



|                          | BTL7 -SF- SERIES - ANALOG VOLTAGE                         |
|--------------------------|---|
| Interface                | Analog, voltage   |
| Measuring length         | 50...2500 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...2500: ± 0.01% FS |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...85 °C   |
| Mechanical configuration | Fastening 1 1/2" Tri Clamp                                |
| Housing material         | Stainless steel (1.4404)                                  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>3A<br>EAC   |

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M2500: for rod diameter  
10.2 mm)

#### f Style

SF = Level transducer, 1.5" Tri-Clamp

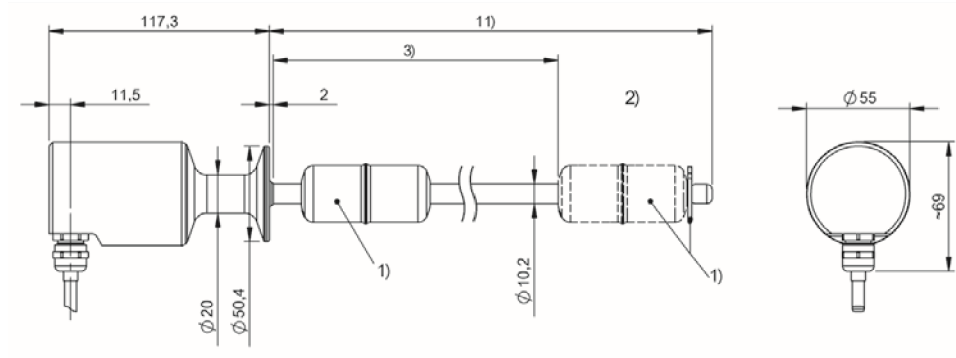
#### l Connection type

F = Cable out radial (PTFE)

#### m Connection type characteristic 1

(length in meters)  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-SF-Fxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length



| BTL7 -SF- SERIES - ANALOG CURRENT |   |
|-----------------------------------|---|
| Interface                         | Analog, current   |
| Measuring length                  | 50...2500 mm  |
| Repeat accuracy                   | ± 10 µm   |
| Linearity deviation               | nmm = 0050...0500: ± 50 µm, nmm = 0501...2500: ± 0.01% FS |
| Operating voltage Ub              | 10...30 VDC   |
| Ambient temperature               | -40...85 °C   |
| Mechanical configuration          | Fastening 1 1/2" Tri Clamp                                |
| Housing material                  | Stainless steel (1.4404)                                  |
| Protection degree                 | IP67  |
| Approval/Conformity               | CE<br>3A<br>EAC   |

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA

E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising

70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0025...M2500: for rod diameter  
10.2 mm)

#### f Style

SF = Level transducer, 1.5" Tri-Clamp

#### l Connection type

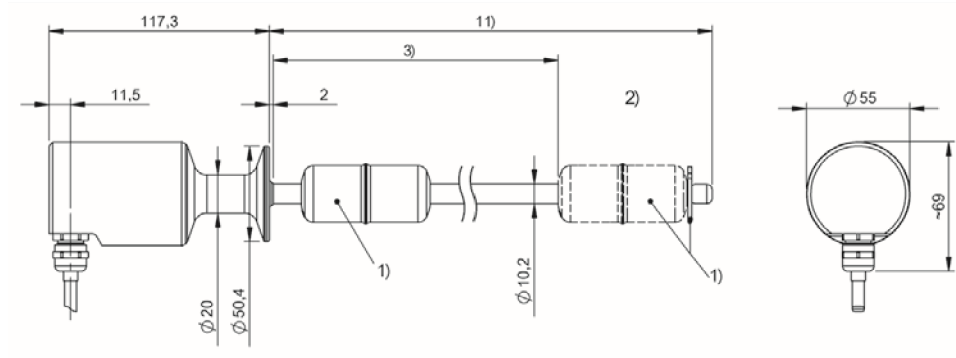
F = Cable out radial (PTFE)

#### m Connection type characteristic 1

(length in meters)

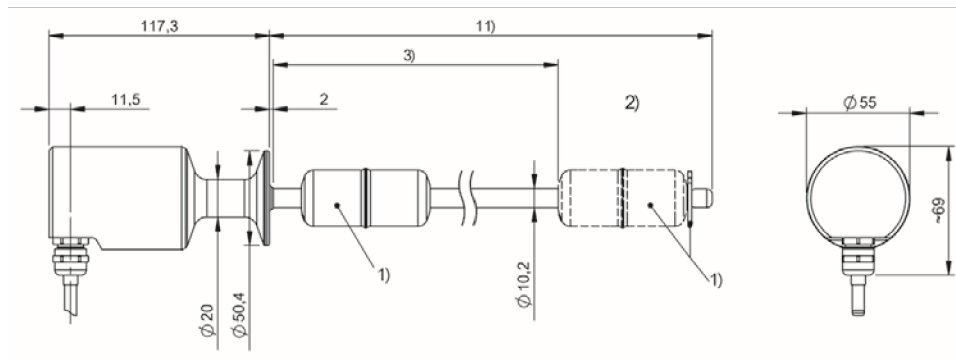
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-SF-Fxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length

**BTL7-C570-Mxxxx-SF-Fxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length



|                          | BTL6 -E- SERIES - ANALOG VOLTAGE  |
|--------------------------|---|
| Interface                | Analog, voltage   |
| Measuring length         | 50...2000 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | n n n n = 0050...0500: ± 200 µm<br>n n n n > 0500: ± 0.04% FS (typ. ± 0.02% FS) |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...85 °C   |
| Mechanical configuration | Fastening 48h7 fit  |
| Housing material         | Stainless steel (1.4404)  |
| Protection degree        | IP67  |
| Approval/Conformity      | I = KA: CE + cULus + EAC<br>I = LA: CE + EAC                                    |

## BTL6-abcd-Mnnnn-fg-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

A = Voltage output 0 ... 10 V  
B = Voltage output 0 ... 5 V/0.25 ...  
4.75 V/0.5 ... 4.5 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising  
02 = 1 output, only if a =  
B, then 0.25 ... 4.75 V  
03 = 1 output, only if a =  
B, then 0.5 ... 4.5 V

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M1016: for rod diameter  
8 mm)  
(M0050...M2000: for rod diameter  
10.2 mm)

#### f Style

E2 = Mounting flange 18h6

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### l Connection type

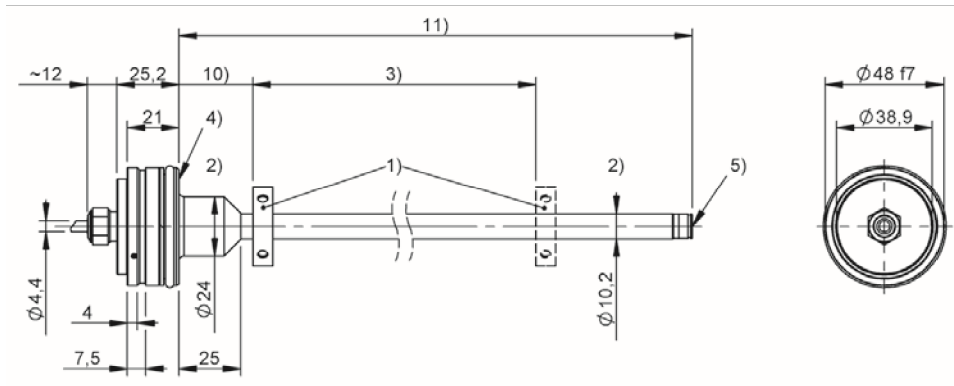
KA = Cable (PUR)  
LA = Leads (TPE-E)

#### m Connection type characteristic 1

for leads (length in meters):  
0,07, 0,15, 0,20, 0,30

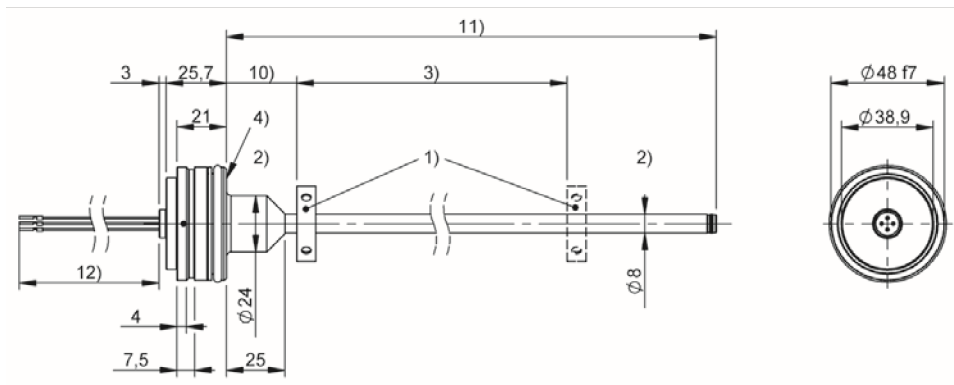
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL6-A500-Mxxxx-E2-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL6-B500-Mxxxx-E28-LAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length
- 12) Cable length



|                          | BTL6 -E- SERIES - ANALOG CURRENT  |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 50...2000 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 200 µm<br>nmm > 0500: ± 0.04% FS (typ. ± 0.02% FS) |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...85 °C   |
| Mechanical configuration | Fastening 48h7 fit  |
| Housing material         | Stainless steel (1.4404)  |
| Protection degree        | IP67  |
| Approval/Conformity      | I = KA: CE + cULus + EAC<br>I = LA: CE + EAC                            |

### BTL6-abcd-Mnnnn-fg-lm

#### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M1016: for rod diameter  
8 mm)  
(M0050...M2000: for rod diameter  
10.2 mm)

#### f Style

E2 = Mounting flange 18h6

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### l Connection type

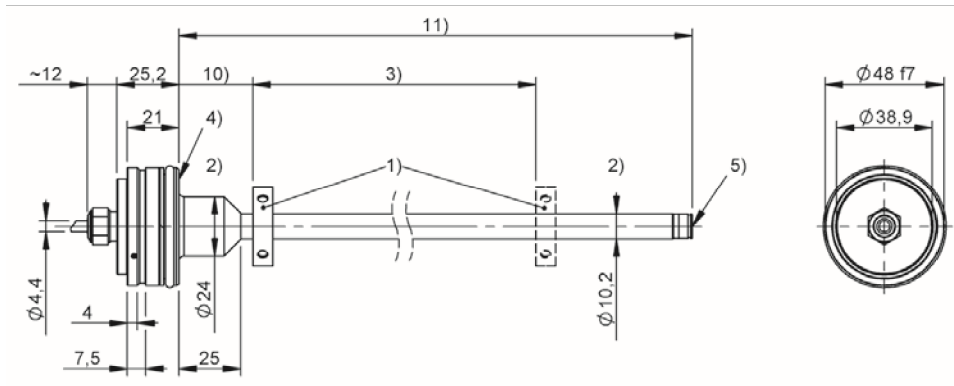
KA = Cable (PUR)  
LA = Leads (TPE-E)

#### m Connection type characteristic 1

for leads (length in meters):  
0,07, 0,15, 0,20, 0,30

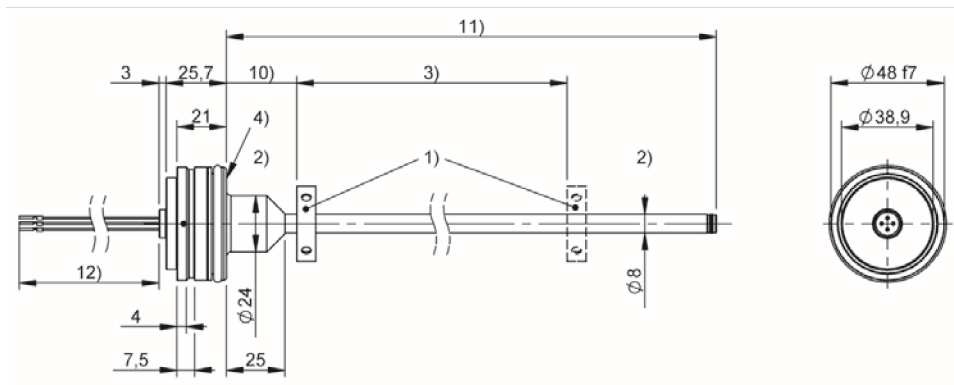
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL6-E500-Mxxxx-E2-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL6-E500-Mxxxx-E28-LAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length
- 12) Cable length





|                          | BTL6 -E- SERIES - DIGITAL   |
|--------------------------|---|
| Interface                | Digital pulse   |
| Measuring length         | 50...2000 mm  |
| Repeat accuracy          | ≤ 30 μm   |
| Linearity deviation      | nmm = 0050...0500: ± 200 μm, nmm > 0500: ± 0.04% FS (typ. ± 0.02% FS) |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...85 °C   |
| Mechanical configuration | Fastening 48h7 fit  |
| Housing material         | Stainless steel (1.4404)  |
| Protection degree        | IP67  |
| Approval/Conformity      | I = KA: CE + cULus + EAC<br>I = LA: CE + EAC                          |

### BTL6-abcd-Mnnnn-fg-lm

#### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

P = Digital pulse interface

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = Digital start/stop interface

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M1016: for rod diameter  
8 mm)  
(M0050...M2000: for rod diameter  
10.2 mm)

#### f Style

E2 = Mounting flange 18h6

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### l Connection type

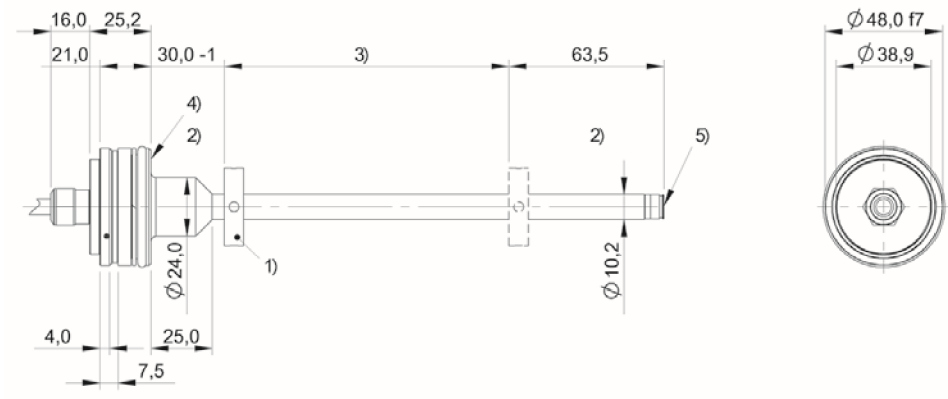
KA = Cable (PUR)  
LA = Leads (TPE-E)

#### m Connection type characteristic 1

for leads (length in meters):  
0,07, 0,15, 0,20, 0,30

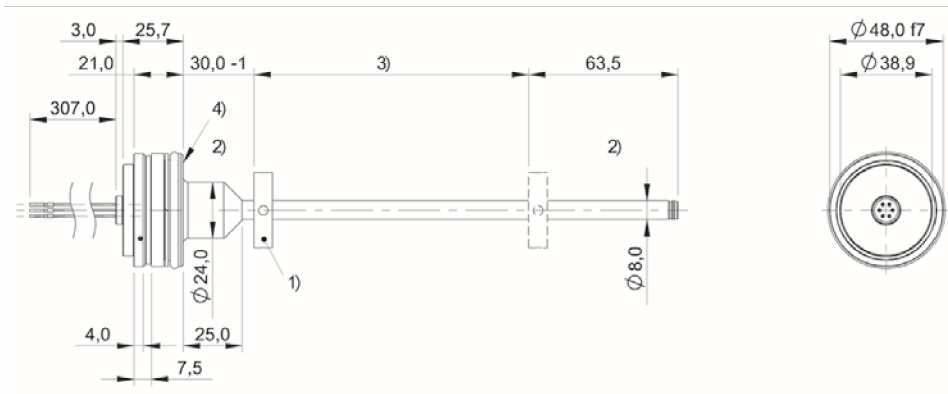
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL6-P510-Mxxxx-E2-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL6-P510-Mxxxx-E28-LAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -TB- SERIES - ANALOG VOLTAGE  |
|--------------------------|--|
| Interface                | Analog, voltage  |
| Measuring length         | 25...7620 mm   |
| Repeat accuracy          | ± 10 µm  |
| Linearity deviation      | nxxx = 0050...0500: ± 200 µm<br>nxxx > 0500: ± 0.04% FS  |
| Operating voltage $U_b$  | 10...30 VDC  |
| Ambient temperature      | -40...85 °C  |
| Mechanical configuration | Fastening M18 threads  |
| Housing material         | Aluminum   |
| Protection degree        | IP67   |
| Approval/Conformity      | nxxx ≤ 500:<br>I = S, KA: CE + cULus + EAC + GL<br>I = FA: CE + EAC + GL<br>nxxx > 500:<br>I = S, KA: CE + cULus + EAC<br>I = FA: CE + EAC |

## BTL7-abcd-Mnnnn-fh-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TB = Mounting threads M18x1.5,  
for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### l Connection type

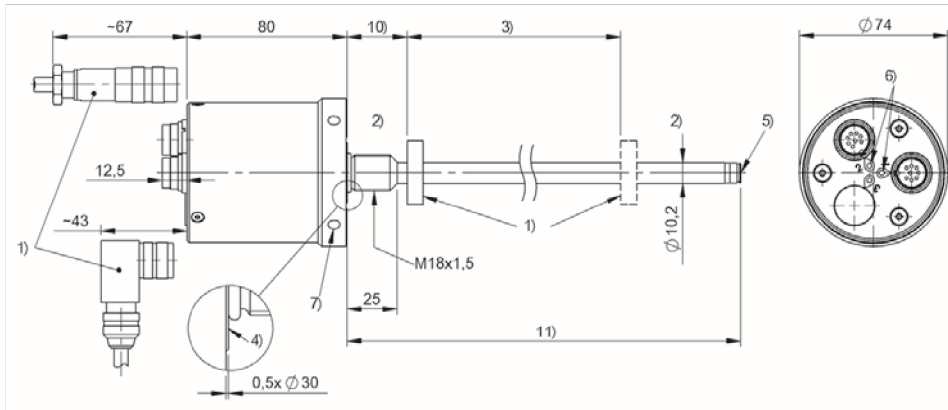
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

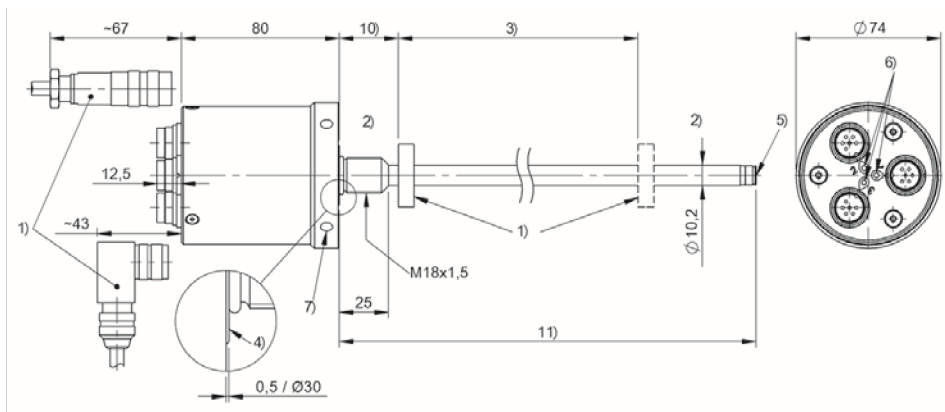
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-A504-Mxxxx-TB2-S32**



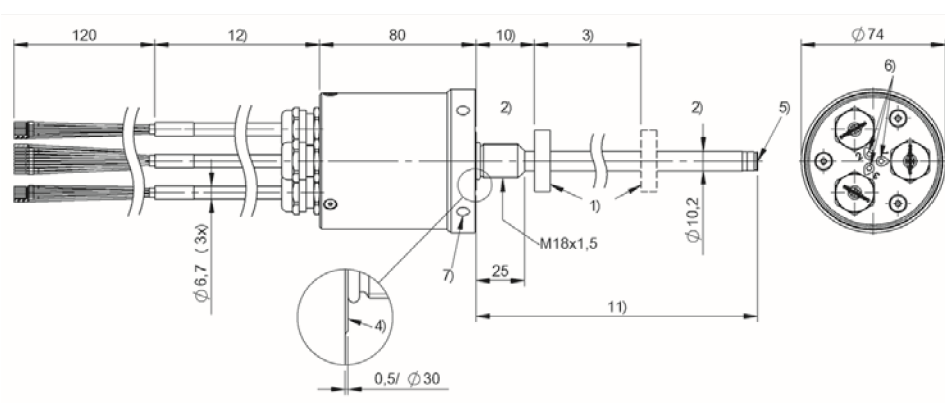
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-G505-Mxxxx-TB3-S135**



