MS 581

Absolute Multi-Turn Solid Shaft Encoder

CHARACTERISTICS

- Industrie Standard Size 58 mm
- Gearless and Battery Free Design
- Shaft Diameter from 6 to 12 mm
- Resolutions Single-Turn from 1 to 16 Bit
- Resolutions Multi-Turn from 1 to 20 Bit
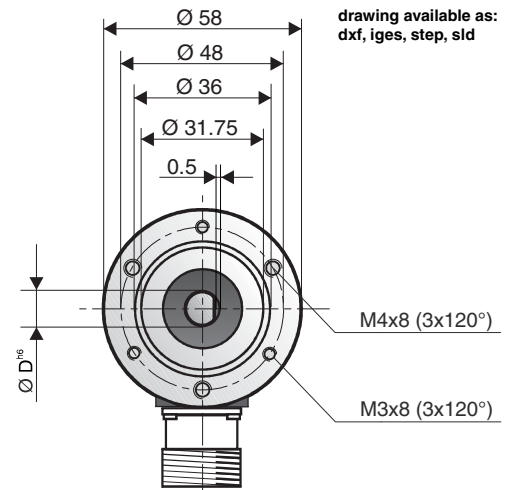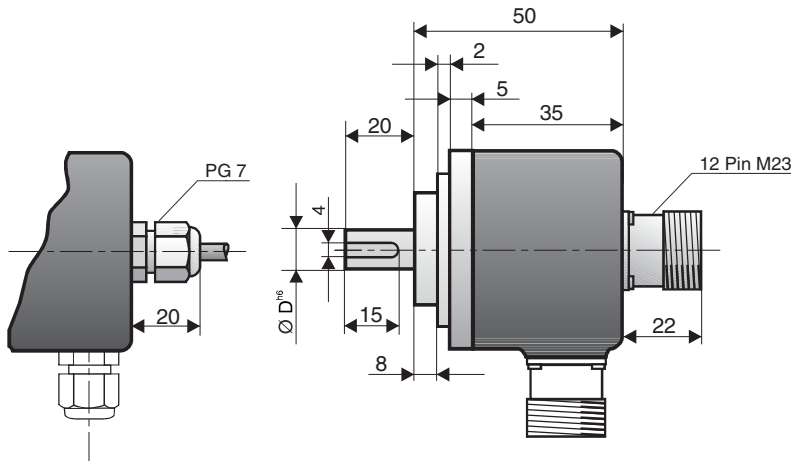- Supply Voltage 5 VDC or 10 to 30 VDC

RoHS Compliant ✓   C E

MECHANICAL SPECIFICATIONS

Cover & Body	Aluminum
Shaft	Stainless Steel
max. Speed	6000 RPM
Mass moment of inertia	$\leq 2.5 \cdot 10^{-6}$ kgm²
Starting Torque (at 25°C)	> 0.05 Nm
max. Loading on Shaft	Axial 40 N, Radial 30 N
Shock resistance (6 ms)	$\leq$ 2000 m/s²
Vibration resistance (55 - 2000 Hz)	$\leq$ 300 m/s² (Cable)
	$\leq$ 150 m/s² (Plug)
Protection Rate (DIN EN 60529)	IP 65
Operating Temperature	-20° C to +70° C
	+100° C (optional)
Weight	ca. 0.25 kg

DIMENSIONS

Dimensions in mm

50
2
5
20
35
PG 7
$\varnothing$ D h6
4
20
15
8
12 Pin M23
22

Ø 58
Ø 48
Ø 36
Ø 31.75
0.5
$\varnothing$ D h6
M4x8 (3x120°)
M3x8 (3x120°)

drawing available as: dxf, iges, step, sld

D = Shaft Diameter (see ordering code)

ELECTRICAL SPECIFICATIONS

Supply Voltage	5 VDC , 10 - 30 VDC
Current Consumption (no load)	max. 85 mA @ 27 VDC
Output Circuit	RS485/RS422 compatible
Pulse frequency	max. 500 kHz
Direction Setting DIR <->	DIR = GND→cw, DIR = Vcc→ ccw
Preset/Reset Setting	Set: Preset = Vcc for 2s
	Reset: Preset = GND
Short Circuit Protection	100%
Reverse polarity protection per channel	100%

SIGNALS

Clock Sequence

Clock   1 2 3 4 5 ... n n+1

t

Data

MSB ... LSB 0 MSB

tm

15 µs < tp < 30µs < tm   tp
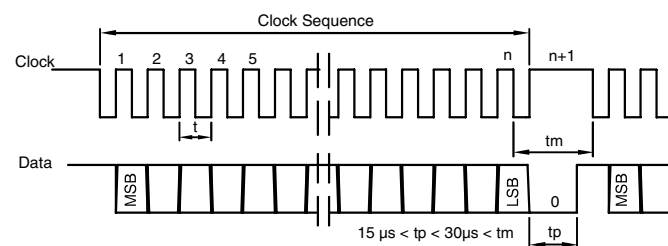
SSI Single Transmission Protocol

CONNECTIONS

Function	Cable Code	12 Pin M23 Plug
GND	white	01
Vcc	brown	02
A	green	03
B	yellow	04
Z	grey	05
$\overline{A}$	pink	06
$\overline{B}$	blue	07
$\overline{Z}$	red	08

ORDERING CODE

MS	581	-	☐	☐	☐	☐	☐	-	☐ ☐ ☐ ☐ ☐	-	Sxxx [*1]
a	b		c	d	e	f	g		h		
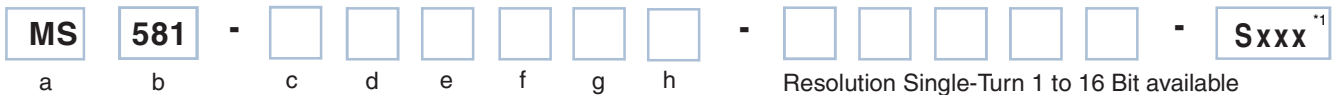
Resolution Single-Turn 1 to 16 Bit available
Resolution Single-Turn 1 to 20 Bit available

a Group Function
MS = Multiturn Incremental Solid Shaft

b Basic Series Number
581

c Shaft Diameter D
selectable from 6 to 12 mm
08 = 8 mm, 10 = 10 mm, 12 = 12 mm

d Mechanical Option
0 = None
Y = Blind Hole Hollow Shaft

e Connection Type
0 = 2 m Cable , 7 = 12 Pin M23 Plug

f Connection Location
A = Axial , R = Radial

g Output Signals
J = Binary Code SSI
Y = Gray Code SSI

h Output Circuit Type / Supply Voltage
F = SSI 5 VDC
G = SSI 8 bis 30 VDC

Notes:
[*1] Any special functions and design will be designated by a 4 digit code (Sxxx) at the end of the part number.
Consult our Office for your region for further details. If this encoder does not fit your need please also consult us for help.

FURTHER INFORMATION

Accessories:

Corresponding accessories, such as couplings, measuring wheels, display modules, extension cables etc.,

for this encoder can be found on our homepage www.globalencoder.com under „Accessories".