connection K2, K3, L2, L3 with 2 m cable



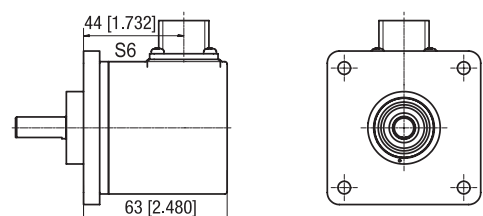
Connector (M16x0.75) SI, SH, 5-, 6-, 8-, 12-pin, S2, S3, 7-pin



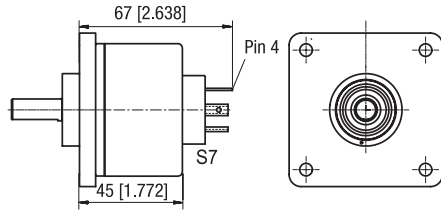
Connector (M23) S4, S5, S4R, S5R, 12-pin



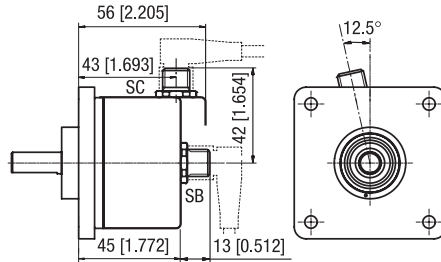
MIL-connector S6, 6-pin



Valve-connector S7, 4-pin



Sensor-connector (M12x1) SB, SC, 4-, 5-, 8-, 12-pin



All dimensional specifications in mm [inch].

Options:

Low-temperature:

The encoder WDG 67Q with the output circuit types F24, G24, H24, I24, P24, R24, F05, G05, I05, P05, 245 and 645, is also available with the extended temperature range -40 °C up to +80 °C [-40 °F up to +176 °F] (measured at the flange). When ordering please add the suffix code - ACA.

Shafts sealed to IP67 (not for 1 Vss Sin/Cos):

The encoder WDG 67Q can be supplied in a full IP67 version. When ordering please add the suffix code - AAO.

Max. RPM	Permitted Shaft-Loading axial	Max. PPR	Starting-torque
3500 rpm	100 N 110 N	2500 PPR	approx. 4 Ncm

Amended specifications for shaft sealed to IP67.

Cable length:

The encoder WDG 67Q can be supplied with more than 2 m [6.562 ft] cable. The maximum cable length depends on the supply voltage and the frequency; see "General Technical Data":

www.wachendorff-automation.com/gtd

Please extend the standard order code with a three figure number, specifying the cable length in decimetres [1/10 meters].

Example: 3 m cable = 030

Ordering information:

Please see our general technical data at: www.wachendorff-automation.com/gtd

Output circuit:					
Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order Key	
up to 1024	5 - 30	HTL	-	H30	
		HTL inverted	-	R30	
up to 5000	4,75 - 5,5	TTL	•	G05	
		TTL, RS422 comp., inverted	-	H05	
			•	I05	
			-	R05	
	10 - 30	HTL	•	G24	
			-	H24	
		HTL inverted	•	I24	
			-	R24	
		TTL, RS422 comp., inv.	•	245	
10000 up to 25000	4,75 - 5,5	TTL	-	F05	
		TTL, RS422 comp., inv.	-	P05	
	10 - 30	HTL	-	F24	
		HTL inverted	-	P24	
		TTL, RS422 comp., inv.	-	645	
up to 2048	4,75 - 5,5	1 Vss Sin/Cos	-	SIN	

Channels: AB, ABN (SIN: AB)

Pulses per revolution PPR:
2, 10, 15, 20, 24, 25, 30, 36, 40, 48, 50, 60, 64, 72, 87, 90, 100, 120, 125, 127, 128, 150, 160, 180, 200, 216, 240, 250, 254, 256, 300, 314, 320, 360, 400, 500, 512, 571, 600, 625, 720, 750, 768, 800, 810, 900, 1000, 1024, 1200, 1250, 1270, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 3000, 3600, 4000, 4096, 4685, 5000, 10000, 12500, 20000, 25000.

1 Vss Sin/Cos 1024 PPR and 2048 PPR only
Other PPRs on request

Electrical connections:				ABN inv.
Order key	Outgoing	Description		
Cable: (Length 2 m standard)				
K2	axial	shield not connected		•
L2		shield connected to encoder housing		•
K3	radial	shield not connected		•
L3		shield connected to encoder housing		•
Connector:				
SI5	axial	5-pin, connector		-
SH5	radial			-
SI6	axial	6-pin, connector		-
SH6	radial			-
SI8	axial	8-pin, connector		•
SH8	radial			•
SH12	axial	12-pin, connector		•
SH12	radial			•
S2	axial	7-pin, connector		-
S3	radial			-
S4/S4R	axial	12-pin, connector (R = clockwise pin count)		•
S5/S5R	radial			•
S6	axial	6-pin, MIL-connector		-
S7	radial	4-pin, Valve-connector		-
SB4	axial	4-pin, M12-sensor-connector		-
SC4	radial			-
SB5	axial	5-pin, M12-sensor-connector		-
SC5	radial			-
SB8	axial	8-pin, M12-sensor-connector		•
SC8	radial			•
SB12	axial	12-pin, M12-sensor-connector		•
SC12	radial			•

Options:

Empty = Without option
ACA = Low-temperature -40 °C up to +80 °C [-40 °F up to +176 °F]
AAO = Shaft sealed to IP67
In decimetres = Cable length

Order No.:

Example	WDG 67Q	5000	ABN	G24	K2	
Your encoder	WDG 67Q					