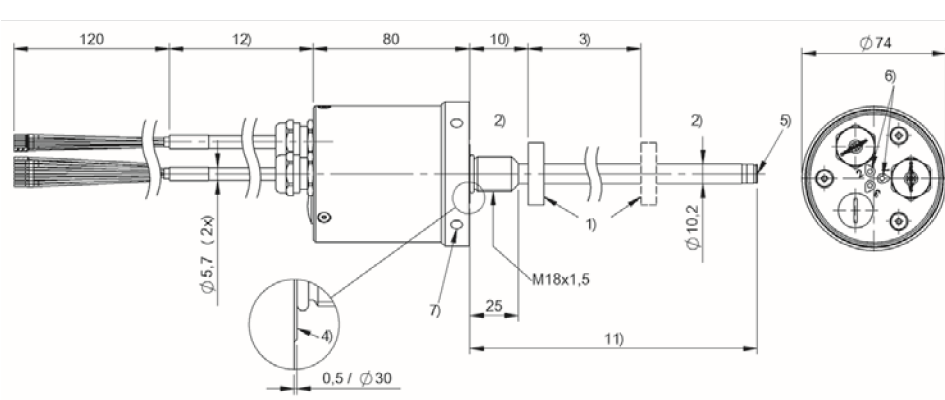
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-A505-Mxxxx-TB3-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-G504-Mxxxx-TB2-FAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length



|                          | BTL7 -TB- SERIES - ANALOG CURRENT   |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...7620 mm  |
| Repeat accuracy          | $\pm 5 \mu\text{m}$   |
| Linearity deviation      | $n_{\text{nnn}} = 0050\dots0500: \pm 200 \mu\text{m}, n_{\text{nnn}} > 0500: \pm 0.04\% \text{ FS}$   |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...85 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | IP67  |
| Approval/Conformity      | $n_{\text{nnn}} \leq 500$ :<br>I = S, KA: CE + cULus + EAC + GL<br>I = FA: CE + EAC + GL<br>$n_{\text{nnn}} > 500$ :<br>I = S, KA: CE + cULus + EAC<br>I = FA: CE + EAC |

### BTL7-abcd-Mnnnn-fh-lm

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TB = Mounting threads M18x1.5,  
for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### l Connection type

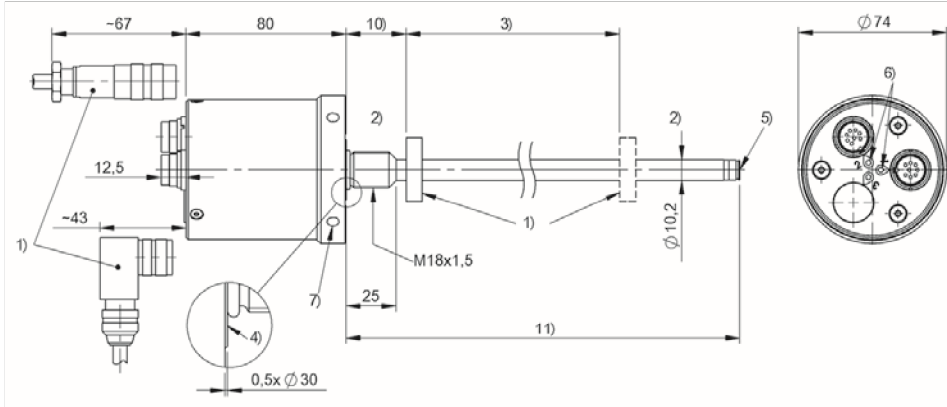
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

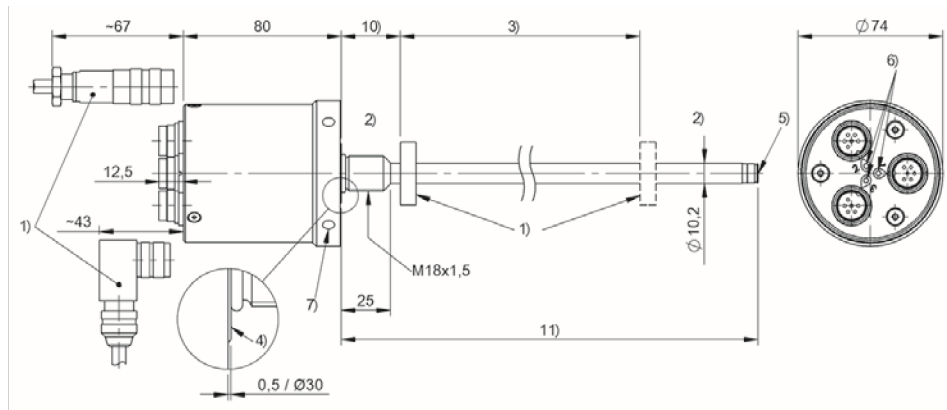
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-E504-Mxxxx-TB2-S32**



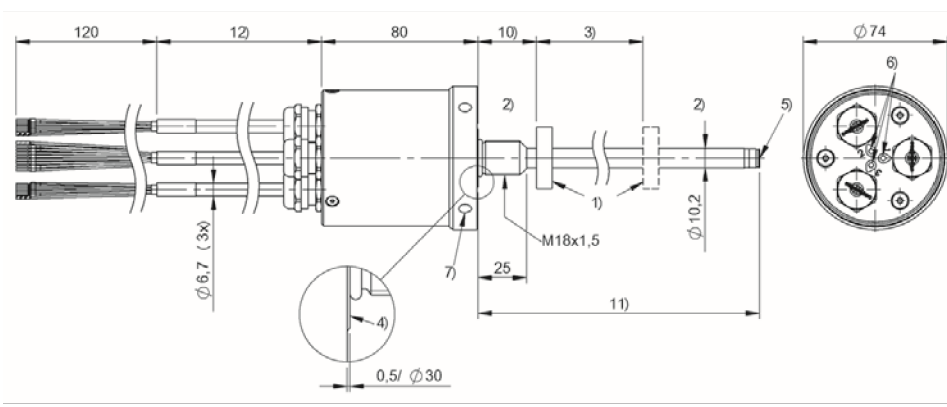
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-C505-Mxxxx-TB3-S135**



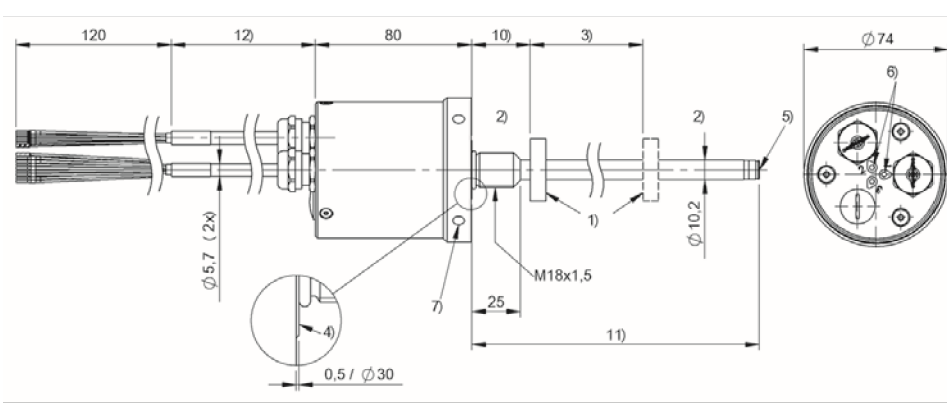
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-E505-Mxxxx-TB3-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-C504-Mxxxx-TB2-FAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length



|                                  | BTL7 -TZ- SERIES - ANALOG VOLTAGE  |
|----------------------------------|--|
| Interface                        | Analog, voltage  |
| Measuring length                 | 25...7620 mm   |
| Repeat accuracy                  | ± 10 µm  |
| Linearity deviation              | n n n n = 0050...0500: ± 200 µm, n n n n > 0500: ± 0.04% FS  |
| Operating voltage U <sub>b</sub> | 10...30 VDC  |
| Ambient temperature              | -40...85 °C  |
| Mechanical configuration         | Fastening 3/4" threads   |
| Housing material                 | Aluminum   |
| Protection degree                | IP67   |
| Approval/Conformity              | n n n n ≤ 500:<br>I = S, KA: CE + cULus + EAC + GL<br>I = FA: CE + EAC + GL<br>n n n n > 500:<br>I = S, KA: CE + cULus + EAC<br>I = FA: CE + EAC |

## BTL7-abcd-Mnnnn-fh-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TZ = Threads 3/4"-16UNF, for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### l Connection type

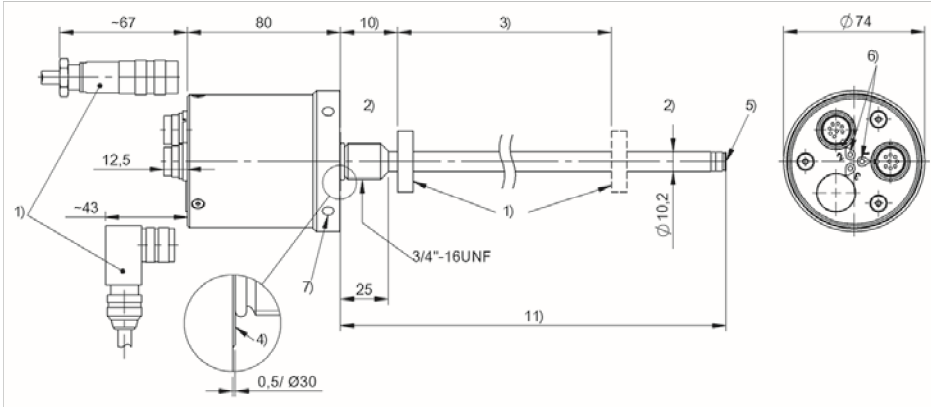
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

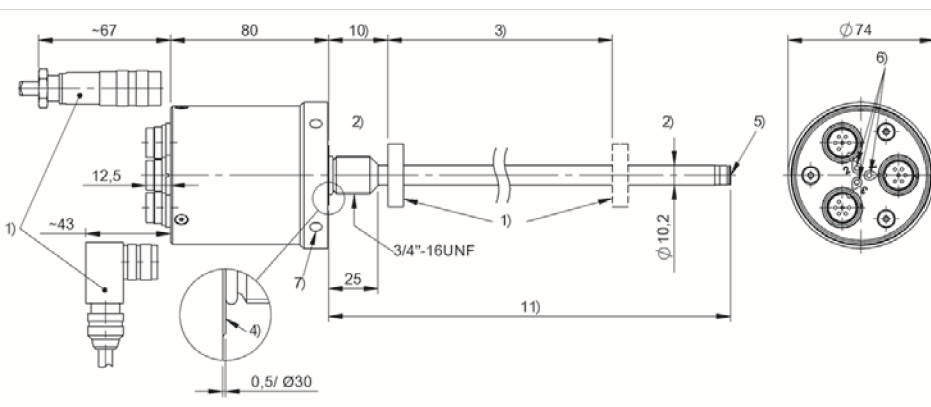
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-A504-Mxxxx-TZ2-S32**



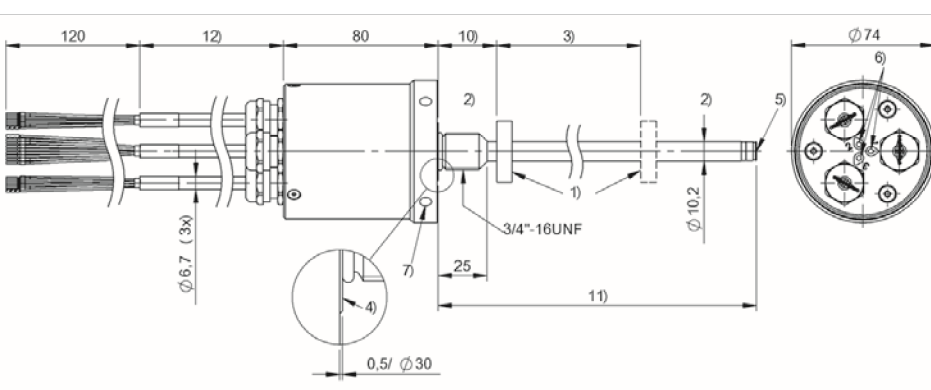
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length

**BTL7-G505-Mxxxx-TZ3-S135**



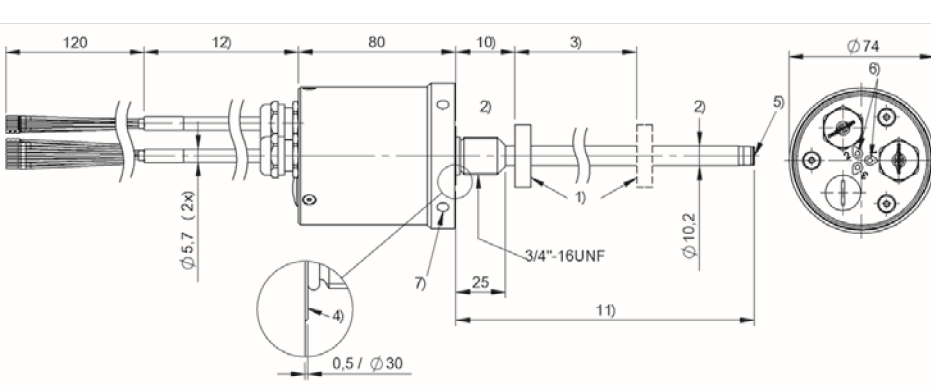
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length

**BTL7-A505-Mxxxx-TZ3-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-G504-Mxxxx-TZ2-FAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length
- 12) Cable length





| BTL7 -TZ- SERIES - ANALOG CURRENT |  |
|-----------------------------------|--|
| Interface                         | Analog, current  |
| Measuring length                  | 25...7620 mm   |
| Repeat accuracy                   | ± 5 µm   |
| Linearity deviation               | n n n n = 0050...0500: ± 200 µm, n n n n > 0500: ± 0.04% FS  |
| Operating voltage U <sub>b</sub>  | 10...30 VDC  |
| Ambient temperature               | -40...85 °C  |
| Mechanical configuration          | Fastening 3/4" threads   |
| Housing material                  | Aluminum   |
| Protection degree                 | IP67   |
| Approval/Conformity               | n n n n ≤ 500:<br>I = S, KA: CE + cULus + EAC + GL<br>I = FA: CE + EAC + GL<br>n n n n > 500:<br>I = S, KA: CE + cULus + EAC<br>I = FA: CE + EAC |

### BTL7-abcd-Mnnnn-fh-lm

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TZ = Threads 3/4"-16UNF, for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### l Connection type

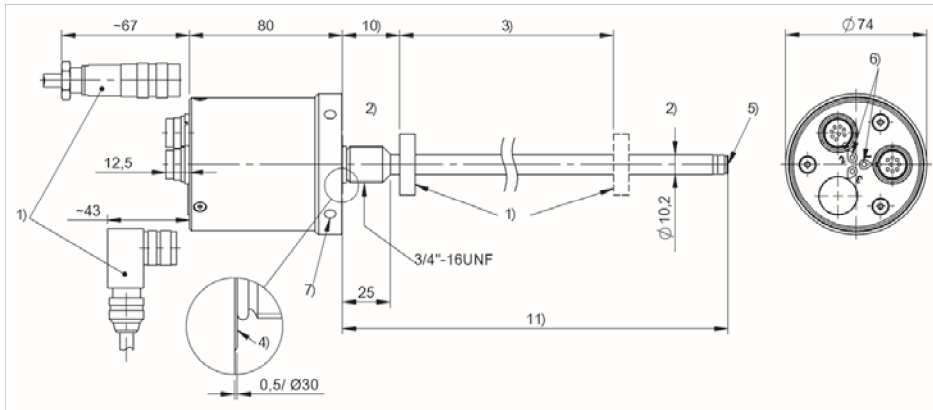
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

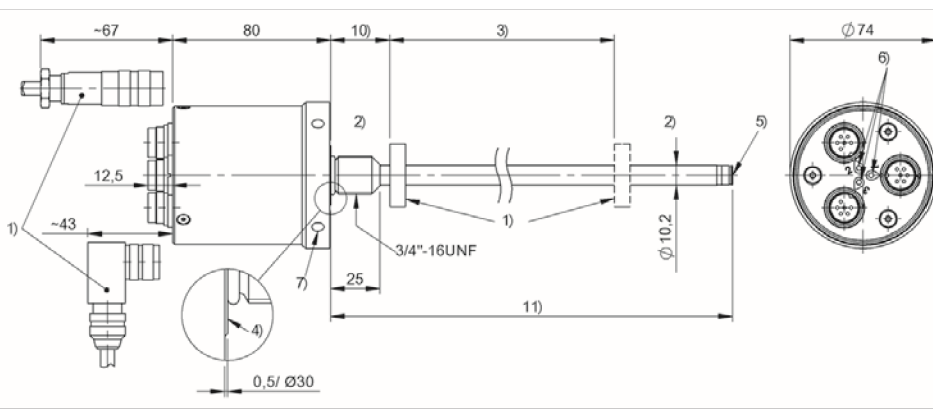
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-E504-Mxxxx-TZ2-S32**



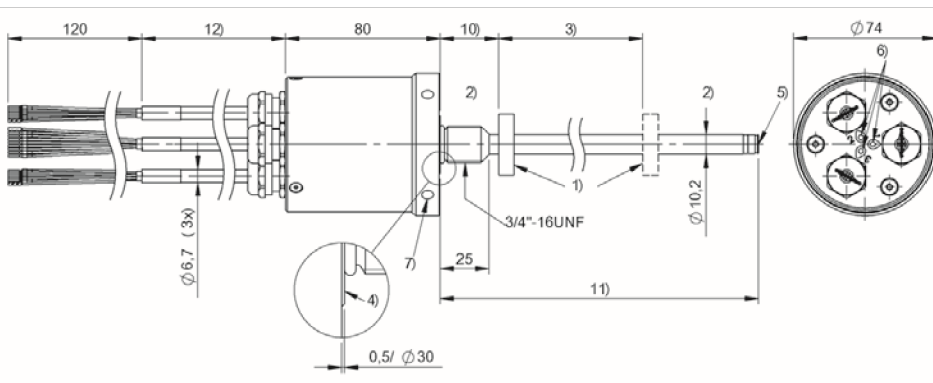
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length

**BTL7-C505-Mxxxx-TZ3-S135**



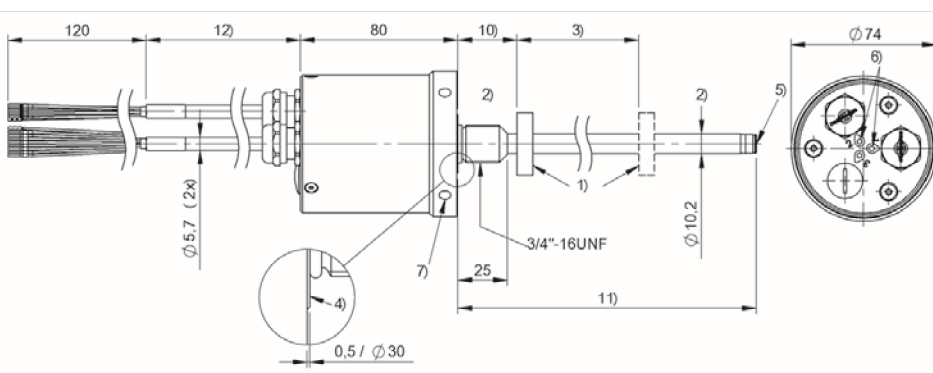
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length

**BTL7-E505-Mxxxx-TZ3-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-C504-Mxxxx-TZ2-FAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7)  $\varnothing 6.1$  for hook wrench  $\varnothing 74$
- 10) Null point
- 11) Installation length
- 12) Cable length



| BTL7 -B-DEX- SERIES - ANALOG VOLTAGE |  |
|--------------------------------------|--|
| Interface                            | Analog, voltage  |
| Measuring length                     | 25...7620 mm   |
| Repeat accuracy                      | ± 10 µm  |
| Linearity deviation                  | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS  |
| Operating voltage Ub                 | 10...30 VDC  |
| Ambient temperature                  | -40...80 °C  |
| Mechanical configuration             | Fastening M18 threads  |
| Protection degree                    | IP68   |
| Approval/Conformity                  | CE<br>IECEX<br>EAC   |
| Ex category                          | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

## BTL7-abcd-Mnnnn-f-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter 10.2 mm)

#### f Style

B = Mounting threads M18x1.5,  
for O-Ring

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

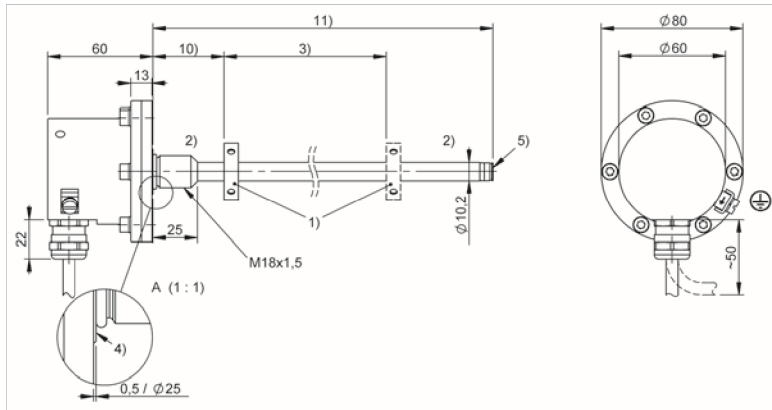
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

