

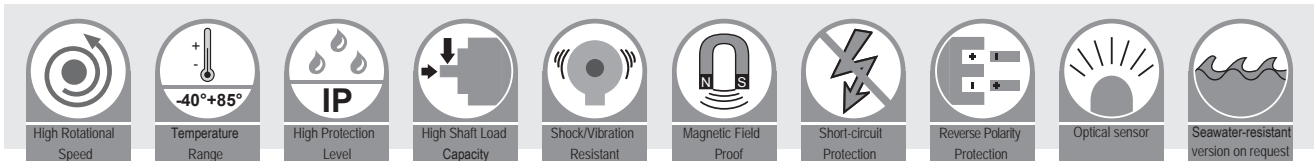
Absolute Encoders — Multiturn

Standard Optical Profibus-DP

6F-58SX/58HX



- Outdiameter 58 mm, standard industrial design
- Optical sensor technology, resolution up to 16 bits
- Mechanical gear, multi turn system, the number of turns up to 14 bits
- Optional incremental output
- 720 hours test of salt spray corrosion



Highlight:

- Outdiameter 58 mm, match compact with strong, Suitable for industrial field and outdoor.
- Temperature -40°C ... +85°C
- High Protection Level IP67

- Mechanical gear, multi turn system, Anti electromagnetic interference
- Blind hollow shaft up to 15mm
- Profibus-DP, The latest field bus protocol
- With cable outlet, M12 variety of ways to choose

Mechanical characteristics

Max. Speed	12000 rpm
Starting torque	≤ 3 Ncm (at 20°C)
Moment of inertia	≤ 30 gcm ²
Shaft load capacity	Axial 40 N; Radial 110 N
Weight	approx. 0.550 kg
Protection acc. to EN 60 529	IP 65, (optional IP 67)
Explosion protection Ex (optional)	Zone 2, 22
Working temperature range	-40°C ... 85°C
Materials	Shaft: Stainless steel(V2A) Flange: Aluminium or Stainless steel Housing: Steel or Stainless steel
Shock resistance acc. to EN 60068-2-27	≤ 100 g (6 ms)
Vibration resistance acc. to EN 60068-2-6	≤ 10 g (10 Hz ... 1000Hz)
Mechanical lifetime (Fa/Fr)	40/60 40/80 40/110 247 110 42

Interface characteristics Profibus-DP

Interface	Profibus-DP
Output driver	RS-485 interface, Galvanically Isolated by Opto-Couplers
Baud rate	≤ 12 M Baud (Software configurable)
Interface Cycle Time	> 1 ms
Code	Binary
Singleturn resolution	Max. 16 bits
Number of revolutions	Max. 14 bits
Protocol	Interface specification acc. to Profibus-DP Standard DPV0, DPV1 and DPV2 Class 2 (EN50170+EN50254)
Node address	1 ... 99, default address 32 (can be set via rotary switches)
Terminal resistance	Built-in (can be set via DIP switches)
Electrical lifetime	> 10 ⁶ h

General electrical characteristics

Power supply	10 ... 30 VDC
Current consumption	Typical 100 mA, Max.230 mA
Output driver	RS 485
Start-up time	< 250 ms
Short circuit protection	yes
Reverse polarity protection	yes
UL approval	E468583
CE compliant acc. to	EN 61000-6-4; EN61000-6-2
RoHS compliant acc. to	Follow the EG- rule 2002/95/EG

Profibus-DP acc. to Profibus-DP standard DPV0, DPV1 and DPV2 Class 2 (EN50170+EN50254) functions.

Programmable parameters:

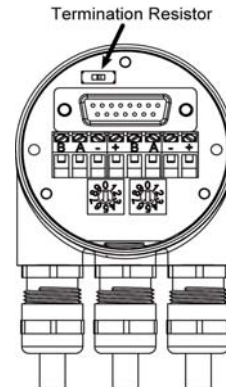
- Count direction
- Singleturn resolution
- Total resolution
- Current value
- Baud rate
- Sync mode

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LED Status indication

Two LEDs are implemented in the connection cap. They optically indicate the status of the encoder in the Profibus network. The red LED is used to display errors, the green one displays the status of the encoder. Both LEDs can have one of three possible conditions: dark, bright and flashing. Seven of the nine possible combinations are used to indicate a special condition. Further information please refer to the manual.

