

# KUEBLER - ABSOLUTE CODED ANGULAR TRANSMITTER SENDIX F3663 / F3683, OPTICAL, SSI, Ø36 MM SERIE F3663

- Housing diameter Ø36 mm
- SSI / BiSS - interface
- Safety-Lock™
- Up to 17 + 24 bit resolution



## PRODUCT DESCRIPTION

Sendix F3663 / F3683 is a series of multivalved optical axial outputs with SSI interface and a resolution of up to 17 + 24 bits despite its compact size of 36x42 mm. The sensor also has high enclosure class, shock resistance and a wide temperature range. The sensor is therefore very suitable for applications where extreme environments or temperatures can occur, such as mobile applications. The sensor is supplied with a tangential cable, which means that there is no exposed cable input on the sensor, but it is embedded in the housing itself to increase impact on impact and impact. The Sendix F3663 / F3683 is also available in a salt water resistant version.

Please refer to the images below for ordering information.

| Order code                                       | 8.F3663 . XXXX . XXX2 |   |   |   |   |                                  |   |                                |  |  |
|--|-----------------------|---|---|---|---|----------------------------------|---|--------------------------------|--|--|
| Shaft version                                    | Type                  | a   | b | c | d | e                                | f | g                              |  |  |
| <b>a</b> Flange                                  |                       | <b>c</b> Interface / power supply                             |   |   |   | <b>e</b> Code                    |   | Optional on request            |  |  |
| 1 = clamping flange, IP67, ø 36 mm [1.42"]       |                       | 1 = SSI, BiSS / 5 V DC  |   |   |   | B = SSI, binary                  |   | - surface protection           |  |  |
| 3 = clamping flange, IP65, ø 36 mm [1.42"]       |                       | <b>2</b> = SSI, BiSS / 10 ... 30 V DC                         |   |   |   | C = BiSS, binary                 |   | - salt spray tested            |  |  |
| 2 = synchro flange, IP67, ø 36 mm [1.42"]        |                       | 3 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC                     |   |   |   | <b>G</b> = SSI, gray             |   | - other singleturn resolutions |  |  |
| <b>4</b> = synchro flange, IP65, ø 36 mm [1.42"] |                       | 4 = SSI, BiSS + 2048 ppr. SinCos / 10 ... 30 V DC             |   |   |   | <b>f</b> Resolution (singleturn) |   |                                |  |  |
|  |                       | 5 = SSI, BiSS / 5 V DC, with sensor output                    |   |   |   | B = 9 bit ST                     |   |                                |  |  |
|  |                       | 6 = SSI, BiSS + 2048 ppr. SinCos / 5 V DC, with sensor output |   |   |   | A = 10 bit ST                    |   |                                |  |  |
| <b>b</b> Shaft (ø x L), with flat                |                       | 7 = SSI, BiSS + 2048 ppr. RS422 / 5 V DC                      |   |   |   | 2 = 12 bit ST                    |   |                                |  |  |
| 1 = ø 6 x 12.5 mm [0.24 x 0.49"]                 |                       | 8 = SSI, BiSS + 2048 ppr. RS422 / 10 ... 30 V DC              |   |   |   | <b>3</b> = 13 bit ST             |   |                                |  |  |
| <b>3</b> = ø 8 x 15 mm [0.32 x 0.59"]            |                       | <b>d</b> Type of connection                                   |   |   |   | 4 = 14 bit ST                    |   |                                |  |  |
| 5 = ø 10 x 20 mm [0.39 x 0.79"]                  |                       | <b>1</b> = tangential cable, 1 m [3.28'] PUR                  |   |   |   | 7 = 17 bit ST                    |   |                                |  |  |
| 2 = ø 1/4" x 12.5 mm [0.49"]                     |                       | 3 = tangential cable, 5 m [16.40'] PUR                        |   |   |   | <b>g</b> Resolution (multiturn)  |   |                                |  |  |
| 4 = ø 3/8" x 5/8"                                |                       | U = tangential cable, 10 m [32.81'] PUR                       |   |   |   | <b>2</b> = 12 bit MT             |   |                                |  |  |
|  |                       | 5 = tangential cable, 1 m [3.28'] PUR                         |   |   |   | 6 = 16 bit MT                    |   |                                |  |  |
|  |                       | with M12 connector for central fastening, 8-pin <sup>1)</sup> |   |   |   | 4 = 24 bit MT                    |   |                                |  |  |

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

**8.F3683**  
Type

**.XXXX.XXX2**  
a b c d e f g

**a Flange**

- 1 = with spring element, short, IP65
- 3 = with spring element, long, IP65
- 2 = with stator coupling, IP65, ø 46 mm [1.81"]**

**b Through hollow shaft**

- 1 = ø 6 mm [0.24"]
  - 3 = ø 8 mm [0.32"]
  - 2 = ø 1/4"
- Blind hollow shaft*  
(insertion depth max. 14.5 mm [0.57"])
- 4 = ø 10 mm [0.39"]**