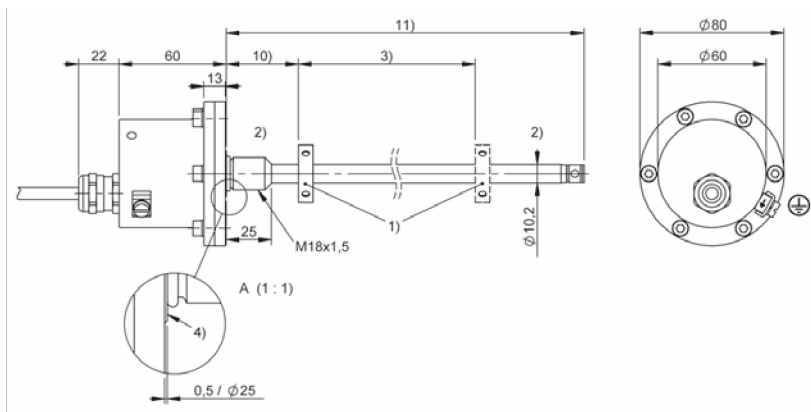
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-B-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-B-DEXA-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



| BTL7 -B-DEX- SERIES - ANALOG CURRENT |  |
|--------------------------------------|--|
| Interface                            | Analog, current  |
| Measuring length                     | 25...7620 mm   |
| Repeat accuracy                      | ± 10 µm  |
| Linearity deviation                  | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS  |
| Operating voltage Ub                 | 10...30 VDC  |
| Ambient temperature                  | -40...80 °C  |
| Mechanical configuration             | Fastening M18 threads  |
| Housing material                     |  |
| Protection degree                    | IP68   |
| Approval/Conformity                  | CE<br>IECEX<br>EAC   |
| Ex category                          | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

**BTL7-abcd-Mnnnn-f-ij-lm**

**BTL7**

Magnetostrictive linear position sensor  
Generation 7

**a interface**

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

**b Operating voltage**

5 = 10 ... 30 V

**c + d Interface characteristic 1 + 2**

00 = 1 output, rising  
70 = 1 output, falling

**Mnnnn Nominal length (4-position)**

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

**f Style**

B = Mounting threads M18x1.5,  
for O-Ring

**i Variant**

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**

A = float plug  
B = short plug

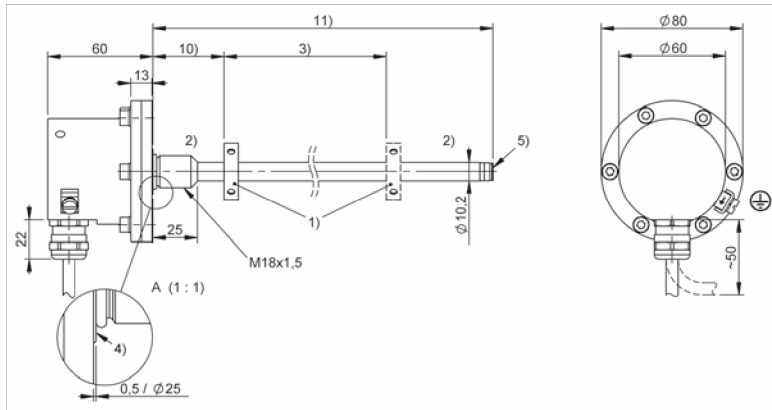
**l Connection type**

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

**m Connection type characteristic 1**

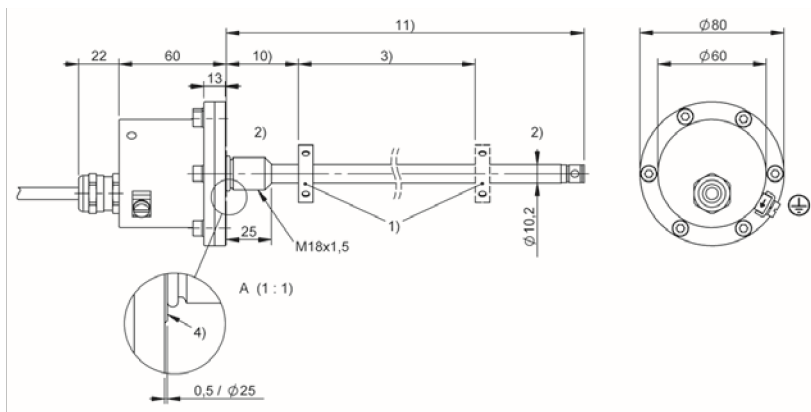
(length in meters)  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-B-DEXB-K05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-B-DEXA-KA05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



|                          | BTL5 -B-DEX- SERIES - DIGITAL   |
|--------------------------|---|
| Interface                | Start/Stop  |
| Measuring length         | 25...4000 mm  |
| Repeat accuracy          | 2 µm  |
| Linearity deviation      | nmm = 0025...0500: ± 100 µm, nmm > 0500: ± 0.02% FS   |
| Operating voltage Ub     | 20...26 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

### BTL5-ab-Mnnnn-fg-ij-lm

#### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

P = Digital pulse interface (falling edge stabilized)  
M = Digital pulse interface (rising edge stabilized)

#### b Operating voltage

1 = 20 ... 28 V

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

#### f Style

B = Mounting threads M18x1.5,  
for O-Ring

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

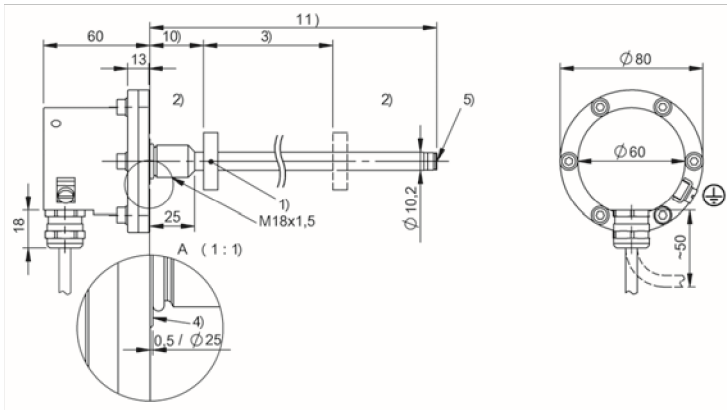
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

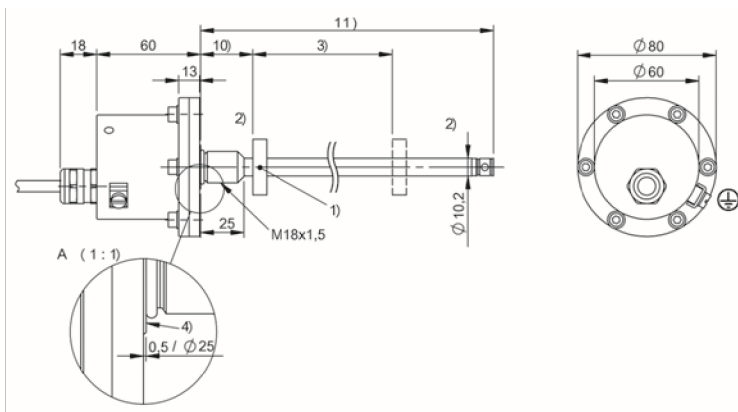
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Px-Mxxxx-B-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL5-Px-Mxxxx-B-DEXA-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length





|                          | BTL5 -B-DEX- SERIES - SSI   |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...4000 mm  |
| Repeat accuracy          | ± 1 LSB   |
| Linearity deviation      | d = 1, 2, 3, 7:<br>nnnn = 25...4000: ± 30µm<br><br>d = 4, 5, 6, 8<br>nnnn = 25...4000: ± 2 LSB          |
| Operating voltage Ub     | 20...26 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         |   |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

## BTL5-abcde-Mnnnn-fg-ij-lm

### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

S = SSI

#### b Operating voltage

1 = 20 ... 26 V

#### c Interface characteristic 1

0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling

#### d Interface characteristic 2

1 = 1 µm  
2 = 5 µm  
3 = 10 µm  
4 = 20 µm  
5 = 40 µm  
6 = 100 µm  
7 = 2 µm  
8 = 50 µm

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

#### f Style

B = Mounting threads M18x1.5,  
for O-Ring

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

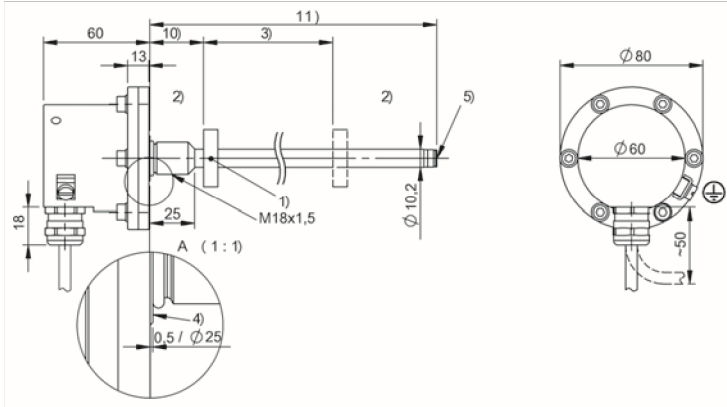
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

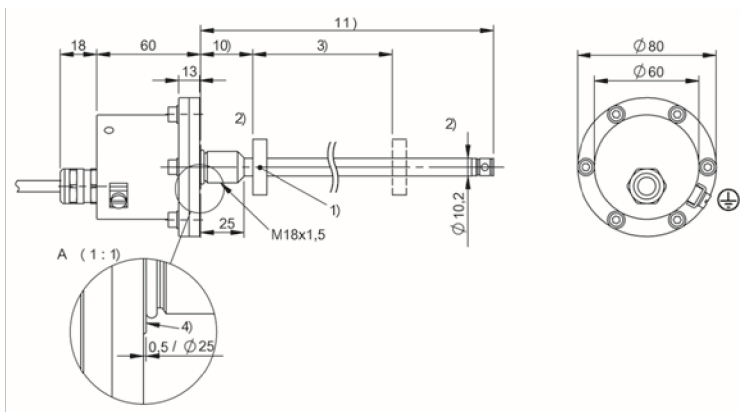
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Sxxxx-Mxxxx-B-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL5-Sxxxx-Mxxxx-B-DEXA-KAx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



| BTL7 -B-DEX- SERIES - PROFIBUS |  |
|--------------------------------|--|
| Interface                      | Profibus   |
| Measuring length               | 25...7620 mm   |
| Repeat accuracy                | ≤ ± 10 µm  |
| Linearity deviation            | nmm = 0050...5500: ± 30 µm, nmm > 5500: ± 0.02% FS   |
| Operating voltage Ub           | 10...30 VDC  |
| Ambient temperature            | -40...60 °C  |
| Mechanical configuration       | Fastening M18 threads  |
| Protection degree              | IP68   |
| Approval/Conformity            | CE<br>IECEX  |
| Ex category                    | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

**BTL7-abcd-Mnnnn-fg-ij-lm**

**BTL7**

Magnetostrictive linear position sensor  
Generation 7

**a interface**

T = PROFIBUS DP

**b Operating voltage**

5 = 10 ... 30 V

**c + d Interface characteristic 1 + 2**

00 = Flexible number of magnets

**Mnnnn Nominal length (4-position)**

M0500 = metric in mm  
(M0025...M7620: for rod diameter 10.2 mm)

**f Style**

B = Mounting threads M18x1.5,  
for O-Ring

**g Form factor characteristic**

- = Rod diameter 10.2 mm

**i Variant**

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**

A/D = float plug  
B/E = short plug

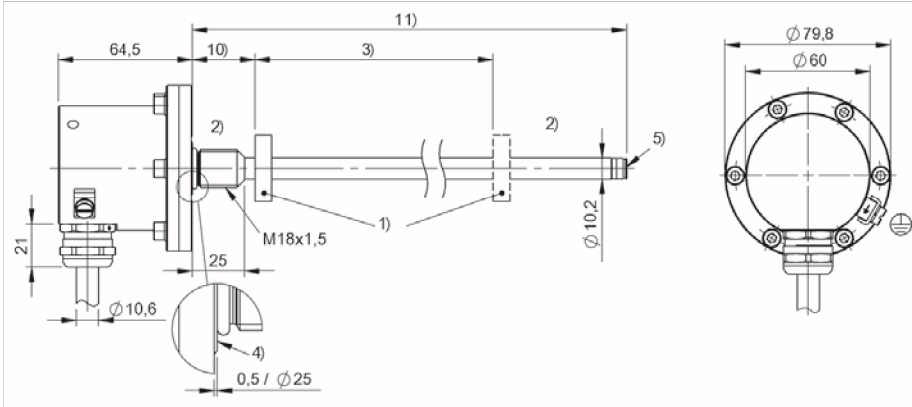
**l Connection type**

K = Cable out radial (PUR) / only for  
variant characteristic A or B  
KA = Cable out axial (PUR) / only for  
variant characteristic A or B  
ZA1K = Wiring chamber for attachment  
cover / only for variant characteristic  
D or E

**m Connection type characteristic 1**

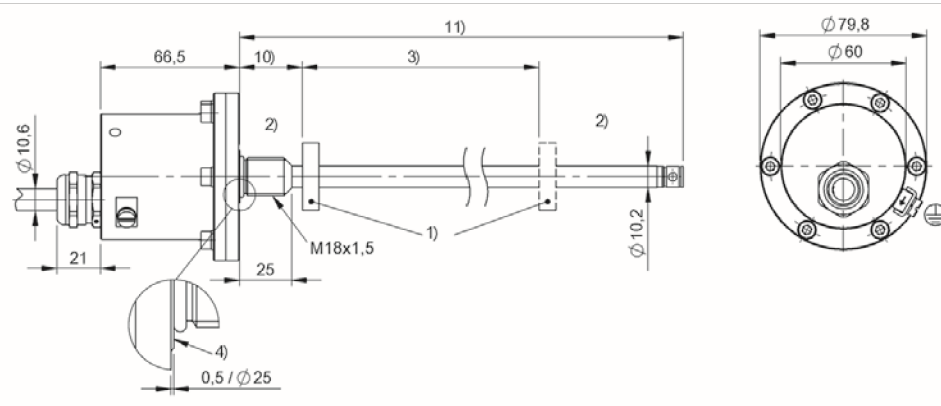
for cable (length in meters):  
02, 05, 10, 15, 20, 50

**BTL7-T500-Mxxxx-B-DEXB-Kxx**



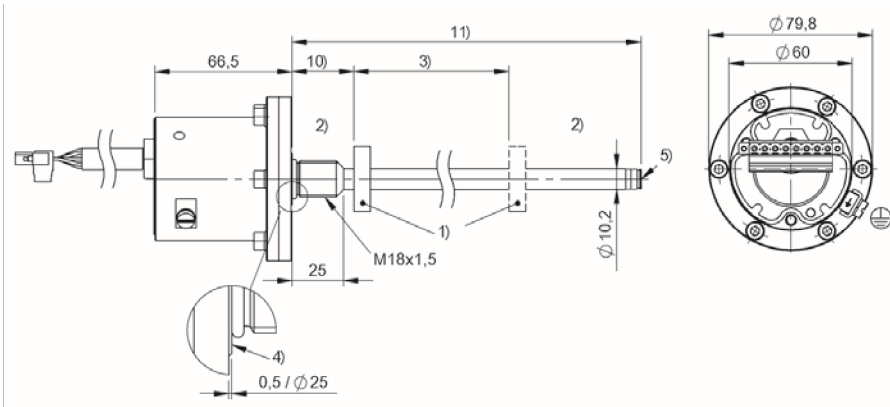
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-B-DEXA-KAxx**



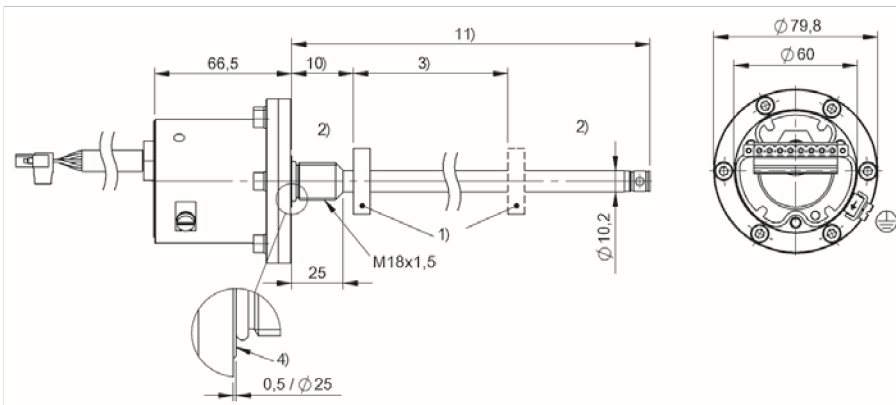
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-B-DEXE-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-B-DEXD-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



| BTL7 -Z-DEX- SERIES - ANALOG VOLTAGE |  |
|--------------------------------------|--|
| Interface                            | Analog, voltage  |
| Measuring length                     | 25...7620 mm   |
| Repeat accuracy                      | ± 10 µm  |
| Linearity deviation                  | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS  |
| Operating voltage Ub                 | 10...30 VDC  |
| Ambient temperature                  | -40...80 °C  |
| Mechanical configuration             | Fastening 3/4" threads   |
| Housing material                     |  |
| Protection degree                    | IP68   |
| Approval/Conformity                  | CE<br>IECEX<br>EAC   |
| Ex category                          | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

**BTL7-abcd-Mnnnn-f-ij-lm**

**BTL7**

Magnetostrictive linear position sensor  
Generation 7

**a interface**

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

**b Operating voltage**

5 = 10 ... 30 V

**c + d Interface characteristic 1 + 2**

10 = 2 outputs, each 1 x rising/falling

**Mnnnn Nominal length (4-position)**

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

**f Style**

Z = Inch threads 3/4"-16UNF,  
for O-Ring

**i Variant**

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**

A = float plug  
B = short plug

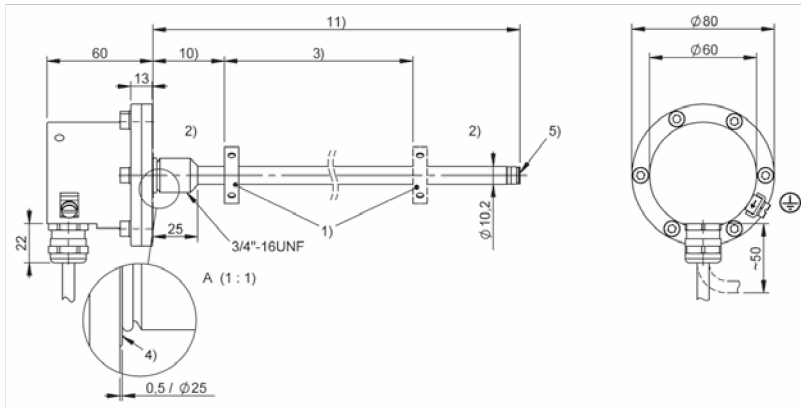
**l Connection type**

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

**m Connection type characteristic 1**

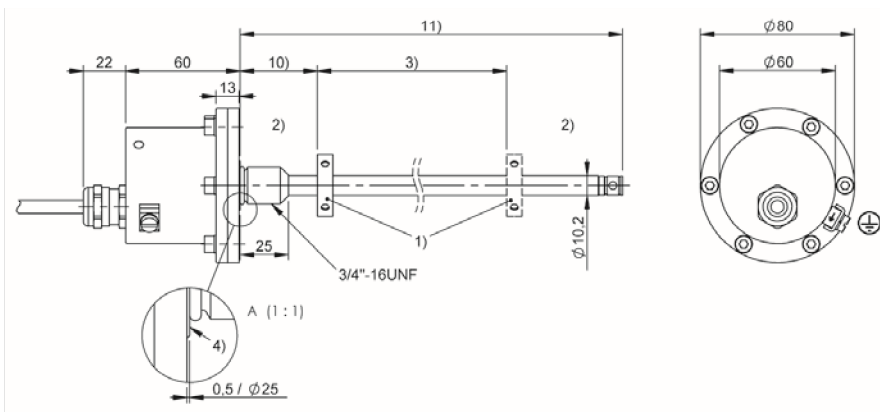
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-Z-DEXB-K05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-Z-DEXA-KA05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



|                                  | BTL7 -Z-DEX- SERIES - ANALOG CURRENT   |
|----------------------------------|--|
| Interface                        | Analog, current  |
| Measuring length                 | 25...7620 mm   |
| Repeat accuracy                  | ± 10 µm  |
| Linearity deviation              | n n n n = 0050...0500: ± 50 µm, n n n n = 0501...5500: ± 0.01% FS, n n n n > 5500: ± 0.02% FS  |
| Operating voltage U <sub>b</sub> | 10...30 VDC  |
| Ambient temperature              | -40...80 °C  |
| Mechanical configuration         | Fastening 3/4" threads   |
| Protection degree                | IP68   |
| Approval/Conformity              | CE<br>IECEX<br>EAC   |
| Ex category                      | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

