

Encoder MDG 53 S



- **Extremely rugged and economical encoder with short measurements**
- **Easy mounting**
- **Meets protection class IP68**

Application fields:

Machines for labelling inspection and filling, industrial elevators also for outdoor use, belt scale in a quarry, automatic car wash machines and crane systems.

Specifications

Available Pulses (Other PPRs on request)

9, 10, 15, 20, 25, 28, 30, 40, 50, 60, 90, 100, 120, 125, 128, 150, 160, 180, 200, 235, 250, 300, 314, 318, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500

Mechanical Data

Housing	
- Servo flange:	Aluminium incl. Nut M20 x 1,5
- Housing	Aluminium
Shaft	
- Material:	Stainless steel
- Loading on shaft-End:	max. 20 N radial max. 10 N axial
- Starting torque:	ca. 1,2 Ncm at ambient temperature
Bearings	
- Type:	2 precision ball-Bearings
- Service life:	10 ⁹ U bei 100% of full rated shaft load 10 ¹⁰ revs. at 40% 10 ¹¹ revs. At 20%
Operating speed:	6.000 rpm
Weight:	approx. 215 g
Connection:	Shielded cable or connector
Anzugsmoment Mutter:	max. 10 Nm
Optics	
Light source:	IR - LED
Service life:	typ. 100.000 hrs. differential
Scanning:	

Accuracy

Quadrature phasing: 90° ± 7,5%
Pulse on/off ratio: 50% ± 7%

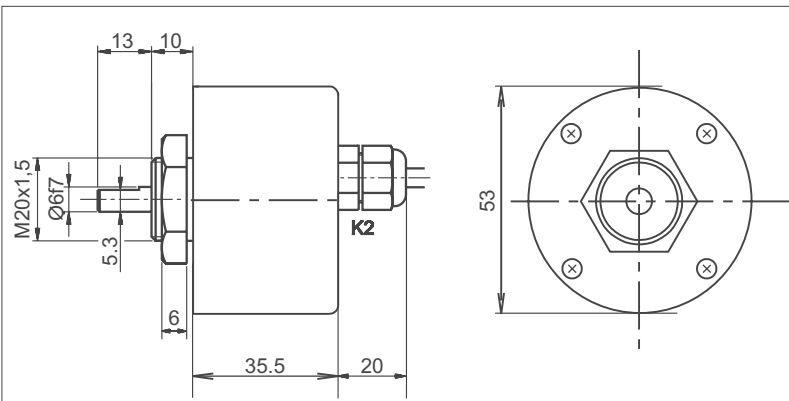
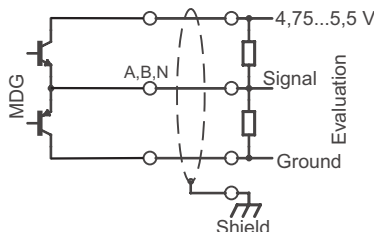
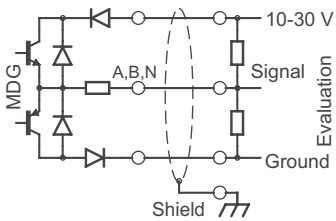
Environmental Data

Measured mounted and housing grounded.

ESD (DIN EN 61000-4-2): 8 kV
Burst (DIN EN 61000-4-4): 2 kV
Protection rating: Ip68 (EN 60529)
Vibration (DIN EN 60068-2-6): 50m/s² (10...2000 Hz)
Shock (DIN EN 60068-2-27): 1000m/s² (6 ms)
Operating temperature: -10... +70 °C
Storage temperature: -30... +80 °C

Electrical Data:

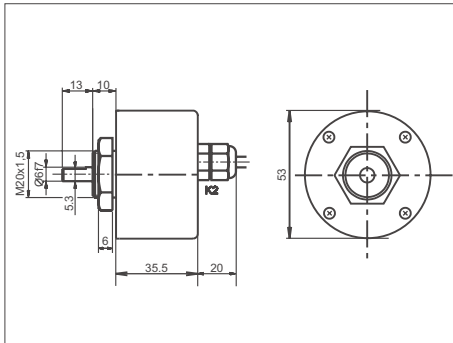
	G24 / I24	G05 / I05
Design according to	DIN VDE0160	DIN VDE0160
Power supply:	10 - 30 VDC	4,75 - 5,5 VDC
Current consumption::	max. 70 mA	max. 70 mA
Channels	see pulse diagram	
Output:	push-pull	push-pull
Load:	max. 40 mA	max. 40 mA
Signal level:	at 20 mA	at 20 mA
	H > U _b - 2,5 VDC	H > 2,5 VDC
	L < 2,5 VDC	L < 1,2 VDC
Pulse frequency:	max. 200 kHz	max. 200 kHz
Circuit protection:	yes	no
Early-warning output:	conducting when defective	
Cable length:	max. 100 m	max. 100 m



Dimensional drawing MDG 53S, dimensional specifications in mm

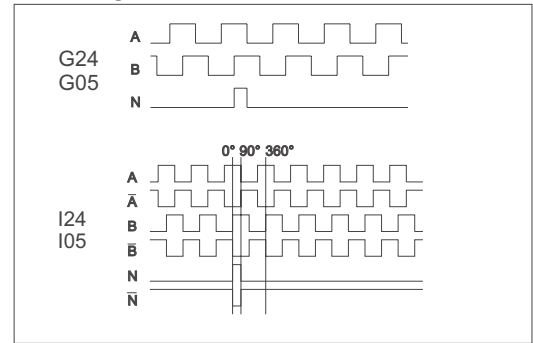
MDG 53 S: Cable and Connector Details

Cable connection, 2 m shielded cable



Circuit Function	G24,G05 colour	I24,I05 colour
Negative	white	white
Positive	brown	brown
A	green	green
B	yellow	yellow
N	grey	grey
Early-warning	pink	pink
A inv.	-	red
B inv.	-	black
N inv.	-	violet
Shield	cable branding	

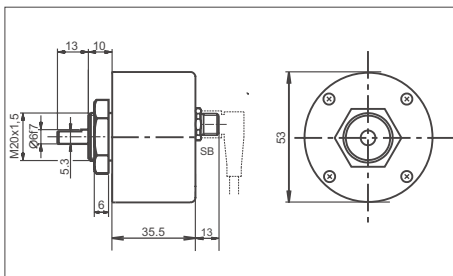
Pulse diagram



K2: axial, shield not connected (standard)
L2: axial, shield connected to encoder housing

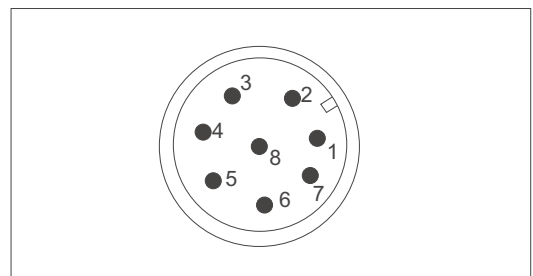
View from the shaft end, shaft rotating clockwise.

Connector, 8-pin



Circuit Function	G24,G05, I24, I05 Pin
Negative	1
Positive	2
A	3
B	4
N	5
A inv.	6
B inv.	7
N inv.	8

Pin Identification



SB: axial

Pin arrangement on encoder

All dimensions in mm.

Please ask about other available options.

Ordering Information:

Channels: A, AB, ABN	Output Circuit G24 = 10 - 30 VDC I24 = 10 - 30 VDC (inv.)	G05 = 5 VDC I05 = 5 VDC (inv.)							
Pulses per revolution: 9, 10, 15, 20, 25, 28, 30, 40, 50, 60, 90, 100, 120, 125, 128, 150, 160, 180, 200, 235, 250, 300, 314, 318, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500 Other PPRs on request	Electrical connections: Cable K2 = axial, 2 m, shield not connected (standard) L2 = axial, 2 m, shield connected to encoder housing Connector SB = 8-pol. axial								
Example	MDG 53 S	-	500	-	ABN	-	G24	-	K2
Your Encoder	MDG 53 S	-		-		-		-	