Standard
Motor-Line, electronic multiturn, optical | **Sendix F5883M (hollow shaft)** | **SSI / BiSS + incremental**



The optical Sendix F5883 multiturn encoder in the Motor-Line version stands out particularly because of its reduced overall depth of only 43 mm with a through hollow shaft up to 15 mm.

This opens up new possibilities when dimensioning the motors and for installation in tight mounting spaces. Its technical features make the F5883 Motor-Line the ideal device for use in geared motors.



Multiturn resolution | Safety-Lock™ | High rotational speed | Temperature range | High protection level | High shaft load capacity | Shock / vibration resistant | Magnetic field proof | Reverse polarity protection | Intelligent Scan Technology™

Compact and robust

- Suitable for restricted mounting spaces thanks to its small construction depth of 43 mm and its tangential cable outlet.
- Sturdy bearing construction in Safety-Lock™ design for resistance against vibration and installation errors.
- Patented Intelligent Scan Technology™ with all singleturn and multiturn functions on one single OptoASIC - offering the highest reliability, a high resolution up to 41 bits and 100 % magnetic field insensitivity.

Versatile

- Through hollow shaft up to max. 15 mm and clamping both on the flange and on the cover side – suitable for usual drive shafts for geared motors, flexible installation.
- Available with SSI or BiSS interface and combined with SinCos incremental signals.
- SET button and LED for simple start-up.
- High resolution feedback in real-time via incremental outputs SinCos and RS422.
- Short control cycles, clock frequency with SSI up to 2 MHz / with BiSS up to 10 MHz.

Order code Hollow shaft

8.F5883M	.	X	X	X	X	.	X	X	X	X
Type		a	b	c	d		e	f	g	h

a *Flange*
1 = with spring element, long
5 = with stator coupling, ø 63 mm [2.48"]
9 = with torque stop, flexible

b *Through hollow shaft*
Clamping on the flange side
3 = ø 10 mm [0.39"]
4 = ø 12 mm [0.47"]
5 = ø 14 mm [0.55"]
6 = ø 15 mm [0.59"]
9 = ø 1/2"

Clamping on the cover side
A = ø 12 mm [0.39"]
B = ø 14 mm [0.55"]
C = ø 15 mm [0.59"]

c *Interface / supply voltage*
1 = SSI, BiSS / 5 V DC
2 = SSI, BiSS / 10 ... 30 V DC
3 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC
4 = SSI, BiSS + 2048 ppr. SinCos / 10 ... 30 V DC
5 = SSI, BiSS / 5 V DC, with sensor output
6 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC, with sensor output
7 = SSI, BiSS + 2048 ppr. RS422 (TTL-comp.) / 5 V DC
8 = SSI, BiSS + 2048 ppr. RS422 (TTL-comp.) / 10 ... 30 V DC
A = SSI, BiSS + 1024 ppr. RS422 (TTL-comp.) / 5 V DC
B = SSI, BiSS + 1024 ppr. RS422 (TTL-comp.) / 10 ... 30 V DC

d *Type of connection*
E = tangential cable, 1 m PVC
F = tangential cable, special length PVC *)

*) Available special lengths (connection type F):
2, 3, 5, 8, 10, 15 m [5.56, 9.84, 16.40, 26.25, 32.80, 49.21']
order code expansion .XXXX = length in dm
ex.: 8.F5883M.542F.G323.0030 (for cable length 3 m)

e *Code*
B = SSI, binary
C = BiSS, binary
G = SSI, gray

f *Resolution (singleturn)* [1]
A = 10 bit
1 = 11 bit
2 = 12 bit
3 = 13 bit
4 = 14 bit
7 = 17 bit

Optional on request
- other resolutions

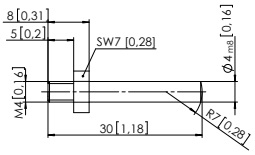
g *Resolution (multiturn)* [1]
2 = 12 bit MT
6 = 16 bit MT
4 = 24 bit MT

h *Options (service)*
1 = no option
2 = status LED
3 = SET button and status LED

1) Resolution, preset value and counting direction factory-programmable.