## BTL7-abcd-Mnnnn-f-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
\*10.2 mm)

#### f Style

Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

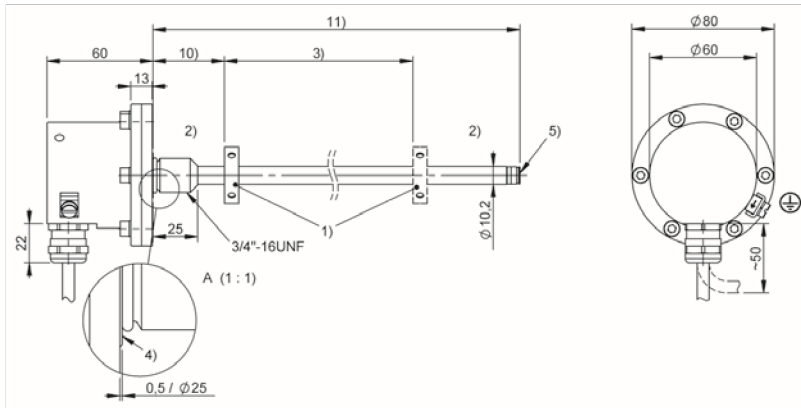
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

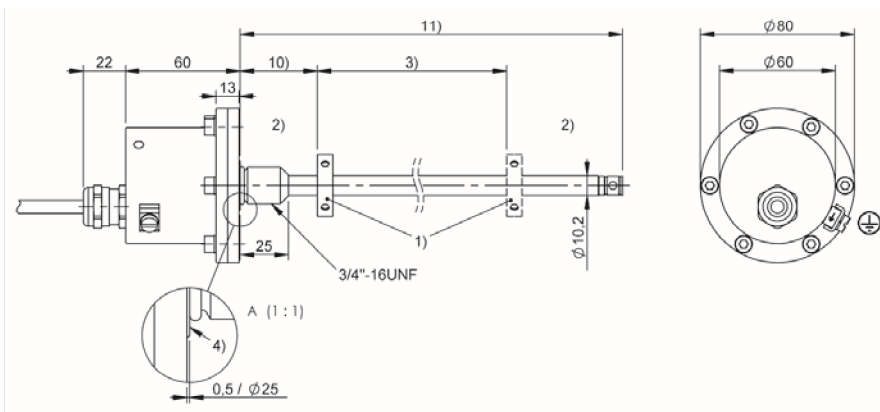
(length in meters)  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-Z-DEXB-K05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-Z-DEXA-KA05**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length





| BTL5 -Z-DEX- SERIES - DIGITAL |   |
|-------------------------------|---|
| Interface                     | Start/Stop  |
| Measuring length              | 25...4000 mm  |
| Repeat accuracy               | 2 µm  |
| Linearity deviation           | nmm = 0025...0500: ± 100 µm, nmm > 0500: ± 0.02% FS   |
| Operating voltage Ub          | 20...26 VDC   |
| Ambient temperature           | -40...60 °C   |
| Mechanical configuration      | Fastening 3/4" threads  |
| Protection degree             | IP67  |
| Approval/Conformity           | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category                   | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

**BTL5-ab-Mnnnn-fg-ij-lm**

**BTL5**

Magnetostrictive linear position sensor  
Generation 5

**a interface**

P = Digital pulse interface  
(falling edge stabilized)  
M = Digital pulse interface  
(rising edge stabilized)

**b Operating voltage**

1 = 20 ... 28 V

**Mnnnn Nominal length (4-position)**

M0500 = metric in mm  
(M0050...M4000)

**f Style**

Z = Inch threads 3/4"-16UNF,  
for O-Ring

**g Form factor characteristic**

- = Rod diameter 10.2 mm

**i Variant**

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**

A = float plug  
B = short plug

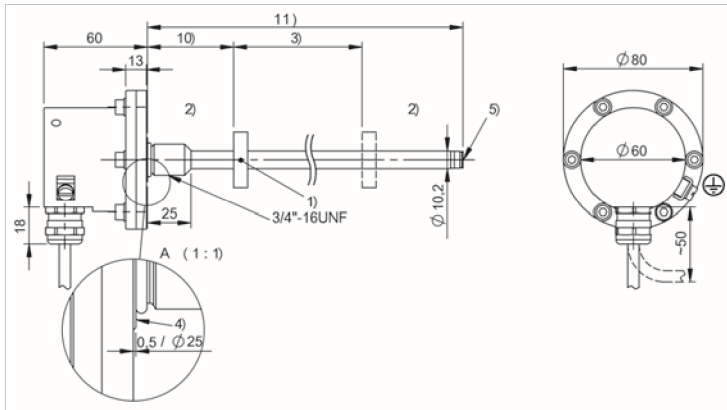
**l Connection type**

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

**m Connection type characteristic 1**

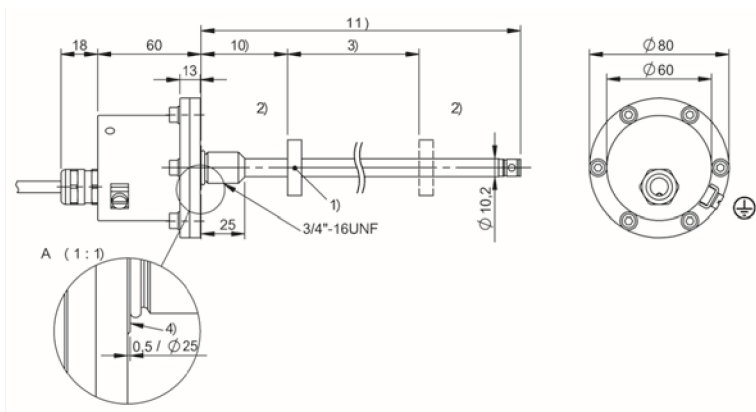
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Px-Mxxxx-Z-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL5-Px-Mxxxx-Z-DEXA-KAx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL5 -Z-DEX- SERIES - SSI   |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...4000 mm  |
| Repeat accuracy          | ± 1 LSB   |
| Linearity deviation      | d = 1, 2, 3, 7:<br>nnnn = 25...4000: ± 30µm<br><br>d = 4, 5, 6, 8<br>nnnn = 25...4000: ± 2 LSB          |
| Operating voltage Ub     | 20...26 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

**BTL5-abcde-Mnnnn-fg-ij-lm**

**BTL5**

Magnetostrictive linear position sensor  
Generation 5

**a interface**  
S = SSI

**b Operating voltage**  
1 = 20 ... 28 V

**c Interface characteristic 1**  
0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling

**d Interface characteristic 2**  
1 = 1 µm  
2 = 5 µm  
3 = 10 µm  
4 = 20 µm  
5 = 40 µm  
6 = 100 µm  
7 = 2 µm  
8 = 50 µm

**e Interface characteristic 3**  
B = Synchronous mode  
- = Asynchronous mode

**Mnnnn Nominal length (4-position)**  
M0500 = metric in mm  
(M0050...M4000)

**f Style**  
Z = Inch threads 3/4"-16UNF,  
for O-Ring

**g Form factor characteristic**  
- = Rod diameter 10.2 mm

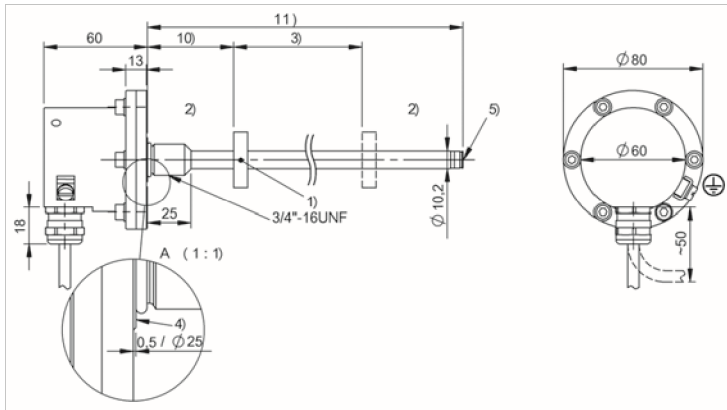
**i Variant**  
DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**  
A = float plug  
B = short plug

**l Connection type**  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

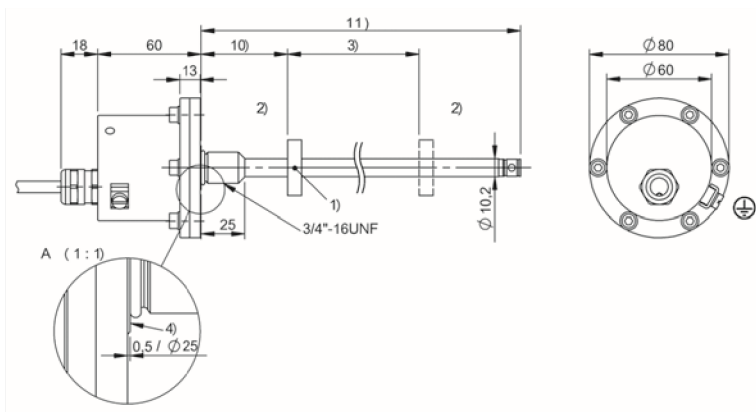
**m Connection type characteristic 1**  
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Sxxxx-Mxxxx-Z-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL5-Sxxxx-Mxxxx-Z-DEXA-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -Z-DEX- SERIES - PROFIBUS   |
|--------------------------|--|
| Interface                | Profibus   |
| Measuring length         | 25...7620 mm   |
| Repeat accuracy          | $\leq \pm 10 \mu\text{m}$  |
| Linearity deviation      | nmm = 0050...5500: $\pm 30 \mu\text{m}$ , nmm > 5500: $\pm 0.02\%$ FS  |
| Operating voltage $U_b$  | 10...30 VDC  |
| Ambient temperature      | -40...60 °C  |
| Mechanical configuration | Fastening 3/4" threads   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>IECEX  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

## BTL7-abcd-Mnnnn-fg-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

T = PROFIBUS DP

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = Flexible number of magnets

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A/D = float plug  
B/E = short plug

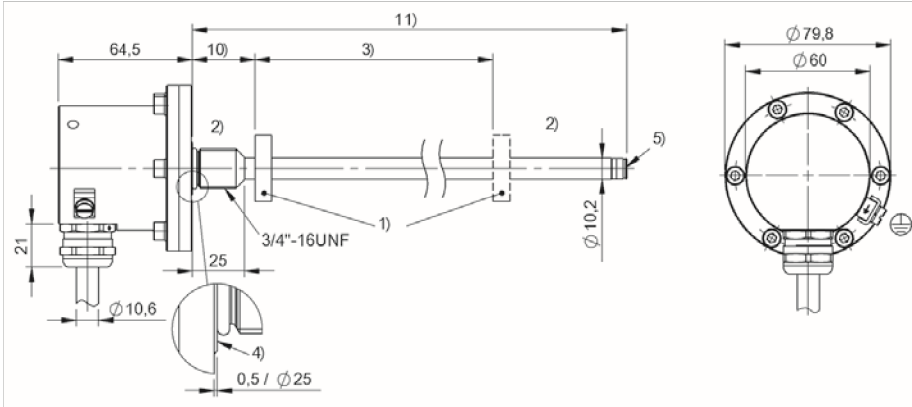
#### l Connection type

K = Cable out radial (PUR) / only for  
variant characteristic A or B  
KA = Cable out axial (PUR) / only for  
variant characteristic A or B  
ZA1K = Wiring chamber for attachment  
cover / only for variant characteristic  
D or E

#### m Connection type characteristic 1

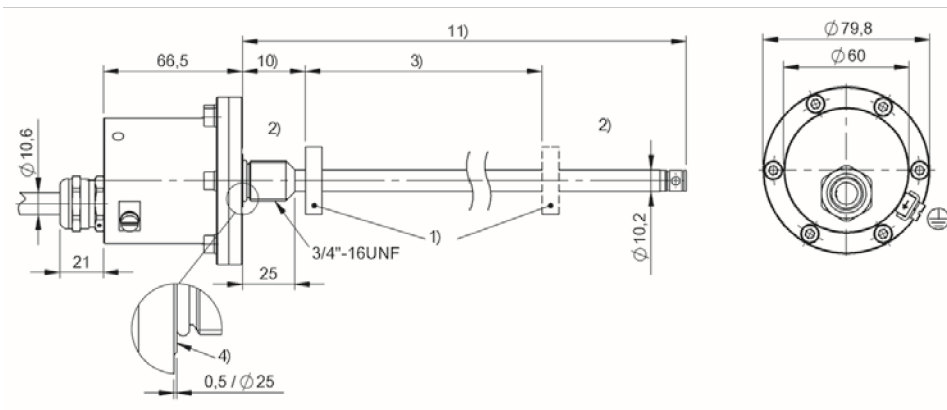
for cable (length in meters):  
02, 05, 10, 15, 20, 50

**BTL7-T500-Mxxxx-Z-DEXB-Kxx**



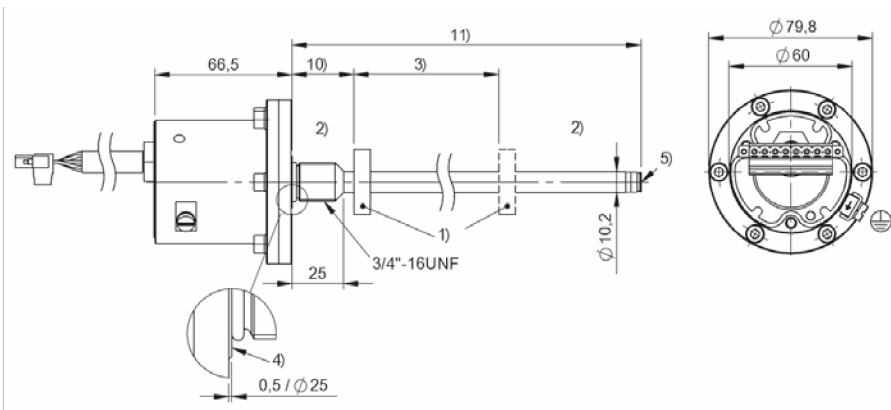
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-Z-DEXA-KAxx**



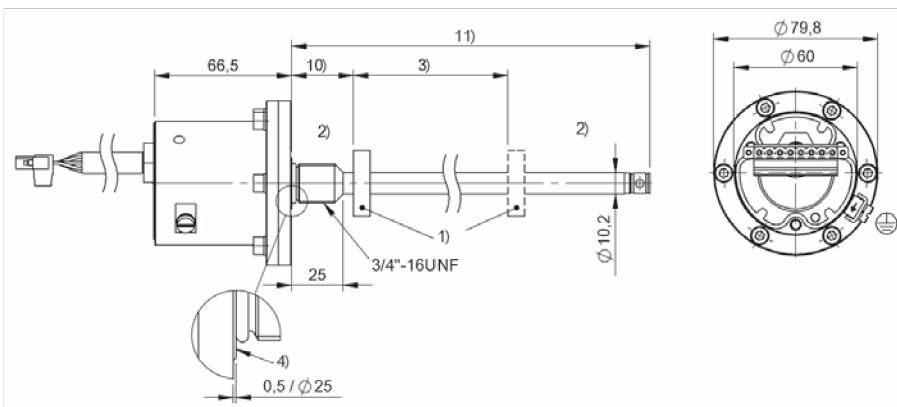
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-Z-DEXE-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-Z-DEXD-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



| BTL7 -J-DEX-A/B- SERIES - ANALOG VOLTAGE |  |
|--|--|
| Interface                                | Analog, voltage  |
| Measuring length                         | 25...7620 mm   |
| Repeat accuracy                          | ± 10 µm  |
| Linearity deviation                      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS  |
| Operating voltage Ub                     | 10...30 VDC  |
| Ambient temperature                      | -40...80 °C  |
| Mechanical configuration                 | Fastening 18h6 fit   |
| Protection degree                        | IP68   |
| Approval/Conformity                      | CE<br>IECEX<br>EAC   |
| Ex category                              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

## BTL7-abcd-Mnnnn-f-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

J = Flange 18h6

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

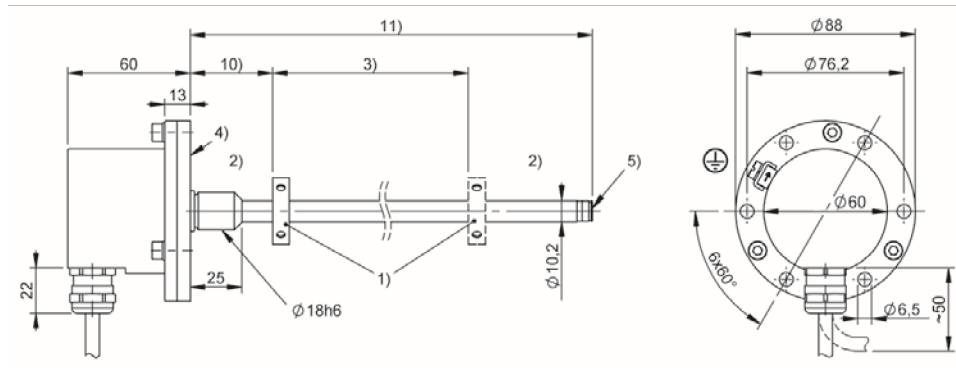
#### l Connection type

K = Cable out radial (PUR)

#### m Connection type characteristic 1

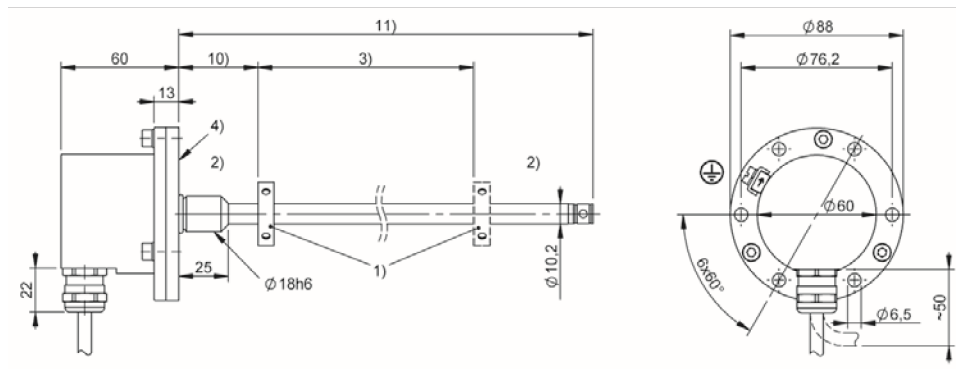
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-J-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-J-DEXA-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length





|                          | BTL7 -J-DEX-A/B- SERIES - ANALOG CURRENT   |
|--------------------------|--|
| Interface                | Analog, current  |
| Measuring length         | 25...7620 mm   |
| Repeat accuracy          | ± 10 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS  |
| Operating voltage Ub     | 10...30 VDC  |
| Ambient temperature      | -40...80 °C  |
| Mechanical configuration | Fastening 18h6 fit   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>IECEX<br>EAC   |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

## BTL7-abcd-Mnnnn-f-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

J = Flange 18h6

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

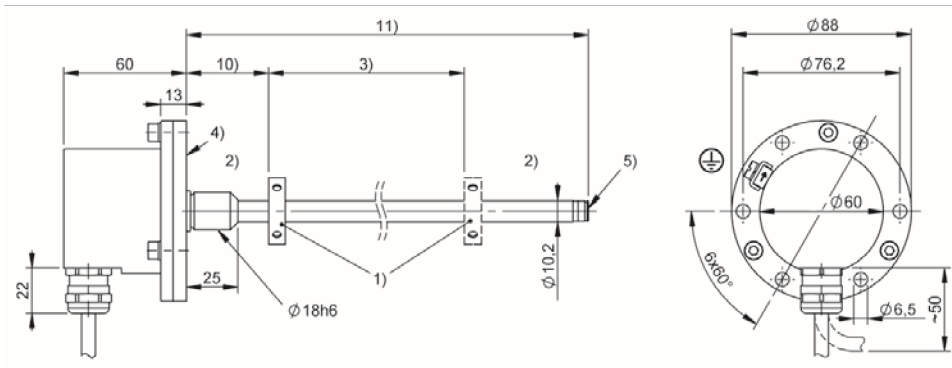
#### l Connection type

K = Cable out radial (PUR)

#### m Connection type characteristic 1

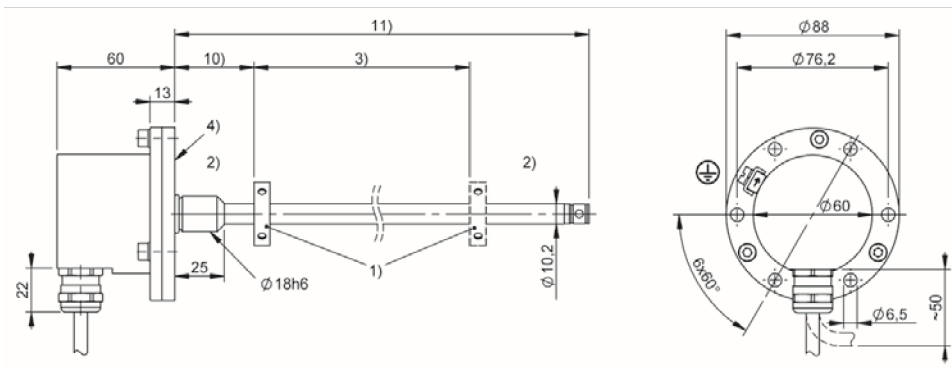
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-J-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-J-DEXA-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



|                          | BTL5 -J-DEX-A/B- SERIES - SSI   |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...4000 mm  |
| Repeat accuracy          | ± 1 LSB   |
| Linearity deviation      | d = 1, 2, 3, 7:<br>nnnn = 25...4000: ± 30µm<br><br>d = 4, 5, 6, 8<br>nnnn = 25...4000: ± 2 LSB          |
| Operating voltage Ub     | 20...26 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 18h6 fit  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

