

Encoder MDG 40 S



- Robust and economical encoder with small dimensions
- Easy screw mounting
- Protection to IP67, IP65 on shaft

Application fields:

Machines used in the wood and plastic industries, car wash systems, food processing machines, elevators, machine construction, doors and gates, wood processing machines, textile machines, motion control

Specifications

Available 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

Mechanical Data

Housing

- Screw flange: Aluminium incl. nut M20x1,5
- Encoder body: Aluminium, powdercoated

Shaft

- Material: Stainless steel
- Loading on shaft end: max. 80N radial, max. 50N axial
- Starting torque: approx. 0,2Ncm at ambient temperature

Bearings

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

Operating speed:

- Weight: 12.000rpm approx. 90g
- Connection: Shielded cable or connector
- Starting torque: max. 10Nm

Optics

- Light source: IR-LED
- Service life: typ. 100,000 hrs.
- Scanning: differential

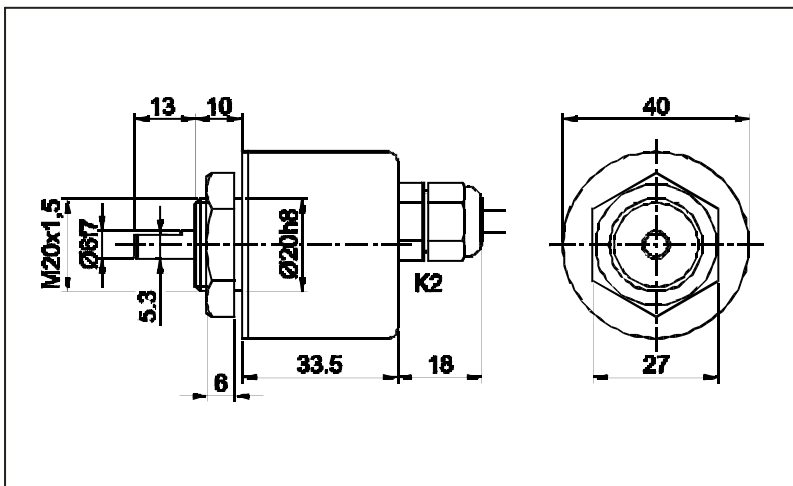
Accuracy

- 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): 2kV
- Protection rating: IP67. Shaft sealed to IP65.
- Vibration (DIN EN 60068-2-6): 50m/s² (10...2000Hz)
- Shock (DIN EN 60068-2-27): 1000m/s² (6ms)
- Operating temperature: -10°C to +70°C
- Storage temperature: -30°C to +80°C

Electrical Data:		G24/I24	G05/I05
Design according to:	DINVDE0160	DINVDE0160	
Power Supply:	10-30VDC	4,75-5,5VDC	
Current consumption:	max. 70mA	max. 70mA	
Channels:	see pulse diagram		
Output:	push-pull	push-pull	
Load:	max. 40mA	max. 40mA	
Signal level:	at 20mA	at 20mA	
	H > U _g 2,5VDC	H > 2,5 VDC	
	L < 2,5VDC	L < 1,2VDC	
Pulse frequency:	max. 200kHz	max. 200kHz	
Circuit protection:	yes	no	
Early-warning output:	conducting when defective		
Cable length:	max. 100m	max. 100m	

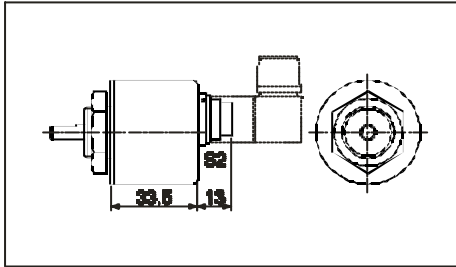


Dimensional drawing MDG 40 S with K2, dimensional specifications in mm

Customer-specific adaptations on request.

MDG 40 S: Cable and Connector Details

Connector, 7-pin

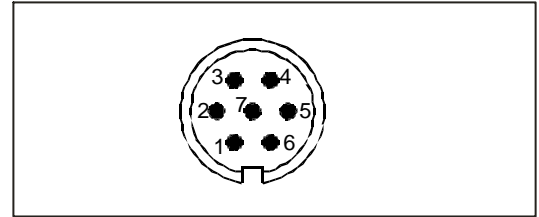


S2:axial

Circuit Function	G24, G05 Pin
Negative	1
Positive	2
A	3
B	4
N	5
Early-warning Output	6
N.c.	7

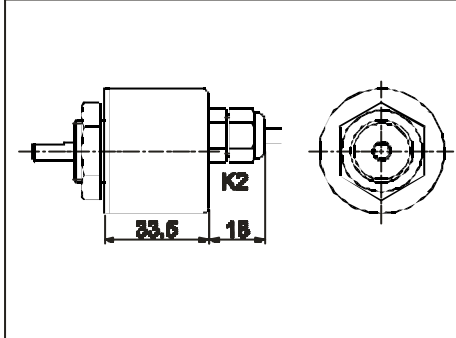
Connector housing electrically connected to encoder housing.

Pin Identification



Pin arrangement on encoder

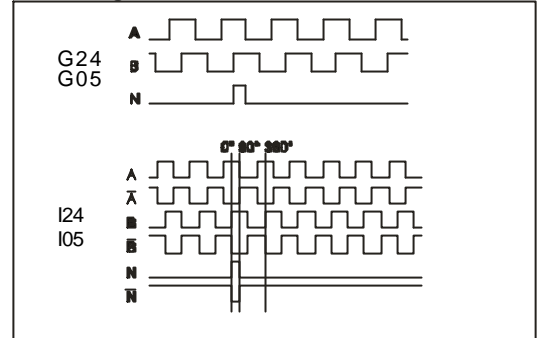
Cable connection, 2 m shielded cable



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

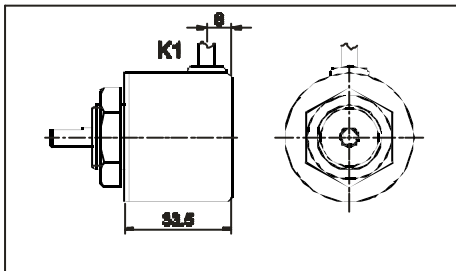
Circuit Function	G24, G05 Colour	I24, I05 Colour
Negative	white	white
Positive	brown	brown
A	green	green
B	yellow	yellow
N	grey	grey
Early-warn Output	pink	pink
Ainv.	-	red
Binv.	-	black
Ninv.	-	violet
Shield	cable braiding	

Pulsediagram



View from the shaft end, shaft rotating clockwise.

Cable connection, 2 m shielded cable



K1:radial, shield not connected, Protection rating IP50
All dimensions in mm.

Circuit Function	G24, G05 Colour
Negative	white
Positive	brown
A	green
B	yellow
N	grey
Early-warning Output	pink
Shield	braiding

Options:

1. Low friction encoder
2. Total IP67 protection
3. Alternative cable lengths

Please ask about other available options.

Ordering Information:

Channels:	A, AB, ABN
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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 PPR on request

Output circuit:	G24 = 10-30VDC	G05 = 5VDC
Only for K2, L2:	I24 = 10-30VDC (inv.)	I05 = 5VDC (inv.)

Electrical connections:
Cable
K1 = radial, 2m, shield not connected (protection IP50)
K2 = axial, 2m, shield not connected (standard)
L2 = axial, 2m, shield connected to encoder housing
Connector
S2 = 7-pin, axial

Example	MDG40S	-	500	-	ABN	-	G24	-	K2
Your Encoder	MDG40S	-		-		-		-	