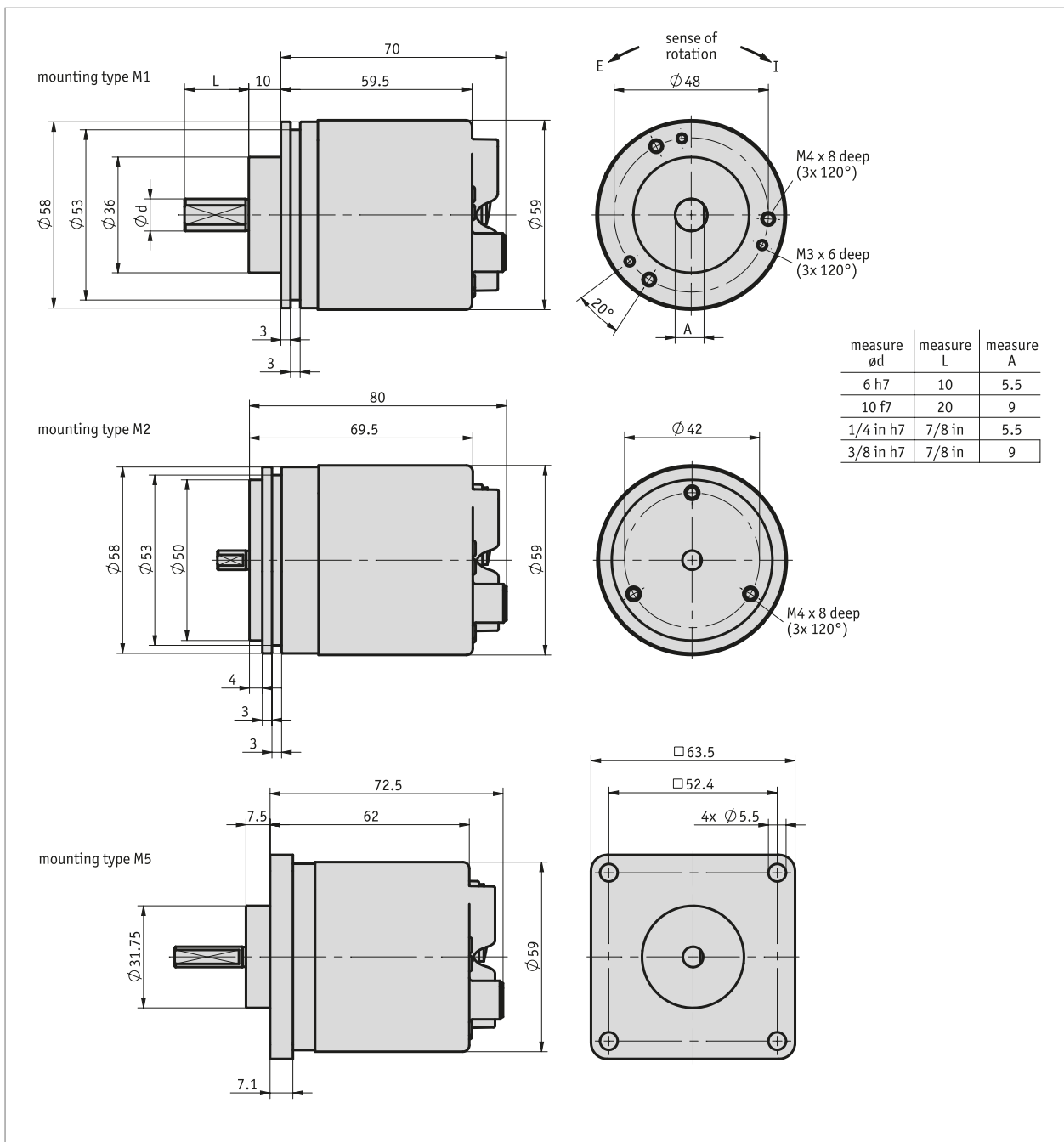


### Profile

- Absolute optical encoder
- High-precision and up to 19 bit single-turn resolution
- PROFINET IO, EtherNet/IP interfaces
- Robust bearing construction as well as high shock and vibration resistance
- 100% magnetic insensitivity
- Fast commissioning and high system availability
- Industry 4.0 ready





### Mechanical data

Feature	Technical data	Additional information
shaft	rustproof stainless steel	
Flange	aluminum	
Housing	aluminum	
Speed	$\leq 9000 \text{ min}^{-1}$ $\leq 6000 \text{ min}^{-1}$	transient for $\leq 10 \text{ min.}$ , at EPN PROFINET IO continuous operation, with EPN PROFINET IO
Moment of inertia	$\leq 3 \times 10^{-6} \text{ kgm}^2$	
Starting torque	$< 0.01 \text{ Nm}$ at 20 °C	
Shaft load rating	80 N 40 N	radial axial
Mounting type	clamping flange joint $\varnothing 58 \text{ mm}$ servo flange $\varnothing 58 \text{ mm}$ square flange 63.5 mm	mounting type M1 mounting type M2 mounting type M5
Weight	$\sim 0.45 \text{ kg}$	