## BTL5-abcde-Mnnnn-fg-ij-lm

### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

S = SSI

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling

#### d Interface characteristic 2

1 = 1 µm  
2 = 5 µm  
3 = 10 µm  
4 = 20 µm  
5 = 40 µm  
6 = 100 µm  
7 = 2 µm  
8 = 50 µm

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

#### f Style

J = Flange 18h6

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

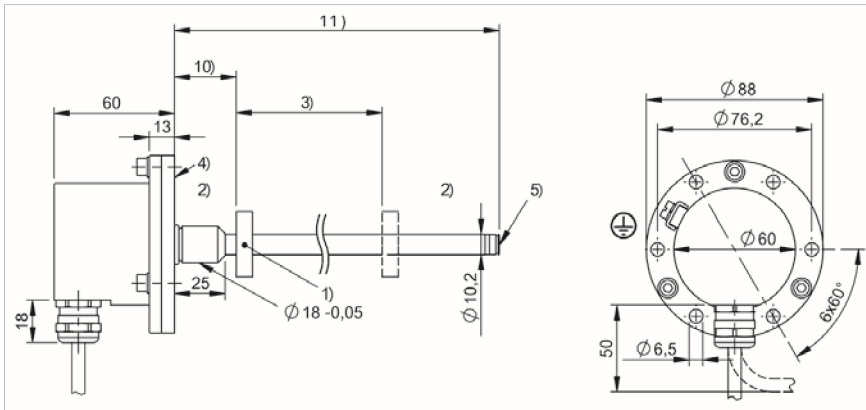
#### l Connection type

K = Cable out radial (PUR)

#### m Connection type characteristic 1

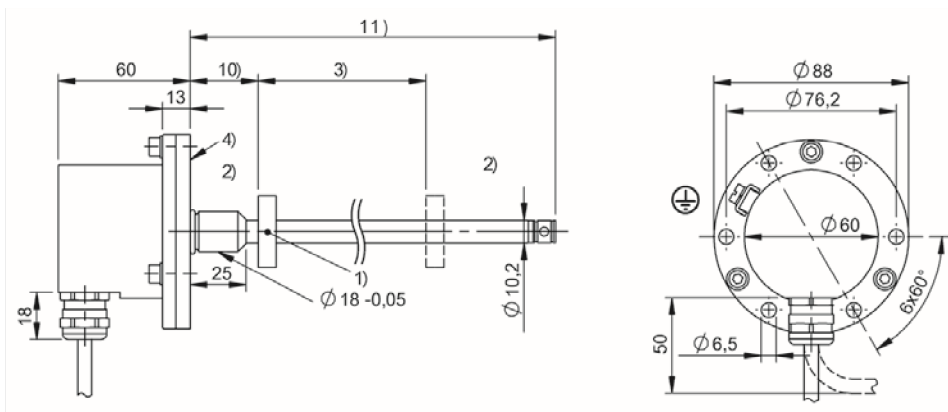
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Sxxxx-Mxxxx-J-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL5-Sxxxx-Mxxxx-J-DEXA-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL5 -J-DEX-A/B- SERIES - DIGITAL   |
|--------------------------|---|
| Interface                | Start/Stop  |
| Measuring length         | 25...4000 mm  |
| Repeat accuracy          | 2 µm  |
| Linearity deviation      | nmm = 0025...0500: ± 100 µm, nmm > 0500: ± 0.02% FS   |
| Operating voltage Ub     | 20...26 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 18h6 fit  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>EAC<br>IECEX<br>KC<br>PESO  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc |

### BTL5-ab-Mnnnn-fg-ij-lm

#### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

P = Digital pulse interface  
(falling edge stabilized)  
M = Digital pulse interface  
(rising edge stabilized)

#### b Operating voltage

1 = 20 ... 28 V

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

#### f Style

J = Flange 18h6

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### j Variant characteristic

A = float plug  
B = short plug

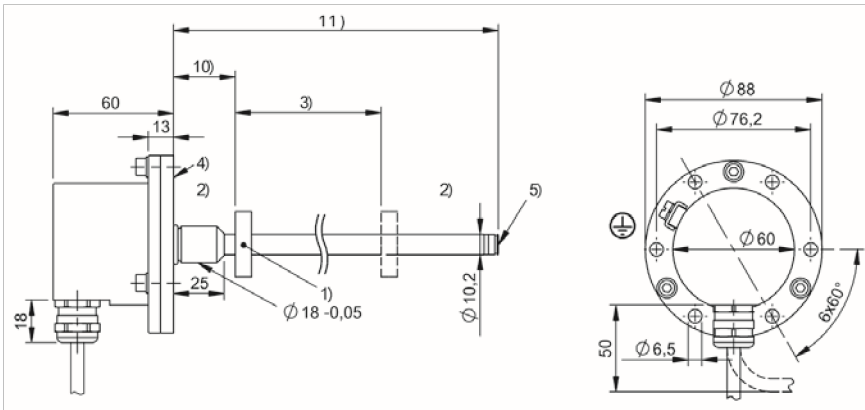
#### l Connection type

K = Cable out radial (PUR)

#### m Connection type characteristic 1

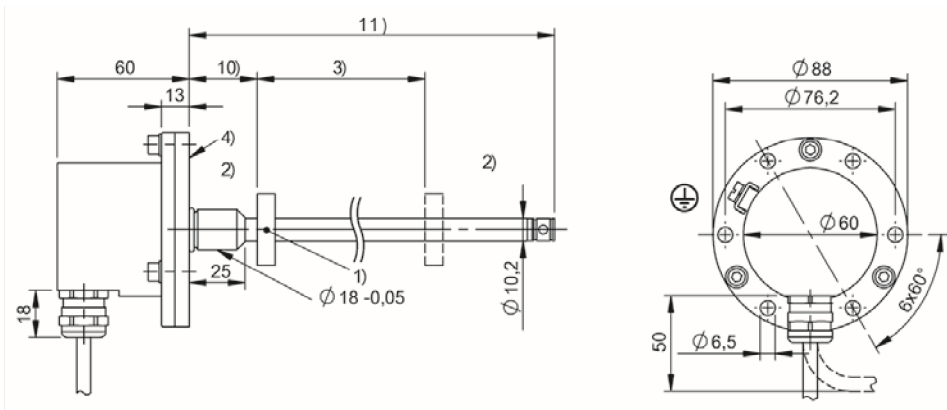
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL5-Px-Mxxxx-J-DEXB-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL5-Px-Mxxxx-J-DEXA-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



| BTL7 -J-DEX-A/B/D/E- SERIES - PROFIBUS |  |
|--|--|
| Interface                              | Profibus   |
| Measuring length                       | 25...7620 mm   |
| Repeat accuracy                        | ≤ ± 10 µm  |
| Linearity deviation                    | nmm = 0050...5500: ± 30 µm, nmm > 5500: ± 0.02% FS   |
| Operating voltage Ub                   | 10...30 VDC  |
| Ambient temperature                    | -40...60 °C  |
| Mechanical configuration               | Fastening 18h6 fit   |
| Protection degree                      | IP68   |
| Approval/Conformity                    | CE<br>IECEX  |
| Ex category                            | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx:<br>EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc |

**BTL7-abcd-Mnnnn-fg-ij-lm**

**BTL7**

Magnetostrictive linear position sensor  
Generation 7

**a interface**

T = PROFIBUS DP

**b Operating voltage**

5 = 10 ... 30 V

**c + d Interface characteristic 1 + 2**

00 = Flexible number of magnets

**Mnnnn Nominal length (4-position)**

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

**f Style**

J = Flange 18h6

**g Form factor characteristic**

- = Rod diameter 10.2 mm

**i Variant**

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

**j Variant characteristic**

A/D = float plug  
B/E = short plug

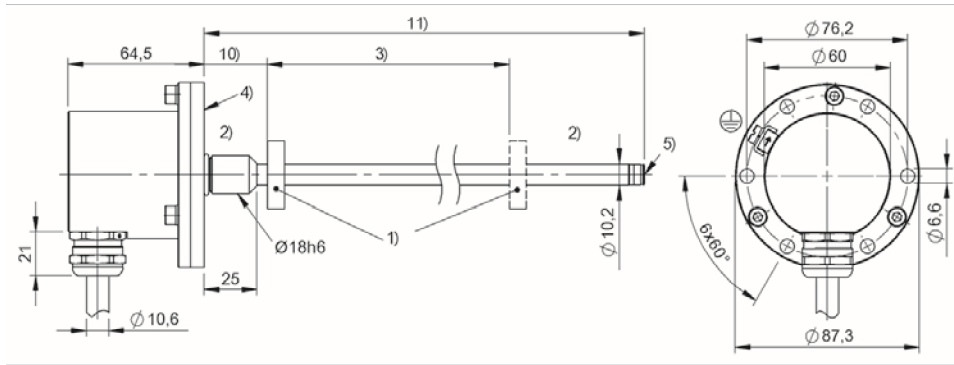
**l Connection type**

K = Cable out radial (PUR) / only for  
variant characteristic A or B  
ZA1K = Wiring chamber for attachment  
cover / only for variant characteristic D  
or E

**m Connection type characteristic 1**

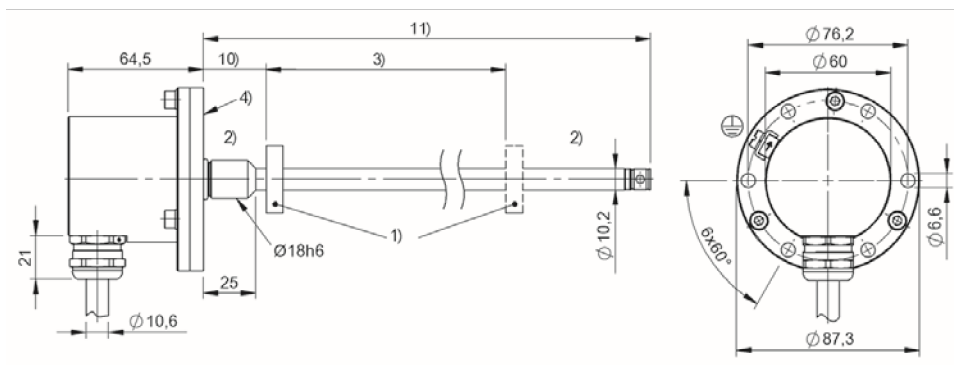
for cable (length in meters):  
02, 05, 10, 15, 20, 50

**BTL7-T500-Mxxxx-J-DEXB-Kxx**



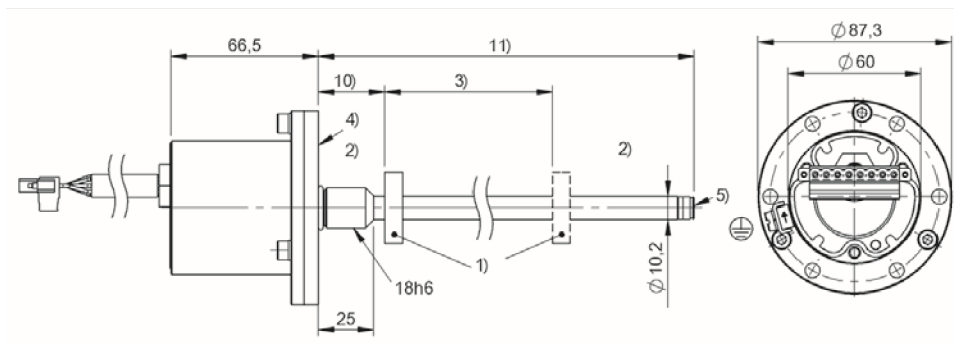
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-J-DEXA-Kxx**



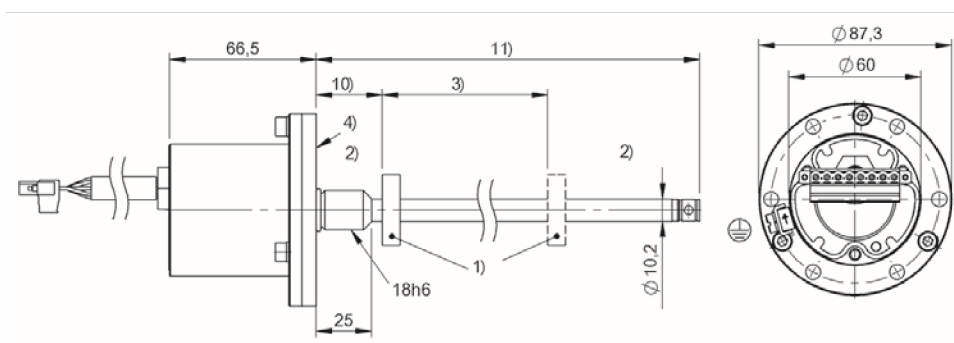
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-J-DEXE-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-T500-Mxxxx-J-DEXD-ZA1K**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length





|                          | BTL7 -J-DEXC- SERIES - DIGITAL   |
|--------------------------|--|
| Interface                | Digital pulse  |
| Measuring length         | 25...7620 mm   |
| Repeat accuracy          | $\leq \pm 5 \mu\text{m}$   |
| Linearity deviation      | nmm = 0025...5500: $\pm 50 \mu\text{m}$ , nmm > 5500: $\pm 0.02\%$ FS  |
| Operating voltage $U_b$  | 10...30 VDC  |
| Ambient temperature      | -40...80 °C  |
| Mechanical configuration | Fastening 18h6 fit   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>CSA<br>EAC<br>IECEX  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc, IECEX: EPL Da,<br>IECEX: EPL Db, IECEX: EPL Dc, NEC 500: Class I, Division 1,<br>NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC<br>500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class<br>I, Zone 1 |

## BTL7-abcd-Mnnnn-f-ij-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

P = Digital pulse interface

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

1 = Digital start/stop interface

#### d Interface characteristic 2

1 = DPI/IP communication interface

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

J = Flange 18h6

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

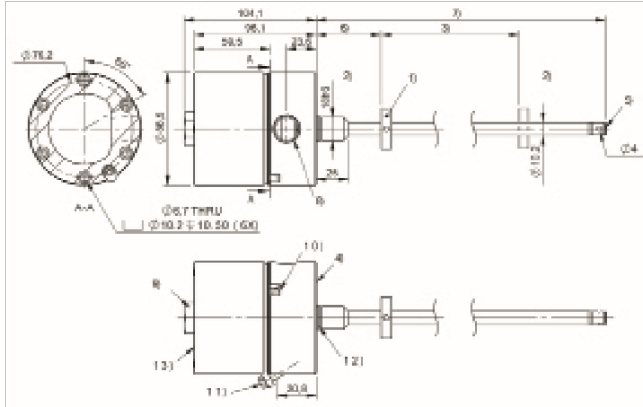
#### j Variant characteristic

C = float plug

#### l + m connection type + connection type characteristic 1

TA12 = Clamp with 1/2"-14 NPT  
(cable entry)

BTL7-P511-Mxxxx-J-DEXC-TA12



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) Null point
- 7) Installation length
- 8) 1/2" - 14 NPT (cable entry)
- 9) 15/16" or 24 mm wrench
- 10) External Housing GND
- 11) Cover fastening screw
- 12) O-ring
- 13) Part label, metal



|                          | BTL7 -J-DEXC- SERIES - SSI   |
|--------------------------|--|
| Interface                | SSI  |
| Measuring length         | 25...7620 mm   |
| Repeat accuracy          | $\leq \pm 5 \mu\text{m}$   |
| Linearity deviation      | d = 1, 2, 3, 7:<br>nnnn = 50...5500: $\pm 30\mu\text{m}$<br><br>d = 4, 5, 6, 8<br>nnnn = 50...5500: $\pm 2 \text{ LSB}$<br><br>nnnn > 5500: $\pm 0.02\% \text{ FS}$  |
| Operating voltage $U_b$  | 10...30 VDC  |
| Ambient temperature      | -40...80 °C  |
| Mechanical configuration | Fastening 18h6 fit   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>CSA<br>EAC<br>IECEX  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc, IECEX: EPL Da,<br>IECEX: EPL Db, IECEX: EPL Dc, NEC 500: Class I, Division 1,<br>NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC<br>500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class<br>I, Zone 1 |

### BTL7-abcde-Mnnnn-f-ij-lm

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

S = SSI

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling  
A = 26 bits, binary, rising  
B = 26 bits, gray, rising  
C = 26 bits, binary, falling  
D = 26 bits, gray, falling

#### d Interface characteristic 2

1 = 1  $\mu\text{m}$   
2 = 5  $\mu\text{m}$   
3 = 10  $\mu\text{m}$   
4 = 20  $\mu\text{m}$   
5 = 40  $\mu\text{m}$   
6 = 100  $\mu\text{m}$   
7 = 2  $\mu\text{m}$   
8 = 50  $\mu\text{m}$

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

J = Flange 18h6

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

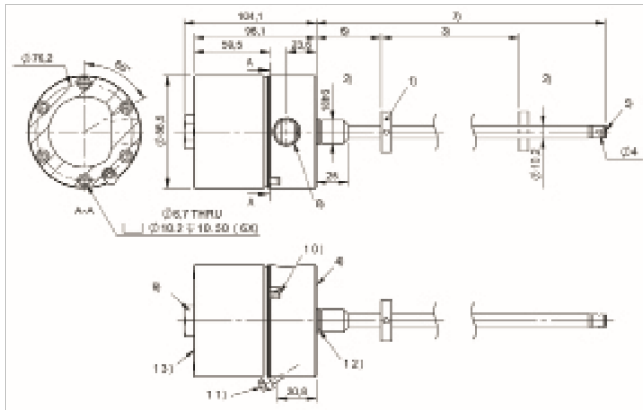
#### j Variant characteristic

C = float plug

#### l + m connection type + connection type characteristic 1

TA12 = Clamp with 1/2"-14 NPT  
(cable entry)

**BTL7-S5xxx-Mxxxx-J-DEXC-TA12**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) Null point
- 7) Installation length
- 8) 1/2" - 14 NPT (cable entry)
- 9) 15/16" or 24 mm wrench
- 10) External Housing GND
- 11) Cover fastening screw
- 12) O-ring
- 13) Part label, metal



|                          | BTL5 -J-DEXC- SERIES - CANOPEN   |
|--------------------------|--|
| Interface                | CANopen  |
| Measuring length         | 25...4000 mm   |
| Repeat accuracy          | ± 2 LSB  |
| Linearity deviation      | ±30 µm   |
| Operating voltage Ub     | 20...28 VDC  |
| Ambient temperature      | -40...80 °C  |
| Mechanical configuration | Fastening 18h6 fit   |
| Housing material         | Stainless steel (1.4404)   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>CSA<br>EAC<br>IECEX  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc, IECEX: EPL Da,<br>IECEX: EPL Db, IECEX: EPL Dc, NEC 500: Class I, Division 1,<br>NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC<br>500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class<br>I, Zone 1 |

### BTL5-abcd-Mnnnn-fg-ij-lm

#### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

H = CANopen

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = 1 magnet  
2 = 2 magnets  
3 = 4 magnets

#### d Interface characteristic 2

Data transmission rate:  
0 = 1 MBaud  
1 = 800 MBaud  
2 = 500 kBaud  
3 = 250 kBaud  
4 = 125 kBaud  
5 = 100 kBaud  
6 = 50 kBaud  
7 = 25 kBaud  
8 = 10 kBaud

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

#### f Style

J = Flange 18h6

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

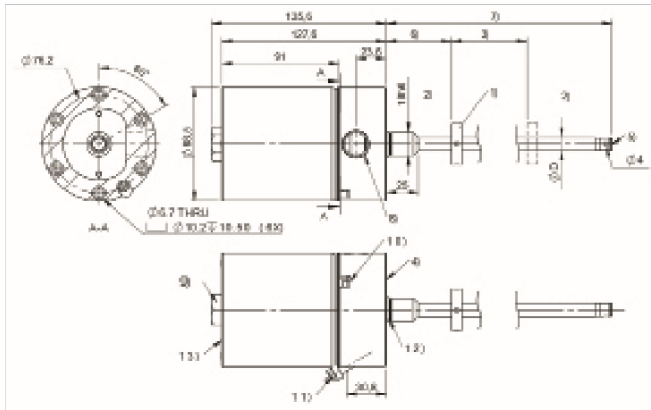
#### j Variant characteristic

C = float plug

#### l + m connection type + connection type characteristic 1

TA12 = Clamp with 1/2"-14 NPT  
(cable entry)

**BTL5-Hxxx-Mxxxx-J-DEXC-TA12**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) Null point
- 7) Installation length
- 8) 1/2" - 14 NPT (cable entry)
- 9) 15/16" or 24 mm wrench
- 10) External Housing GND
- 11) Cover fastening screw
- 12) O-ring
- 13) Part label, metal



|                          | BTL5 -J-DEXC- SERIES - PROFIBUS  |
|--------------------------|--|
| Interface                | Profibus   |
| Measuring length         | 25...4000 mm   |
| Repeat accuracy          | ± 2 LSB  |
| Linearity deviation      | ±30 µm   |
| Operating voltage Ub     | 20...28 VDC  |
| Ambient temperature      | -40...80 °C  |
| Mechanical configuration | Fastening 18h6 fit   |
| Housing material         | Stainless steel (1.4404)   |
| Protection degree        | IP68   |
| Approval/Conformity      | CE<br>CSA<br>EAC<br>IECEX  |
| Ex category              | ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc),<br>ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Ga, IECEX: EPL Gb, IECEX: EPL Gc, IECEX: EPL Da,<br>IECEX: EPL Db, IECEX: EPL Dc, NEC 500: Class I, Division 1,<br>NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC<br>500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class<br>I, Zone 1 |