© Fritz Kübler GmbH, subject to errors and changes. 07/2026

Standard
Motor-Line, electronic multiturn, optical | **Sendix F5883M (hollow shaft)** | **SSI / BiSS + incremental**

Mounting accessory for hollow shaft encoders	Dimensions in mm [inch]	Order no.
Torque pin, ø 4 mm for flange with spring element (flange type 1)	with fixing thread 	**8.0010.4700.0000**

Further Kübler accessories can be found at: kuebler.com/accessories
Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

Technical data

Mechanical characteristics

Maximum speed		9000 min^{-1}, 6000 min^{-1} (continuous)
Starting torque at 20 °C [68 °F]		< 0.01 Nm
Mass moment of inertia		6.0 x 10^{-6} kgm^2
Load capacity of shaft	radial axial	80 N 40 N
Weight		approx. 0.45 kg [15.87 oz]
Protection		IP65
Working temperature range		-40 °C ... +85 °C [-40 °F ... +185 °F] [1]
Material	hollow shaft flange housing cable	stainless steel aluminum zinc die-cast PVC
Shock resistance acc. to EN 60068-2-27		2500 m/s^2, 6 ms
Vibration resistance acc. to EN 60068-2-6		100 m/s^2, 55 ... 2000 Hz

Electrical characteristics

Supply voltage		5 V DC (+5%) or 10 ... 30 V DC
Current consumption (no load)	5 V DC 10 ... 30 V DC	max. 60 mA max. 30 mA
Reverse polarity protection of the supply voltage		yes (at 10 ... 30 V DC)
Short circuit proof outputs		yes [2]

SSI interface

Output driver		RS422 transceiver type
Permissible load / channel		max. +/- 30 mA
Signal level	HIGH LOW at I_{Load} = 20 mA	typ 3.8 V typ 1.3 V
Resolution singleturn		10 ... 17 bit
Number of revolutions (multiturn)		max. 24 bit
Code		binary or gray
SSI clock rate		50 kHz ... 2 MHz
Data refresh rate	ST resolution ≤ 14 bit ST resolution ≥ 15 bit	≤ 1 µs 4 µs
Monoflop time		≤ 15 µs

Note: If the clock starts cycling within the monoflop time, a second data transfer starts with the same data. If the clock starts cycling after the monoflop time, the data transfer starts with the new values. The update rate is dependent on the clock speed, data length and monoflop-time.

BiSS interface

Output driver		RS422 transceiver type
Permissible load / channel		max. +/- 30 mA
Signal level	HIGH LOW at I_{Load} = 20 mA	typ 3.8 V typ 1.3 V
Resolution singleturn		10 ... 17 bit
Number of revolutions (multiturn)		max. 24 bit
Code		binary
BiSS clock rate		50 kHz ... 10 MHz
Max. update rate		< 10 µs, depends on the clock rate and the data length
Data refresh rate	ST resolution ≤ 14 bit ST resolution 17 bit	≤ 1 µs 2.4 µs

Note:
- bidirectional, factory programmable parameters are: resolution, code, direction, alarms and warnings
- CRC data verification

Status output and LED

Output driver	open collector, internal pull up resistor 22 kOhm
Permissible load	max. 20 mA
Signal level	HIGH: +V / LOW: < 1 V
Active	LOW

The optional LED (red) and the status output serve to display various alarm or error messages. In normal operation the LED is OFF and the status output is HIGH (open collector with int. pull up 22 kOhm).

An active status output (LOW) displays:
- sensor error, singleturn or multiturn (soiling, glass breakage etc.)
- LED fault (failure or ageing)
- over- or under-temperature

In the SSI mode, the fault indication can only be reset by switching off the power-supply to the device.

Incremental outputs (A/B)

	SinCos	**RS422 TTL compatible**
Max. frequency -3dB	400 kHz	400 kHz
Signal level	1 Vpp (±20 %)	HIGH: min. 2.5 V LOW: max. 0.5 V
Short circuit proof	yes [2]	yes [2]
Pulse rate	1024 / 2048 ppr	1024 / 2048 ppr

1) Temperature measured on the flange – max. 80 °C allowable on the cable (fixed installation).
2) Short circuit to 0 V or to output; if supply voltage correctly applied.

© Fritz Kübler GmbH, subject to errors and changes. 07/2026

Standard
Motor-Line, electronic multiturn, optical | **Sendix F5883M (hollow shaft)** | **SSI / BiSS + incremental**

SET input

Input		active HIGH
Input type		comparator
Signal level (+V = supply voltage)	HIGH LOW	min. 60 % of +V, max: +V max. 30 % of +V
Input current		< 0.5 mA
Min. pulse duration (SET)		10 ms
Input Delay		1 ms
New position data readable after		1 ms
Internal processing time		200 ms

The encoder can be set to zero at any position by means of a HIGH signal on the SET input or by pressing the optional SET button (with a pencil, ball-point pen or similar). Other preset values can be factory-programmed. The SET input has a signal processing time of approx. 1 ms, after which the new position data can be read via SSI or BiSS. Once the SET function has been triggered, the encoder requires an internal processing time of typ. 200 ms; during this time the supply voltage must not be switched off.
The SET function should be carried out whilst the encoder is at rest.