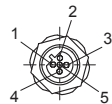


Terminal assignment

Signal	BUS IN				BUS OUT			
	B	A	0 V	+V	B	A	0 V	+V
pin	1	2	3	4	5	6	7	8

M12 Connector terminal

Bus out (female) : 2



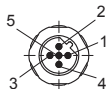
Signal	-	BUS-A	-	BUS-B	-
Pin	1	2	3	4	5

Power supply (male) : 1



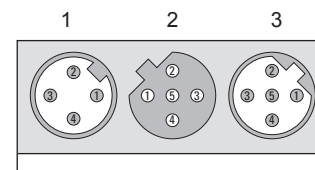
Signal	+V	--	0V	--
pin	1	2	3	4

Bus in (male) : 3



Signal	-	BUS-A	-	BUS-B	-
Pin	1	2	3	4	5

Top view of connector



Order Code Shaft version

6F-58SX-X X X X-B XX XX X
Type i a b c d e f g h

- a** Flange
1 = Clamping flange, IP65
2 = Clamping flange, IP67
3 = Synchro flange, IP65
4 = Synchro flange, IP67
- b** Shaft(ø x L)
2 = ø 6 x 10 mm
5 = ø10 x 20 mm
6 = ø12 x 20 mm
- c** Interface / Power supply
3 = Profibus-DP / 10 ... 30 VDC
- d** Type of connection
1 = Bus terminal cover, radial 3X cable glands
2 = Bus terminal cover, radial 3X M12 connector
- e** Code
B = Binary
- f** Singleturn resolution
12 = 12 bit
13 = 13 bit
16 = 16 bit
- g** Number of revolutions
12 = 12 bit
14 = 14 bit
- h** Function
1 = No additional function
2 = With reset button
- i** Material
N = Industrial type
S = Stainless steel type

Order Code hollow version

6F-58HX-X X X X-B XX XX X
Type i a b c d e f g h

- a** Flange
8 = With D-wing spring coupling, IP65
- b** Hollow shaft (Blind)
3 = ø 6 mm
4 = ø 8 mm
5 = ø10 mm
6 = ø12 mm
7 = ø14 mm
8 = ø15 mm
- c** Interface / Power supply
3 = Profibus-DP / 10 ... 30 VDC
- d** Type of connection
1 = Bus terminal cover, radial 3X cable glands
2 = Bus terminal cover, radial 3X M12 connector (Connectors need to be ordered separately)
- e** Code
B = Binary
- f** Singleturn resolution
12 = 12 bit
13 = 13 bit
16 = 16 bit
- g** Number of revolutions
12 = 12 bit
14 = 14 bit
- h** Function
1 = No additional function
2 = With reset button
- i** Type
N = Industrial type
S = Stainless steel type

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Accessories

Connection technology:

Connector, self-assembly

M12 self-assembly connector (Power supply)

E1-1204-0001

M12 self-assembly connector (Bus in)

E1-1205-0102

M12 self-assembly connector (Bus out)

E1-1105-0112

Mounting accessory for shaft version:

Coupling

Bellows coupling (aluminium alloy) \varnothing 25mm for shaft 6 mm

T1-1000-3025-0606

Bellows coupling (spring steel) \varnothing 25mm for shaft 10 mm

T1-2000-5025-1010

Mounting accessory for hollow shaft version:

Stator coupling

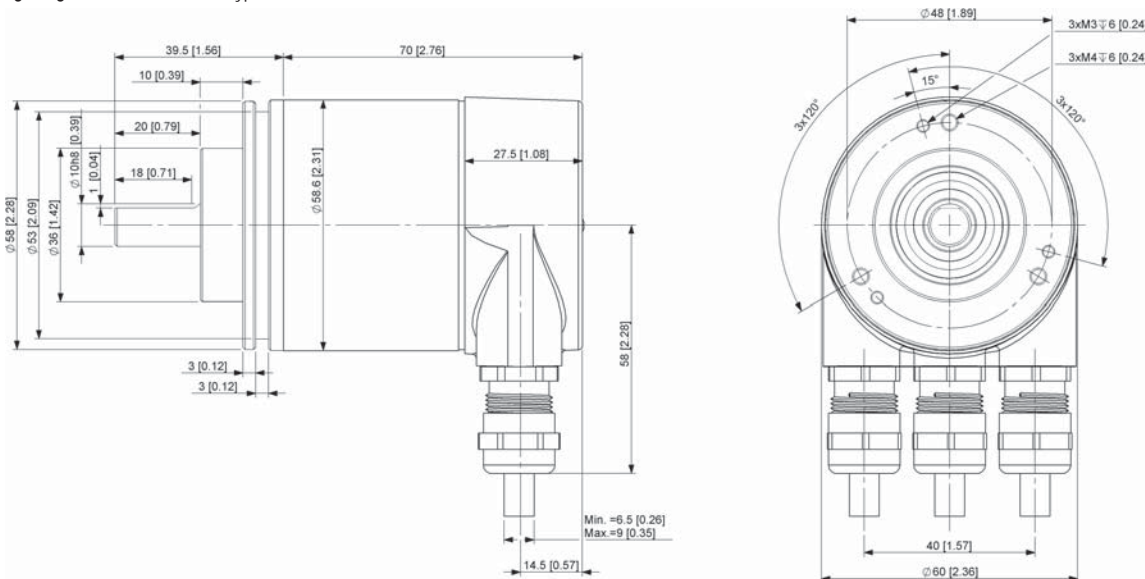


Further accessories and exact order code please refer to the accessories section.

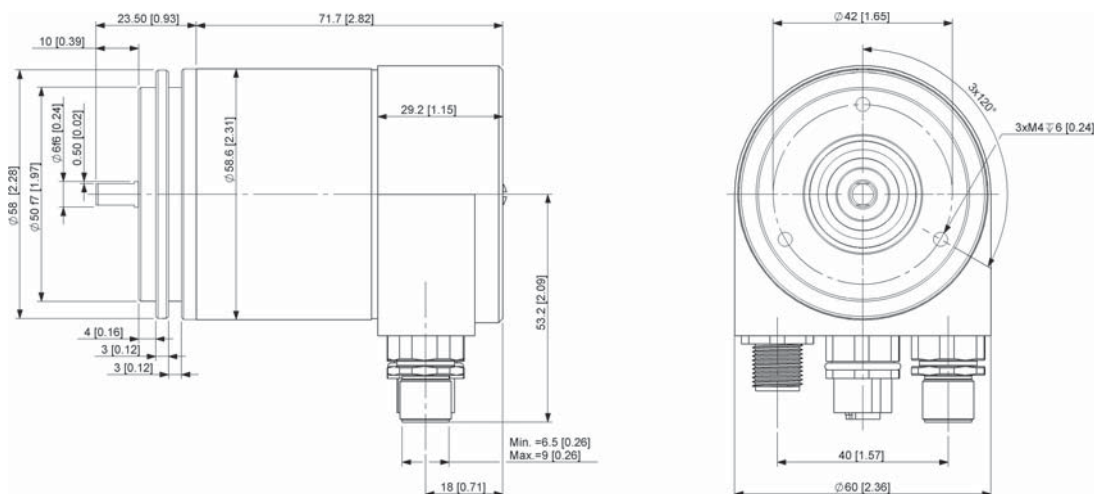
Dimensions

Shaft encoder:

Clamping flange, \varnothing 10 mm shaft, type of connection 1



Synchro flange, \varnothing 10 mm shaft, type of connection 2



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Hollow encoder :

Blind hollow shaft, Type of connection 2