### BTL5-abcd-Mnnnn-fg-ij-lm

#### f Style

J = Flange 18h6

#### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### g Form factor characteristic

- = Rod diameter 10.2 mm

#### a interface

T = Profibus

#### i Variant

DEX = Ignition protection category „d“  
/ pressure-proof encapsulation

#### b Operating voltage

1 = 20 ... 28 V

#### j Variant characteristic

C = float plug

#### c + d Interface characteristic 1 + 2

10 = 1 magnet  
(1 - 4 magnets can be set)

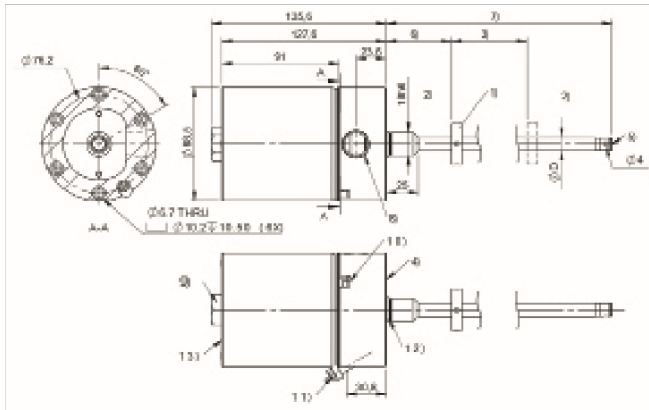
#### l + m connection type + connection type characteristic 1

TA12 = Clamp with 1/2"-14 NPT  
(cable entry)

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0050...M4000)

**BTL5-Txxx-Mxxxx-J-DEXC-TA12**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) Null point
- 7) Installation length
- 8) 1/2" - 14 NPT (cable entry)
- 9) 15/16" or 24 mm wrench
- 10) External Housing GND
- 11) Cover fastening screw
- 12) O-ring
- 13) Part label, metal





|                          | BTL7 -B-NEX- SERIES - ANALOG VOLTAGE  |
|--------------------------|---|
| Interface                | Analog, voltage   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS   |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

01 = 2 outputs, each 1 x rising/falling  
settable/programmable  
10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

A = Mounting threads M18x1.5,  
for flat seal  
B = Mounting threads M18x1.5,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

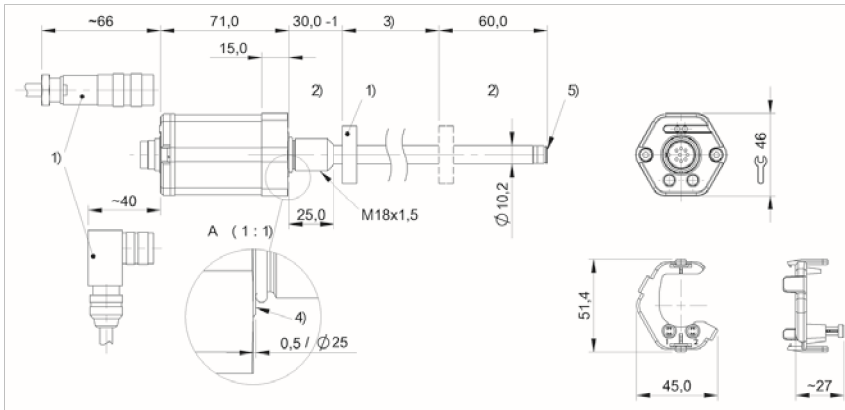
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

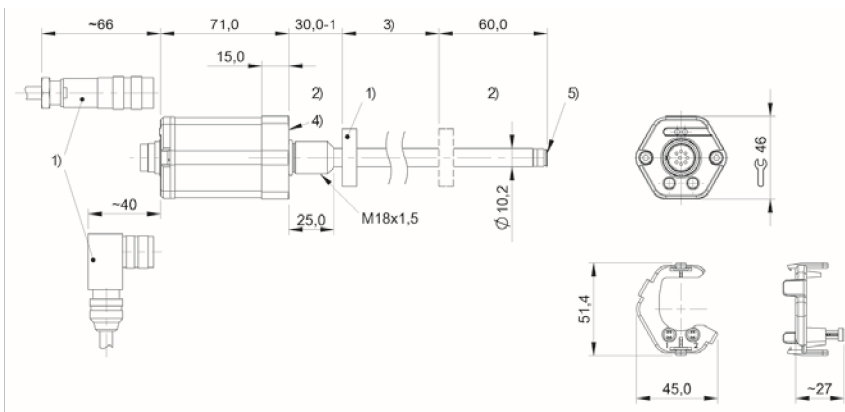
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A501-Mxxxx-B-NEX-S32**



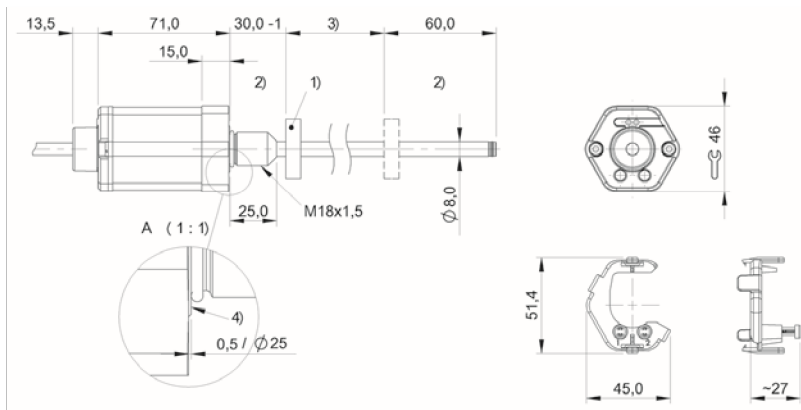
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-G510-Mxxxx-A-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-A510-Mxxxx-B8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -B-NEX- SERIES - ANALOG CURRENT  |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS   |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

01 = 2 outputs, each 1 x rising/falling  
settable/programmable  
00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

A = Mounting threads M18x1.5,  
for flat seal  
B = Mounting threads M18x1.5,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

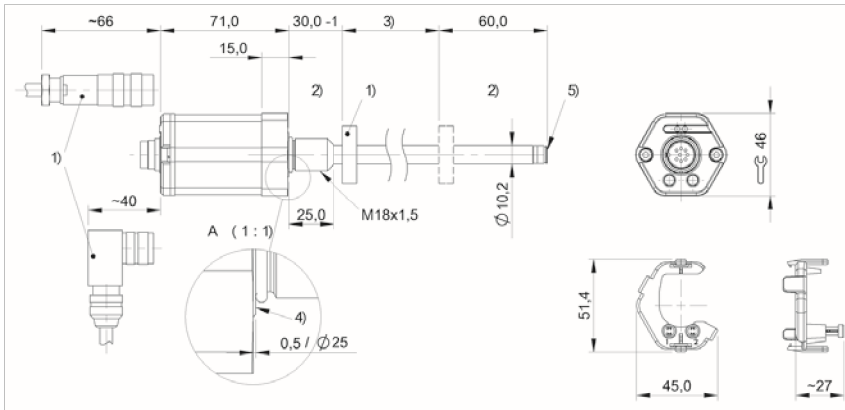
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

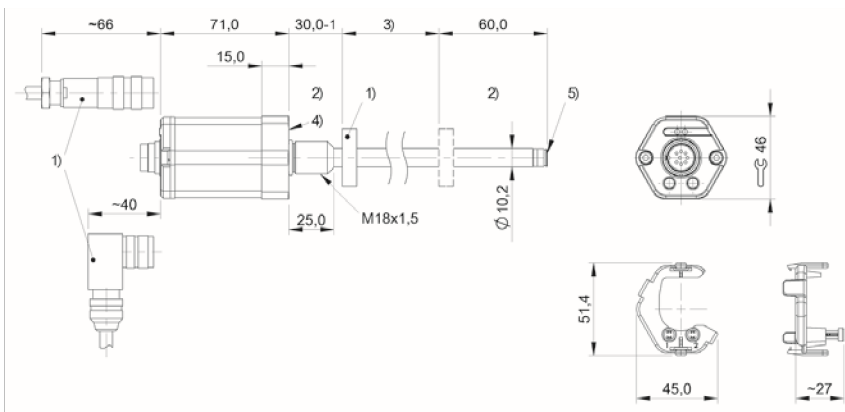
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E501-Mxxxx-B-NEX-S32**



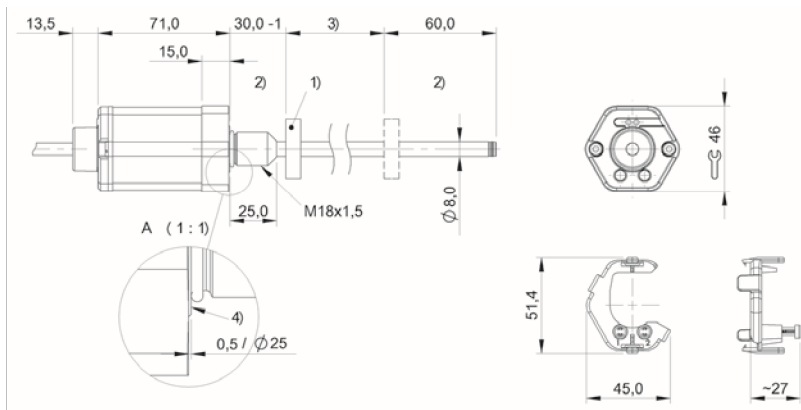
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-C500-Mxxxx-A-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-E570-Mxxxx-B8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -B-NEX- SERIES - DIGITAL   |
|--------------------------|---|
| Interface                | Digital pulse   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ≤ ± 5 µm  |
| Linearity deviation      | ± 50 µm   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

### BTL7-abcd-Mnnnn-fg-i-lm

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

P = Digital pulse interface

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

1 = Digital start/stop interface

#### d Interface characteristic 2

1 = DPI/IP communication interface

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

A = Mounting threads M18x1.5,  
for flat seal  
B = Mounting threads M18x1.5,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

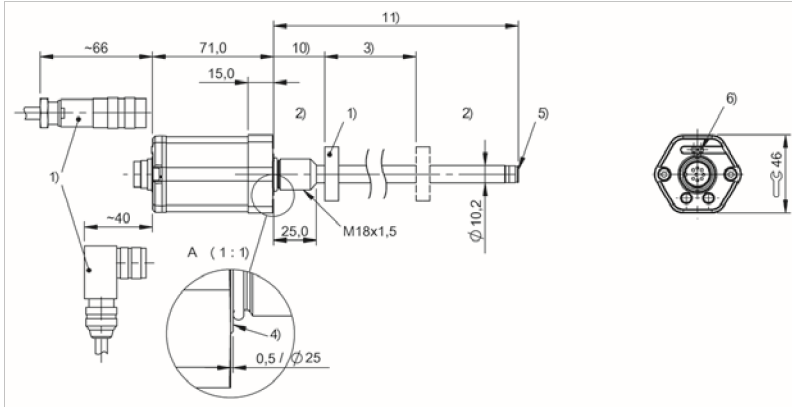
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

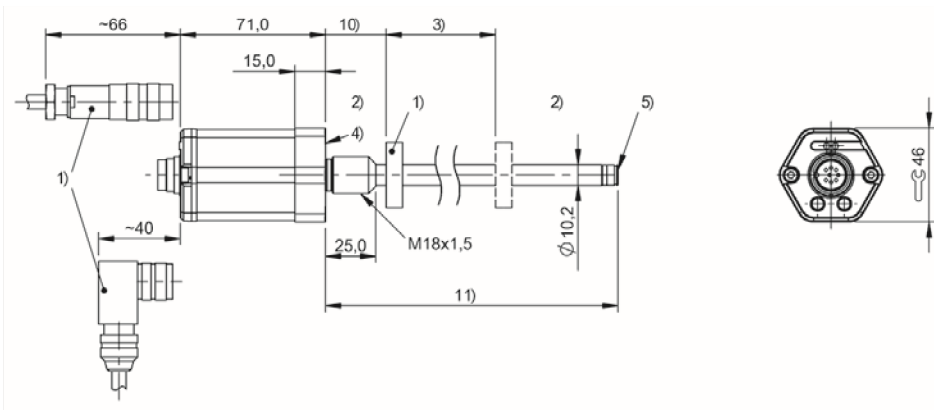
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-P511-Mxxxx-B-NEX-S32**



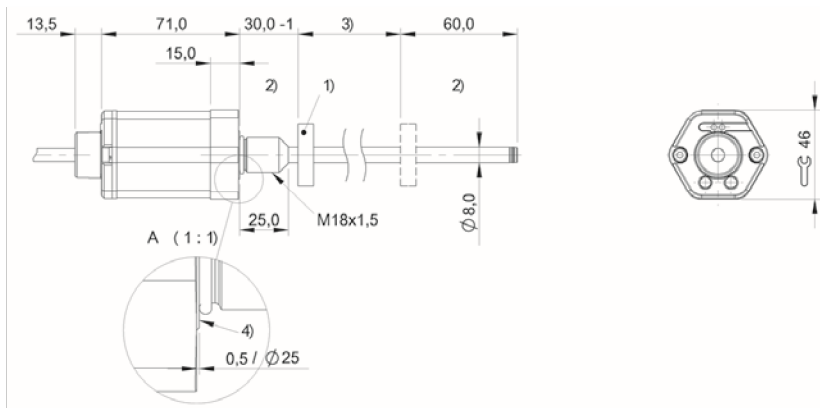
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-P511-Mxxxx-A-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-P511-Mxxxx-B8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -B-NEX- SERIES - SSI   |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ≤ ± 5 µm  |
| Linearity deviation      | d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

**BTL7-abcde-Mnnnn-fg-i-lm**

**BTL7**

Magnetostrictive linear position sensor  
Generation 7

**a interface**  
S = SSI

**b Operating voltage**  
5 = 10 ... 30 V

**c Interface characteristic 1**  
0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling  
A = 26 bits, binary, rising  
B = 26 bits, gray, rising  
C = 26 bits, binary, falling  
D = 26 bits, gray, falling

**d Interface characteristic 2**  
1 = 1 µm  
2 = 5 µm  
3 = 10 µm  
4 = 20 µm  
5 = 40 µm  
6 = 100 µm  
7 = 2 µm  
8 = 50 µm

**e Interface characteristic 3**  
B = Synchronous mode  
- = Asynchronous mode

**Mnnnn Nominal length (4-position)**  
M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

**f Style**  
A = Mounting threads M18x1.5,  
for flat seal  
B = Mounting threads M18x1.5,  
for O-Ring

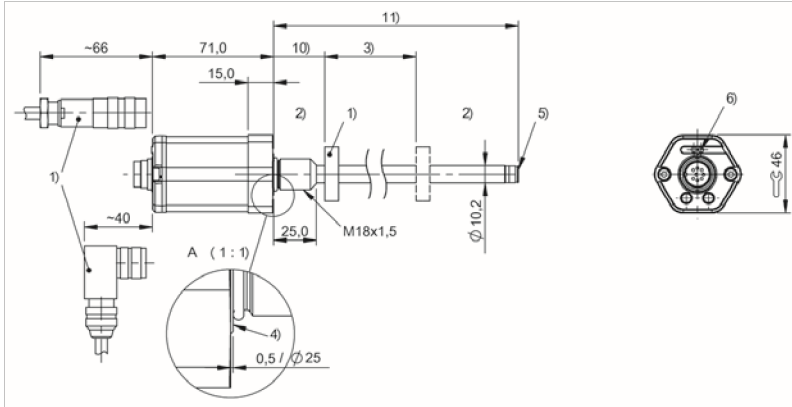
**g Form factor characteristic**  
8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

**i Variant**  
NEX = Ignition class „nA“ and „tb“

**l Connection type**  
S = Connector  
KA = Cable (PUR)

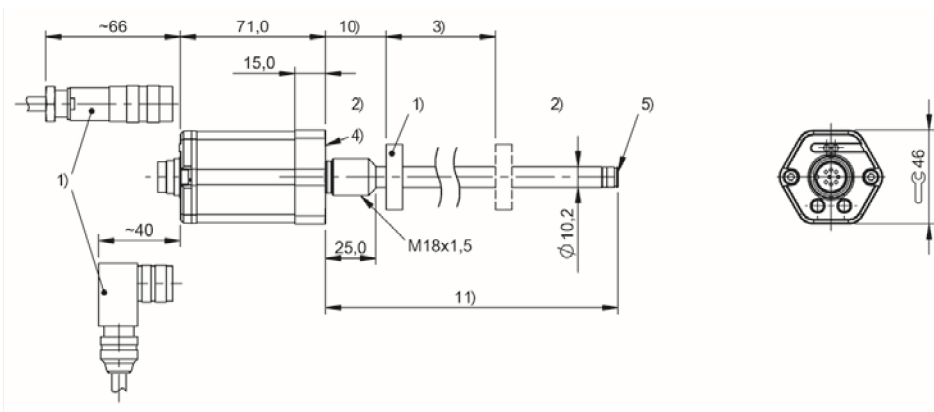
**m Connection type characteristic 1**  
for connector:  
32 = M16x0.75 connector with 8 pins  
  
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-S510x-Mxxxx-B-NEX-S32**



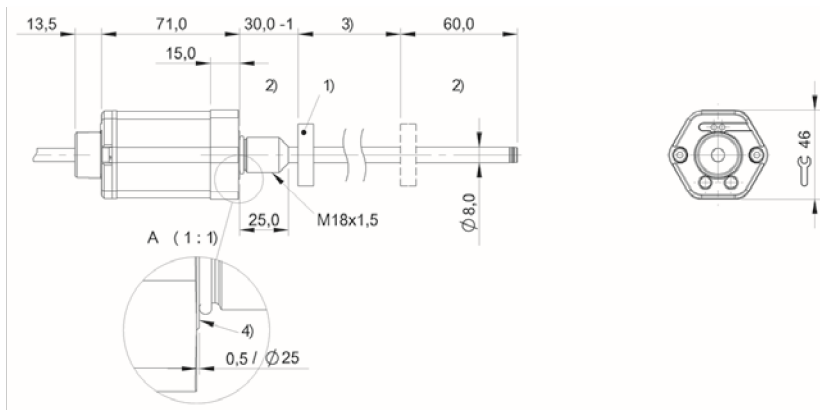
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-A-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-B8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface





|                          | BTL7 -Z-NEX- SERIES - ANALOG VOLTAGE  |
|--------------------------|---|
| Interface                | Analog, voltage   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS   |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

01 = 2 outputs, each 1 x rising/falling  
settable/programmable  
10 = 2 outputs, 1x each rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

Y = Inch threads 3/4"-16UNF,  
for flat seal  
Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

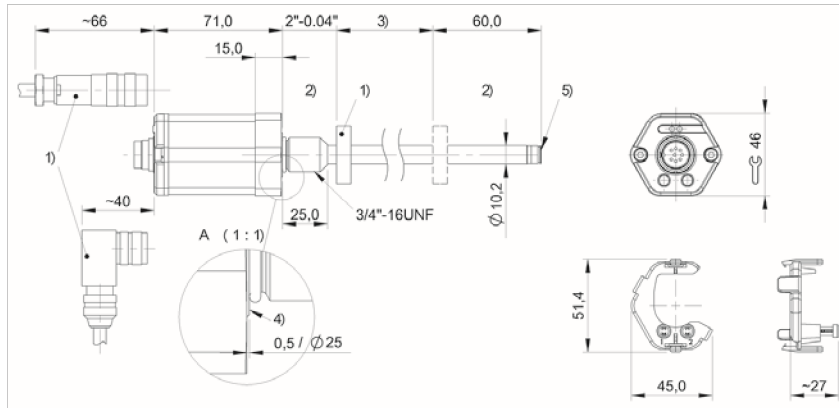
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

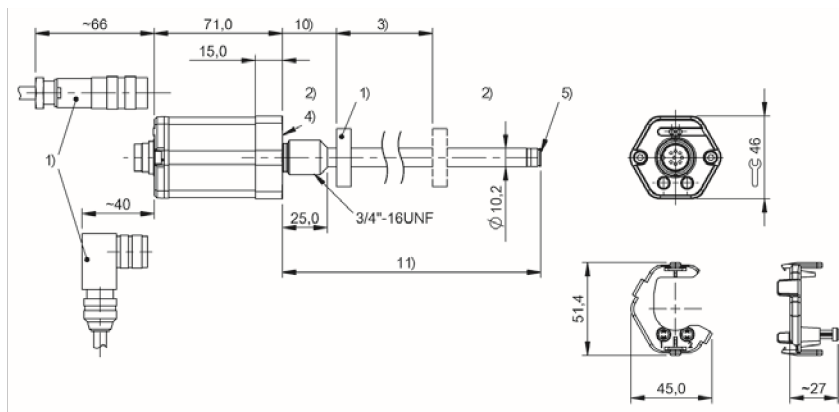
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A501-Mxxxx-Z-NEX-S32**