If this input is not used, it should be connected to 0 V (Encoder ground GND) in order to avoid interferences.

Power-ON

After Power-ON the device requires a time of approx. 150 ms before valid data can be read.

Hot plugging of the encoder should be avoided.

DIR input

Direction input: A HIGH signal switches the direction of rotation from the default cw to ccw. This inverted function can also be factory-programmed. If DIR is changed when the device is already switched on, then this will be interpreted as an error. The status output will switch to LOW.

If this input is not used, it should be connected to 0 V (Encoder ground GND) in order to avoid interferences.

Response time (DIR input)	1 ms

Approvals

UL compliant in accordance with	File no. E224618
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

Terminal assignment

Interface	Type of connection	Features	Cable (isolate unused cores individually before initial start-up)													
1, 2	E, F	SET, DIR, Status	Signal:	0 V	+V	C+	C-	D+	D-	SET	DIR	ERR\	N/C	N/C	N/C	⏚
			Core color:	WH	BN	GN	YE	GY	PK	BU	RD	BK	-	-	-	shield

Interface	Type of connection	Features	Cable (isolate unused cores individually before initial start-up)													
5	E, F	SET, DIR, Status sensor output	Signal:	0 V	+V	C+	C-	D+	D-	SET	DIR	ERR\	N/C	0 Vsens	+Vsens	⏚
			Core color:	WH	BN	GN	YE	GY	PK	BU	RD	BK	-	GY-PK	RD-BU	shield

Interface	Type of connection	Features	Cable (isolate unused cores individually before initial start-up)													
3, 4, 7, 8, A, B	E F	SET, DIR, SinCos or incr. RS422	Signal:	0 V	+V	C+	C-	D+	D-	SET	DIR	A	$\overline{A}$	B	$\overline{B}$	⏚
			Core color:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY-PK	RD-BU	shield

Interface	Type of connection	Features	Cable (isolate unused cores individually before initial start-up)													
6	E, F	SinCos or incr. RS422 sensor output	Signal:	0 V	+V	C+	C-	D+	D-	A	$\overline{A}$	B	$\overline{B}$	0 Vsens	+Vsens	⏚
			Core color:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY-PK	RD-BU	shield

+V: Supply voltage encoder +V DC
0 V: Supply voltage encoder ground GND (0 V)
0 V_{sens} / +V_{sens}: Using the sensor outputs of the encoder, the voltage present can be measured and if necessary increased accordingly.
C+, C-: Clock signal
D+, D-: Data signal
A, $\overline{A}$: Incremental output channel A (cosine)
B, $\overline{B}$: Incremental output channel B (sine)
SET: Set input
DIR: Direction input
ERR\: Status output
PH ⏚: Plug connector housing (shield)

© Fritz Kübler GmbH, subject to errors and changes. 07/2026

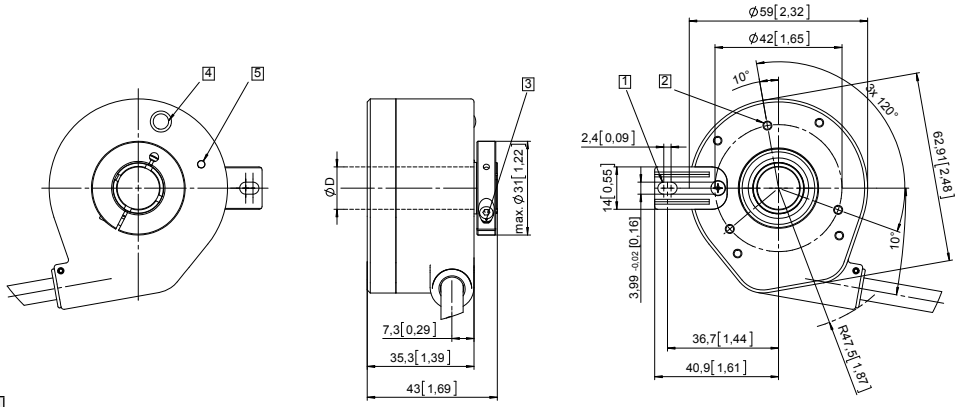
Standard
Motor-Line, electronic multiturn, optical | **Sendix F5883M (hollow shaft)** | **SSI / BiSS + incremental**

Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long
Flange type 1

1 Slot spring element, recommendation: torque pin DIN 7, ø 4 [0.16]
2 3 x M3, 6 [0.24] deep
3 Recommended torque for the clamping ring 0.6 Nm
4 Status-LED
5 SET button

