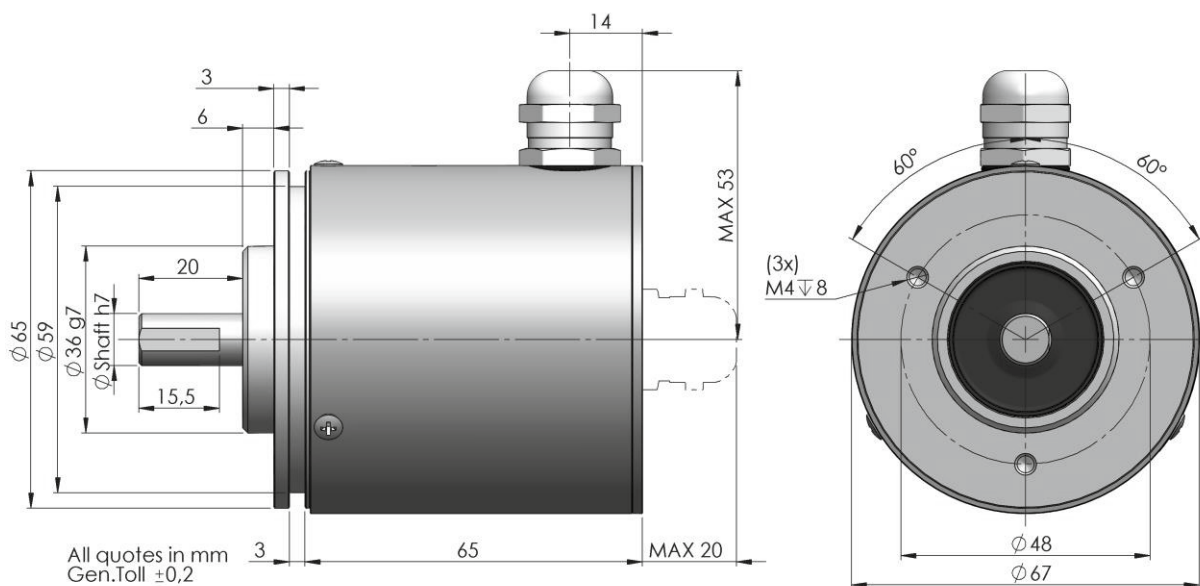


Serie MS Series MS

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 ² |
| 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 |

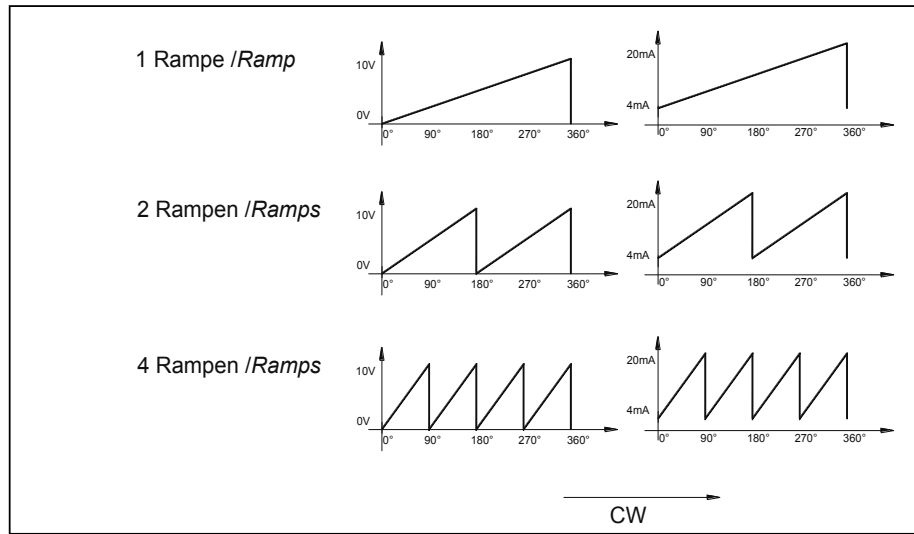
Bestellbezeichnung / Ordering Code

| MS | * | 3 | * | * | * | / | ** | |
|----|---|-------------------|--|---|--|---|--|--|
| | Welle Shaft | Flansch Flange | Ausgangsschaltungen Output | Optionen Options | Anschlüsse Connections | | Auflösung Resolution | |
| | | | Digitalausgang / Digital output max 13bit (8192) | | | | | |
| | 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 | Kabel / Cable 9 = Cable Axi 3 = Cable Rad SUB-D 25p N = 9413 Axi R = 9413 Rad M23 12p/16p 2 = 9416/9426 Axi 5 = 9416/9426 Rad | | max 13bit 360 = 360 1024 = 1024 4096 = 4096 ... 8192 = 8192 | |
| | | | Digitalausgang / Digital output max 17bit (131072) | | | | | |
| | | | 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 | SUB-D 25p N = 9413 Axi R = 9413 Rad | | max 17bit 12C = 4096 13C = 8192 ... 17C = 131072 | |
| | | | Analogausgang / Analogue output max 14bit | | | | | |
| | | | C = 4-20mA M = 4-20mA / 0-10V D = 0-10V Versorgungsspannung / Power Supply 24V | A = None Z = Preset | M23 12p/16p 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**