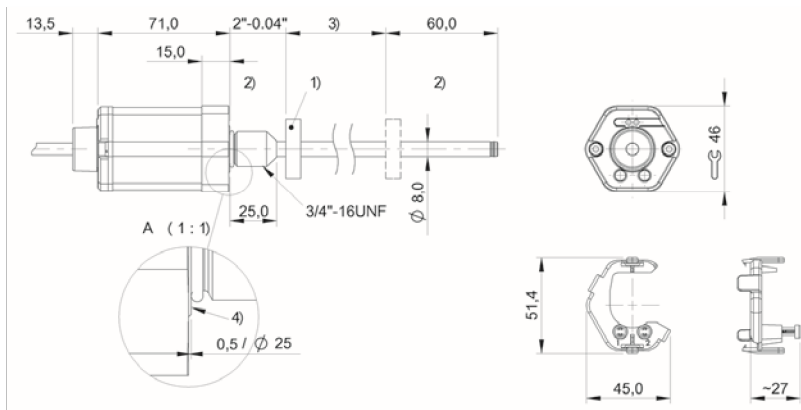
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-G510-Mxxxx-Y-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-A510-Mxxxx-Z8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -Z-NEX- SERIES - ANALOG CURRENT  |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nxxx = 0050...0500: ± 50 µm, nxxx = 0501...5500: ± 0.01% FS   |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

01 = 2 outputs, 1x each rising/falling  
settable/programmable  
00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

Y = Inch threads 3/4"-16UNF,  
for flat seal  
Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

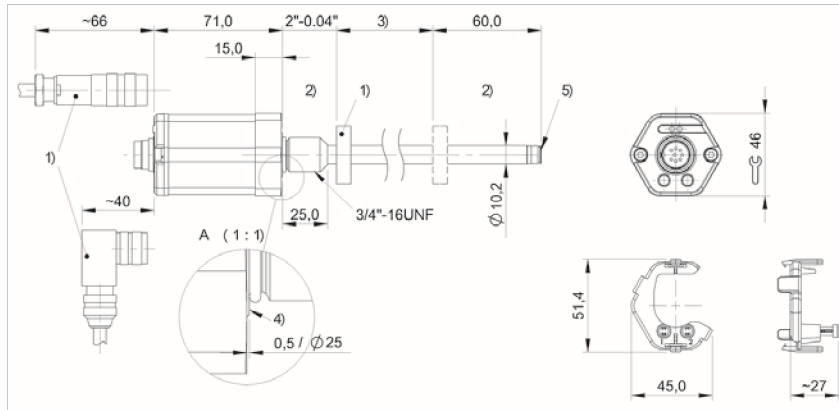
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

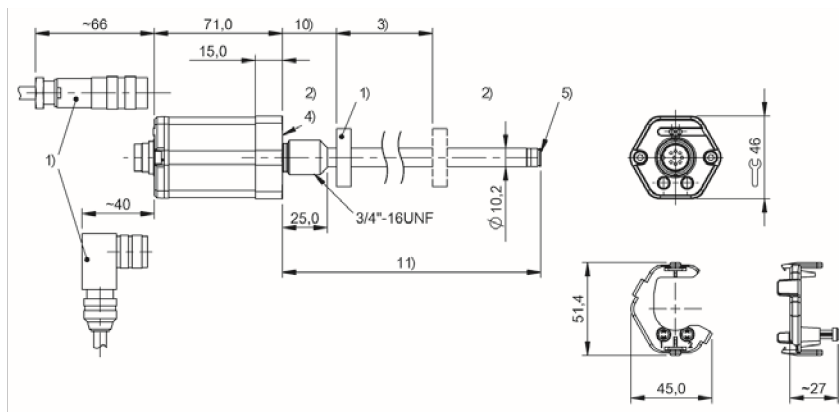
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E501-Mxxxx-Z-NEX-S32**



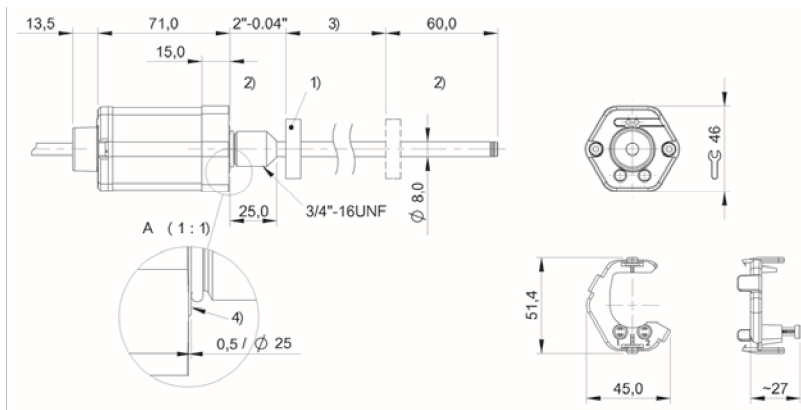
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-C500-Mxxxx-Y-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-E570-Mxxxx-Z8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -Z-NEX- SERIES - DIGITAL   |
|--------------------------|---|
| Interface                | Digital pulse   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | $\leq \pm 5 \mu\text{m}$  |
| Linearity deviation      | $\pm 50 \mu\text{m}$  |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

P = Digital pulse interface

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

1 = Digital start/stop interface

#### d Interface characteristic 2

1 = DPI/IP communication interface

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

Y = Inch threads 3/4"-16UNF,  
for flat seal  
Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

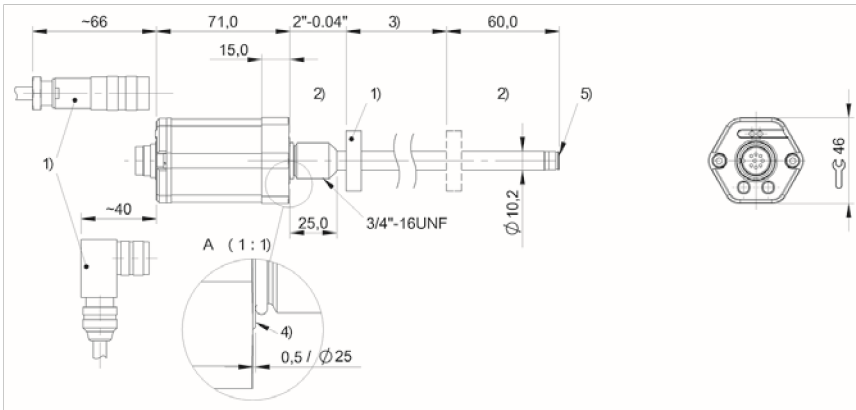
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

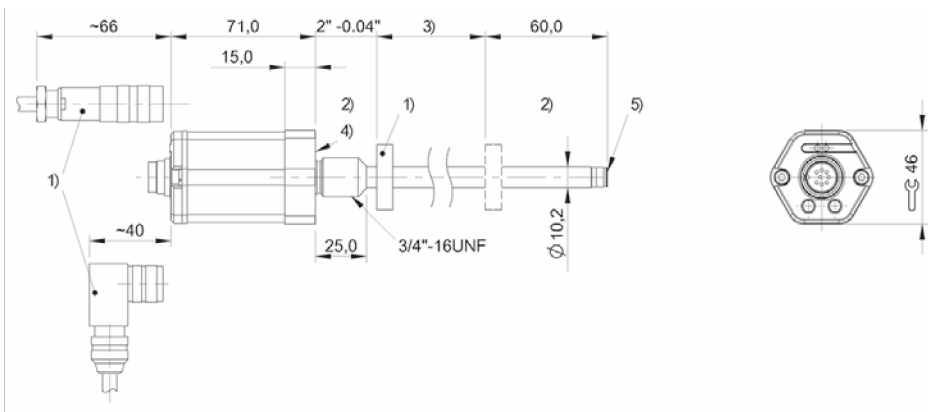
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-P511-Mxxxx-Z-NEX-S32**



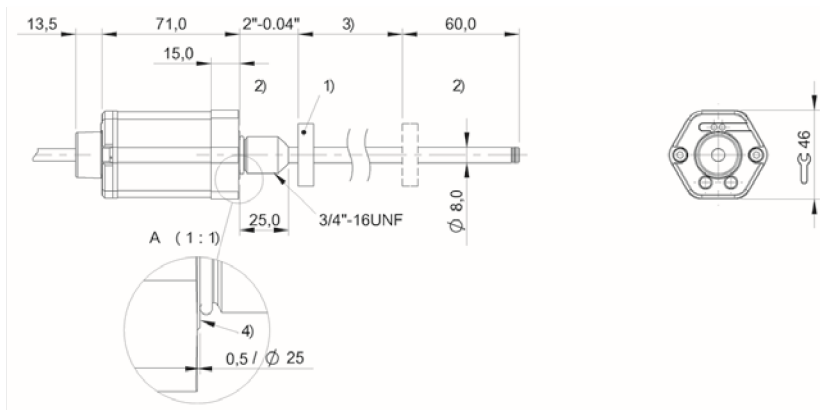
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-P511-Mxxxx-Y-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-P511-Mxxxx-Z8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface



|                          | BTL7 -Z-NEX- SERIES - SSI   |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | $\leq \pm 5 \mu\text{m}$  |
| Linearity deviation      | d = 1, 2, 3, 7: $\pm 30 \mu\text{m}$ , d = 4, 5, 6, 8: $\pm 2 \text{ LSB}$                              |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcde-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

S = SSI

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling  
A = 26 bits, binary, rising  
B = 26 bits, gray, rising  
C = 26 bits, binary, falling  
D = 26 bits, gray, falling

#### d Interface characteristic 2

1 = 1  $\mu\text{m}$   
2 = 5  $\mu\text{m}$   
3 = 10  $\mu\text{m}$   
4 = 20  $\mu\text{m}$   
5 = 40  $\mu\text{m}$   
6 = 100  $\mu\text{m}$   
7 = 2  $\mu\text{m}$   
8 = 50  $\mu\text{m}$

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

Y = Inch threads 3/4"-16UNF,  
for flat seal  
Z = Inch threads 3/4"-16UNF,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

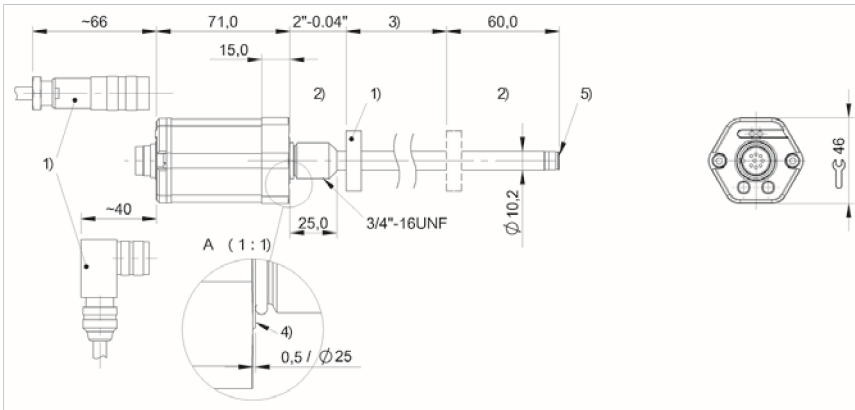
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

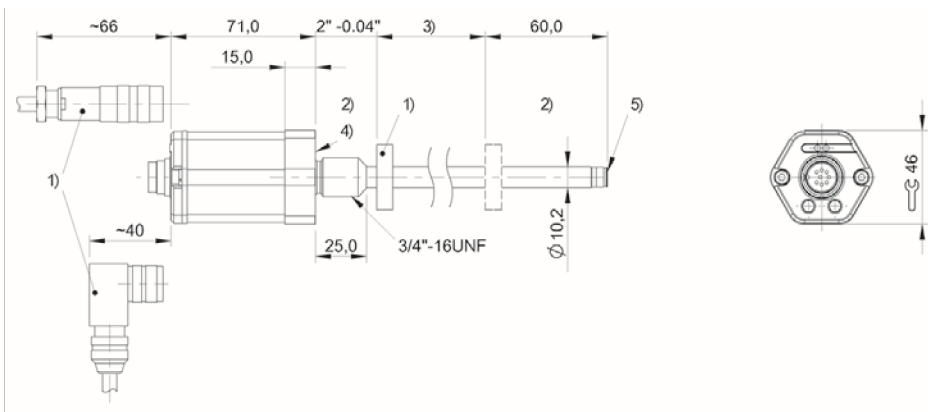
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-S510x-Mxxxx-Z-NEX-S32**



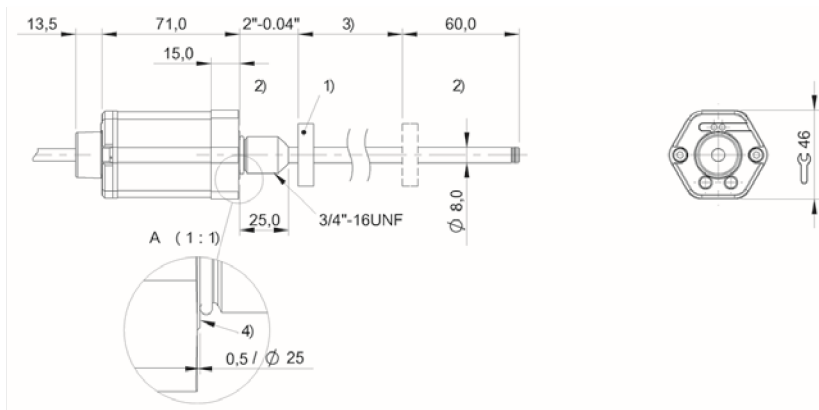
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-S5xxx-Mxxxx-Y-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-S5xxx-Mxxxx-Z8-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface





|                          | BTL7 -CD-NEX- SERIES - ANALOG CURRENT   |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...2000 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...2000: ± 0.01% FS   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M22 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-f-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

01 = 2 outputs, each 1 x rising/falling  
settable/programmable  
00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M2000)

#### f Style

CD = Mounting threads M22x1.5,  
for O-Ring

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

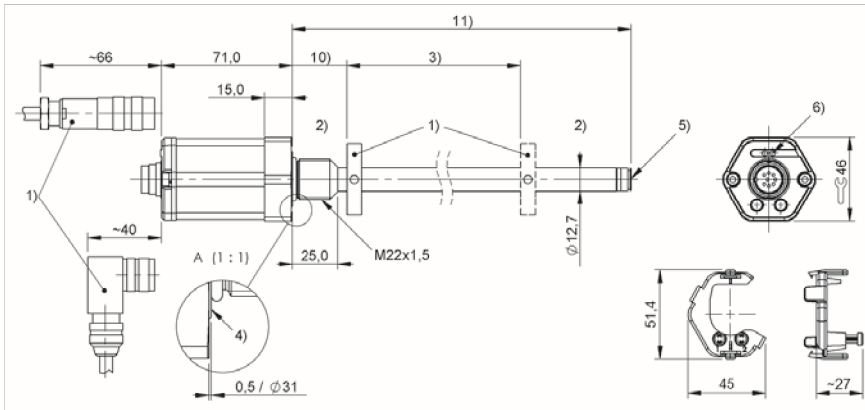
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

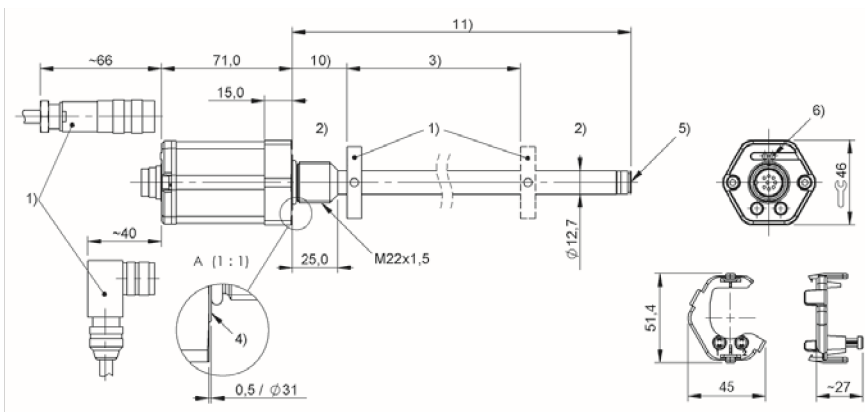
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E501-Mxxxx-CD-NEX-S32**



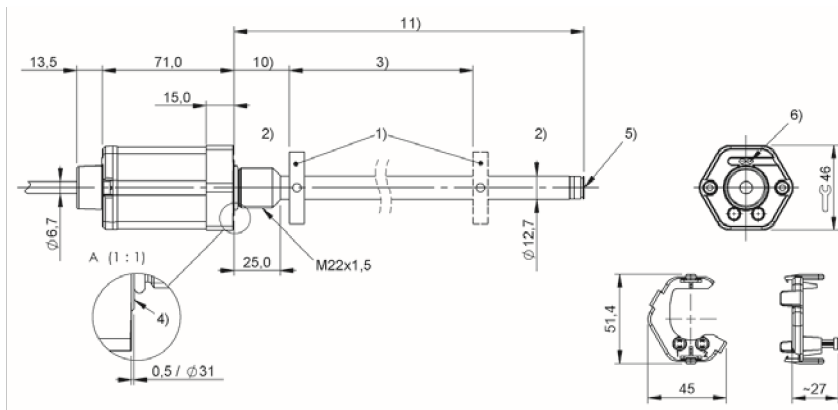
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-C500-Mxxxx-CD-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-E570-Mxxxx-CD-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length



|                          | BTL7 -CD-NEX- SERIES - SSI  |
|--------------------------|---|
| Interface                | SSI   |
| Measuring length         | 25...2000 mm  |
| Repeat accuracy          | $\leq \pm 5 \mu\text{m}$  |
| Linearity deviation      | d = 1, 2, 3, 7: $\pm 30 \mu\text{m}$ , d = 4, 5, 6, 8: $\pm 2 \text{ LSB}$                              |
| Operating voltage $U_b$  | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M22 threads   |
| Housing material         | Aluminum  |
| Protection degree        | I = S: IP67 with connector<br>I = KA: IP68  |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcde-Mnnnn-f-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

S = SSI

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = 24 bits, binary, rising  
1 = 24 bits, gray, rising  
2 = 24 bits, binary, falling  
3 = 24 bits, gray, falling  
6 = 25 bits, binary, rising  
7 = 25 bits, gray, rising  
8 = 25 bits, binary, falling  
9 = 25 bits, gray, falling  
A = 26 bits, binary, rising  
B = 26 bits, gray, rising  
C = 26 bits, binary, falling  
D = 26 bits, gray, falling

#### d Interface characteristic 2

1 = 1  $\mu\text{m}$   
2 = 5  $\mu\text{m}$   
3 = 10  $\mu\text{m}$   
4 = 20  $\mu\text{m}$   
5 = 40  $\mu\text{m}$   
6 = 100  $\mu\text{m}$   
7 = 2  $\mu\text{m}$   
8 = 50  $\mu\text{m}$

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M2000)

#### f Style

CD = Mounting threads M22x1.5,  
for O-Ring

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

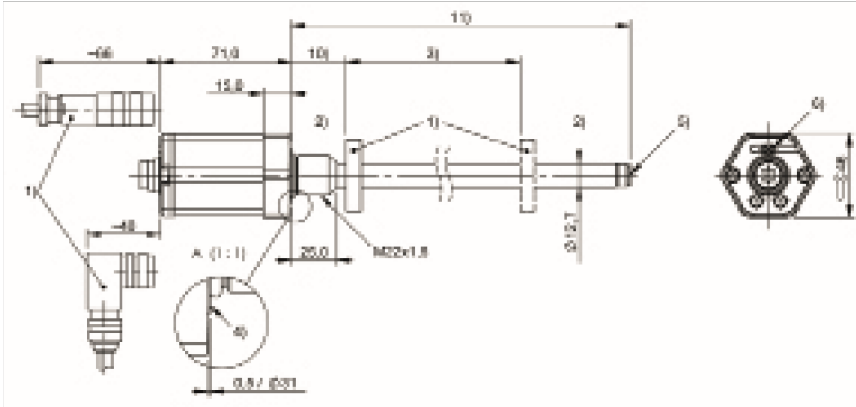
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

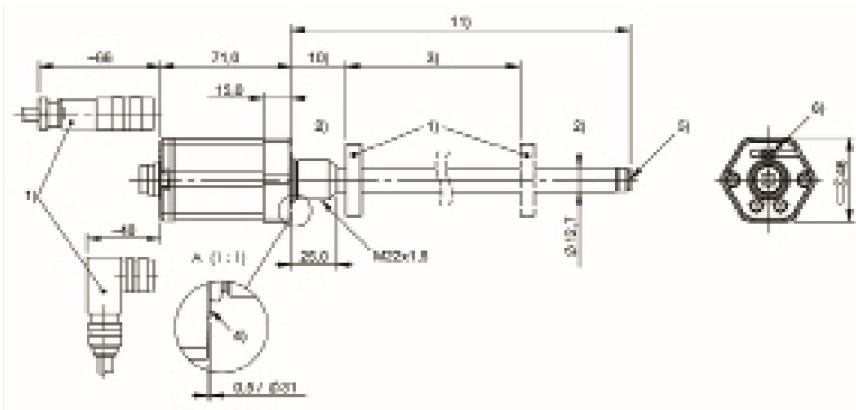
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