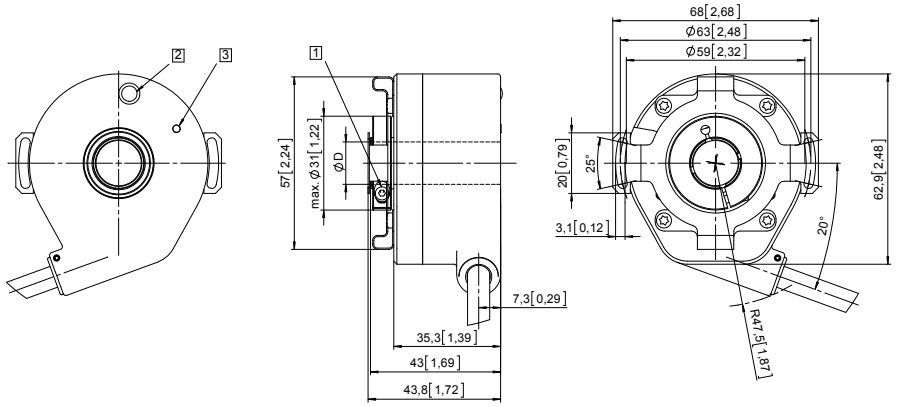


D	Fit
10 [0.39]	H7
12 [0.47]	H7
14 [0.55]	H7
15 [0.59]	H7
1/2 "	H7

Flange with stator coupling, ø 63 [2.48]
Flange type 5

Pitch circle diameter for fixing screws 63 mm [2.48]

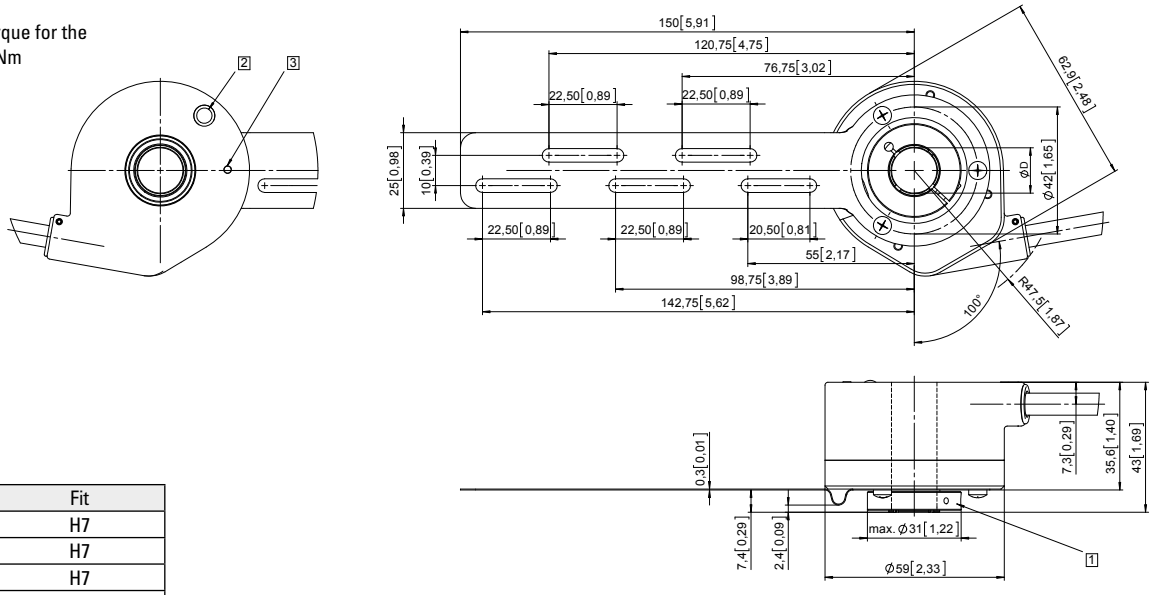
1 Recommended torque for the clamping ring 0.6 Nm
2 Status-LED
3 SET button



D	Fit
10 [0.39]	H7
12 [0.47]	H7
14 [0.55]	H7
15 [0.59]	H7
1/2 "	H7

Flange with torque stop, flexible
Flange type 9

1 Recommended torque for the clamping ring 0.6 Nm
2 Status-LED
3 SET button



D	Fit
10 [0.39]	H7
12 [0.47]	H7
14 [0.55]	H7
15 [0.59]	H7
1/2 "	H7

© Fritz Kübler GmbH, subject to errors and changes. 07/2026