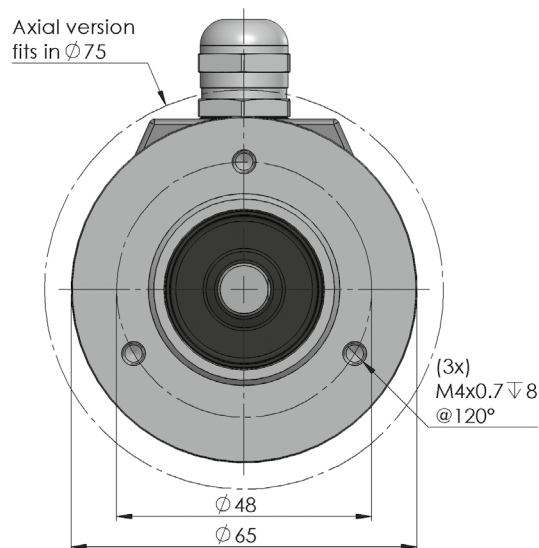
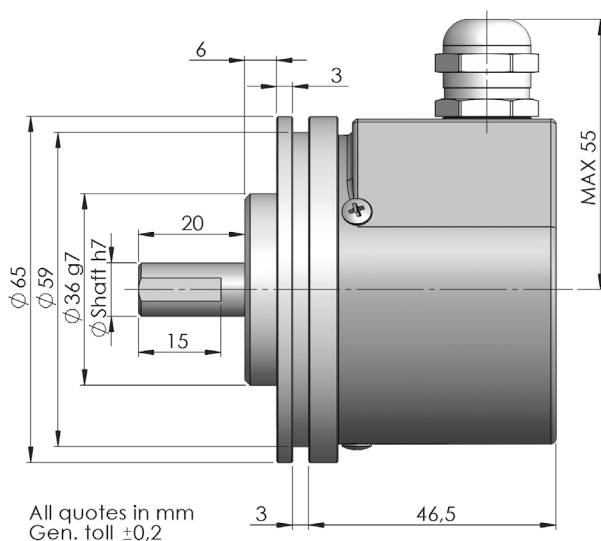
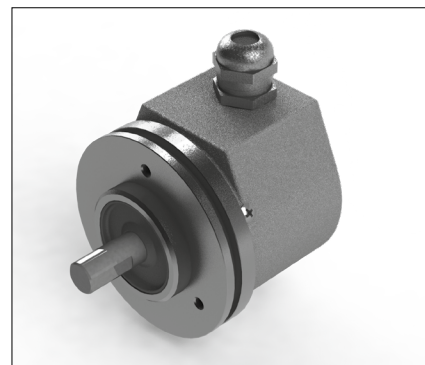


## Serie MS Series MS

### Absoluter Drehgeber mit Parallel- oder Analog Schnittstelle (ø 65 mm) *Absolute rotary encoder with parallel or analogue interface (ø 65 mm)*

#### Mechanische Daten / Mechanics Data

Haube / Cover:	Aluminium / aluminium
Flansch / Body:	Aluminium / Aluminium
Welle / Shaft:	Edelstahl / Stainless steel
Kugellager / Bearings:	doppelt gelagert / 2 ballraces
Gewicht / Weight:	300 g
IP Schutzart / IP Protection:	IP65
Umdrehungen / RPM:	max. 6000
Drehmoment / Torque:	5Ncm
Trägheitsmoment / Inertia:	100 gcm <sup>2</sup>
Wellenbelastung / Shaft Loading:	Axial 100N – Radial 100N



### Elektronische Daten / Electronics Data

Versorgungsspannung / Power supply:	5/24 V, hängt von der Ausgangsschaltung ab / 5/24 V, depends on the electronics circuit
max. Stromaufnahme / Current consumption:	max. 100 mA
max. Ausgangsbelastung / Permissible load:	40 mA
Frequenz / Frequency:	50 KHz (LSB)
Schutz / Protections:	kurzschlussfest, Umkehrpolarität / against short circuit, reversal polarity
Betriebstemperatur / Operating Temperature:	-20/+70°C