**BTL7-S510x-Mxxxx-CD-NEX-S32**



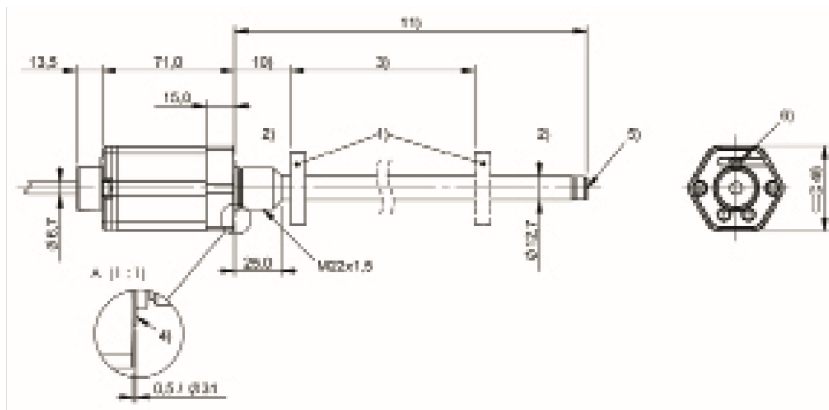
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-CD-NEX-S32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-CD-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length



|                          | BTL7 -K-NEX- SERIES - ANALOG VOLTAGE  |
|--------------------------|---|
| Interface                | Analog, voltage   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 18h6 fit  |
| Housing material         | Stainless steel (1.4305)  |
| Protection degree        | I = S: IP67 with connector<br>I = K: IP68   |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

A = Voltage output 0 ... 10 V  
G = voltage output -10 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

K = Compact rod, plug-in flange 18h6,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

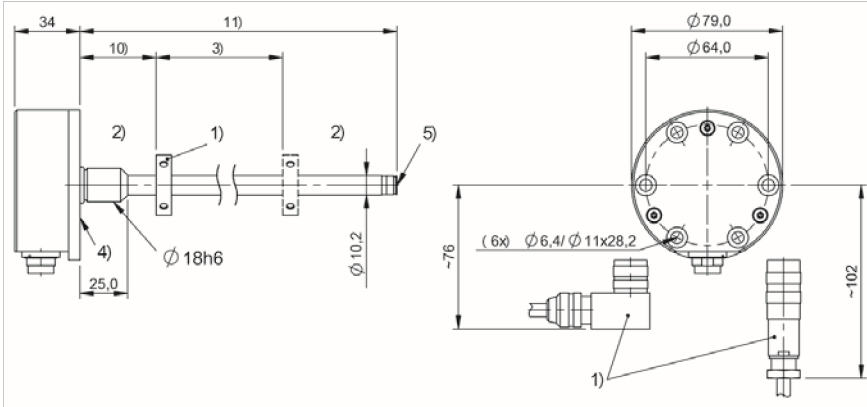
SR = Connector  
K = Cable out radial (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

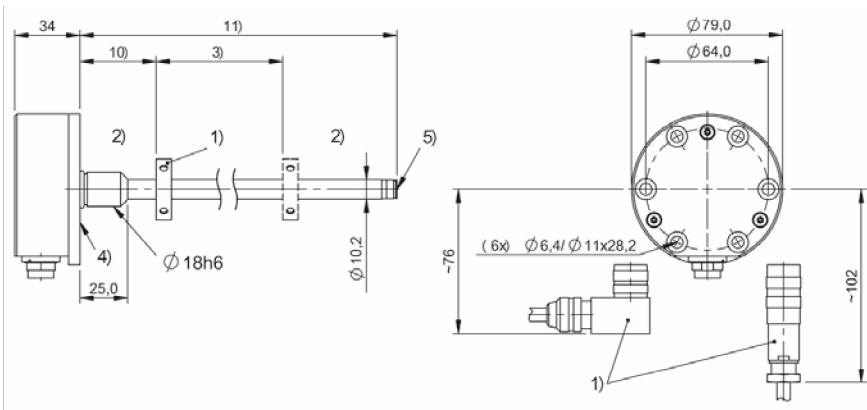
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-K-NEX-SR32**



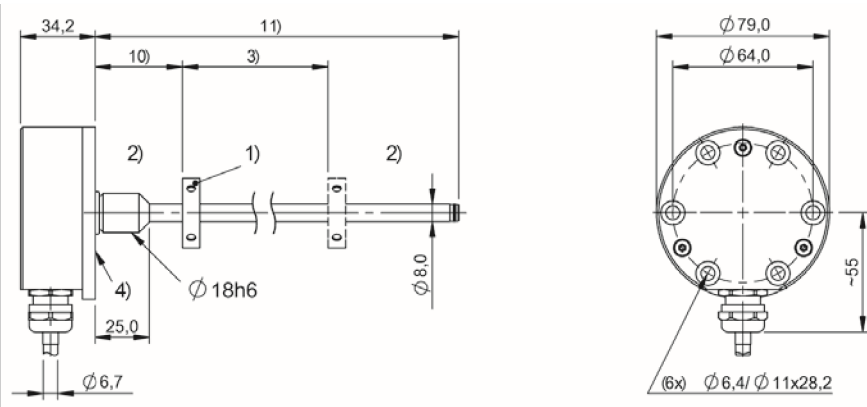
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-K-NEX-SR32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-A510-Mxxxx-K8-NEX-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length



|                          | BTL7 -K-NEX- SERIES - ANALOG CURRENT  |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...5500 mm  |
| Repeat accuracy          | ± 10 µm   |
| Linearity deviation      | nmm = 0050...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 18h6 fit  |
| Housing material         | Stainless steel (1.4305)  |
| Protection degree        | I = S: IP67 with connector<br>I = K: IP68   |
| Approval/Conformity      | CE<br>CSA<br>IECEX<br>EAC   |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fg-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M5500: for rod diameter  
10.2 mm)

#### f Style

K = Compact rod, plug-in flange 18h6,  
for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

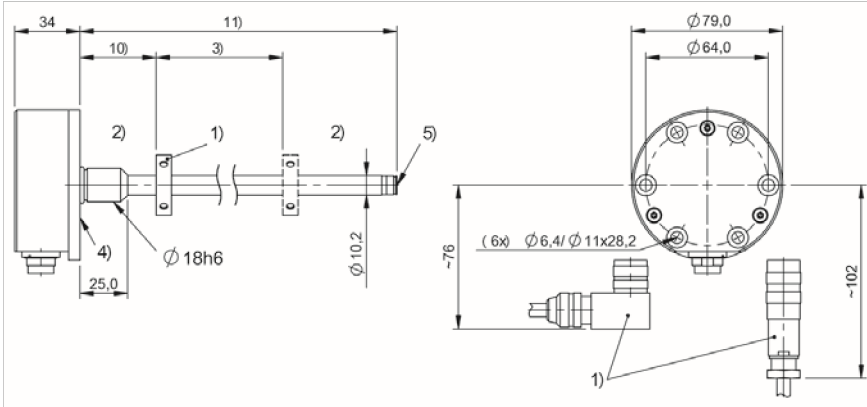
SR = Connector  
K = Cable out radial (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

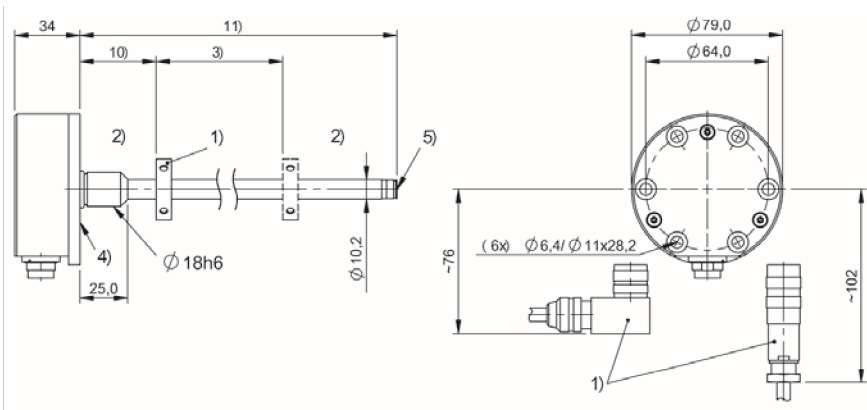
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-K-NEX-SR32**



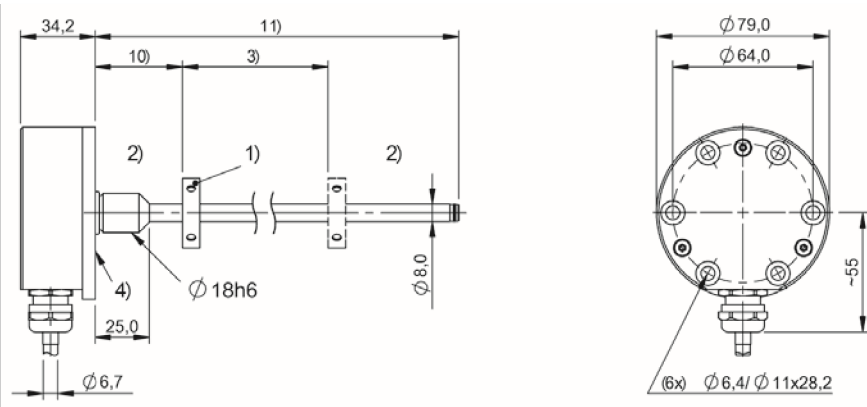
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-K-NEX-SR32**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-E570-Mxxxx-K8-NEX-Kxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 10) Null point
- 11) Installation length





|                          | BTL7 -TB-NEX- SERIES - ANALOG CURRENT   |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...7620 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening M18 threads   |
| Housing material         | Aluminum  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>IECEX<br>EAC  |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fh-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TB = Mounting threads M18x1.5,  
for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

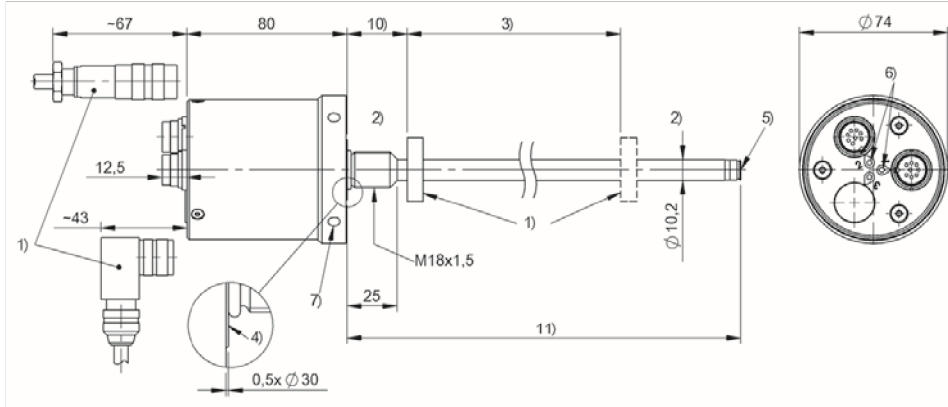
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

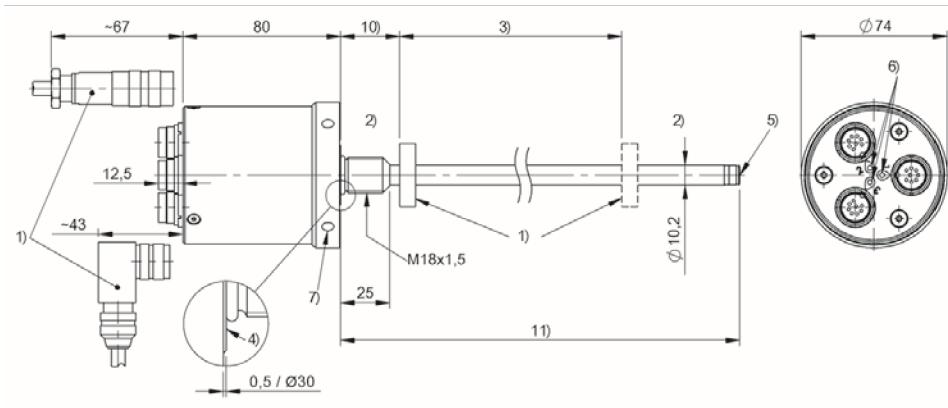
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-E504-Mxxxx-TB2-NEX-S32**



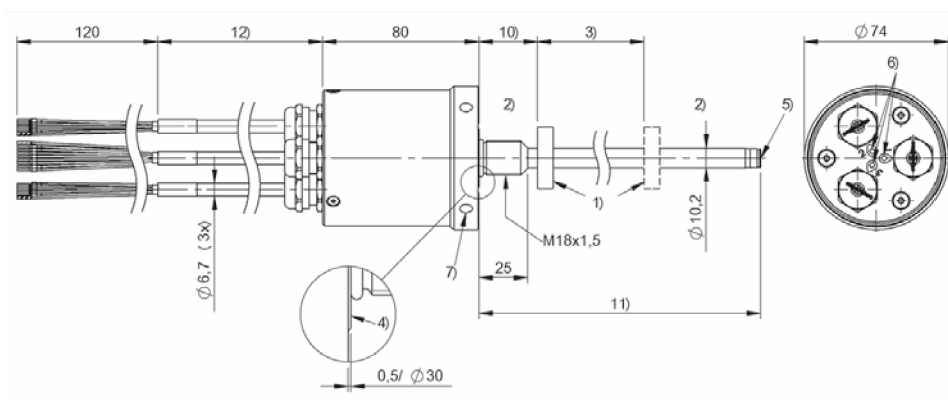
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-C505-Mxxxx-TB3-NEX-S32**



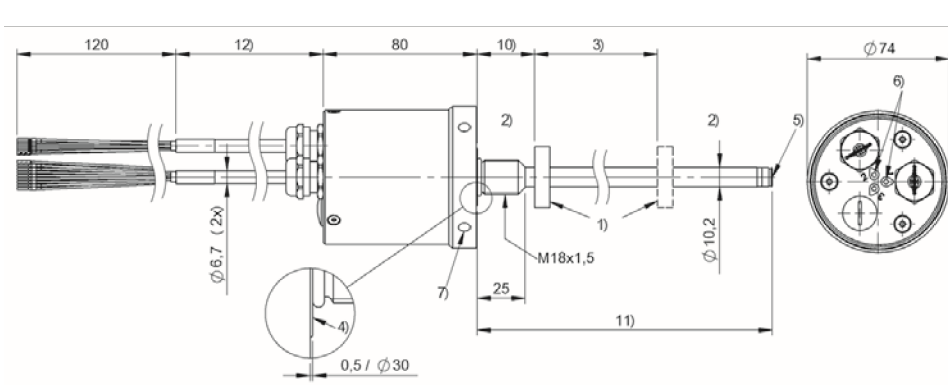
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-E505-Mxxxx-TB3-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-C504-Mxxxx-TB2-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length



|                          | BTL7 -TZ-NEX- SERIES - ANALOG CURRENT   |
|--------------------------|---|
| Interface                | Analog, current   |
| Measuring length         | 25...7620 mm  |
| Repeat accuracy          | ± 5 µm  |
| Linearity deviation      | nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS   |
| Operating voltage Ub     | 10...30 VDC   |
| Ambient temperature      | -40...60 °C   |
| Mechanical configuration | Fastening 3/4" threads  |
| Housing material         | Aluminum  |
| Protection degree        | IP67  |
| Approval/Conformity      | CE<br>IECEX<br>EAC  |
| Ex category              | ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc),<br>IECEX: EPL Gc, IECEX: EPL Db, IECEX: EPL Dc |

## BTL7-abcd-Mnnnn-fh-i-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

04 = 1 output rising, configurable  
05 = 1 output falling, configurable

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Form factor

TZ = Threads 3/4"-16UNF, for O-Ring

#### h Redundant

2 = 2 times redundant  
3 = 3 times redundant

#### i Variant

NEX = Ignition class „nA“ and „tb“

#### l Connection type

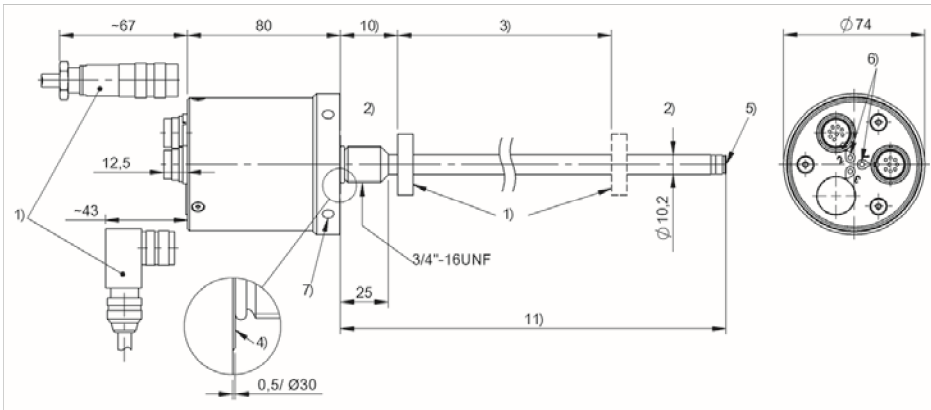
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins

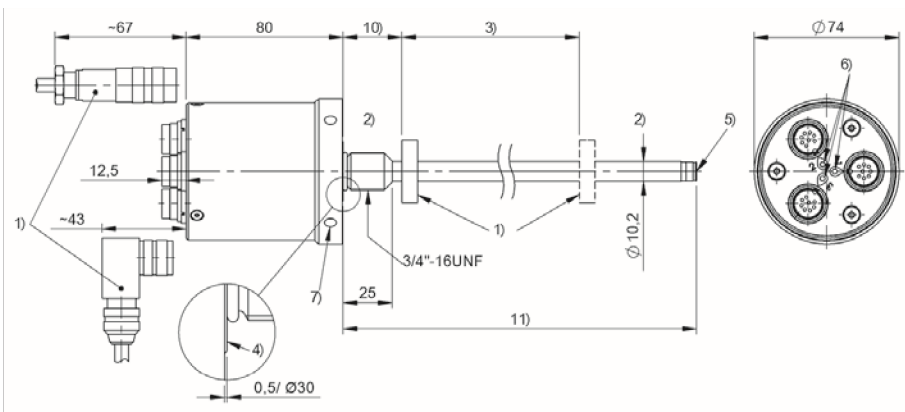
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL7-E504-Mxxxx-TZ2-NEX-S32**



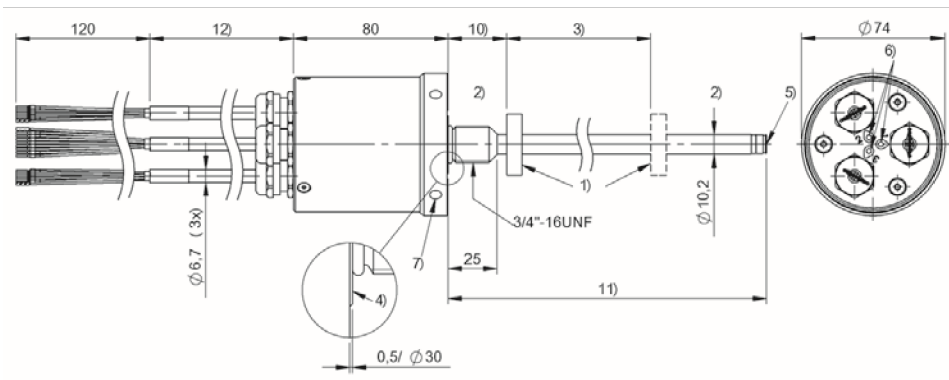
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-C505-Mxxxx-TZ3-NEX-S32**



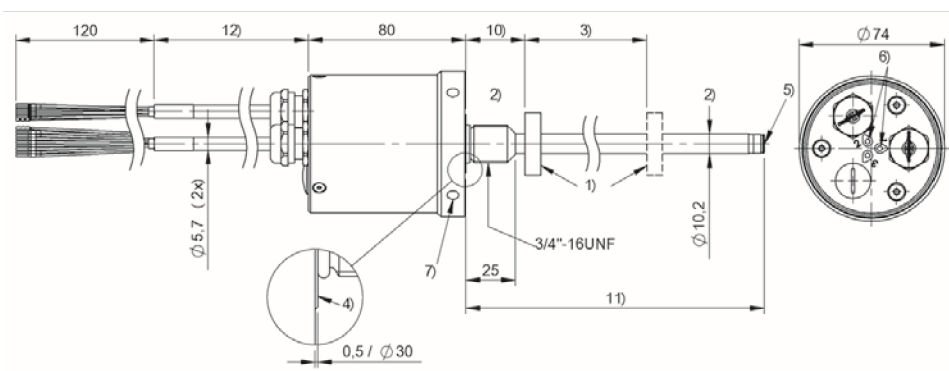
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length

**BTL7-E505-Mxxxx-TZ3-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length

**BTL7-C504-Mxxxx-TZ2-NEX-KAxx**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 7) Ø6.1 for hook wrench Ø74
- 10) Null point
- 11) Installation length
- 12) Cable length