

# KUEBLER - ABSOLUTE-CODED ANGULAR TRANSMITTER SENDIX F5863 / F5883, OPTICAL, SSI, Ø58 MM

SERIE F5863

- Housing diameter Ø58 mm
- SSI-Interface
- Total resolution 41 bits
- 100% insensitive to magnetic fields



## PRODUCT DESCRIPTION

Sendix F5863 / F5883 is a series of robust absolute encoded SSI axis sensors for demanding environments. Thanks to its rugged construction with Safety-Lock™ and the fully cast housing, the sensor can also handle the more demanding applications where the requirements are high. The wide temperature range combined with the high enclosure class allows the sensor to be used outdoors as well as applications where large temperature changes occur. Perfect for applications requiring high resolution.

The LED indication facilitates diagnostics of the sensor in place and saves time when troubleshooting.

Please refer to the images below for ordering information.

| Order code                                      | 8.F5863 . XXXX . XXXX  |  |
|---|--|--|
| Shaft version                                   | Type   | a b c d e f g h                                |
| <b>a</b> Flange                                 | <b>c</b> Interface / power supply                              | <b>e</b> Code                                  |
| 1 = clamping flange, IP65 ø 58 mm [2.28"]       | 1 = SSI, BiSS / 5 V DC   | B = SSI, binary                                |
| 3 = clamping flange, IP67 ø 58 mm [2.28"]       | <b>2 = SSI, BiSS / 10 ... 30 V DC</b>                          | C = BiSS, binary                               |
| <b>2 = synchro flange, IP65 ø 58 mm [2.28"]</b> | 3 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC                      | <b>G = SSI, gray</b>                           |
| 4 = synchro flange, IP67 ø 58 mm [2.28"]        | 4 = SSI, BiSS + 2048 ppr. SinCos / 10 ... 30 V DC              | <b>f</b> Resolution (singleturn) <sup>4)</sup> |
| <b>b</b> Shaft (ø x L), with flat               | 5 = SSI, BiSS / 5 V DC, with sensor output                     | B = 9 bit ST                                   |
| 1 = 6 x 10 mm [0.24 x 0.39"] <sup>1)</sup>      | 6 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC, with sensor output  | A = 10 bit ST                                  |
| 2 = 10 x 20 mm [0.39 x 0.79"] <sup>2)</sup>     | 7 = SSI, BiSS + 2048 ppr. RS422 (TTL-comp.) / 5 V DC           | 1 = 11 bit ST                                  |
| 3 = 1/4" x 7/8"                                 | 8 = SSI, BiSS + 2048 ppr. RS422 (TTL-comp.) / 10 ... 30 V DC   | 2 = 12 bit ST                                  |
| 4 = 3/8" x 7/8"                                 | <b>d</b> Type of connection                                    | <b>3 = 13 bit ST</b>                           |
|   | 1 = axial cable, 1 m [3.28'] PVC                               | 4 = 14 bit ST                                  |
|   | A = axial cable, special length PVC *)                         | 7 = 17 bit ST                                  |
|   | <b>2 = radial cable, 1 m [3.28'] PVC</b>                       |  |
|   | B = radial cable, special length PVC *)                        |  |
|   | 3 = axial M23 connector, 12-pin                                |  |
|   | <b>4 = radial M23 connector, 12-pin</b>                        |  |
|   | 5 = axial M12 connector, 8-pin <sup>3)</sup>                   |  |
|   | 6 = radial M12 connector, 8-pin <sup>3)</sup>                  |  |
|   | <b>h</b> Options (service)                                     |  |
|   | 1 = no option  |  |
|   | 2 = status LED   |  |
|   | <b>3 = SET button and status LED</b>                           |  |
|   | <b>*) Available special lengths (connection types A, B):</b>   |  |
|   | 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.F5863.122A.G323.0030 (for cable length 3 m)             |  |
|   | <b>Optional on request</b>                                     |  |
|   | - Ex 2/22 <sup>5)</sup>  |  |
|   | - surface protection salt spray tested                         |  |
|   | - other singleturn resolutions                                 |  |

**Order code**  
**Hollow shaft**

**8.F5883**  
Type

. **XXXXX** . **XXXXX**  
a b c d e f g h

**a Flange**

- 1 = with spring element, long, IP65
- 2 = with spring element, long, IP67
- 3 = with stator coupling, IP65, ø 65 mm [2.56"]
- 4 = with stator coupling, IP67, ø 65 mm [2.56"]
- 5 = with stator coupling, IP65, ø 63 mm [2.48"]**
- 6 = with stator coupling, IP67, ø 63 mm [2.48"]

**b Through hollow shaft**

- 3 = ø 10 mm [0.39"]
- 4 = ø 12 mm [0.47"]**
- 5 = ø 14 mm [0.55"]
- 6 = ø 15 mm [0.59"]
- 8 = ø 3/8"
- 9 = ø 1/2"

**c Interface / power supply**

- 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

**d Type of connection**

- 2 = radial cable, 1 m [3.28'] PVC
- B = radial cable, special length PVC \*
- E = tangential cable, 1 m [3.28'] PVC**
- F = tangential cable, special length PVC \*
- 4 = radial M23 connector, 12-pin**
- 6 = radial M12 connector, 8-pin <sup>2)</sup>

\*) Available special lengths (connection types B, 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.F5883.542B.G323.0030 (for cable length 3 m)