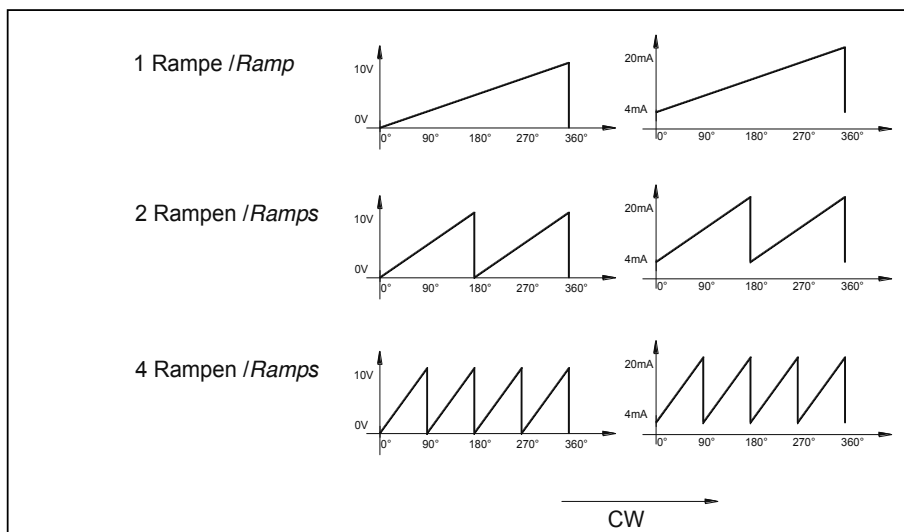
### Bestellbezeichnung / Ordering Code

MS	*	3	*	*	*	/	**	
	Welle Shaft	Flansch Flange	Ausgangsschaltungen Output	Optionen Options	Anschlüsse Connections		Auflösung Resolution	
			<b>Digitalausgang / Digital output max 13bit (8192)</b>					
	3 = Ø 6 mm 6 = Ø 8 mm 1 = Ø 10 mm	3	1 = Gray NPN 11/24V 2 = Gray Push-Pull 11/24V 3 = Gray TTL 5V 4 = Bin NPN 11/24V 5 = Bin Push-Pull 11/24V 6 = Bin TTL 5V 7 = BCD NPN 11/24V 8 = BCD Push-Pull 11/24V 9 = BCD TTL 5V  BCD: Auflösung max. 1024 Resolution max 1024	A = None B = Open Coll. E = GRAY Excess S = Strobe	<b>Kabel / Cable</b> 9 = Cable Axi 3 = Cable Rad  <b>SUB-D 25p</b> N = 9413 Axi R = 9413 Rad  <b>M23 12p/16p</b> 2 = 9416/9426 Axi 5 = 9416/9426 Rad		max 13bit  360 = 360 1024 = 1024 4096 = 4096 ... 8192 = 8192	
			<b>Digitalausgang / Digital output max 17bit (131072)</b>					
			2 = Gray Push-Pull 11/24V 3 = Gray TTL 5V 5 = Bin Push-Pull 11/24V 6 = Bin TTL 5V	A = None S = Strobe Z = Preset	<b>SUB-D 25p</b> N = 9413 Axi R = 9413 Rad		max 17bit  12C = 4096 13C = 8192 ... 17C = 131072	
			<b>Analogausgang / Analogue output max 14bit</b>					
			C = 4-20mA M = 4-20mA / 0-10V D = 0-10V Versorgungsspannung / Power Supply 24V	A = None Z = Preset	<b>M23 12p/16p</b> 2 = 9416/9426 Axi 5 = 9416/9426 Rad		R1 = 1 Ramp/turn R2 = 2 Ramp/turn R4 = 4 Ramp/turn	

### Analogausgang / Analogue Output

Versorgungsspannung / Power Supply 24V

Anschluss 9416 Connections 9416	
1	-
2	+
3	Iout+ (4-20mA)
4	
5	Vout+ (0-10V)
6	
7	Ud/Down
8	
9	
10	
11	
12	



### Anschlüsse Digitalausgang / Connections Digital Output

	0 Volt	+ Volt	0 2	1 2	2 2	3 2	4 2	5 2	6 2	7 2	8 2	9 2	10 2	11 2	M	DIR <->
Stecker / Connector 9416 12 p	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11					P12
Stecker / Connector 9426 16 p	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
Stecker / Connector 9413 25 p	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
Kabel / Cable	Schwarz / Black	Blau / Blue	Braun / Brown	Beige / Beige	Grün / Green	Gelb / Yellow	Rosa / Pink	Violett / Violet	Orange / Orange	Transparent / Transparency	Weiss-Rot / White-Red	Weiss-Blau / White-Blue	Grün-Weiss / Green White	Violett-Weiss / Violet-White	Gelb-Grün / Yellow-Green	Gelb-Weiss / Yellow-White

M = Optionale Ausgänge  
optional outputs

DIR <-> = Drehrichtung: Im Uhrzeigersinn oder gegen den Uhrzeigersinn. Im Uhrzeigersinn ist Standard. Gegen den Uhrzeigersinn DIR <-> also **0 Volt**.  
Signal direction: clockwise or anticlockwise. Clockwise is standard. Anticlockwise connect DIR <-> to **0 Volt**