### Electrical data

#### ■ PROFINET IO interface

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse polarity protected, the power-supply unit corresponds to Class 2 (UL 1310)
Current consumption	≤250 mA	without load
Parameter storage	10 <sup>10</sup> cycles	also applies to calibration operations
Status display	5 LEDs	device status/bus status
Interface	PROFINET IO	profile version 4.2, PROFIdrive version 4.2, RT class 3 (IRT), conformance class C, application class 6, encoder class 4, netload class II
Type of connection	1x M12-plug connector (A-coded) 2x M12 plug connectors (D-coded)	4-pole, 1x pin 4-pole, 2x socket

### System data

Feature	Technical data	Additional information
Scanning	optical	
Resolution	19 bit	at EPN PROFINET IO scalable, default: 8192 (13 bit)
System accuracy	±0.0194 ° at 23 °C ±2 °C ±0.0139 ° at 23 °C ±2 °C	typical
Repeat accuracy	1 LSB	
Measuring range	16777216 rotation(s)	24 bit, at EPN PROFINET IO, default: 4096 (12 bit), scalable only via overall resolution
Approval	UL	UL 61010-1, File No. E503367

### Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-40 ... 80 °C	
Storage temperature	-40 ... 80 °C	
Relative humidity	95 %	condensation inadmissible
EMC	DIN EN 61326-1	immunity requirement of industry
	DIN EN 61000-4-2, -3, -6, -8	interference resistance / immission
	DIN EN 61000-4-4	burst
	DIN EN 55011 class A	radiation emission / radio interference suppression
Safety regulations	UL 61010-1	indoor use, outdoor use possible, not intended for use involving direct exposure to UV light.
		Environment dry / wet.
		Protection class III as per EN 61140.
		Pollution degree 2 as per EN 61010.
		Maximum humidity 93% at 40 °C.
Protection category	IP65	EN 60529 (protection type not yet reviewed by UL)
	IP67	EN 60529 (protection type not yet reviewed by UL)
Shock resistance	2500 m/s <sup>2</sup> , 6 ms	EN 60068-2-27
Vibration resistance	100 m/s <sup>2</sup> , 55 ... 2000 Hz	EN 60068-2-6

### pin assignment

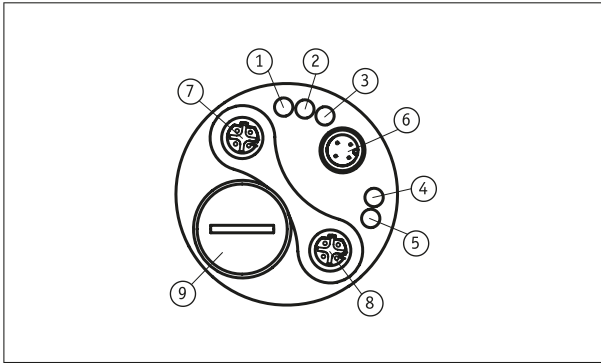
#### Interface

Signal	PIN
Tx+	1
Rx+	2
Tx-	3
Rx-	4

#### Operating voltage

Signal	PIN
+ÜB	1
nc	2
GND	3
nc	4

#### Connections



#### PROFINET IO

Pin	Function
1	LED: Link 2
2	"LED: bus error"
3	LED: Collective fault
4	LED: ENC
5	"LED: link 1"
6	"power"
7	link 2
8	link 1
9	-

### Industry 4.0

In most cases, data exchange with the absolute rotary encoder is limited to the exchange of process data. In addition to the process data, intelligent industrial Ethernet rotary encoders provide additional information that can be evaluated for condition monitoring up to predictive maintenance:

Process data	Smart Value	Smart Function
Actual position	Temperature	Condition monitoring
Speed	Limit speed	Application overload
	Operation hours counter	Operating time
		Asset management
		Web server (EPN, EIP)

### Order

#### Ordering table

Feature	Ordering data	Spezifikation	Additional information
number of revolutions	<b>A</b> 1 16777216	singleturn 24 bit, multiturn	only with ProfiNET
shaft diameter x length	<b>B</b> 6x10 10x20 3/8x7/8 1/4x7/8	ø6 mm x 10 mm ø10 mm x 20 mm ø3/8 in x 7/8 in ø1/4 in x 7/8 in	
Mounting type	<b>C</b> M1 M2 M5	clamping flange joint ø58 mm servo flange ø58 mm square flange 63.5 mm (2.5")	
Protection category	<b>D</b> IP65 IP67	IP65 IP67	

#### Order key

WV5850 - EPN - A - B - C - D - S

**Scope of delivery:**

WV5850, Quick Start Guide

**Accessories you can find:**

Cable extension KV04S2

[www.siko-global.com](http://www.siko-global.com)

Overview, Mating connector

[www.siko-global.com](http://www.siko-global.com)

Mating connector, Operating voltage, 4-pole, angle socket

Order key 83091

Mating connector, Operating voltage, 4-pole, socket

Order key 83526

Mating connector, port 1 + port 2, 4-pole, angular pin

Order key 87600

Mating connector, port 1 + port 2, 4-pole, pin

Order key 87601