**e Code**

- B = SSI, binary
- C = BiSS, binary
- G = SSI, gray**

**f Resolution (singleturn) <sup>1)</sup>**

- B = 9 bit ST
- A = 10 bit ST
- 1 = 11 bit ST
- 2 = 12 bit ST
- 3 = 13 bit ST**
- 4 = 14 bit ST
- 7 = 17 bit ST

**g Resolution (multiturn) <sup>1)</sup>**

- 2 = 12 bit MT**
- 6 = 16 bit MT
- 4 = 24 bit MT

**h Options (service)**

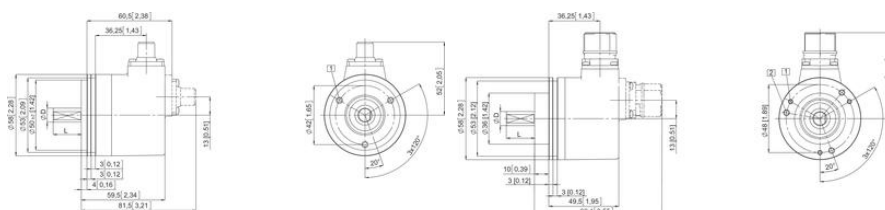
- 1 = no option
- 2 = status LED
- 3 = SET button and status LED**

*Optional on request*

- Ex 2/22 (not for type of connection E, F) <sup>3)</sup>
- surface protection salt spray tested
- other singleturn resolutions

## TECHNICAL DATA

|                             |                                     |
|-----------------------------|-------------------------------------|
| Connection                  | Cable, M12, M23 contact             |
| Housing diameter            | 58 mm                               |
| IP class                    | IP65, IP67                          |
| Mounting                    | Shoulder                            |
| Output                      | SSI                                 |
| Resolution MT               | SSI: max. 24 bit, BiSS: max. 24 bit |
| Resolution ST               | SSI: 10-17 bit, BiSS: 10-17 bit     |
| Sensor type                 | Absolute                            |
| Shaft diameter max          | 10 mm                               |
| Shaft diameter min          | 6 mm                                |
| Supply voltage dc max       | 30 V DC                             |
| Supply voltage dc min       | 5 V DC                              |
| Temperature operational max | 85 °C                               |
| Temperature operational min | -40 °C                              |
| Version                     | Multiturn                           |



| Interface  | Type of connector           | Features                              | Cable isolate unused wires individually before initial start-up  |
|--|-----------------------------|---------------------------------------|--|
| 1, 2   | 1, 2, A, B, E, F            | SET, DIR, Status                      | Signal: 0 V +V C+ C- D+ D- SET DIR Stat N/C N/C H<br>Cable colour: WH BN GN YE GF PK BU RD BK - - - (short)  |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 1, 2   | 3, 4                        | SET, DIR, Status                      | M23 connector<br>Signal: 0 V +V C+ C- D+ D- SET DIR Stat N/C N/C H<br>Pin: 1 2 3 4 5 6 7 8 9 10 11 12 PH   |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 5  | 1, 2, A, B, E, F            | SET, DIR, Status<br>Sensor output     | Cable isolate unused wires individually before initial start-up<br>Signal: 0 V +V C+ C- D+ D- SET DIR Stat N/C N/C H<br>Cable colour: WH BN GN YE GF PK BU RD BK - - - (short)     |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 5  | 3, 4                        | SET, DIR, Status<br>Sensor output     | M23 connector<br>Signal: 0 V +V C+ C- D+ D- SET DIR Stat N/C N/C H<br>Pin: 1 2 3 4 5 6 7 8 9 10 11 12 PH   |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 3, 4, 7, 8   | 1, 2, A, B, E, F            | SET, DIR, SinCos<br>or inc. RS422     | Cable isolate unused wires individually before initial start-up<br>Signal: 0 V +V C+ C- D+ D- SET DIR A X B B H<br>Cable colour: WH BN GN YE GF PK BU RD BK VT GY PK RD BU (short) |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 3, 4, 7, 8   | 3, 4                        | SET, DIR, SinCos<br>or inc. RS422     | M23 connector<br>Signal: 0 V +V C+ C- D+ D- SET DIR A X B B H<br>Pin: 1 2 3 4 5 6 7 8 9 10 11 12 PH  |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 6  | 1, 2, A, B, E, F            | SinCos a. inc. RS422<br>Sensor output | Cable isolate unused wires individually before initial start-up<br>Signal: 0 V +V C+ C- D+ D- A X B B H<br>Cable colour: WH BN GN YE GF PK BU RD BK VT GY PK RD BU (short)         |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 6  | 3, 4                        | SinCos a. inc. RS422<br>Sensor output | M23 connector<br>Signal: 0 V +V C+ C- D+ D- A X B B H<br>Pin: 1 2 3 4 5 6 7 8 9 10 11 12 PH  |
| Interface <td colspan="3">Type of connector: Features</td> | Type of connector: Features |                                       |  |
| 1, 2   | 5, 6                        | SET, DIR                              | M12 connector<br>Signal: 0 V +V C+ C- D+ D- SET DIR H<br>Pin: 1 2 3 4 5 6 7 8 PH   |

+V Encoder power supply +V DC  
0 V Encoder power supply ground GND 0 V  
Wires / Wires Using the sensor outputs of the encoders the voltage present can be measured and if necessary increased accordingly.  
C+ C- Click signal  
D+ D- Data signal  
A, B Incremental output channel A (cosine)  
B, B Incremental output channel B (sine)  
SET Set input. The current position becomes defined as position zero.  
DIR Direction input. If this input is active, output values are covered backwards (decrease) when the shaft is turning clockwise.  
Stat Status output  
PH H Plug connector housing (short)