**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 / 5 V DC
- 8 = SSI, BiSS + 2048 ppr. RS422 / 10 ... 30 V DC

**d Type of connection**

- 1 = tangential cable, 1 m [3.28'] PUR**
- 3 = tangential cable, 5 m [16.40'] PUR
- U = tangential cable, 10 m [32.81'] PUR
- 5 = tangential cable, 1 m [3.28'] PUR with M12 connector for central fastening, 8-pin <sup>1)</sup>

**e Code**

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

*Optional on request*

- surface protection
- salt spray tested
- other singleturn resolutions

**f Resolution (singleturn)**

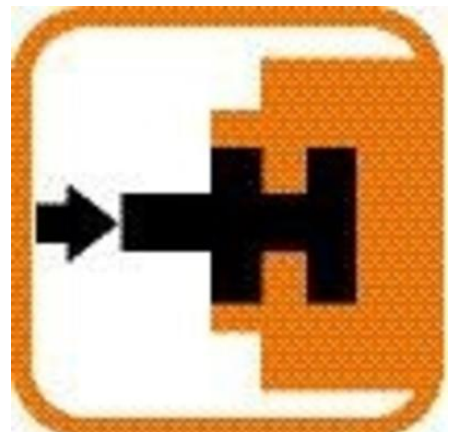
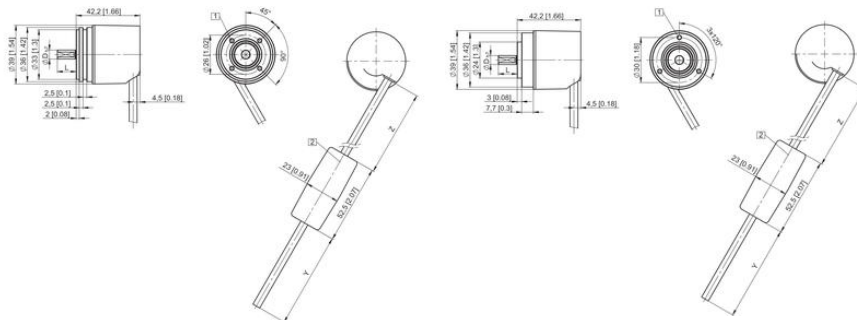
- B = 9 bit ST
- A = 10 bit ST
- 2 = 12 bit ST
- 3 = 13 bit ST**
- 4 = 14 bit ST
- 7 = 17 bit ST

**g Resolution (multiturn)**

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

## TECHNICAL DATA

|                             |            |
|-----------------------------|------------|
| Connection                  | Cable      |
| Housing diameter            | 36 mm      |
| IP class                    | IP65, IP67 |
| Mounting                    | Shoulder   |
| Output                      | SSI        |
| 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 | 90 °C      |
| Temperature operational min | -40 °C     |
| Version                     | Multiturn  |



| Interface | Type of connection | Features                               | Cable   |
|-----------|--------------------|--|---|
| 1,2       | L,3                | SSI or RS485, SET, DIR, Status         | Signal: GND +V <sub>CC</sub> -C -C +D -D SET DIR Stst PE<br>Cable colour: WH BN GN YE GF PK BU RD BK VT CY/PK RD-BU Shield  |
| 1,2       | R                  | SSI or RS485, SET, DIR                 | M12 connector<br>Signal: GND +V <sub>CC</sub> -C -C +D -D SET DIR Stst/PE<br>M12 connector: 1 2 3 4 5 6 7 8 PE  |
| 3,4       | L,3                | SSI or RS485, SET, DIR, 2048 SinCos    | Cable<br>Signal: GND +V <sub>CC</sub> -C -C +D -D SET DIR A A inc B B inc PE<br>Cable colour: WH BN GN YE GF PK BU RD BK VT CY/PK RD-BU Shield                              |
| 5         | L,3                | SSI or RS485, SET, DIR, Sensor outputs | Cable<br>Signal: GND +V <sub>CC</sub> -C -C +D -D SET DIR GND <sub>ext</sub> +V <sub>ext</sub> PE<br>Cable colour: WH BN GN YE GF PK BU RD BK VT RD-BU Shield               |
| 6         | L,3                | SSI or RS485, 2048 SinCos              | Cable<br>Signal: GND +V <sub>CC</sub> -C -C +D -D GND <sub>ext</sub> +V <sub>ext</sub> A A inc B B inc PE<br>Cable colour: WH BN GN YE GF PK BU RD BK VT CY/PK RD-BU Shield |
| 7,8       | L,3                | SSI or RS485, 2048 Inc1, RS422         | Cable<br>Signal: GND +V <sub>CC</sub> -C -C +D -D A A inc B B inc PE<br>Cable colour: WH BN GN YE GF PK BK VT CY/PK RD-BU Shield  |

- +V<sub>CC</sub>: Encoder power supply +V<sub>CC</sub>
- GND<sub>ext</sub>: Encoder power supply ground GND (SN)
- +C, -C: Clock signal
- +D, -D: Data signal
- SET: Set input. The current position becomes defined as position zero.
- DIR: Direction input. If this input is active, output values are counted backwards (decrease) when the shaft is turning clockwise.
- Stst: Status output
- PE: Protective earth
- PK: Plug connection housing (Shield)
- A, A inc: Incremental output channel A
- B, B inc: Incremental output channel B

Top view of mating side, male contact base:

