



Reliable even over long stroke lengths  
and in harsh conditions

# MAGNETOSTRICTIVE SENSORS



Magnetostrictive sensors come into use wherever high reliability and precision is demanded in position and speed measurement. Also over long stroke lengths.

Our contact-free and absolute measuring systems are suitable for all industry-standard interfaces for a wide range of applications. Even under extreme surrounding conditions, they guarantee a high machine and system availability.

#### The most important benefits

- Precise, absolute measurement without a reference run
- Contact-free, so wear- and maintenance-free
- Resistant to shock, vibration and contamination
- Hermetically sealed housing
- Highly dynamic control applications through synchronized measurement data
- High durability and long service life
- Flexible installation and handling





	BTL7 -P- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...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...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-f-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

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

#### l Connection type

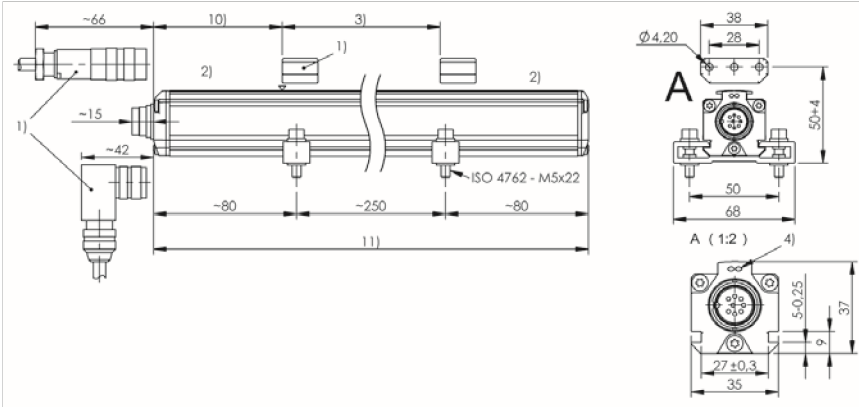
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

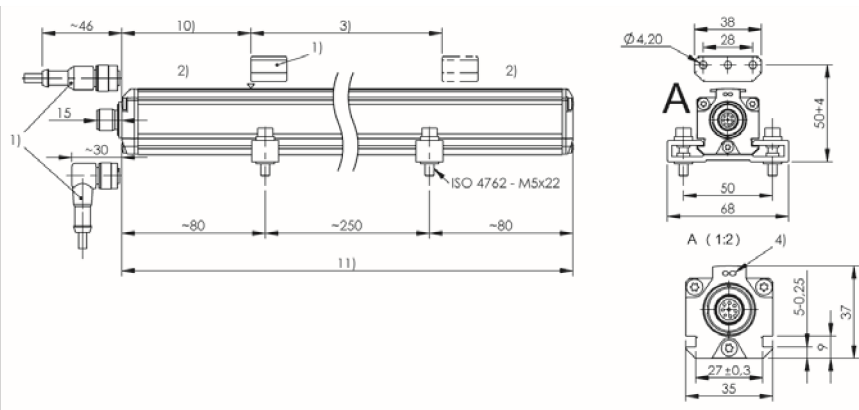
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A501-Mxxxx-P-S32**



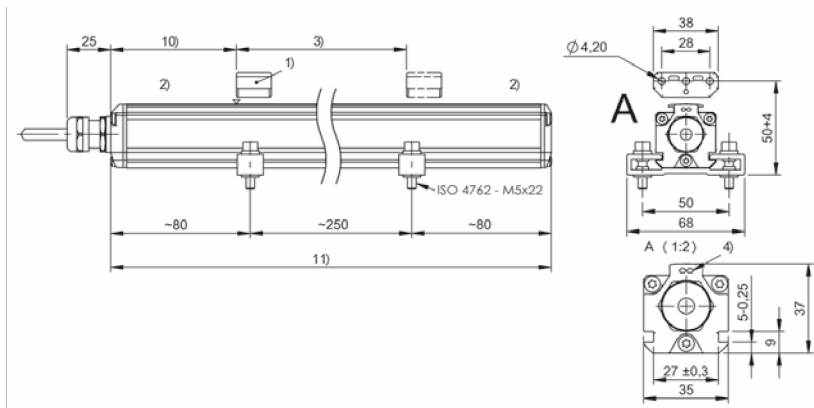
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-G501-Mxxxx-P-S115**



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

**BTL7-A501-Mxxxx-P-KAxx**



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



	BTL7 -P- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nxxx = 0050...0500: ± 50 µm nxxx = 0501...5500: ± 0.01% FS nxxx > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE cULus 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

01 = 2 outputs, each 1 x rising/falling  
settable/programmable  
08 = 1 output, rising, 1 auxiliary output  
voltage, rising settable/programmable  
09 = 1 output, rising, 1 auxiliary output  
voltage, falling settable/programmable  
12 = 1 output, falling, 1 auxiliary output  
voltage, rising settable/programmable  
13 = 1 output, falling, 1 auxiliary output  
voltage, falling settable/programmable

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

#### l Connection type

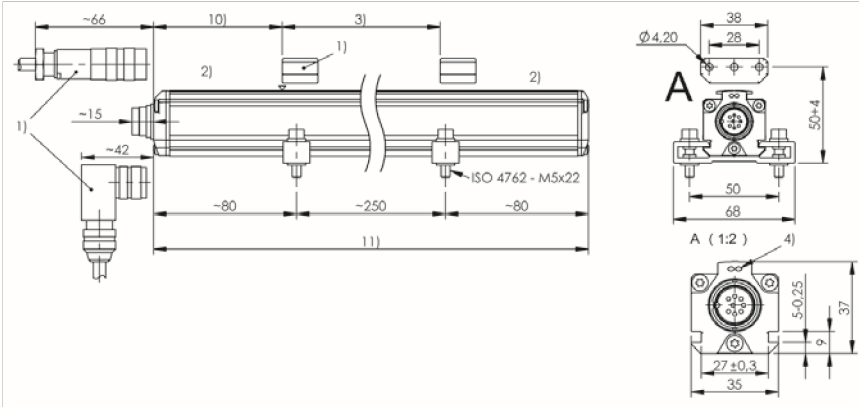
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

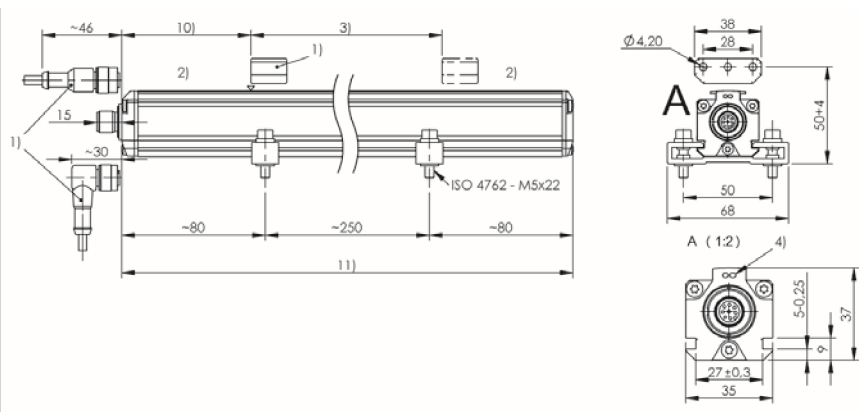
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E501-Mxxxx-P-S32**



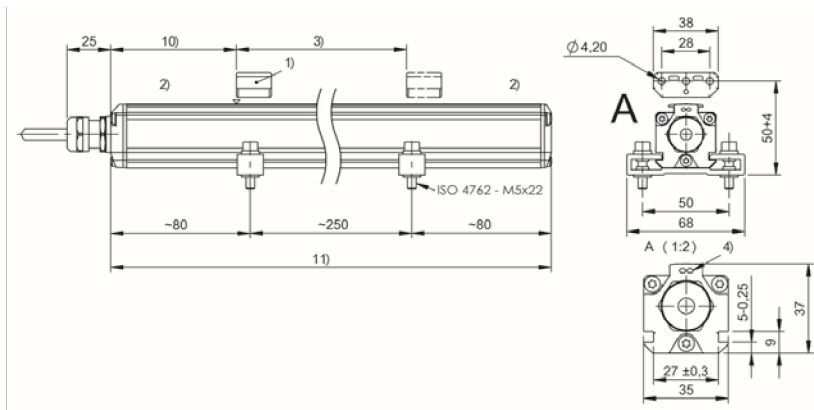
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-C501-Mxxxx-P-S115**



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

**BTL7-E508-Mxxxx-P-KAxx**



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





	BTL7 -P- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
Linearity deviation	nmm = 0050...5500: $\pm 50 \mu\text{m}$ nmm > 5500: $\pm 0.02\%$ FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-f-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  
(M0050...M7620)

#### f Style

P = Profile

#### l Connection type

S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

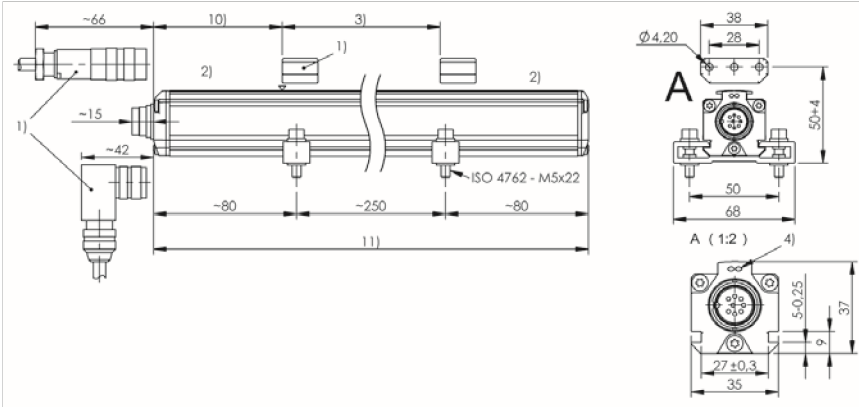
for connector:

32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

for cable (length in meters):

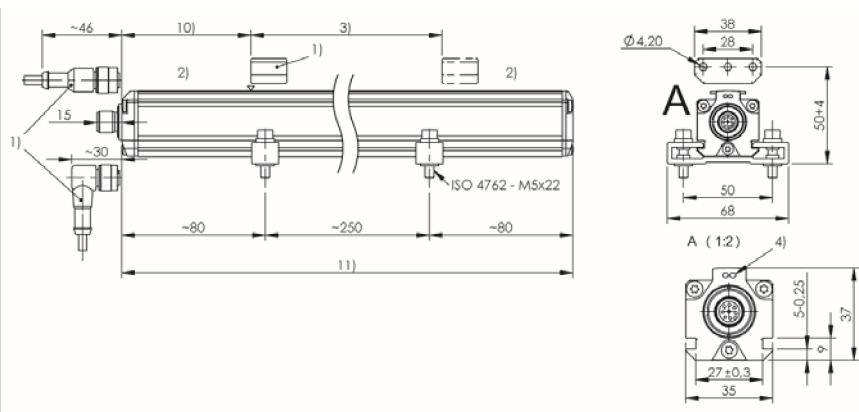
02, 05, 10, 15, 20, 30, 50, 100

**BTL7-P511-Mxxxx-P-S32**



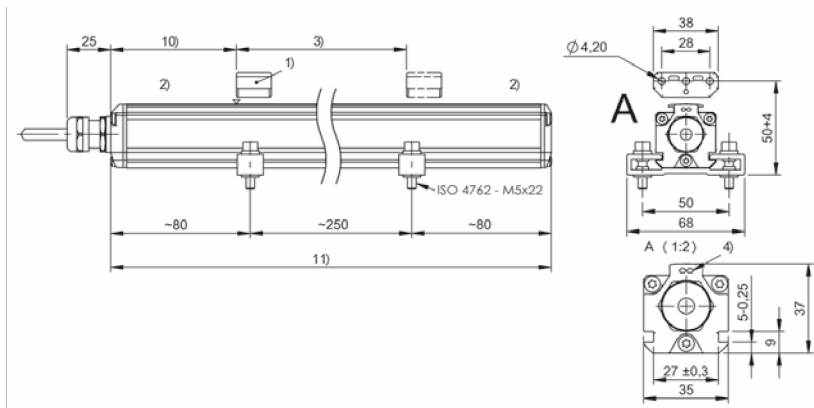
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-P511-Mxxxx-P-S115**



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

**BTL7-P511-Mxxxx-P-KAxx**



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



	BTL7 -P- SERIES - SSI
Interface	SSI
Measuring length	50...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 50...5500: $\pm 30\mu\text{m}$  d = 4, 5, 6, 8 nnnn = 50...5500: $\pm 2 \text{ LSB}$  nnnn > 5500: $\pm 0.02\% \text{ FS}$
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE cULus EAC

## BTL7-abcde-Mnnnn-f-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  $\mu\text{m}$   
9 = 0.5  $\mu\text{m}$

#### e Interface characteristic 3

B = Synchronous mode  
- = Asynchronous mode

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

#### l Connection type

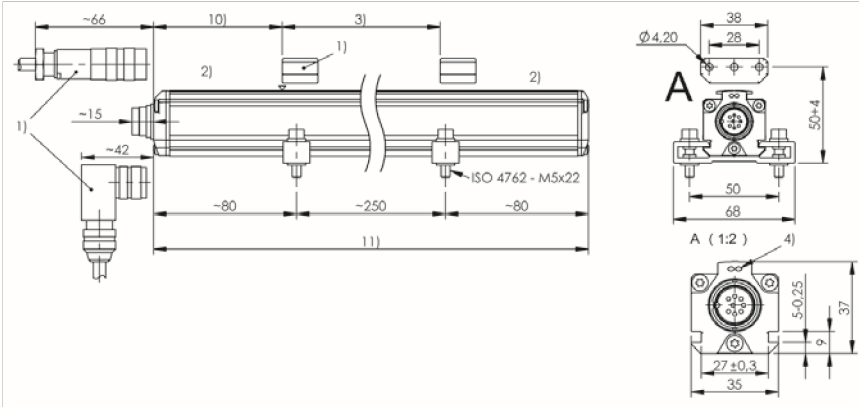
S = Connector  
KA = Cable (PUR)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
147 = M16x0.75 connector with 7 pins

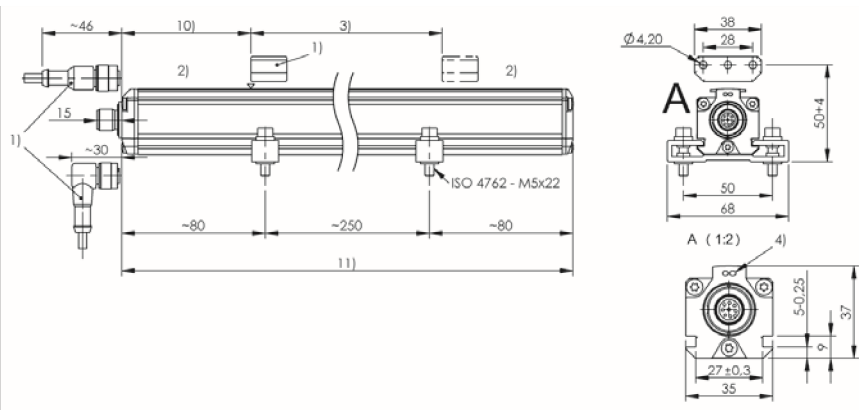
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

**BTL7-S510x-Mxxxx-P-S32**



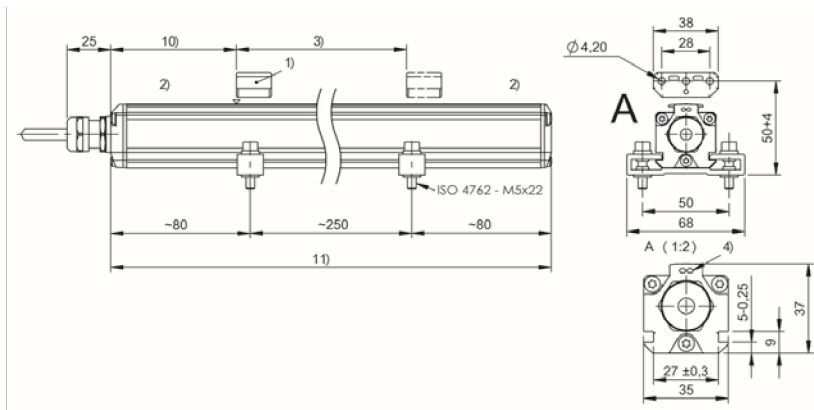
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-P-S115**



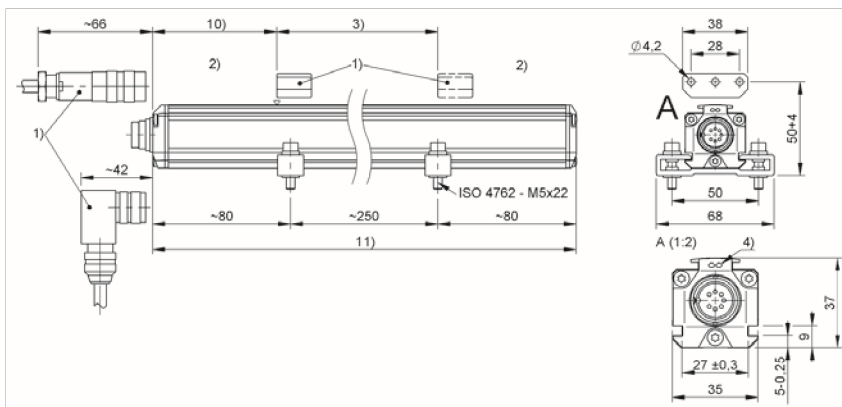
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-P-KAxx**



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

**BTL7-S5xxx-Mxxxx-P-S147**



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





	BTL5 -P- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

### BTL5-abcd-Mnnnn-f-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

P = Profile

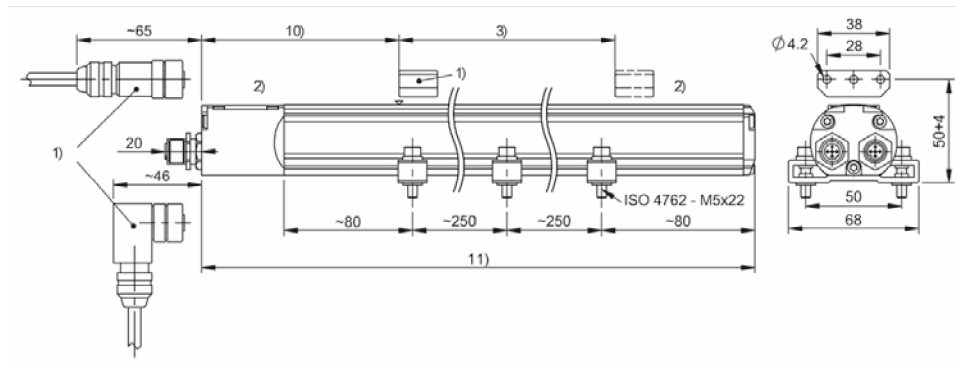
#### l Connection type

S = Connector

#### m Connection type characteristic

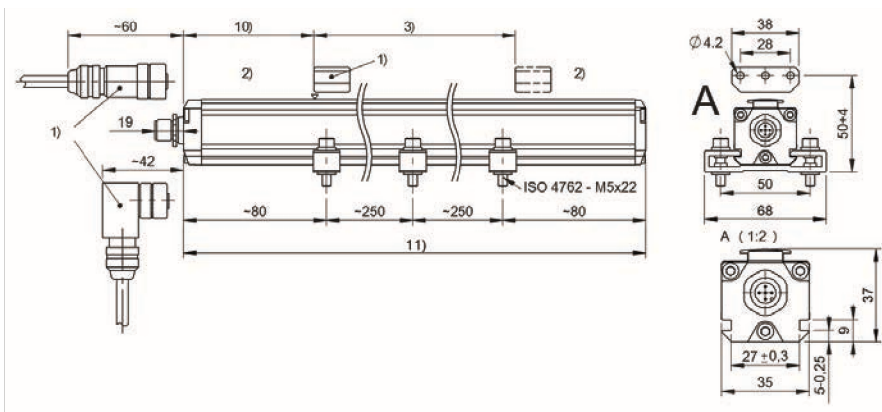
92 = 1 x M12x1 connector with 5 pins  
94 = 1 x M12x1 connector with 5 pins  
+ 1 x M12x1 female with 5 pins

**BTL5-Hxxx-Mxxxx-P-S94**



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

**BTL5-Hxxx-Mxxxx-P-S92**



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



	BTL7 -P- SERIES - PROFINET
Interface	Profinet
Measuring length	50...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode (1 - 16 magnets)

#### d Interface characteristic 2

T = Profinet

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

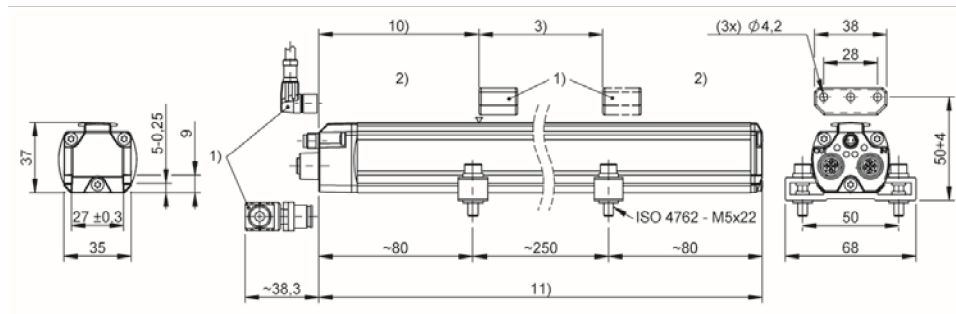
#### l Connection type

C = Connector

#### m Connection type characteristic

003 = 1 x M8x1 with 4 pins + 2 x  
M12x1 with 4 pins

BTL7-V50T-Mxxxx-P-C003



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





	BTL7 -P- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	50...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode (1 - 16 magnets)

#### d Interface characteristic 2

D = EtherNet IP

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

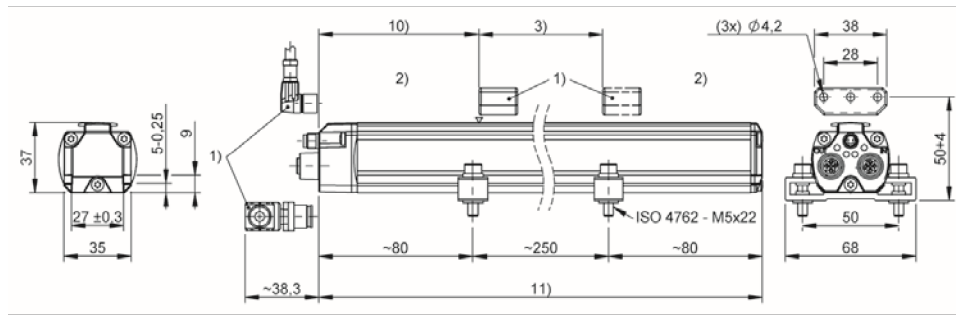
#### l Connection type

C = Connector

#### m Connection type characteristic

003 = 1 x M8x1 with 4 pins + 2 x  
M12x1 with 4 pins

BTL7-V50D-Mxxxx-P-C003



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



	BTL7 -P- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode (1 - 16 magnets)

#### d Interface characteristic 2

E = EtherCAT

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

M0500 = metric in mm  
(M0050...M7620)

#### f Style

P = Profile

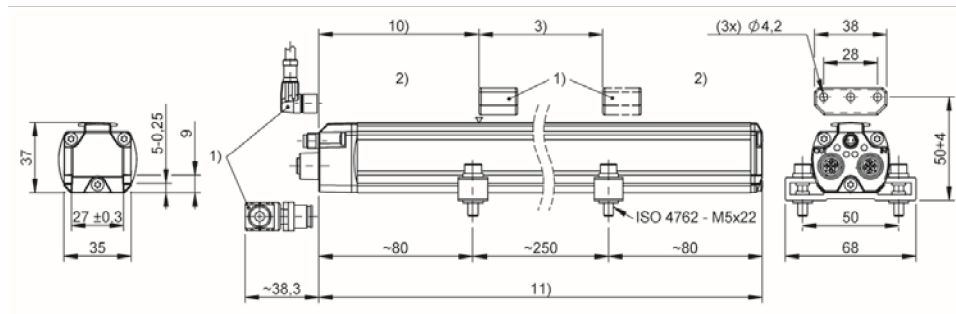
#### l Connection type

C = Connector

#### m Connection type characteristic

003 = 1 x M8x1 with 4 pins + 2 x  
M12x1 with 4 pins

BTL7-V50E-Mxxxx-P-C003



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





	BTL5 -P- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-f-lm

### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

T = Profibus

#### b Operating voltage

1 = 20 ... 28 V

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

10 = 1 magnet

(1 - 4 magnets can be set)

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

M0500 = metric in mm

(M0050...M4000)

#### f Style

P = Profile

#### l Connection type

S = Connector

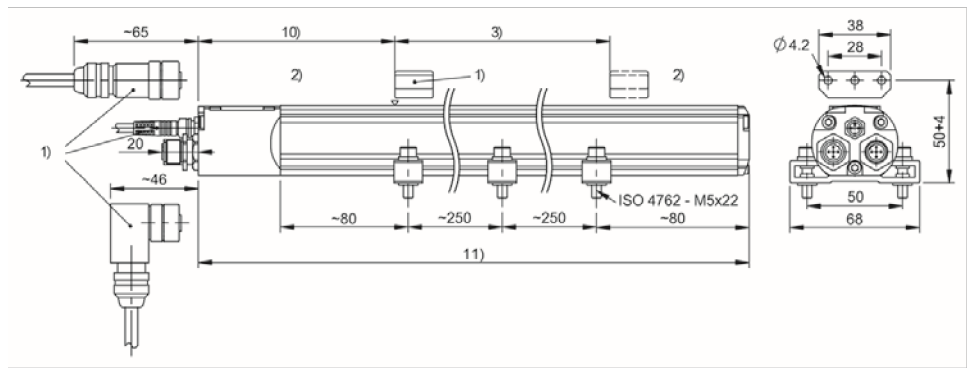
#### m Connection type characteristic

103 = 1 x M8x1 connector with 3 pins

+ 1 x M12x1 connector with 5 pins + 1

x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-P-S103



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



	BTL5 -P- SERIES - DEVICENET
Interface	DeviceNet
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

### BTL5-abcd-Mnnnn-f-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

#### d Interface characteristic 2

Data transmission rate:

2 = 500 kBaud

3 = 250 kBaud

4 = 125 kBaud

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

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

#### f Style

P = Profile

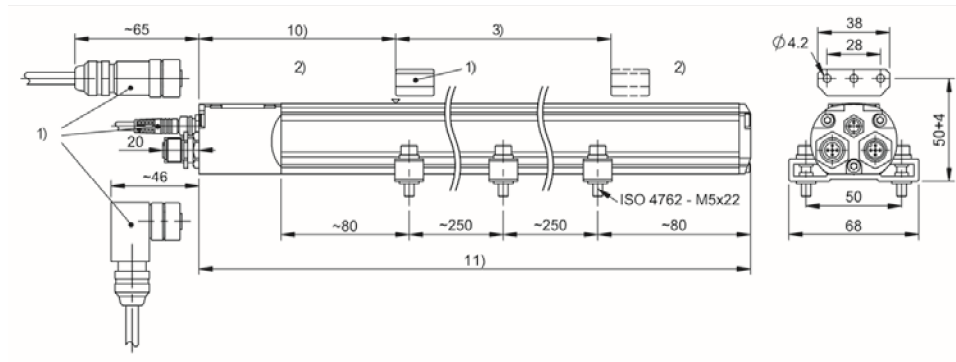
#### l Connection type

S = Connector

#### m Connection type characteristic

93 = 1 x M8x1 connector with 3 pins +  
1 x M12x1 connector with 5 pins +  
1 x M12x1 female with 5 pins

**BTL5-Dxxx-Mxxxx-P-S93**



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



BTL6 -A1- SERIES - ANALOG VOLTAGE	
Interface	Analog, voltage
Measuring length	50...4012 mm
Linearity deviation	nmm = 0050...0500: $\pm 200 \mu\text{m}$ , nmm > 500: $\pm 0.04\%$ FS
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, $\varnothing 30$ mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

### BTL6-abcd-Mnnnn-f-lm

#### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

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

#### b Operating voltage

1 = 20 ... 28 V  
3 = 20 ... 28 V (if c + d = 10)  
3 = 18 ... 30 V (if c + d = 01)

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

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

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

M0500 = metric in mm  
(M0050...M4012 when c+d = 10)  
(M0050...M1512 when c+d = 01)

#### f Style

A1 = Round profile

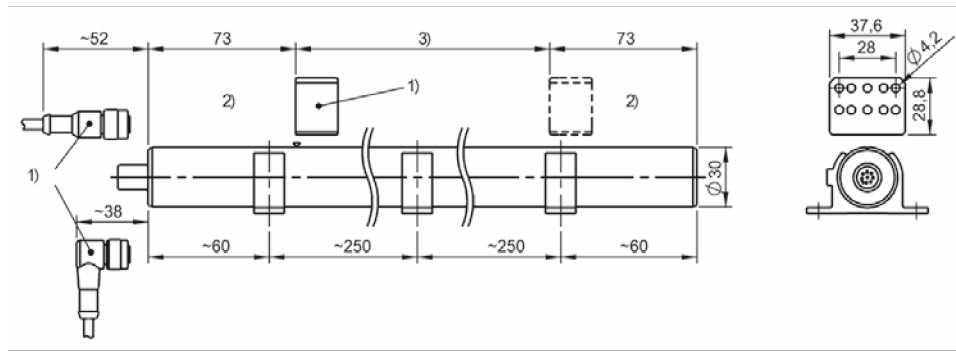
#### l Connection type

S = Connector

#### m Connection type characteristic 1

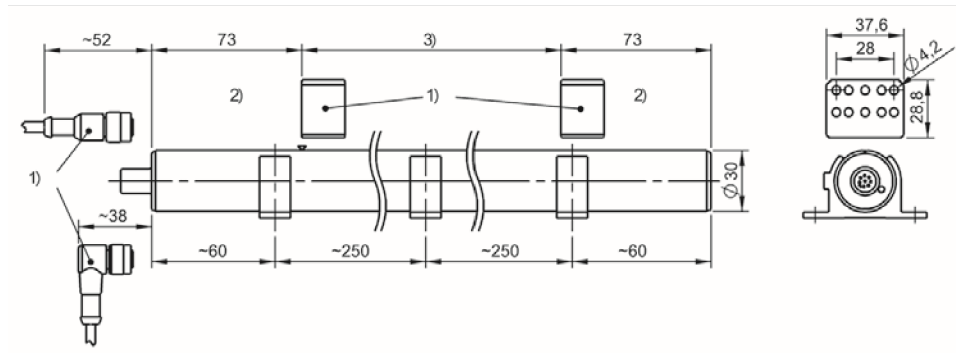
115 = M12x1 connector with 8 pins

**BTL6-A110-Mxxxx-A1-S115**



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

**BTL6-G301-Mxxxx-A1-S115**



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



	BTL6 -A1- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...4012 mm
Repeat accuracy	≤ 10 μm
Linearity deviation	nmm = 0050...0500: ± 200 μm nmm > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

P = Digital pulse interface

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = Digital start/stop interface

#### d Interface characteristic 2

0 = No communication interface

1 = DPI/IP communication interface

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

M0500 = metric in mm

(M0050...M4012)

#### f Style

A1 = Round profile

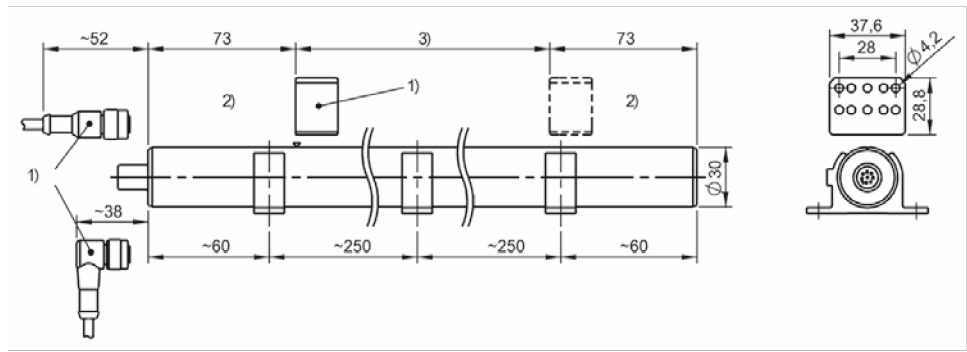
#### l Connection type

S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

BTL6-P11x-Mxxxx-A1-S115



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

Sensors

RFID

Machine Vision and  
Optical Identification

Human Machine  
Interfaces

Systems

Safety

Industrial Networking

Power Supply

Connectivity

Accessories





	BTL6 -A1- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

V = EtherNet

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = 1 magnet  
2 = 2 magnets

#### d Interface characteristic 2

E = EtherCAT

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

M0500 = metric in mm  
(M0050...M4012)

#### f Style

A1 = Round profile

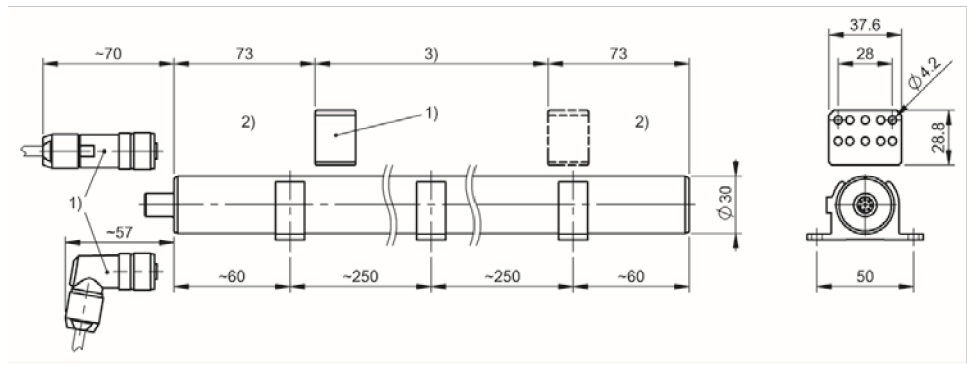
#### l Connection type

S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

**BTL6-V1xE-Mxxxx-A1-S115**



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

Sensors

RFID

Machine Vision and  
Optical Identification

Human Machine  
Interfaces

Systems

Safety

Industrial Networking

Power Supply

Connectivity

Accessories



	BTL6 -A1- SERIES - VARAN
Interface	Varan
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm nmm > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

V = EtherNet

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = 1 magnet

#### d Interface characteristic 2

V = Varan

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

M0500 = metric in mm  
(M0050...M4012)

#### f Style

A1 = Round profile

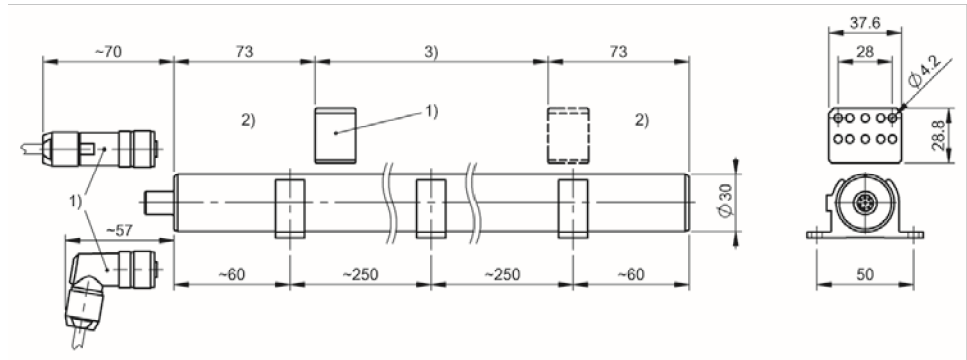
#### l Connection type

S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

BTL6-V11V-Mxxxx-A1-S115



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



	BTL6 -PF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...5080 mm
Linearity deviation	nmm = 0050...0500: $\pm 200 \mu\text{m}$ nmm > 0500: $\pm 0.04\%$ FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### 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

00 = 1 output, rising

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

M0500 = metric in mm

(M0050...M5080)

#### f Style

PF = Flat profile

#### l Connection type

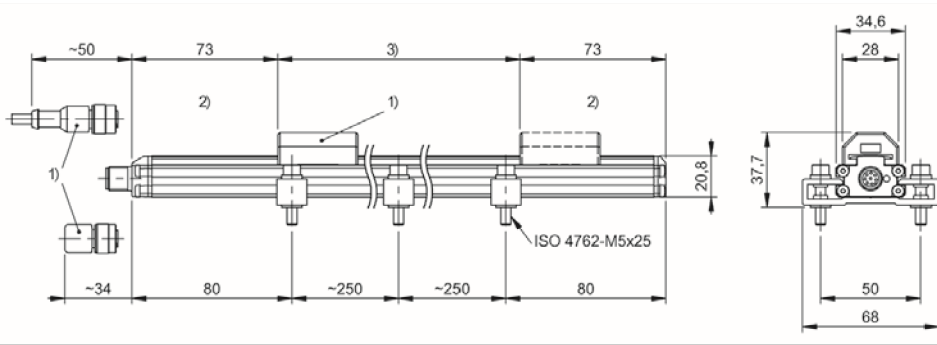
S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

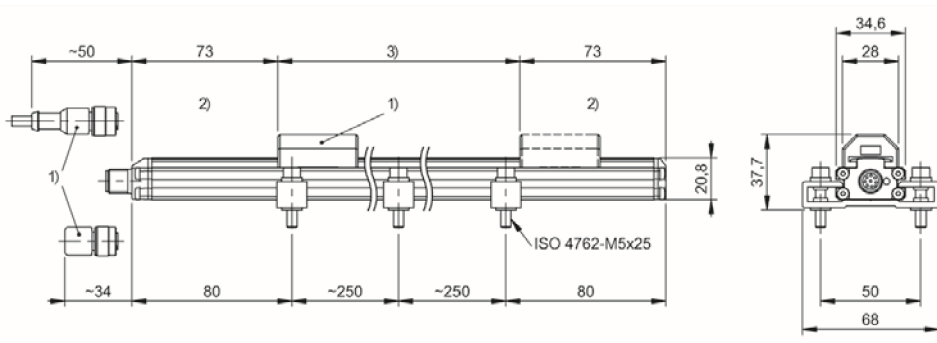
**BTL6-A500-Mxxxx-PF-S115**

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



**BTL6-G500-Mxxxx-PF-S115**

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





BTL6 -PF- SERIES - ANALOG CURRENT	
Interface	Analog, current
Measuring length	50...5080 mm
Linearity deviation	nmm = 0050...0500: $\pm 200 \mu\text{m}$ nmm > 0500: $\pm 0.04\%$ FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

C = Current output 0.1 ... 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

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

M0500 = metric in mm  
(M0050...M5080)

#### f Style

PF = Flat profile

#### l Connection type

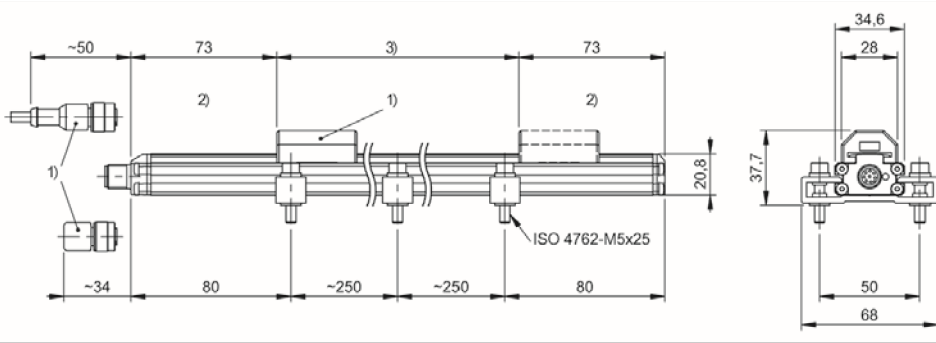
S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

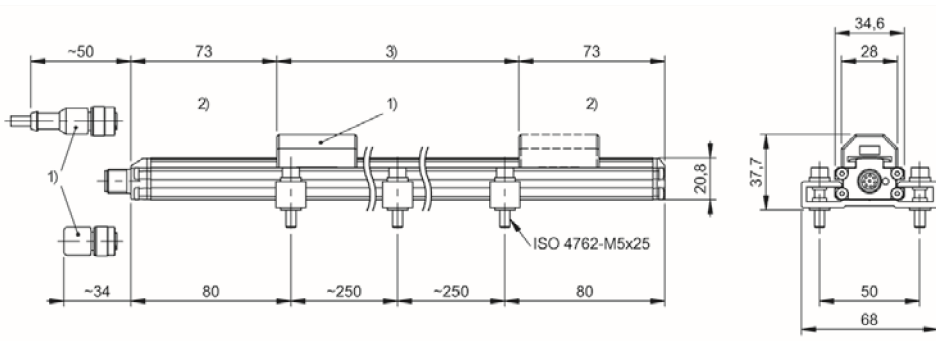
**BTL6-E500-Mxxxx-PF-S115**

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



**BTL6-C500-Mxxxx-PF-S115**

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







	BTL6 -PF- SERIES - IO-LINK
Interface	IO-Link
Measuring length	50...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS
Operating voltage Ub	18...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

U = IO-Link

#### b Operating voltage

1 = 18 ... 30 V

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

10 = 1 magnet

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

M0500 = metric in mm  
(M0050...M4572)

#### f Style

PF = Flat profile

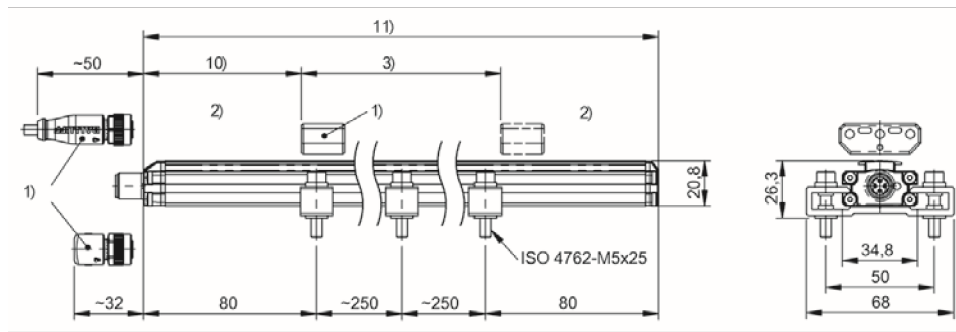
#### l Connection type

S = Connector

#### m Connection type characteristic 1

4 = M12x1 connector with 4 pins

**BTL6-U110-Mxxxx-PF-S4**



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



	BTL6 -PF- SERIES - VARAN
Interface	Varan
Measuring length	50...4572 mm
Repeat accuracy	≤ 10 μm
Linearity deviation	nmm = 0050...0500: ± 150 μm nmm > 0500: ± 0.03% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	0...85 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

1 = Device profile length measuring systems  
5 = Device Profile EUROMAP 75

#### d Interface characteristic 2

V = Varan

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

M0500 = metric in mm  
(M0050...M4572)

#### f Style

PF = Flat profile

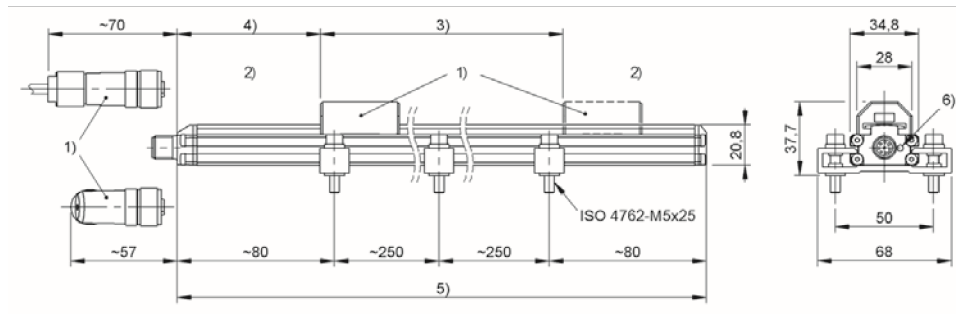
#### l Connection type

S = Connector

#### m Connection type characteristic 1

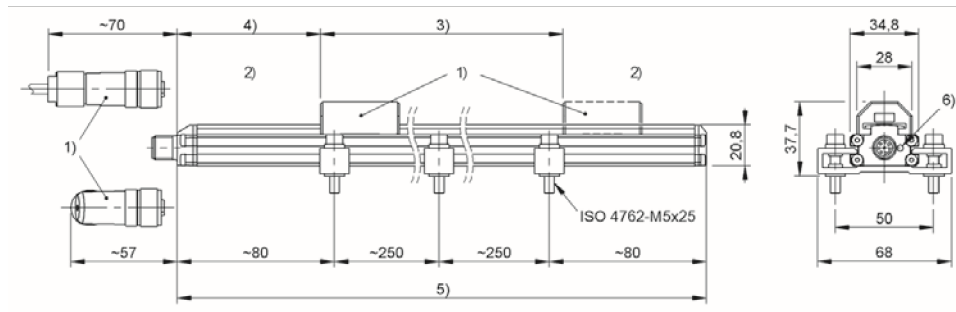
115 = M12x1 connector with 8 pins

**BTL6-V55V-Mxxxx-PF-S115**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Null point
- 5) Installation length
- 6) LED function indicator

**BTL6-V51V-Mxxxx-PF-S115**



- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Null point
- 5) Installation length
- 6) LED function indicator



	BTL7 -A/B- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	I = S AND m ≠ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	n n n n ≤ 500: I = S, KA: CE + cULus + EAC + GL I = FA: CE + EAC + GL n n n n > 500: I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-Im

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

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

#### b Operating voltage

1 = 20 ... 28 V  
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...M7620: 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 Connection type

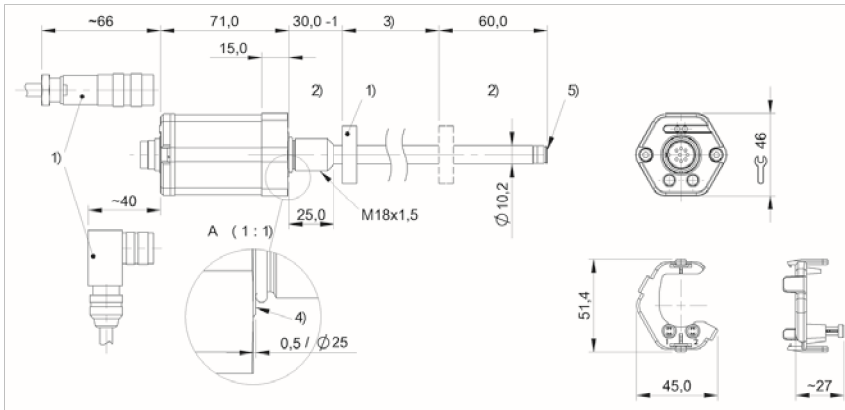
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x1 connector with 6 pins  
140 = MS, 10-pin

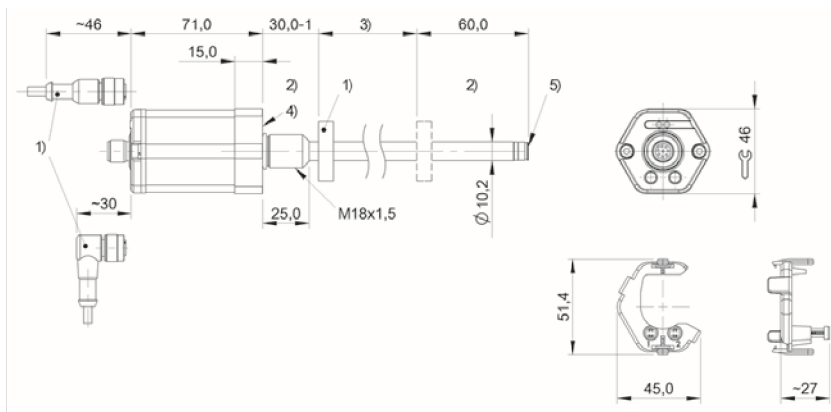
for cable (length in meters):  
02, 05, 10, 15, 20, 30

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



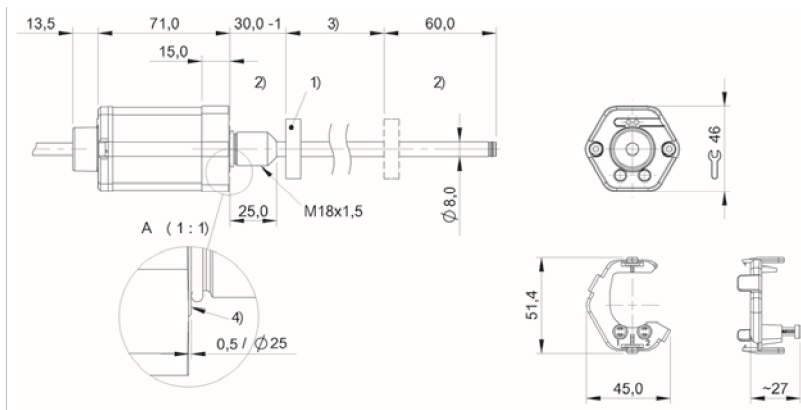
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-G510-Mxxxx-A-S115**



- 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-KAxx**



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



BTL7 -A/B- SERIES - ANALOG CURRENT	
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 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 Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	I = S AND m ≠ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	n n n n ≤ 500: I = S, KA: CE + cULus + EAC + GL I = FA: CE + EAC + GL n n n n > 500: I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-Im

### 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...M7620: 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 Connection type

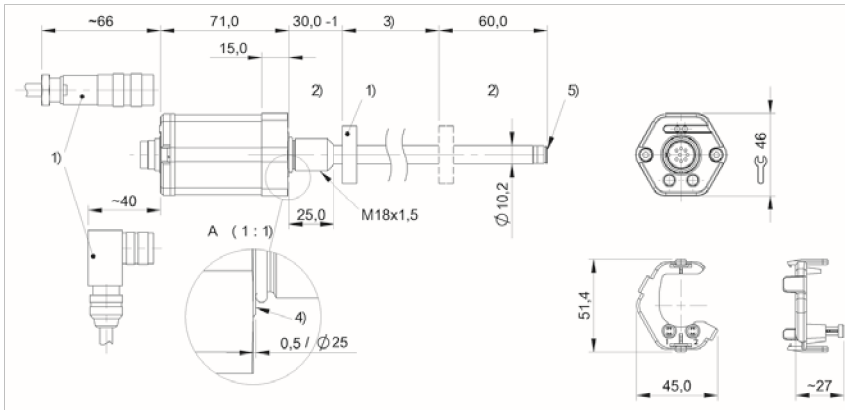
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x1 connector with 6 pins  
140 = MS, 10-pin

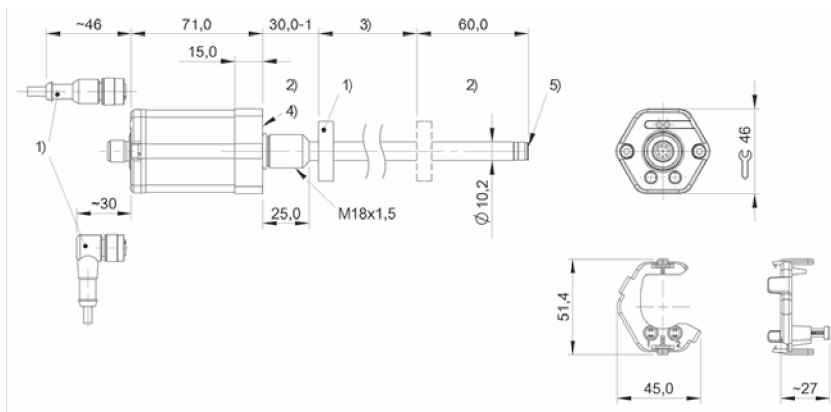
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

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



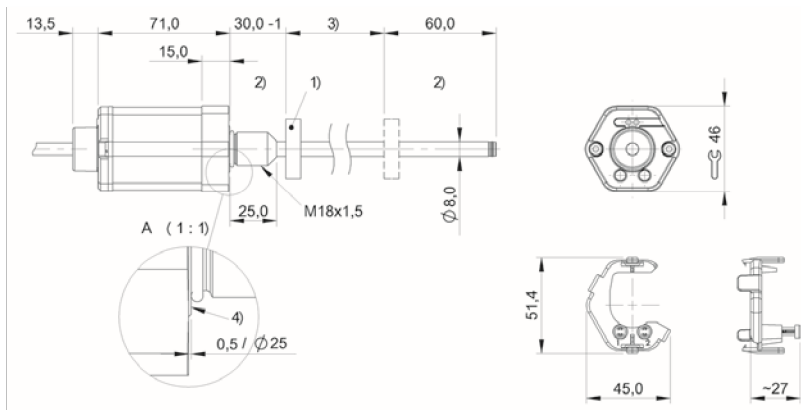
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-C500-Mxxxx-A-S115**



- 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-KAxx**



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





	BTL7 -A/B- 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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA, FA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-Im

### 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...M7620: 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 Connection type

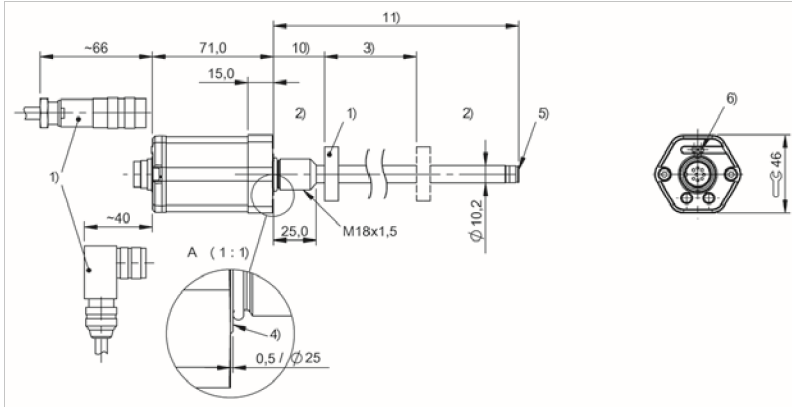
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

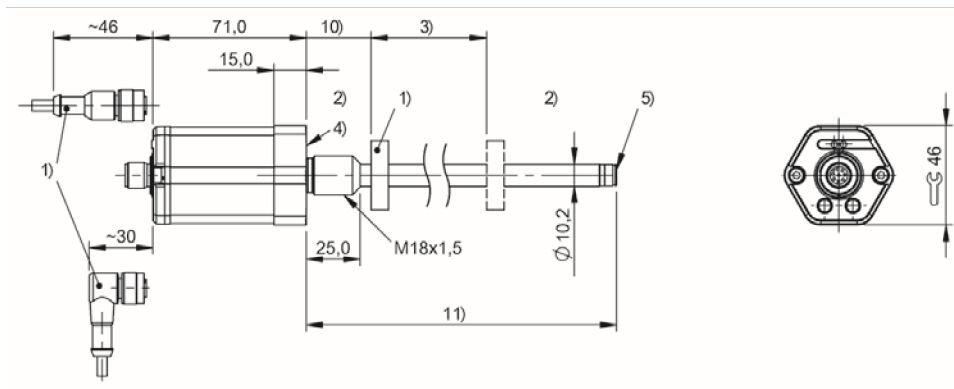
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

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



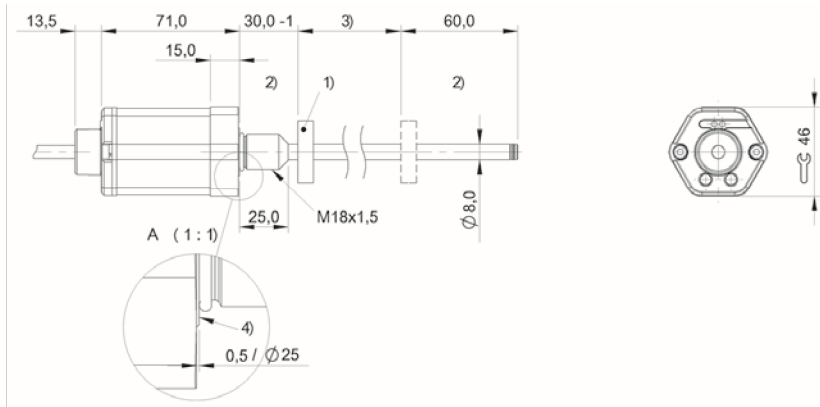
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-P511-Mxxxx-A-S115**



- 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-KAxx**



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



	BTL7 -A/B- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50...5500: ± 30µm  d = 4, 5, 6, 8 nnnn = 50...5500: ± 2 LSB  nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	I = S AND m ≠ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

### BTL7-abcde-Mnnnn-fg-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...M7620: 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

#### l Connection type

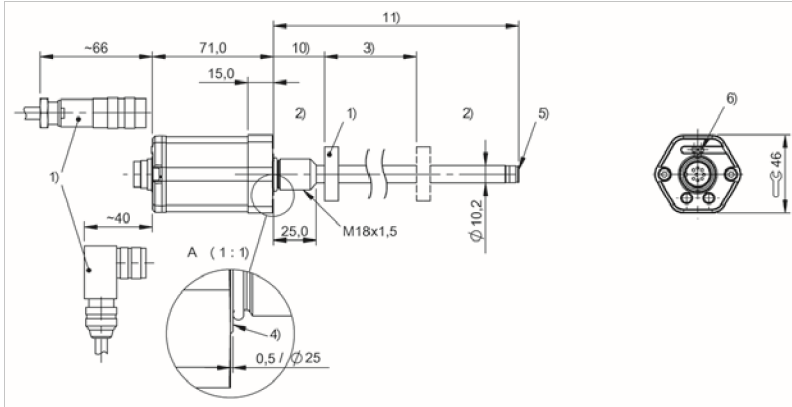
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
140 = MS, 10-pin  
147 = M16x0.75 connector with 7 pins

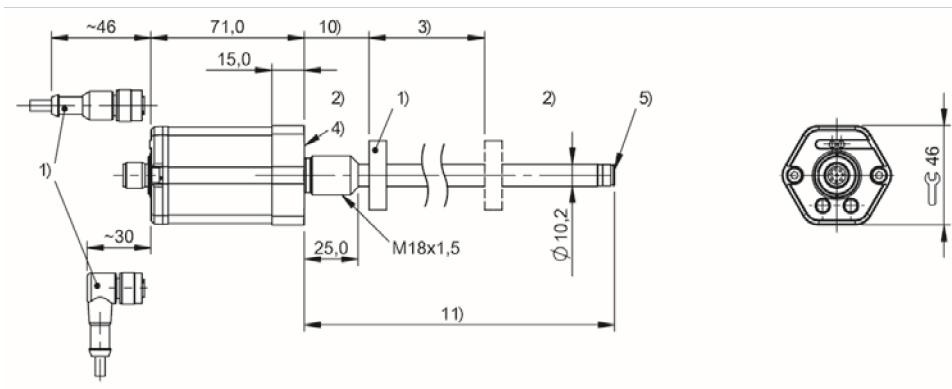
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

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



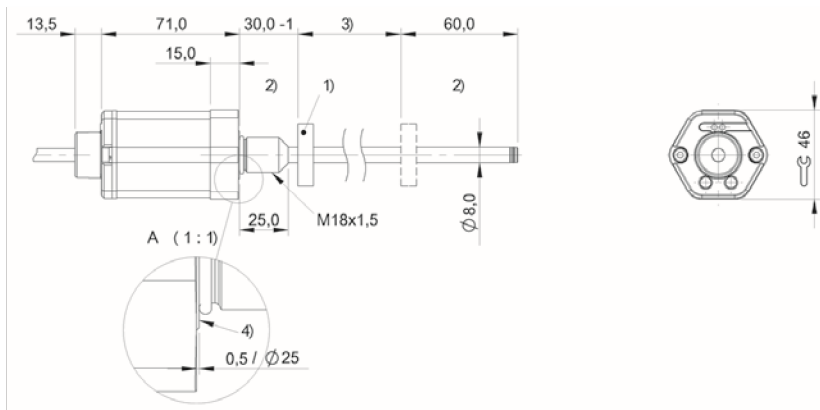
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-A-S115**



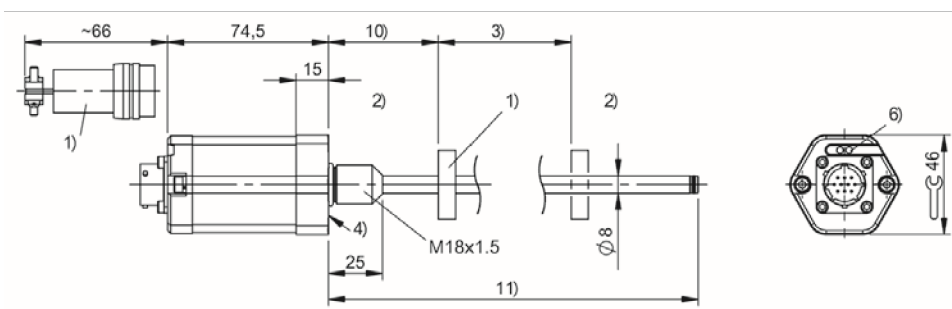
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

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



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

**BTL7-S5xxx-Mxxxx-A8-S140**



- 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



	BTL6 -A/B- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

U = IO-Link

#### b Operating voltage

1 = 18 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode

#### d Interface characteristic 2

1 = COM3, 8 bytes inputs

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

M0500 = metric in mm  
(M0025...M4572)

#### f Style

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

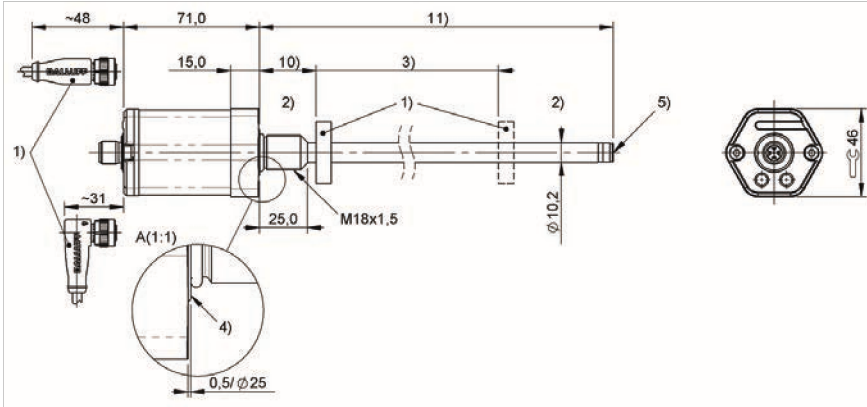
#### l Connection type

S = Connector

#### m Connection type characteristic 1

4 = M12x1 connector with 4 pins

**BTL6-U110-Mxxxx-B-S4**



- 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 -A/B- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage $U_b$	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-fg-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

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

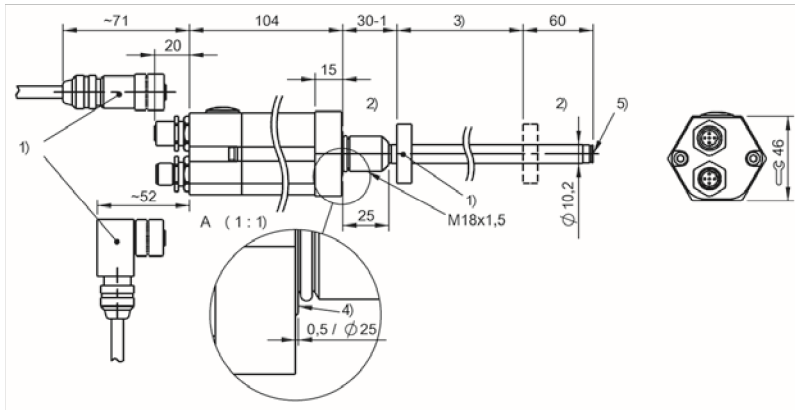
#### l Connection type

S = Connector

#### m Connection type characteristic

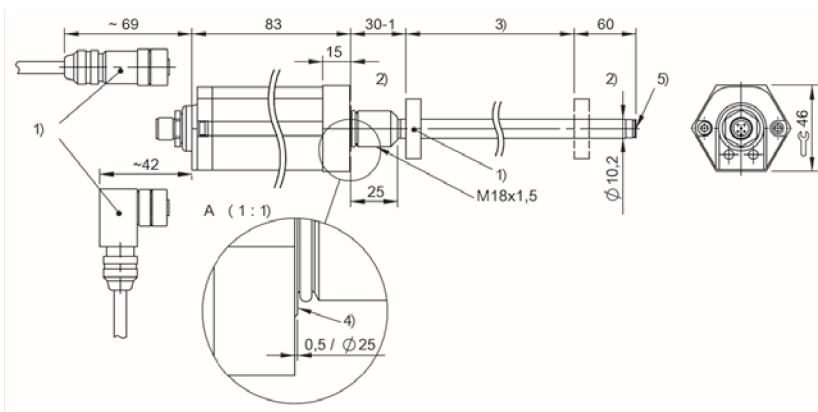
92 = 1 x M12x1 connector with 5 pins  
94 = 1 x M12x1 connector with 5 pins  
+ 1 x M12x1 female with 5 pins

**BTL5-Hxxx-Mxxxx-B-S94**



- 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-Hxxx-Mxxxx-B-S92**



- 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 -A/B- SERIES - PROFINET	
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nmm = 0050...5500: ± 30 µm nmm > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

### BTL7-abcd-Mnnnn-fg-Im

#### I Connection type

C = Connector

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### m Connection type characteristic

003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

T = Profinet

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: for rod diameter  
10.2 mm)

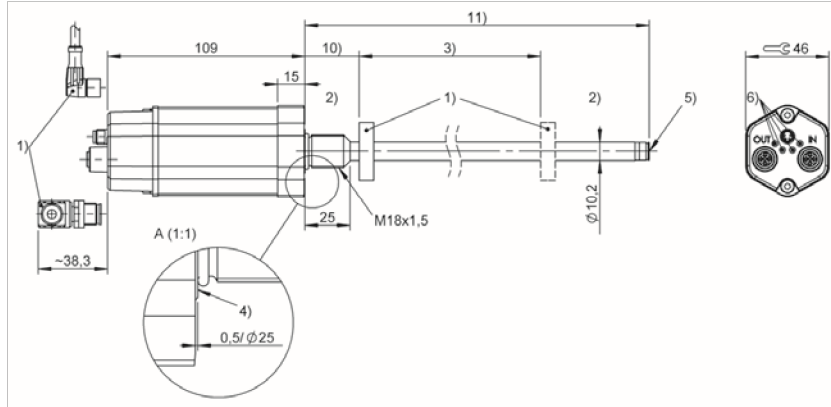
#### f Style

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

#### g Form factor characteristic

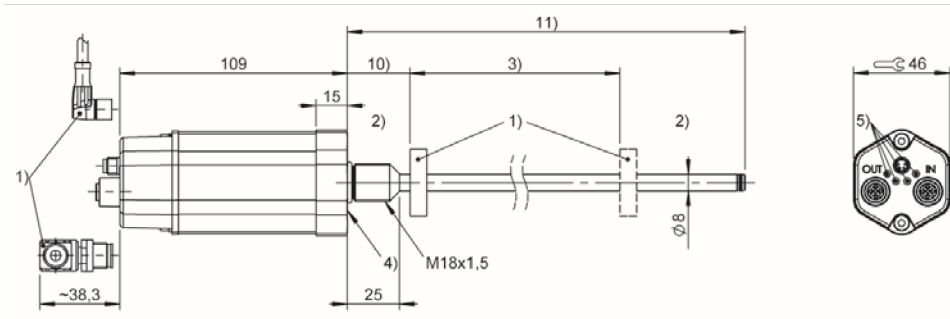
8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

**BTL7-V50T-Mxxxx-B-C003**



- 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-V50T-Mxxxx-A8-C003**



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



	BTL7 -A/B- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nmm = 0050...5500: ± 30 µm nmm > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

### BTL7-abcd-Mnnnn-fg-Im

#### I Connection type

C = Connector

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### m Connection type characteristic

003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

D = EtherNet IP

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: for rod diameter  
10.2 mm)

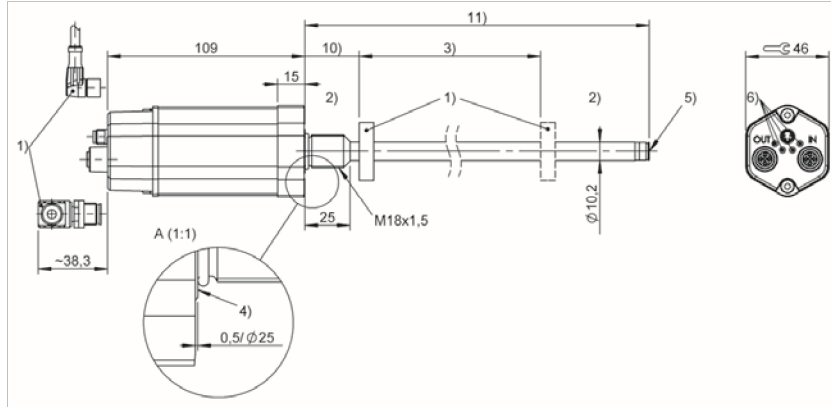
#### f Style

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

#### g Form factor characteristic

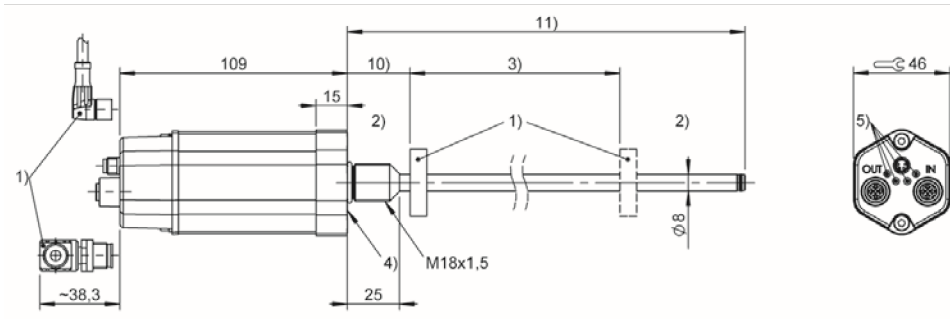
8 = Rod diameter 8 mm  
- = Rod diameter 10.2 mm

**BTL7-V50D-Mxxxx-B-C003**



- 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-V50D-Mxxxx-A8-C003**



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



	BTL7 -A/B- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-fg-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

E = EtherCAT

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: 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

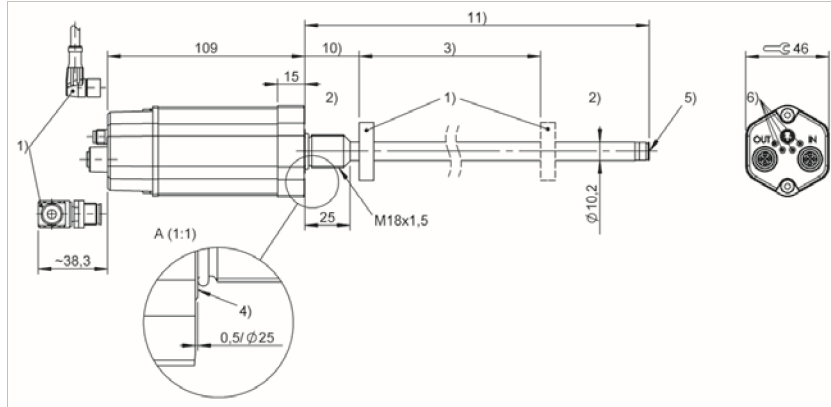
#### l Connection type

C = Connector

#### m Connection type characteristic

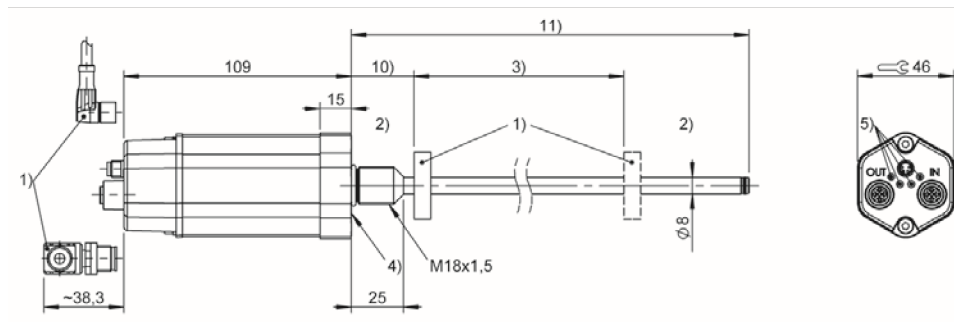
003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

**BTL7-V50E-Mxxxx-B-C003**



- 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-V50E-Mxxxx-A8-C003**



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



	BTL5 -A/B- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Linearity deviation	±30 µm
Operating voltage $U_b$	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

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

#### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

T = Profibus

#### b Operating voltage

1 = 20 ... 28 V

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

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

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

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

#### 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

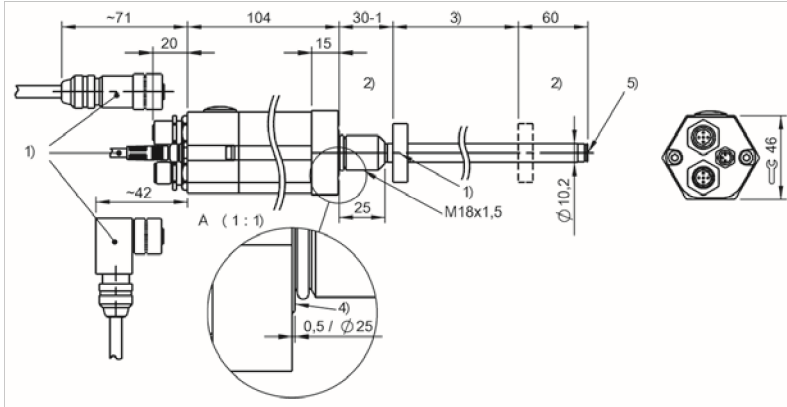
#### l Connection type

S = Connector

#### m Connection type characteristic

103 = 1 x M8x1 connector with 3 pins  
+ 1 x M12x1 connector with 5 pins  
+ 1 x M12x1 female with 5 pins

**BTL5-Txxx-Mxxxx-B-S103**



- 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 -A/B- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-fg-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

V = EtherNet

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = 1 magnet

#### d Interface characteristic 2

E = Varan

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M4012: 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

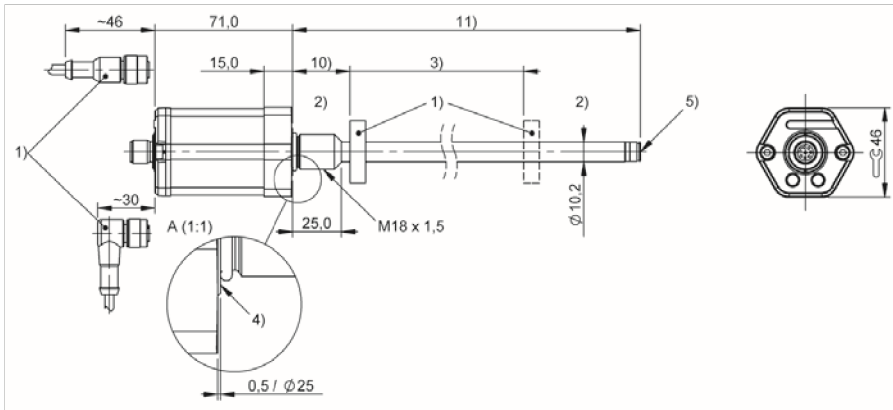
#### l Connection type

S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

**BTL-V11V-Mxxxx-B-S115**



- 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 -Y/Z- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nxxx = 0050...0500: ± 50 µm, nxxx = 0501...5500: ± 0.01% FS, nxxx > 5500: ± 0.02% FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	I = S AND m ≠ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	nxxx ≤ 500: I = S, KA: CE + cULus + EAC + GL I = FA: CE + EAC + GL nxxx > 500: I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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

1 = 20 ... 28 V  
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...M7620: 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

#### l Connection type

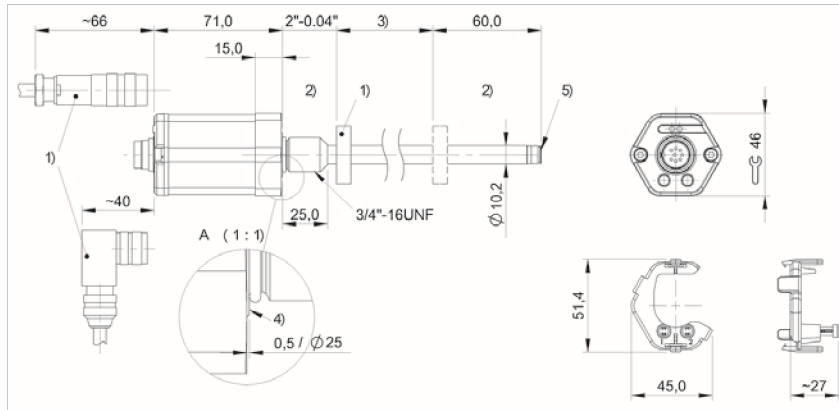
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x1 connector with 6 pins  
140 = MS, 10-pin

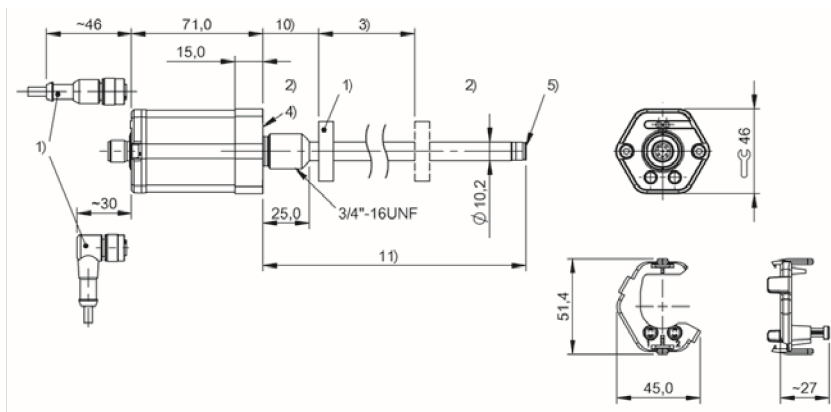
for cable (length in meters):  
02, 05, 10, 15, 20, 30

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



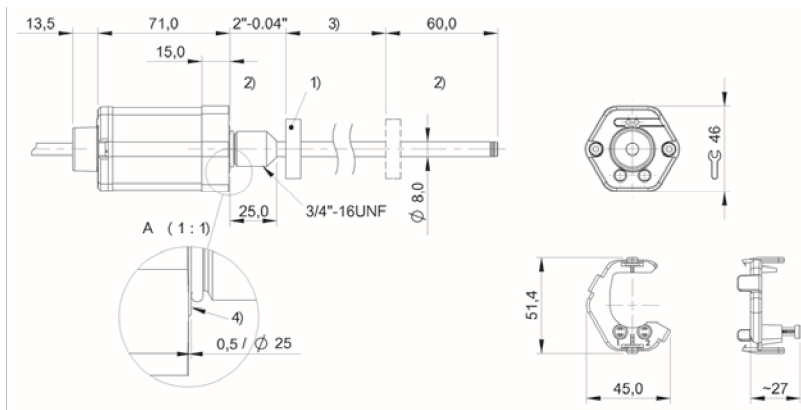
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-G510-Mxxxx-Y-S115**



- 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-KAxx**



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



	BTL7 -Y/Z- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	I = S AND m ≠ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	n n n n ≤ 500: I = S, KA: CE + cULus + EAC + GL I = FA: CE + EAC + GL n n n n > 500: I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: 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

#### l Connection type

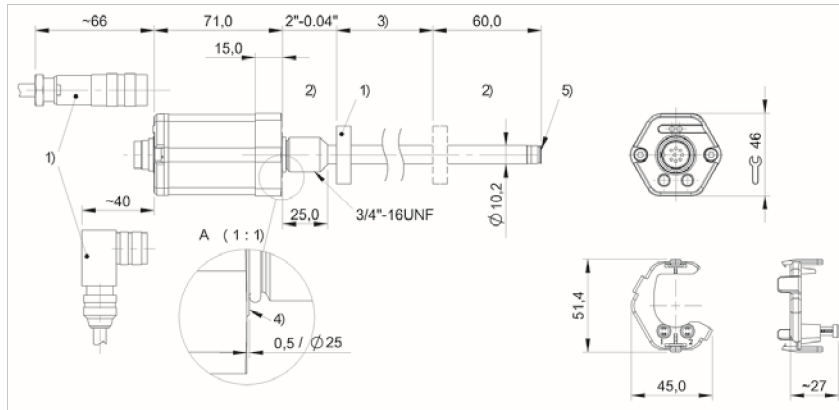
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x1 connector with 6 pins  
140 = MS, 10-pin

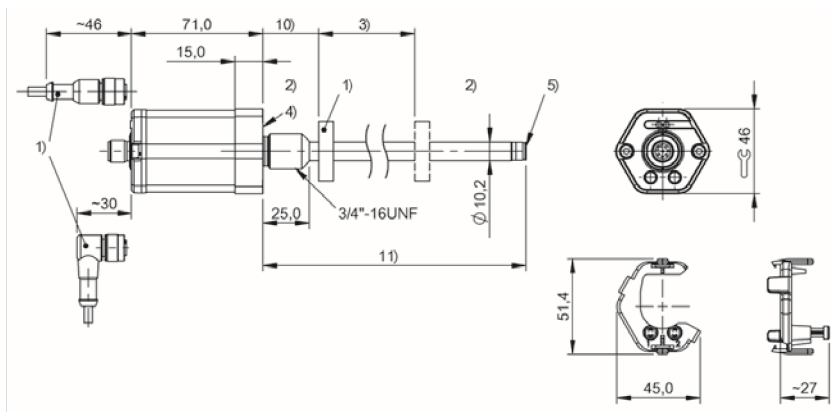
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

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



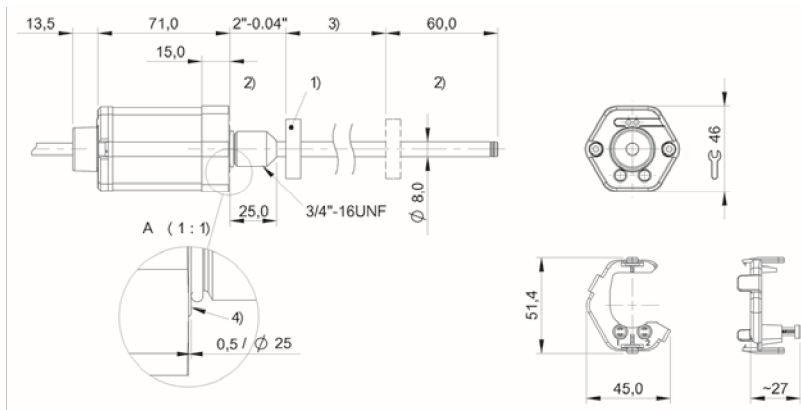
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-C500-Mxxxx-Y-S115**



- 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-KAxx**



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



	BTL7 -Y/Z- 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA, FA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: 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

#### l Connection type

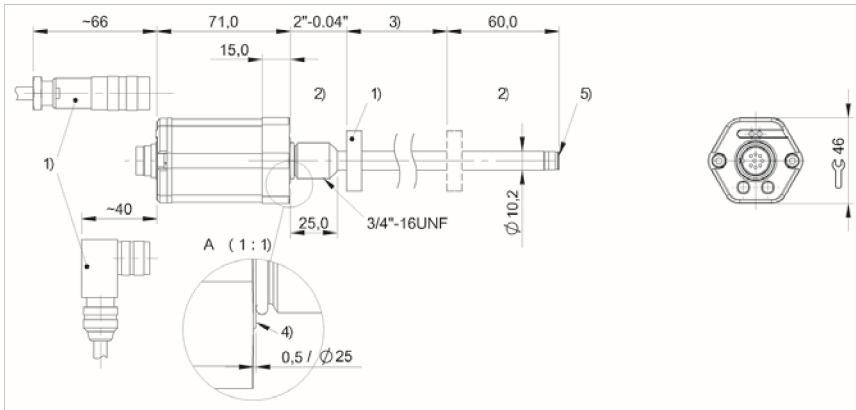
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
135 = M16x0.75 connector with 6 pins

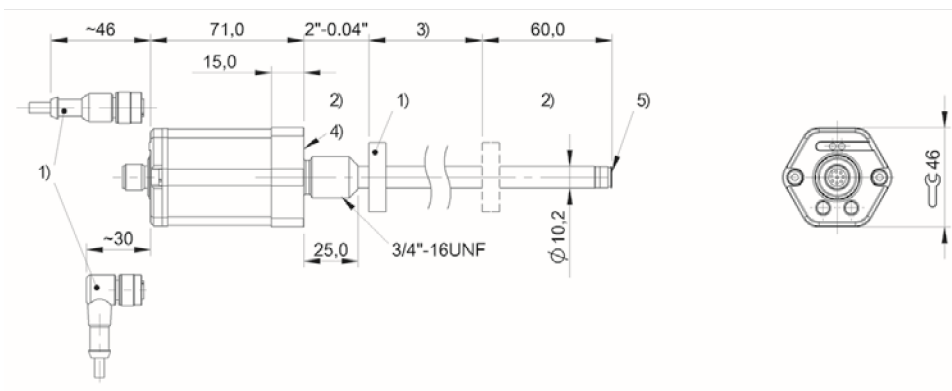
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

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



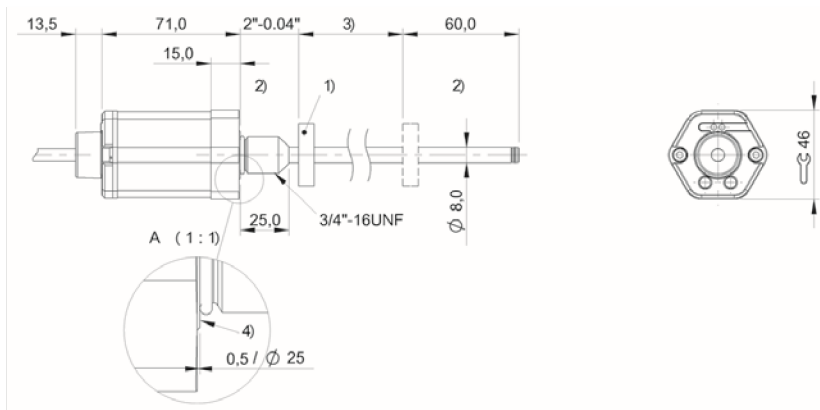
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-P511-Mxxxx-Y-S115**



- 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-KAxx**



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





	BTL7 -Y/Z- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...5500: $\pm 30\mu\text{m}$  d = 4, 5, 6, 8 nnnn = 25...5500: $\pm 2 \text{ LSB}$  nnnn > 5500: $\pm 0.02\% \text{ FS}$
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	I = S AND m $\neq$ 140: IP67 with connector I = S AND m = 140: IP65 with connector I = KA, FA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcde-Mnnnn-fg-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...M7620: 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

#### l Connection type

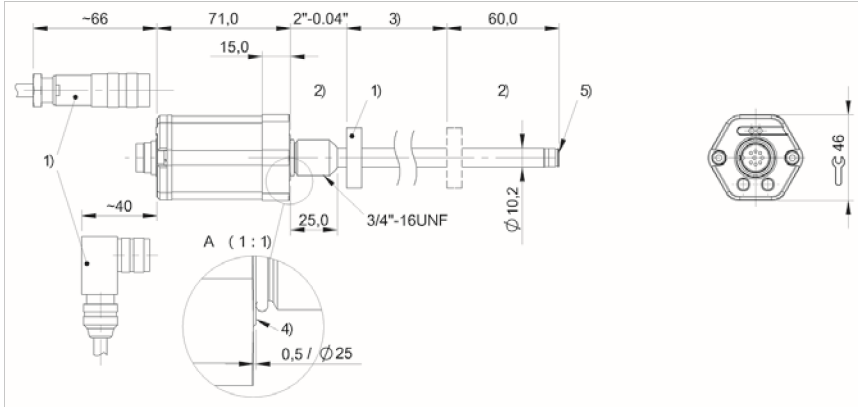
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins  
140 = MS, 10-pin  
147 = M16x0.75 connector with 7 pins

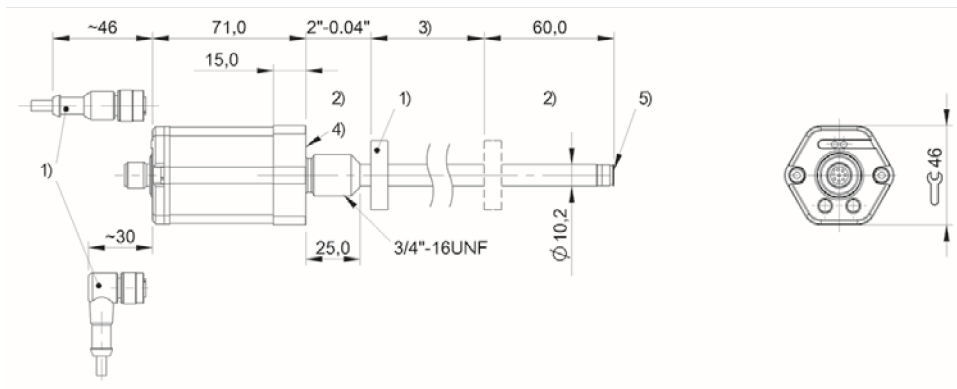
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

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



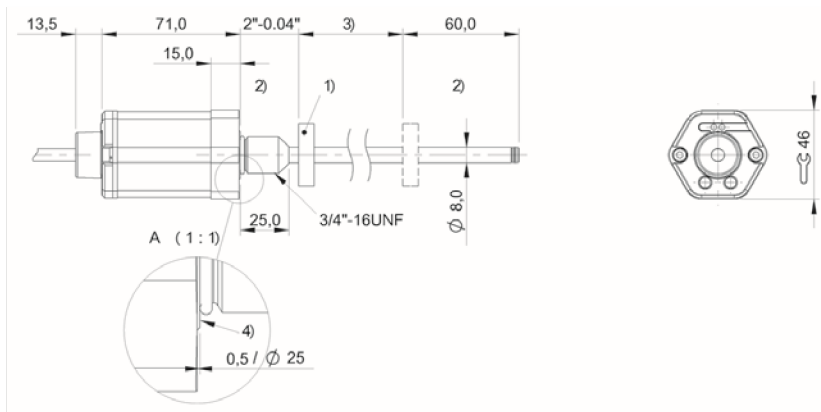
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

**BTL7-S5xxx-Mxxxx-Y-S115**



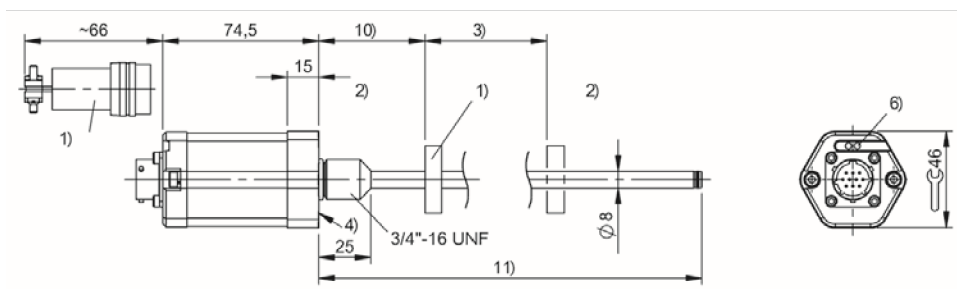
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep

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



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

**BTL7-S5xxx-Mxxxx-Y8-S140**



- 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



	BTL6 -Y/Z- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-f-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

U = IO-Link

#### b Operating voltage

1 = 18 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode

#### d Interface characteristic 2

1 = COM3, 8 bytes inputs

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

M0500 = metric in mm  
(M0025...M4572)

#### f Style

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

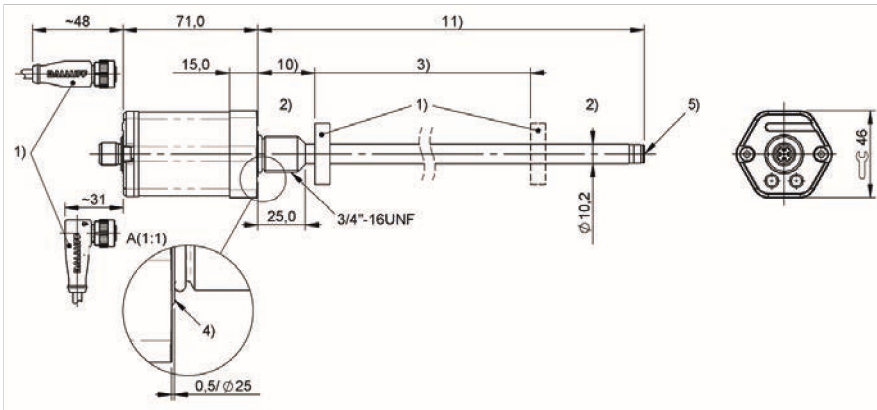
#### l Connection type

S = Connector

#### m Connection type characteristic 1

4 = M12x1 connector with 4 pins

**BTL6-U110-Mxxxx-Z-S4**



- 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 -Y/Z- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Linearity deviation	±30 µm
Operating voltage $U_b$	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-fg-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

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

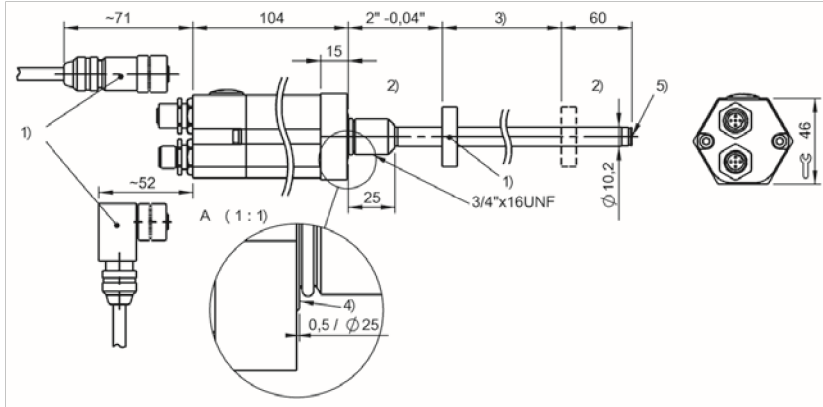
#### l Connection type

S = Connector

#### m Connection type characteristic

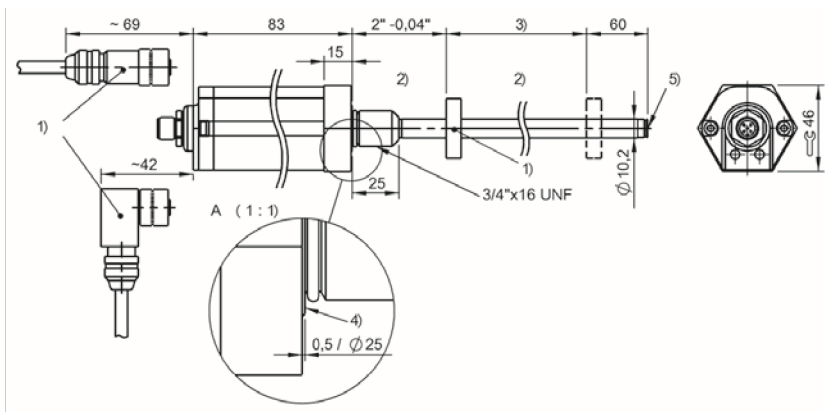
92 = 1 x M12x1 connector with 5 pins  
94 = 1 x M12x1 connector with 5 pins  
+ 1 x M12x1 female with 5 pins

**BTL5-Hxxx-Mxxxx-Z-S94**



- 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-Hxxx-Mxxxx-Z-S92**



- 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 -Y/Z- SERIES - PROFINET	
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nmm = 0050...5500: ± 30 µm, nmm > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

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

#### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

T = Profinet

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: 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

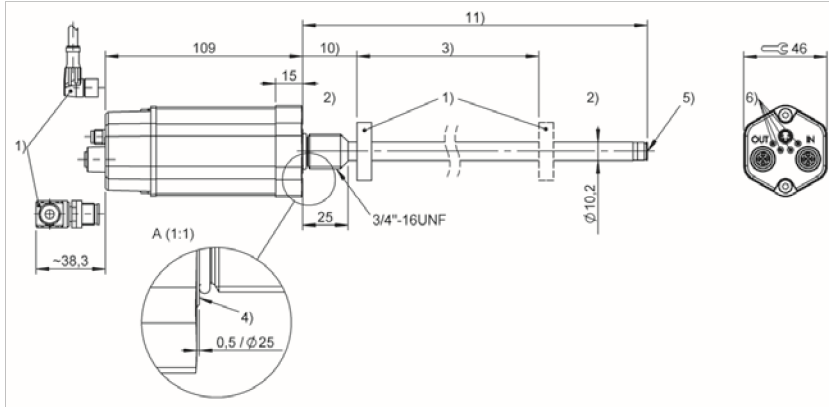
#### l Connection type

C = Connector

#### m Connection type characteristic 1

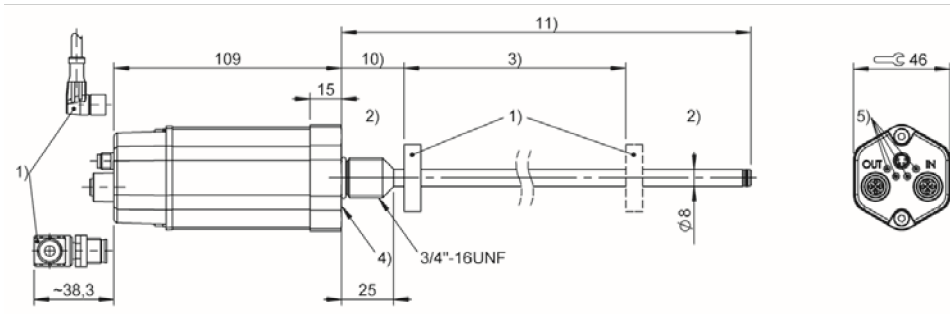
003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

**BTL7-V50T-Mxxxx-Z-C003**



- 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-V50T-Mxxxx-Y8-C003**



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





	BTL7 -Y/Z- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-fg-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

D = EtherNet IP

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: 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

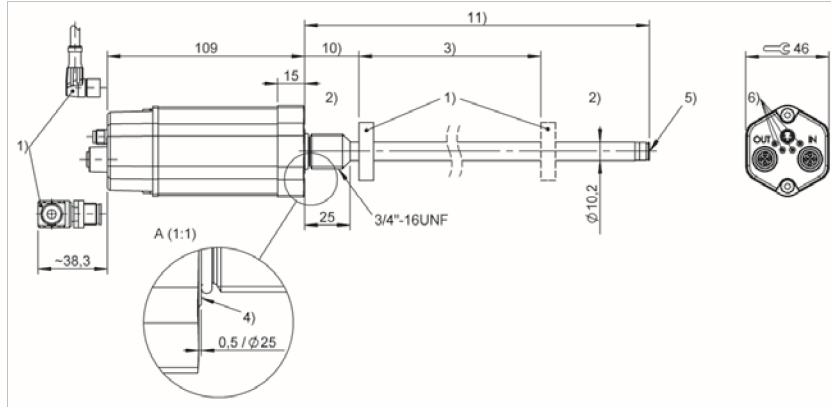
#### l Connection type

C = Connector

#### m Connection type characteristic 1

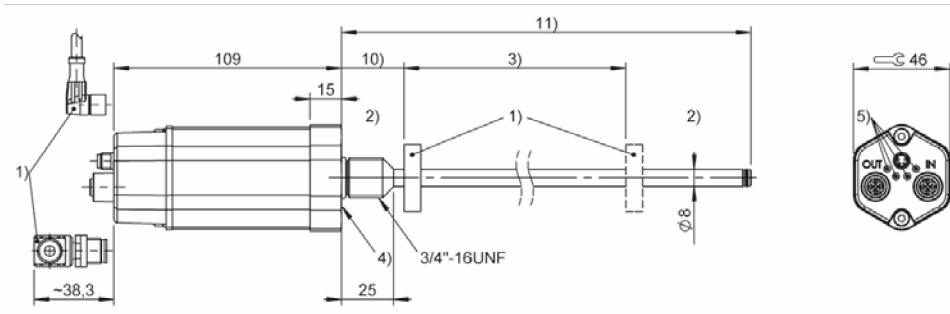
003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

**BTL7-V50D-Mxxxx-Z-C003**



- 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-V50D-Mxxxx-Y8-C003**



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



	BTL7 -Y/Z- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL7-abcd-Mnnnn-fg-lm

### BTL7

Magnetostrictive linear position sensor  
Generation 7

#### a interface

V = EtherNet

#### b Operating voltage

5 = 10 ... 30 V

#### c Interface characteristic 1

0 = Flexible Magnet Mode  
(1 - 16 magnets)

#### d Interface characteristic 2

E = EtherCAT

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

M0500 = metric in mm  
(M0025...M1016: for rod diameter  
8 mm)  
(M0025...M7620: 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

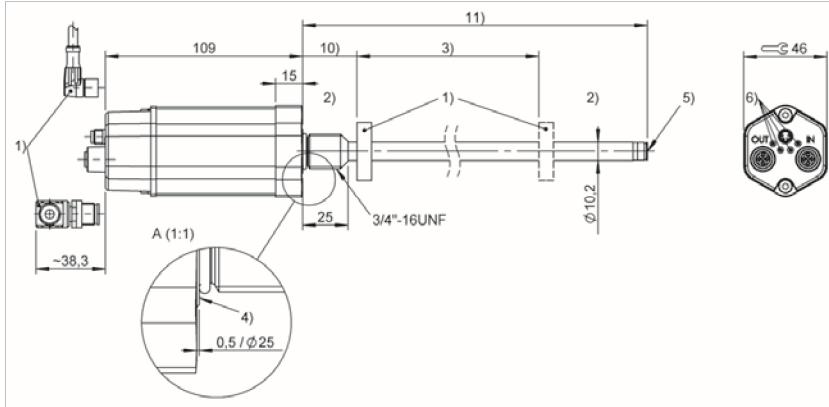
#### l Connection type

C = Connector

#### m Connection type characteristic 1

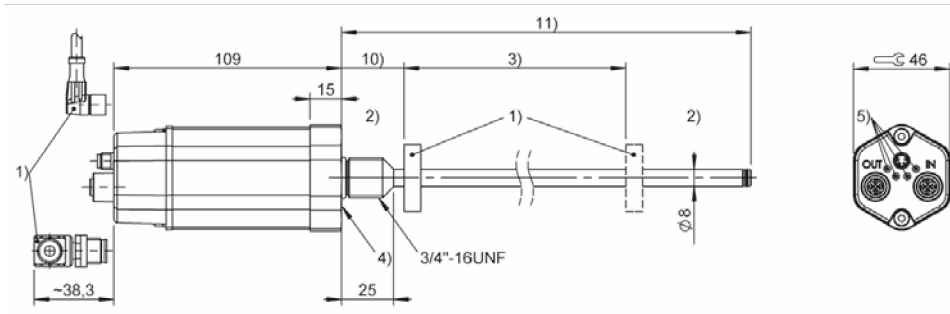
003 = 1 x M8x1 with 4 pins +  
2 x M12x1 with 4 pins

**BTL7-V50E-Mxxxx-Z-C003**



- 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-V50E-Mxxxx-Y8-C003**



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



	BTL5 -Y/Z- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-fg-lm

### BTL5

Magnetostrictive linear position sensor  
Generation 5

#### a interface

T = Profibus

#### b Operating voltage

1 = 20 ... 28 V

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

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

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

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

#### 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

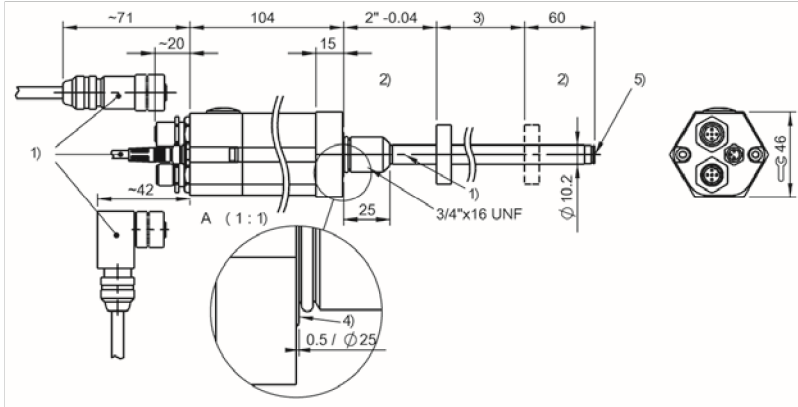
#### l Connection type

S = Connector

#### m Connection type characteristic

103 = 1 x M8x1 connector with 3 pins  
+ 1 x M12x1 connector with 5 pins  
+ 1 x M12x1 female with 5 pins

**BTL5-Txxx-Mxxxx-Z-S103**



- 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 -Y/Z- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nmm = 0050...0500: ± 200 µm, nmm > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Aluminum
Protection degree	IP67 with connector
Approval/Conformity	CE cULus EAC

## BTL6-abcd-Mnnnn-fg-lm

### BTL6

Magnetostrictive linear position sensor  
Generation 6

#### a interface

V = EtherNet

#### b Operating voltage

1 = 20 ... 28 V

#### c Interface characteristic 1

1 = 1 magnet

#### d Interface characteristic 2

E = Varan

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

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

(M0025...M4012: 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

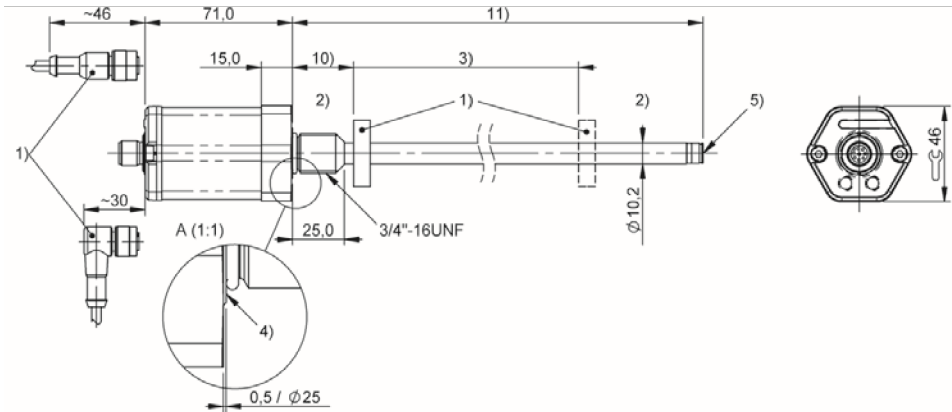
#### l Connection type

S = Connector

#### m Connection type characteristic 1

115 = M12x1 connector with 8 pins

**BTL-V11V-Mxxxx-Z-S115**



- 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 -CD- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...2000 mm
Repeat accuracy	± 10 µm
Linearity deviation	nmm = 0050...0500: ± 50 µm, nmm = 0501...2000: ± 0.01% FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-f-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

1 = 20 ... 28 V  
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...M2000)

#### f Style

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

#### l Connection type

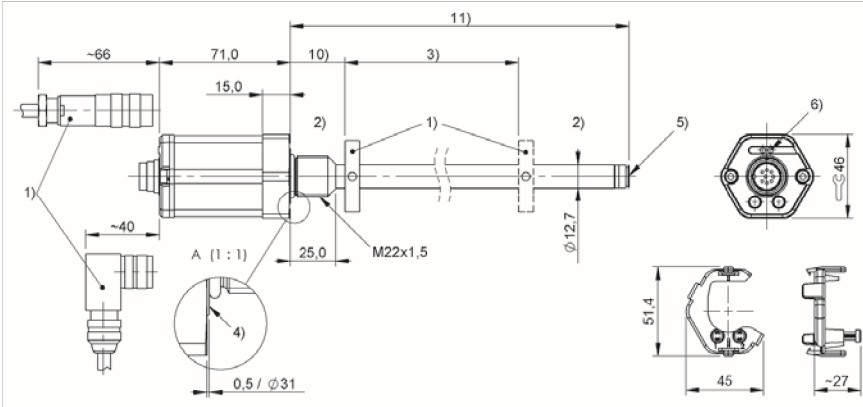
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

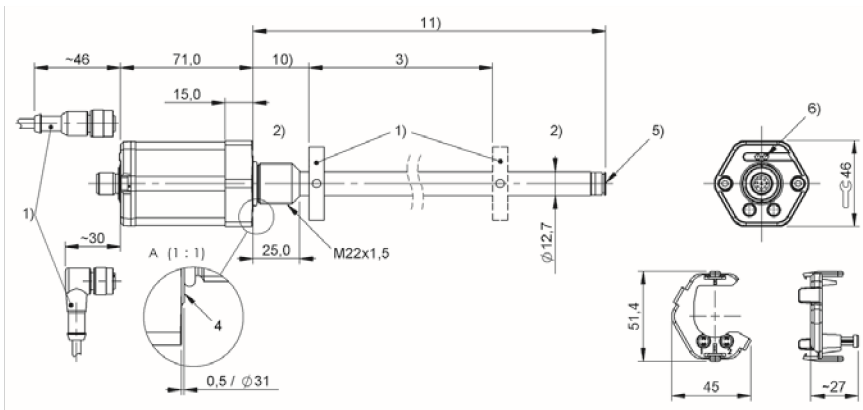
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A501-Mxxxx-CD-S32**



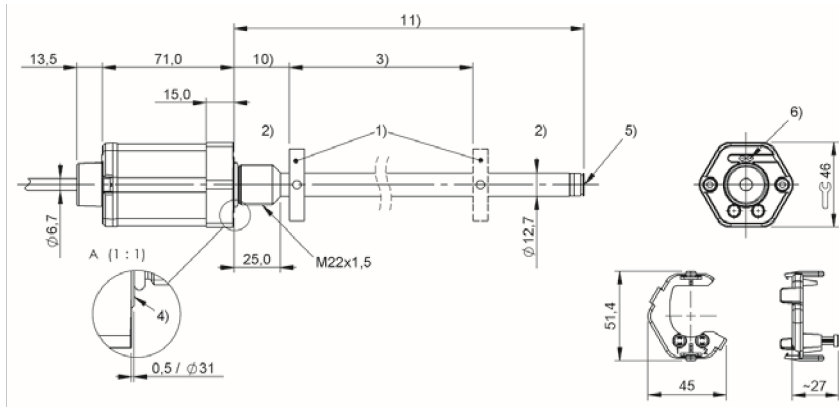
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-CD-S115**



- 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-A510-Mxxxx-CD-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- 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...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + 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

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 Connection type

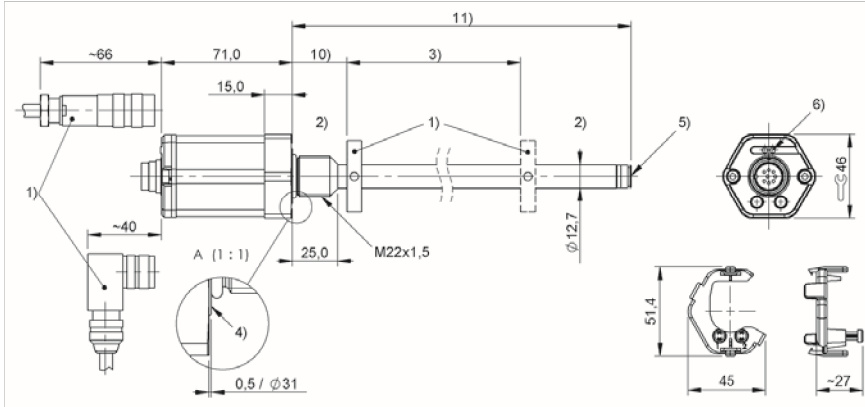
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

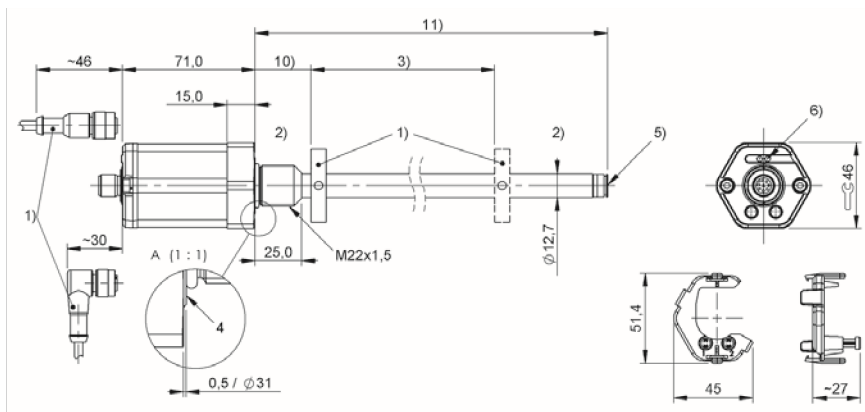
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

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



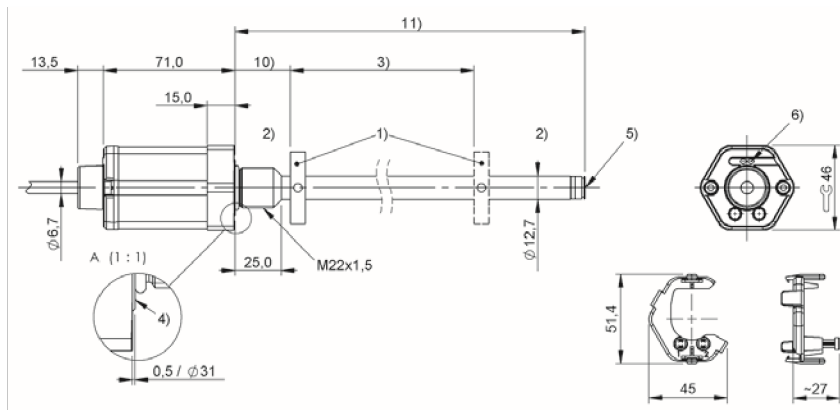
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-C500-Mxxxx-CD-S115**



- 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-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- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...2000 mm
Repeat accuracy	$\leq \pm 5 \mu\text{m}$
Linearity deviation	nmm = 0025...2000: $\pm 50 \mu\text{m}$
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcd-Mnnnn-f-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...M2000)

#### f Style

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

#### l Connection type

S = Connector

KA = Cable (PUR)

FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:

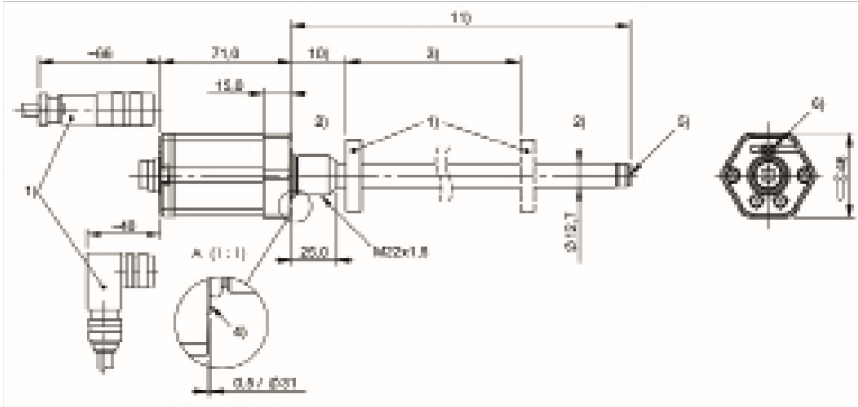
32 = M16x0.75 connector with 8 pins

115 = M12x1 connector with 8 pins

for cable (length in meters):

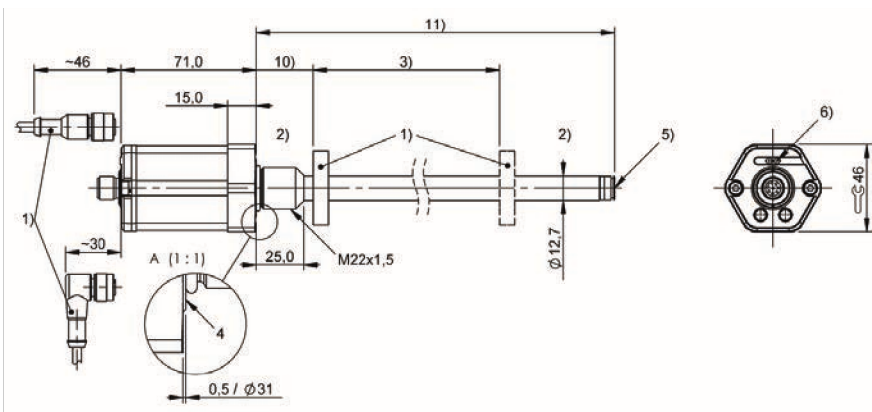
02, 05, 10, 15, 20, 30, 50, 100

**BTL7-P511-Mxxxx-CD-S32**



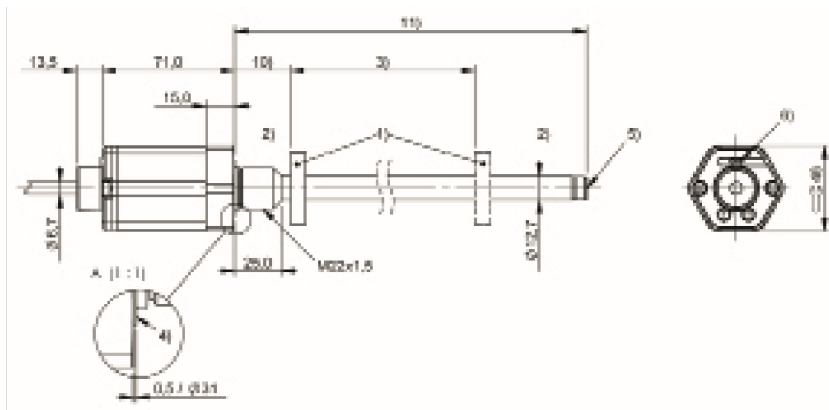
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-P511-Mxxxx-CD-S115**



- 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-CD-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- 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...85 °C
Mechanical configuration	Fastening M22 threads
Protection degree	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	I = S, KA: CE + cULus + EAC I = FA: CE + EAC

## BTL7-abcde-Mnnnn-f-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

#### l Connection type

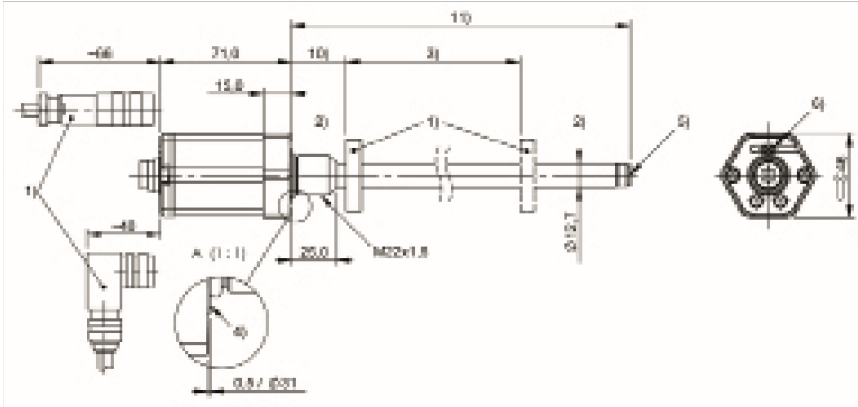
S = Connector  
KA = Cable (PUR)  
FA = Cable (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

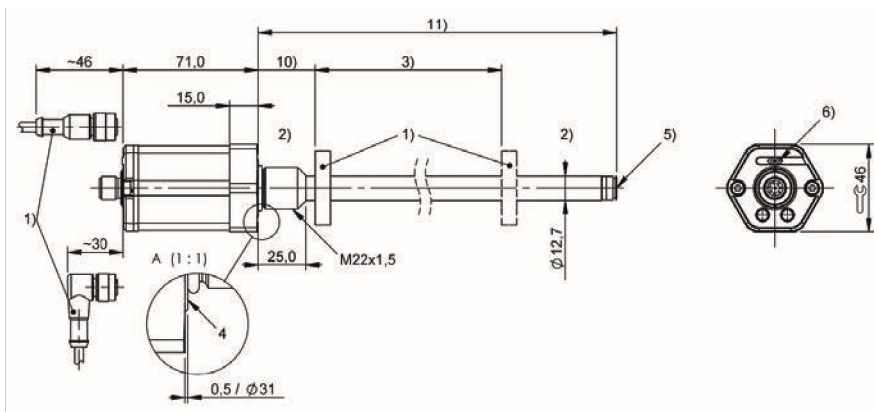
for cable (length in meters):  
02, 05, 10, 15, 20, 30, 50, 100

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



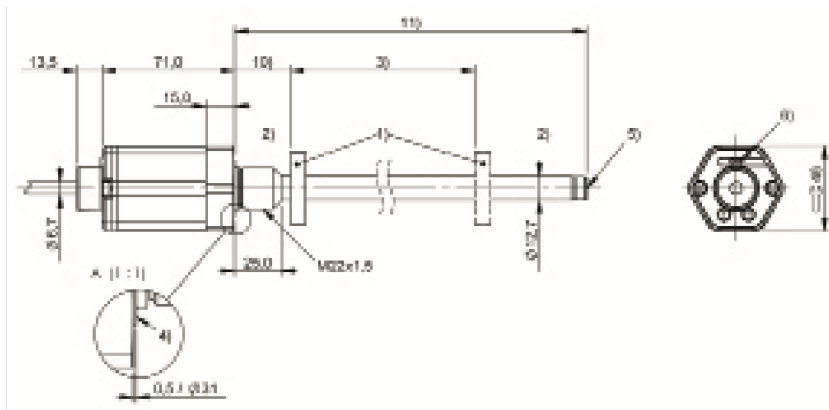
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 6) LED function indicator
- 10) Null point
- 11) Installation length

**BTL7-S5xxx-Mxxxx-CD-S115**



- 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-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 -H- 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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S, SR: IP67 with connector I = K, KA, F, FA: IP68
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: for rod diameter  
10.2 mm)

#### f Style

H = Compact rod, mounting threads  
M18x1.5, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

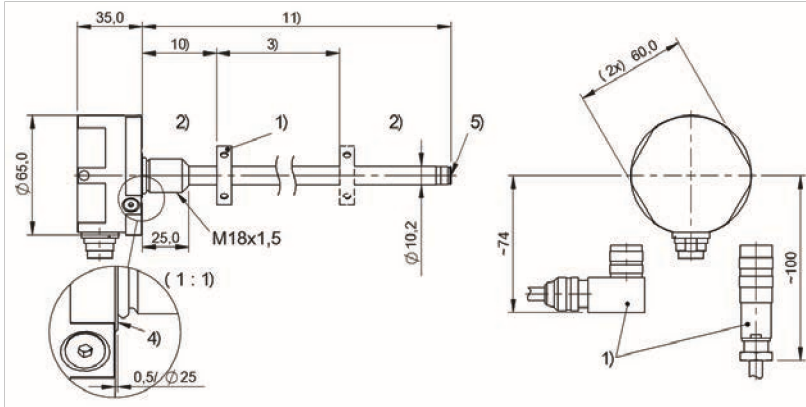
S = Connector  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

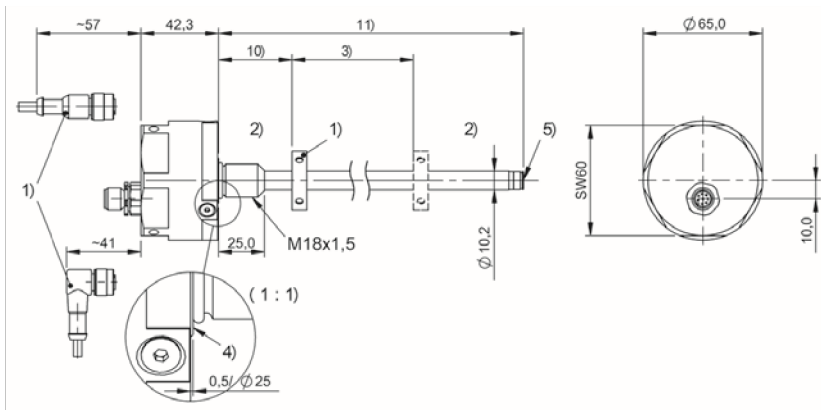
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-H-SR32**



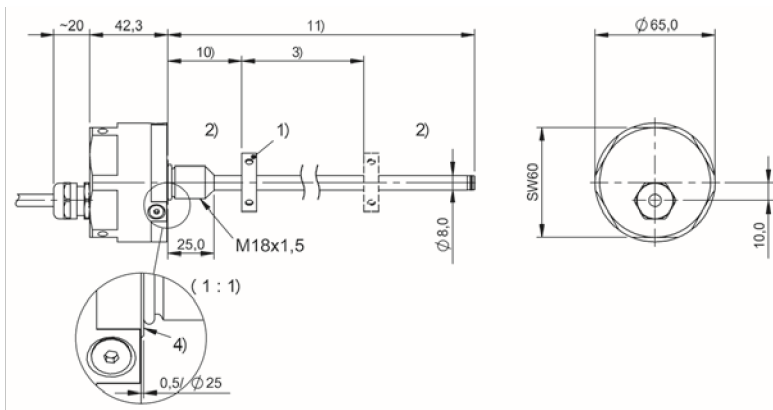
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-H-S115**



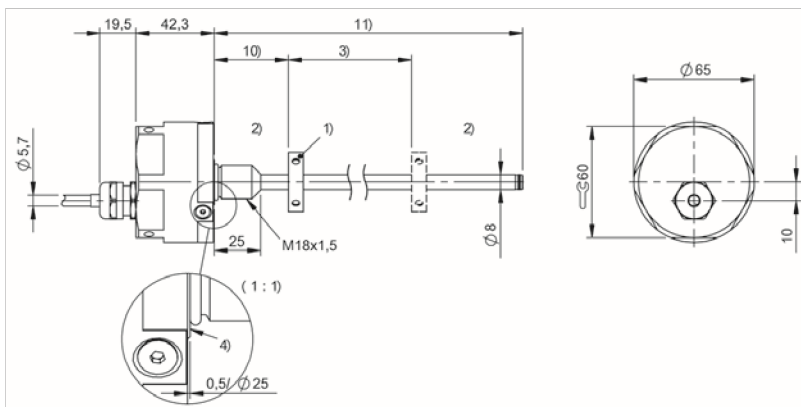
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-A510-Mxxxx-H8-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-G510-Mxxxx-H8-FAxx**



- 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 -H- 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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S, SR: IP67 with connector I = K, KA, F, FA: IP68
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: for rod diameter  
10.2 mm)

#### f Style

H = Compact rod, mounting threads  
M18x1.5, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

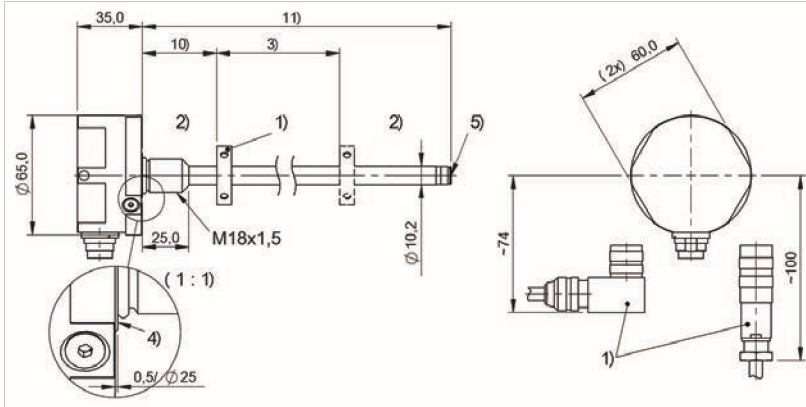
S = Connector  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

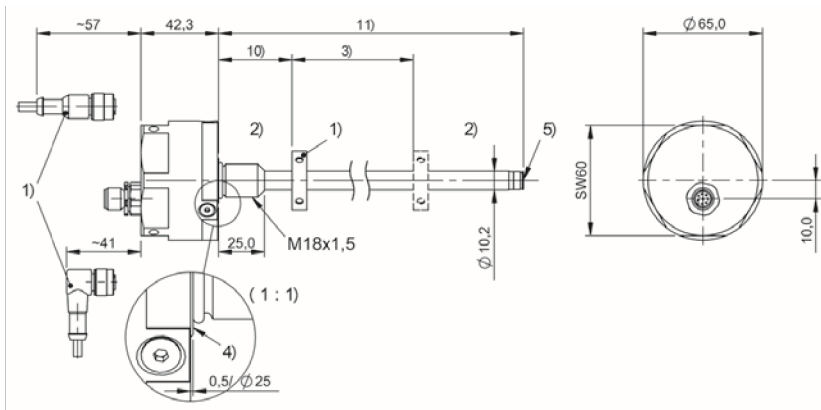
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-H-SR32**



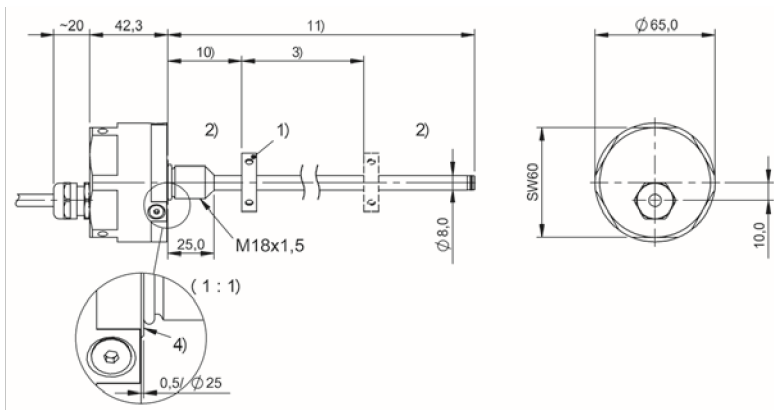
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-H-S115**



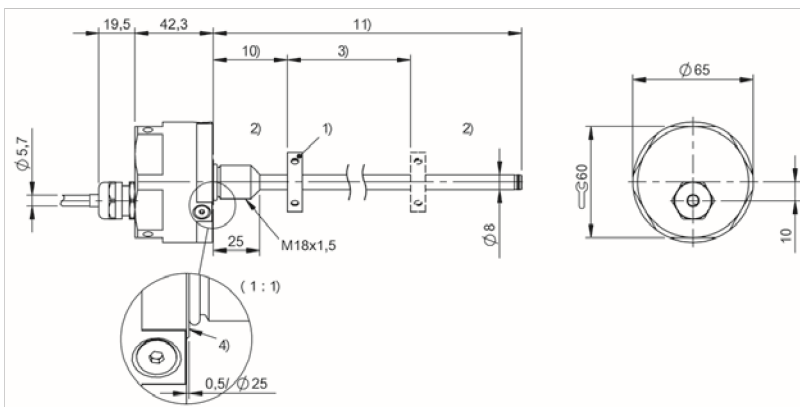
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-E570-Mxxxx-H8-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-C500-Mxxxx-H8-FAxx**



- 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 -H- 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...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

### BTL5-ab-Mnnnn-fg-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

H = Compact rod, mounting threads  
M18x1.5, for O-Ring

#### g Form factor characteristic

8 = Rod diameter 8 mm

- = Rod diameter 10.2 mm

#### I Connection type

S = Connector, axial

SR = Connector, radial

K = Cable out radial (PUR)

KA = Cable out axial (PUR)

#### m Connection type characteristic 1

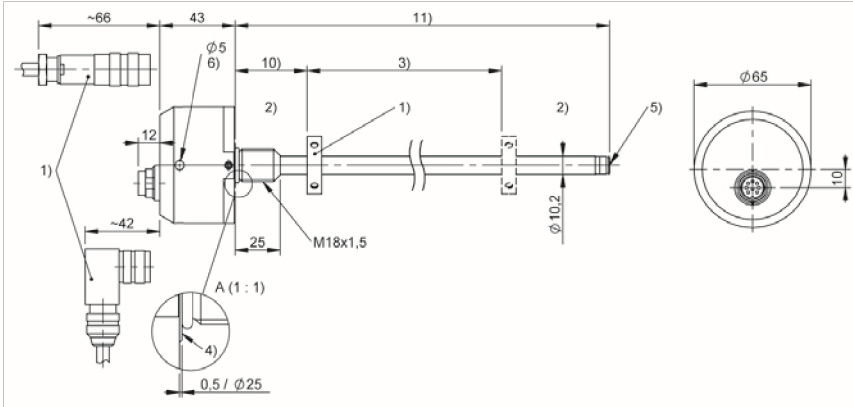
for connector:

32 = M16x0.75 connector with 8 pins

for cable (length in meters):

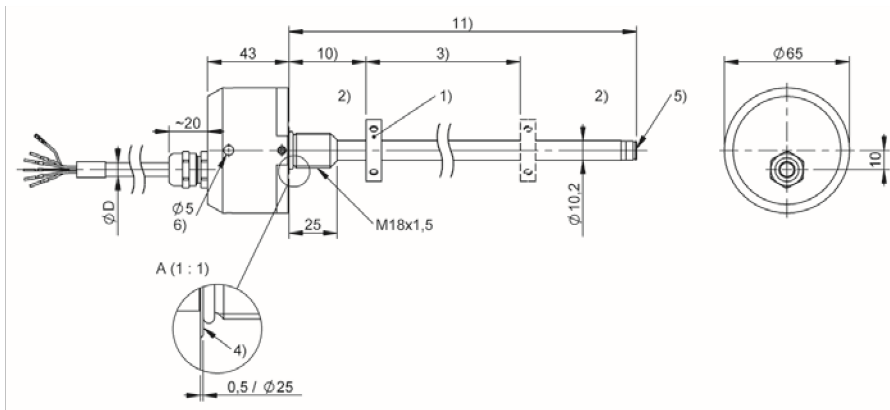
02, 05, 10, 15, 20

**BTL5-P1-Mxxxx-H-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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length

**BTL5-P1-Mxxxx-H-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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length



	BTL5 -H- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...4000: ± 30µm  d = 4, 5, 6, 8 nnnn = 25...4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

## BTL5-abcde-Mnnnn-fg-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

H = Compact rod, mounting threads  
M18x1.5, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

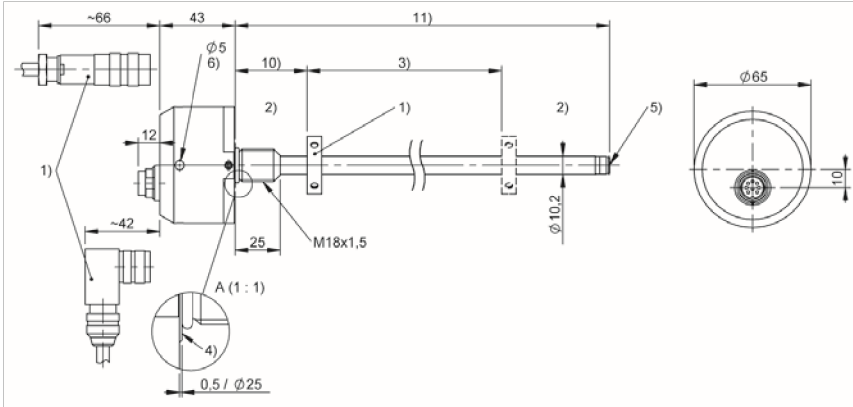
S = Connector, axial  
SR = Connector, radial  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

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

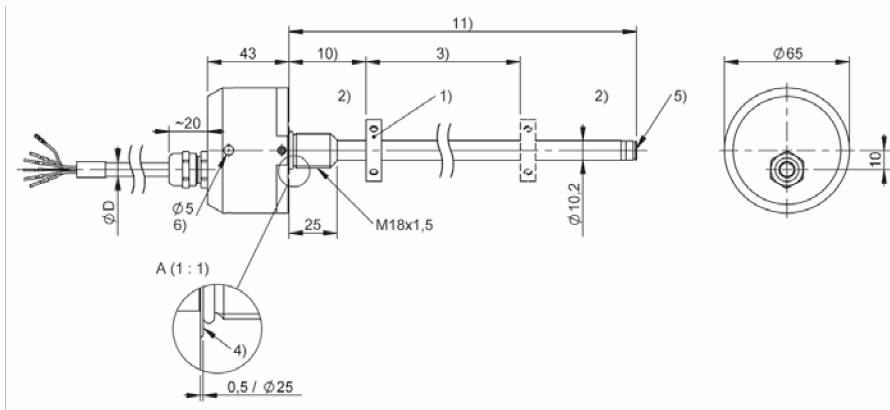
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL5-Sxxxx-Mxxxx-H-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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length

**BTL5-Sxxxx-Mxxxx-H-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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length





	BTL5 -H- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage $U_b$	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-fg-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

H = Compact rod, mounting threads  
M18x1.5, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

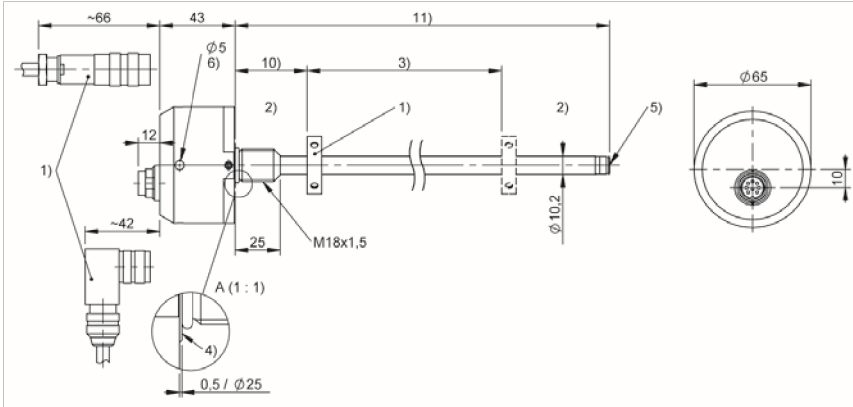
S = Connector, axial  
SR = Connector, radial  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic

for connector:  
92 = M12x1 connector with 5 pins

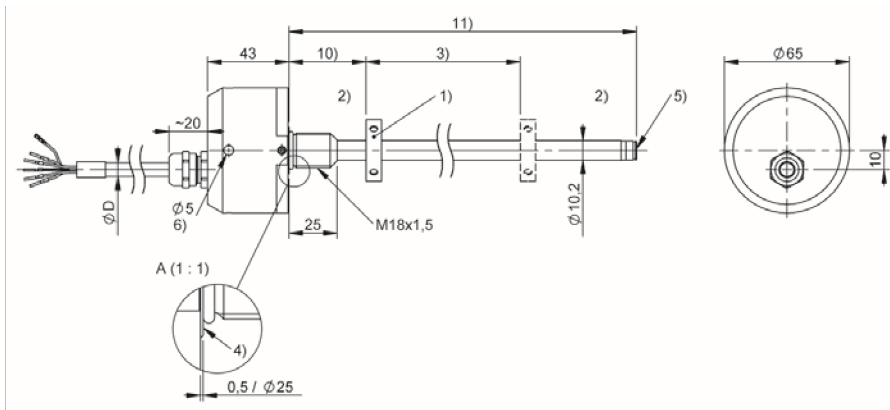
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL5-Hxxx-Mxxxx-H-SR92**



- 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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length

**BTL5-Hxxx-Mxxxx-H-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) for C-spanner Ø 58-62
- 10) Null point
- 11) Installation length



	BTL7 -W- 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S, SR: IP67 with connector I = K, KA, F, FA: IP68
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: for rod diameter  
10.2 mm)

#### f Style

W = Compact rod,  
threads 3/4"-16UNF, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

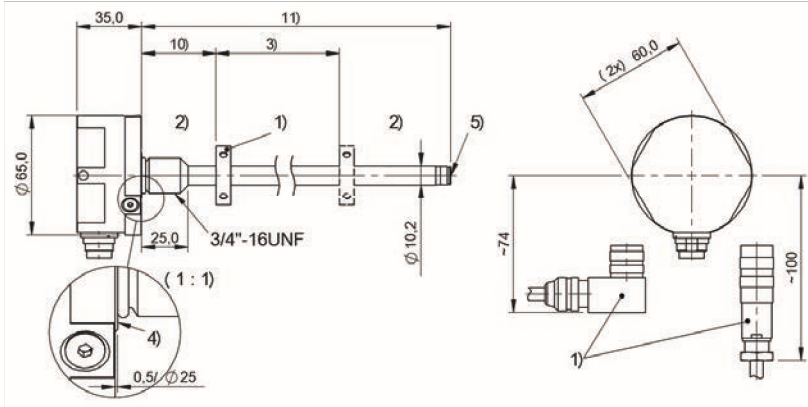
S = Connector  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

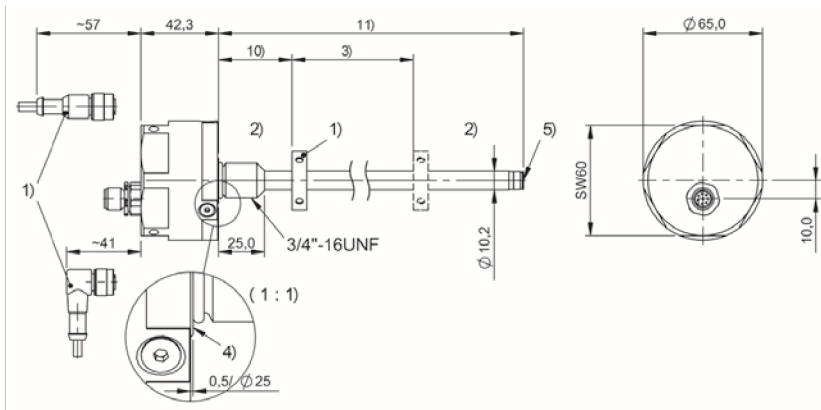
for cable (length in meters):  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-W-SR32**



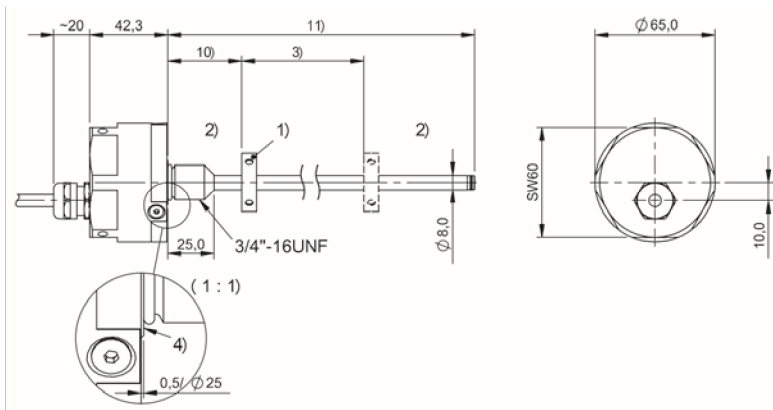
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-W-S115**



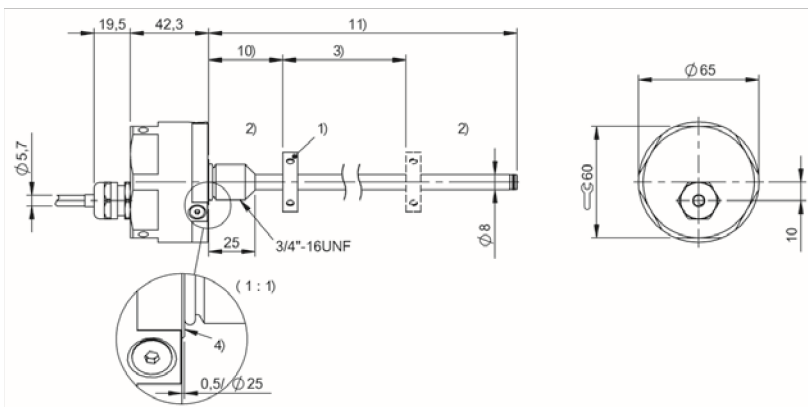
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-A510-Mxxxx-W8-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-G510-Mxxxx-W8-FAxx**



- 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 -W- 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S, SR: IP67 with connector I = K, KA, F, FA: IP68
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: for rod diameter  
10.2 mm)

#### f Style

W = Compact rod,  
threads 3/4"-16UNF, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

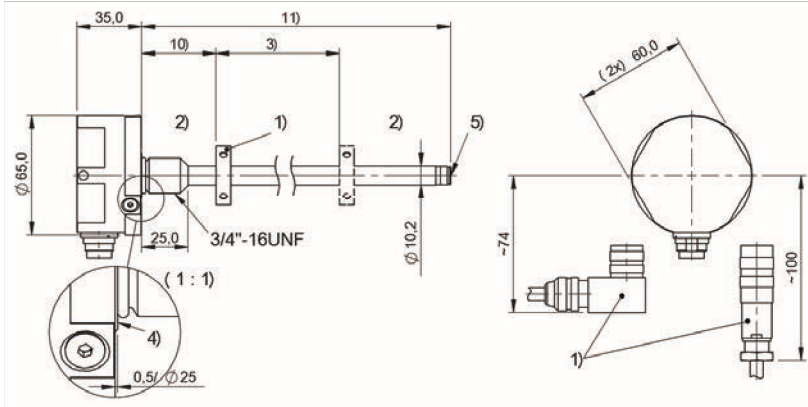
S = Connector  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

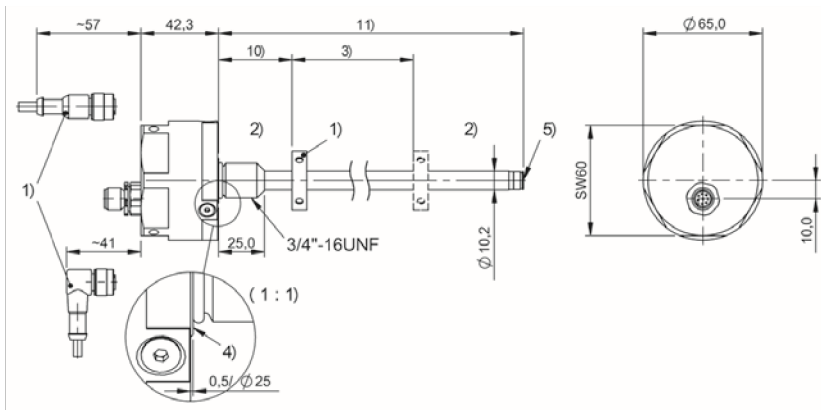
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-W-SR32**



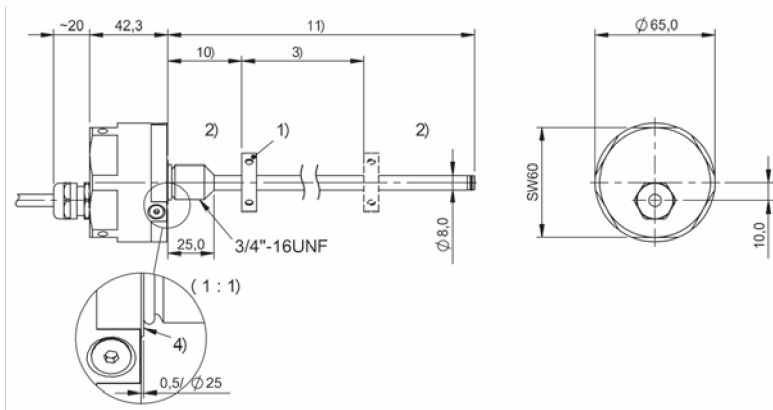
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-W-S115**



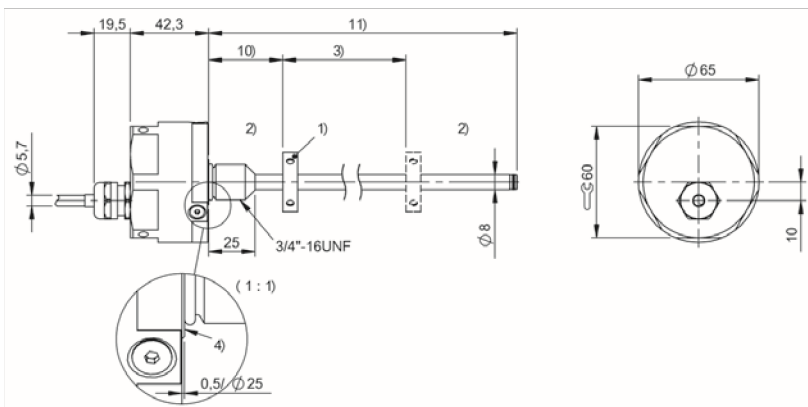
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-E570-Mxxxx-W8-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-C500-Mxxxx-W8-FAxx**



- 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 -W- 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...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

### BTL5-ab-Mnnnn-fg-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

W = Compact rod,  
threads 3/4"-16UNF, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

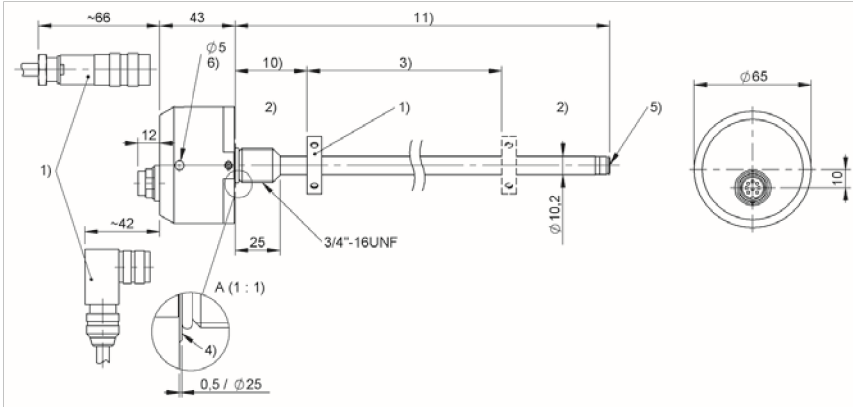
S = Connector, axial  
SR = Connector, radial  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

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

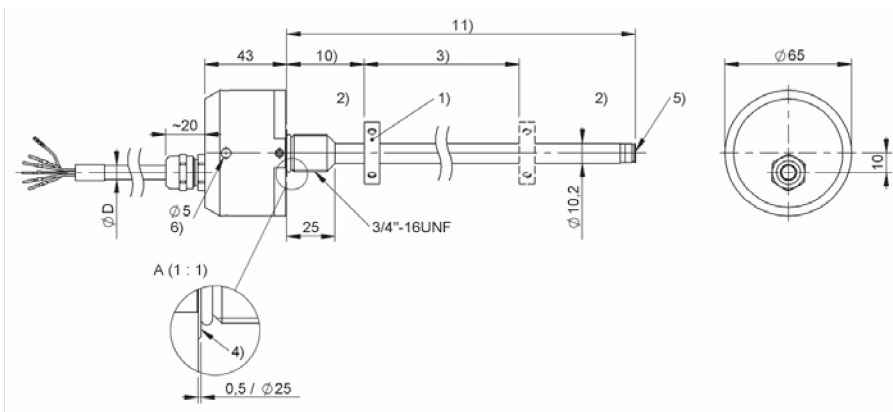
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL5-P1-Mxxxx-W-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-P1-Mxxxx-W-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length





	BTL5 -W- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...4000: ± 30µm  d = 4, 5, 6, 8 nnnn = 25...4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

## BTL5-abcde-Mnnnn-fg-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

W = Compact rod,  
threads 3/4"-16UNF, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

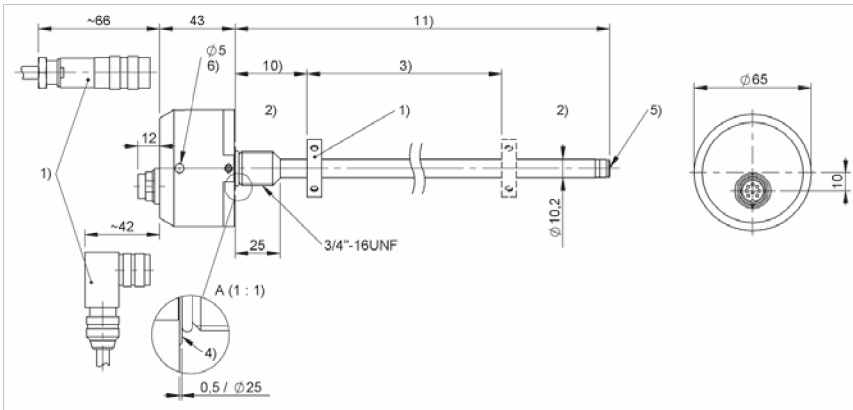
S = Connector, axial  
SR = Connector, radial  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

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

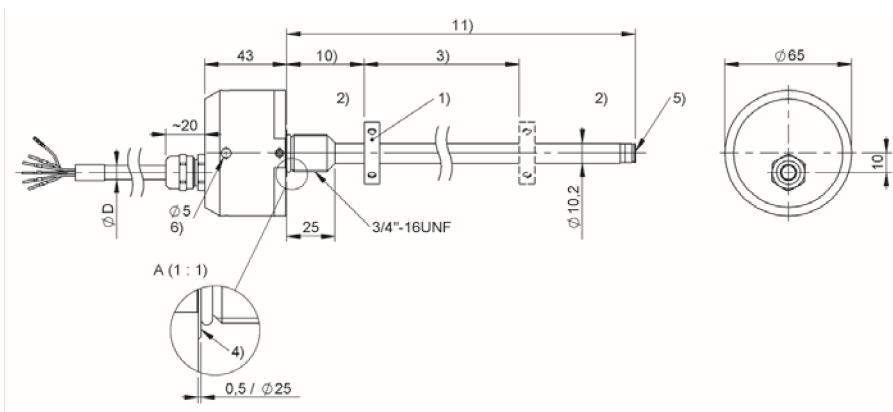
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL5-Sxxxx-Mxxxx-W-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-Sxxxx-Mxxxx-W-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



	BTL5 -W- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage $U_b$	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

## BTL5-abcd-Mnnnn-fg-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

W = Compact rod,  
threads 3/4"-16UNF, for O-Ring

#### g Form factor characteristic

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

#### l Connection type

S = Connector, axial  
SR = Connector, radial  
K = Cable out radial (PUR)  
KA = Cable out axial (PUR)

#### m Connection type characteristic 1

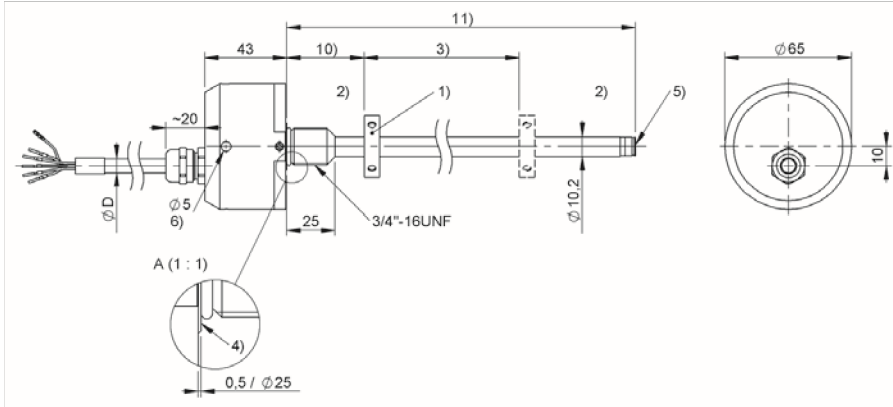
for connector:

92 = M12x1 connector with 5 pins

for cable (length in meters):

02, 05, 10, 15, 20

**BTL5-Hxxx-Mxxxx-W-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



	BTL7 -HB- 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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-f-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...M7620: for rod diameter  
10.2 mm)

#### f Style

HB = Pro Compact,  
mounting threads M18x1.5, for O-Ring

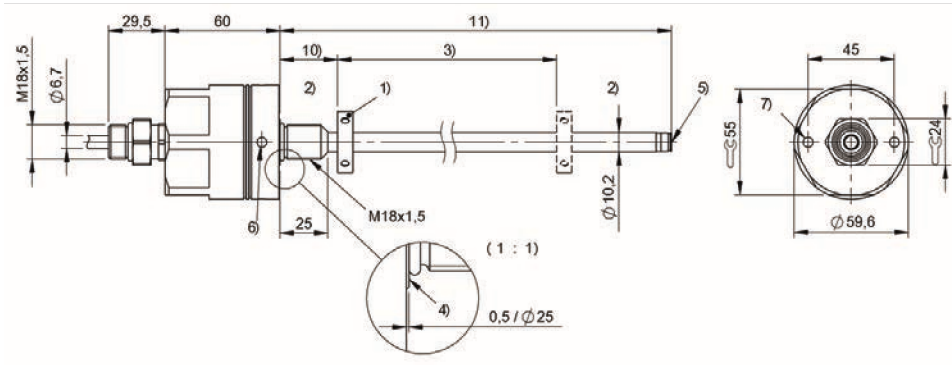
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

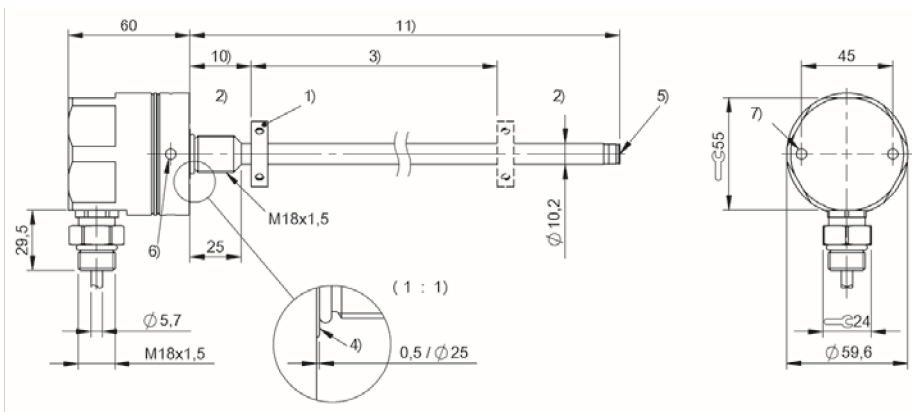
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-HB-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) for C-spanner Ø 58-62
- 7) Ø 5.1 for face wrench
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-HB-Fxx**



- 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) for C-spanner Ø 58-62
- 7) Ø 5.1 for face wrench
- 10) Null point
- 11) Installation length



	BTL7 -HB- 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...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + 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...M1016: for rod diameter  
8 mm)  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

HB = Pro Compact, Mounting threads  
M18x1.5, for O-Ring

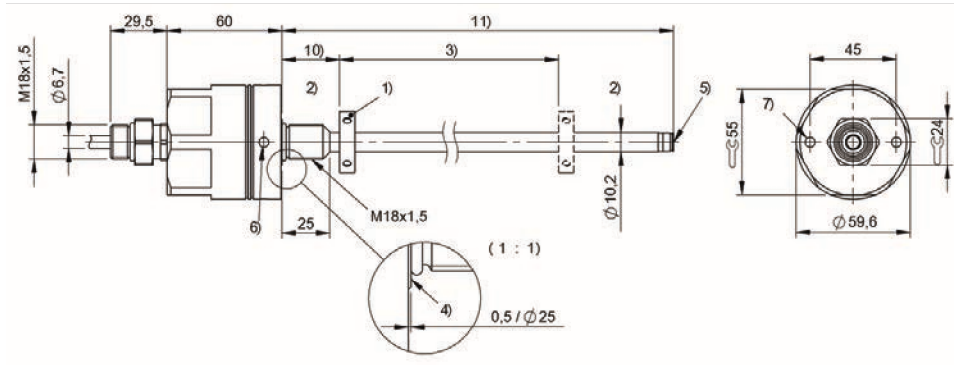
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

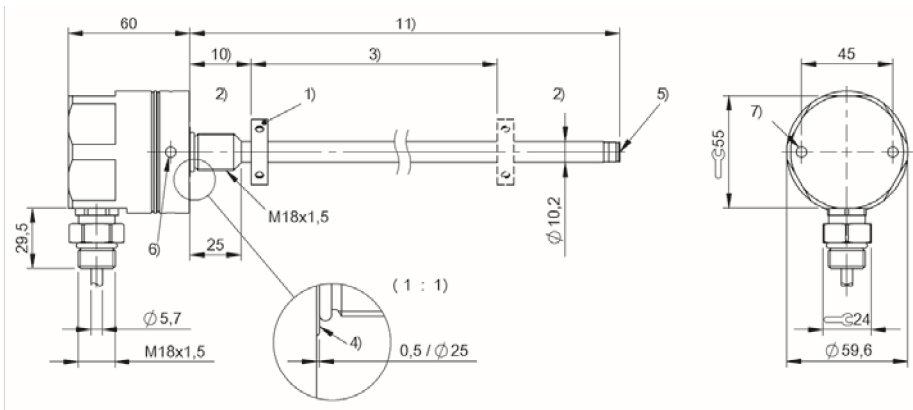
(length in meters)  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-HB-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) for C-spanner  $\varnothing$  58-62
- 7)  $\varnothing$  5.1 for face wrench
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-HB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 7)  $\varnothing$  5.1 for face wrench
- 10) Null point
- 11) Installation length





	BTL5 -HB- 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...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	CE cULus EAC

## BTL5-ab-Mnnnn-f-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

HB = Pro Compact, Mounting threads  
M18x1.5, for O-Ring

#### l Connection type

K = Cable out radial (PUR)

KA = Cable out axial (PUR)

F = Cable out radial (PTFE)

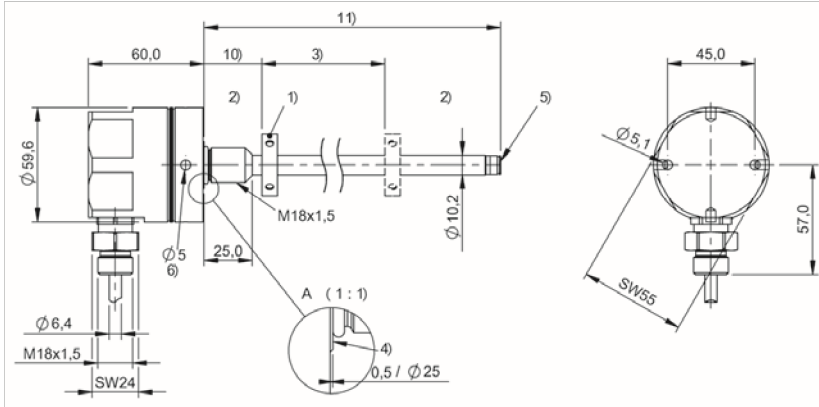
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

(length in meters)

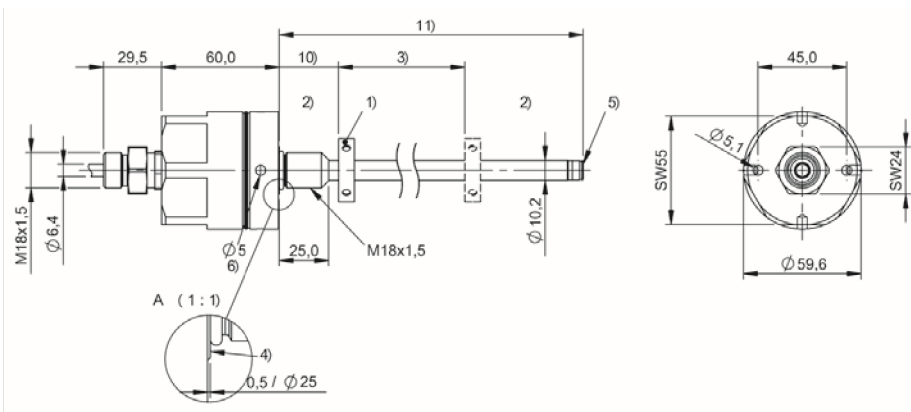
02, 05, 10, 15, 20

**BTL5-P1-Mxxxx-HB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-P1-Mxxxx-HB-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



	BTL5 -HB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...4000: ± 30µm  d = 4, 5, 6, 8 nnnn = 25...4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	CE cULus EAC

## BTL5-abcde-Mnnnn-f-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

HB = Pro Compact, Mounting threads  
M18x1.5, for O-Ring

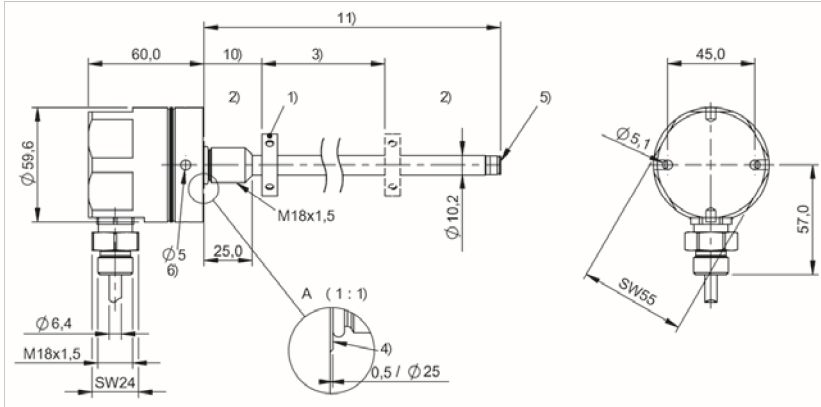
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

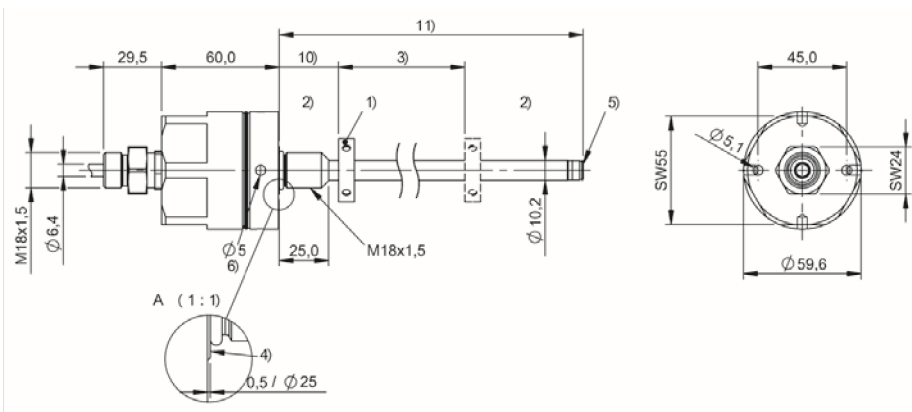
(length in meters)  
02, 05, 10, 15, 20

**BTL5-Sxxxx-Mxxxx-HB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-Sxxxx-Mxxxx-HB-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



	BTL7 -WB- 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + EAC

## BTL7-abcd-Mnnnn-f-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...M7620: for rod diameter  
10.2 mm)

#### f Style

WB = Pro Compact inch threads  
3/4"-16UNF, for O-Ring

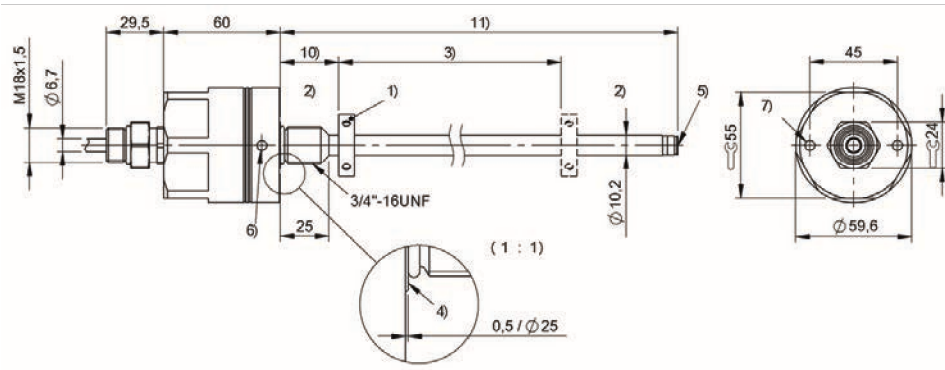
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

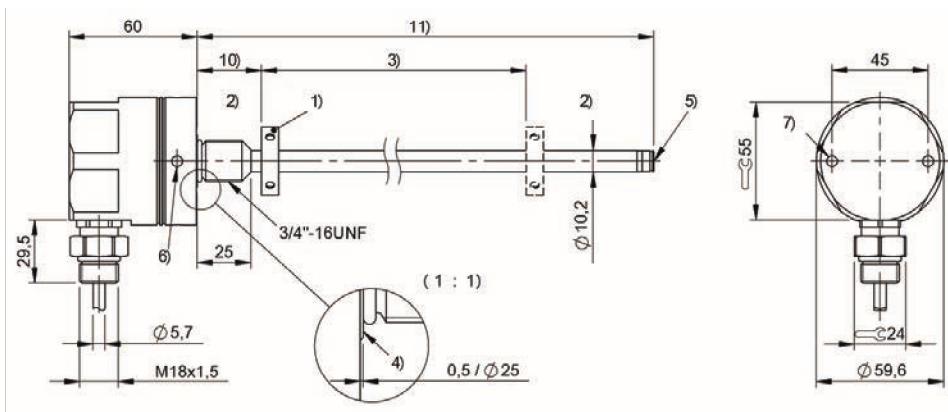
(length in meters)  
02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-WB-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) for C-spanner Ø 58-62
- 7) Ø 5.1 for face wrench
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-WB-Fxx**



- 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) for C-spanner Ø 58-62
- 7) Ø 5.1 for face wrench
- 10) Null point
- 11) Installation length



BTL7 -WB- 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...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC I = F, FA: CE + 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...M1016: for rod diameter  
8 mm)  
(M0025...M7620: for rod diameter  
10.2 mm)

#### f Style

WB = Pro Compact, inch threads  
3/4"-16UNF, for O-Ring

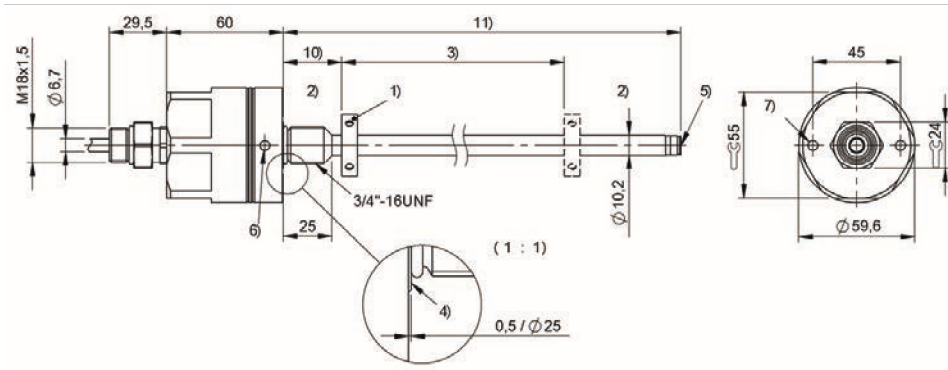
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

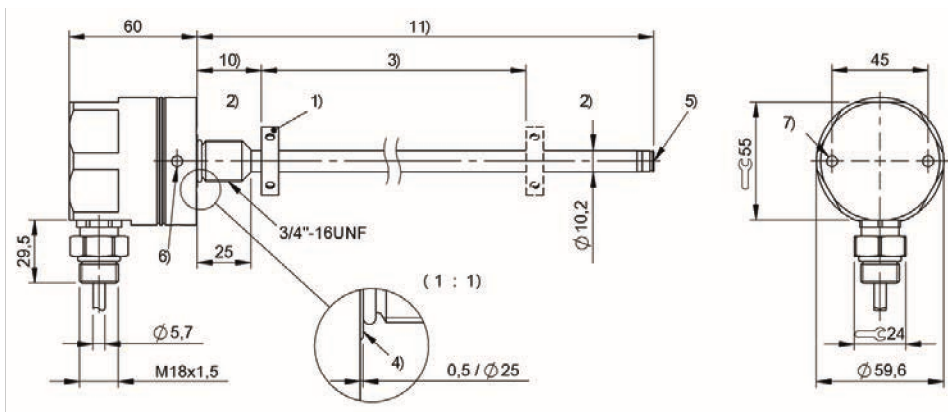
(length in meters)  
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-WB-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) for C-spanner  $\varnothing$  58-62
- 7)  $\varnothing$  5.1 for face wrench
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-WB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 7)  $\varnothing$  5.1 for face wrench
- 10) Null point
- 11) Installation length





BTL5 -WB- 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...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	CE cULus EAC

### BTL5-ab-Mnnnn-f-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

WB = Pro Compact, inch threads  
3/4"-16UNF, for O-Ring

#### l Connection type

K = Cable out radial (PUR)

KA = Cable out axial (PUR)

F = Cable out radial (PTFE)

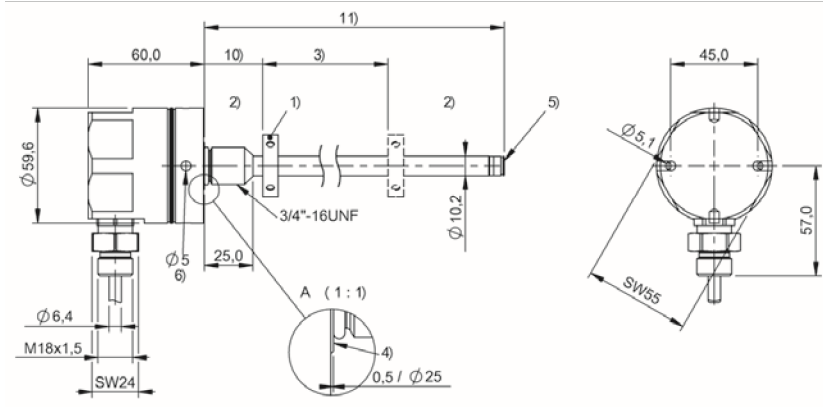
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

(length in meters)

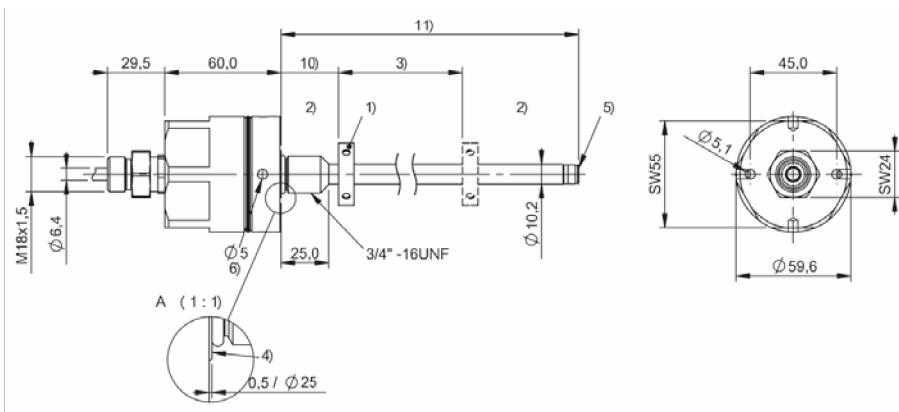
02, 05, 10, 15, 20

**BTL5-P1-Mxxxx-WB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-P1-Mxxxx-WB-FAx**



- 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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



	BTL5 -WB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...4000: ± 30µm  d = 4, 5, 6, 8 nnnn = 25...4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4" threads
Housing material	Stainless steel (1.4305)
Protection degree	IP68/IP69K
Approval/Conformity	CE cULus EAC

### BTL5-abcde-Mnnnn-f-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

WB = Pro Compact, inch threads  
3/4"-16UNF, for O-Ring

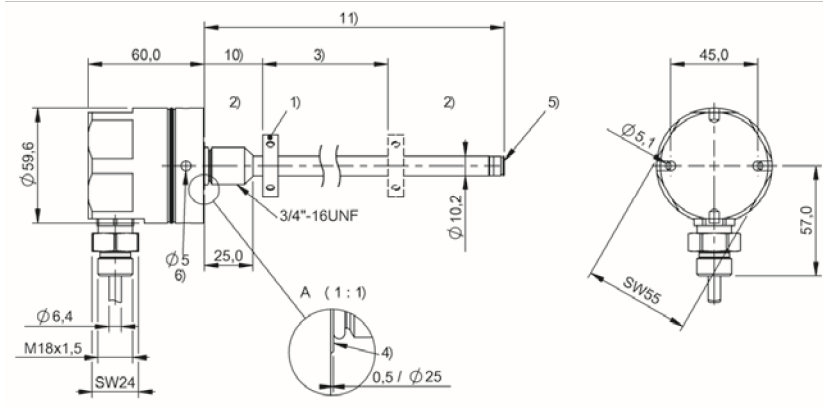
#### l Connection type

K = Cable out radial (PUR)  
KA = Cable out axial (PUR)  
F = Cable out radial (PTFE)  
FA = Cable out axial (PTFE)

#### m Connection type characteristic 1

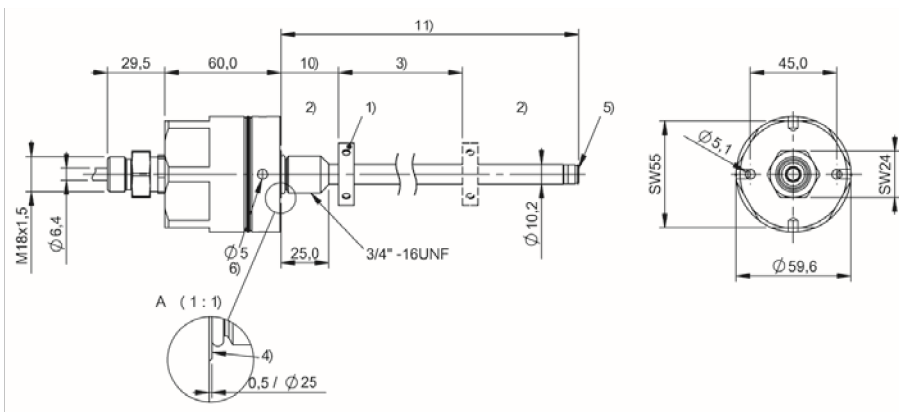
(length in meters)  
02, 05, 10, 15, 20

**BTL5-Sxxxx-Mxxxx-WB-Fxx**



- 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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length

**BTL5-Sxxxx-Mxxxx-WB-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) for C-spanner  $\varnothing$  58-62
- 10) Null point
- 11) Installation length



BTL7 -K- SERIES - ANALOG VOLTAGE	
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nmm = 0025...0500: ± 50 µm, nmm = 0501...5500: ± 0.01% FS, nmm > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	I = K: CE + cULus + EAC I = F: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: 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

#### l Connection type

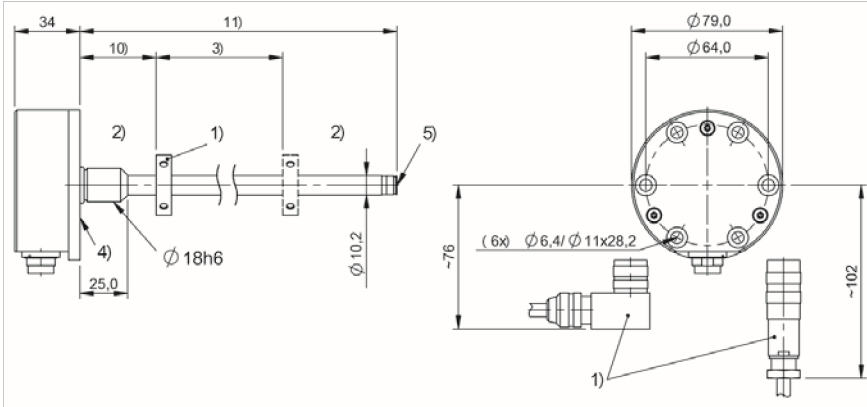
SR = Connector  
K = Cable out radial (PUR)  
F = Cable out radial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

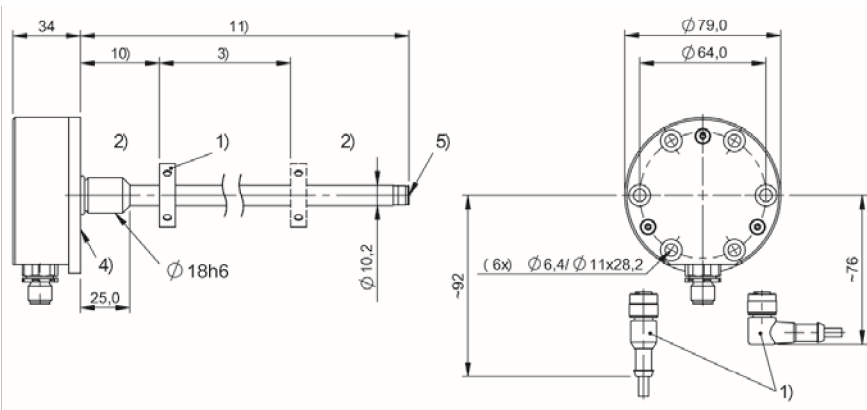
for cable (length in meters):  
02, 05, 10, 15, 20, 30

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



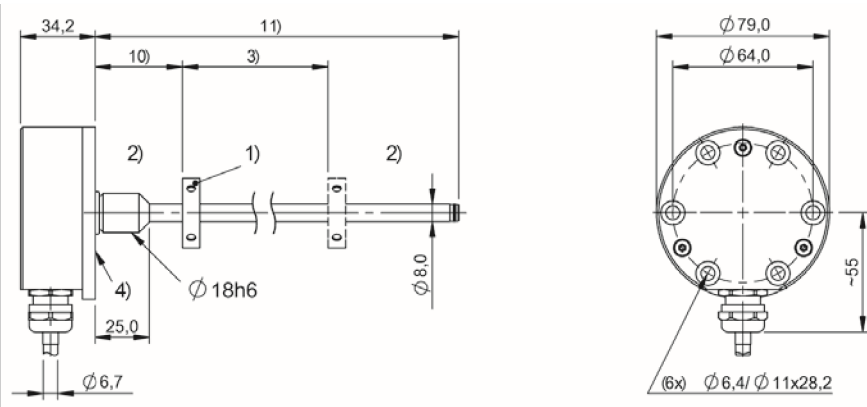
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-G510-Mxxxx-K-SR115**



- 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-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- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	n000 = 0050...0500: ± 50 µm, n000 = 0501...5500: ± 0.01% FS, n000 > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	I = K: CE + cULus + EAC I = F: CE + EAC

## BTL7-abcd-Mnnnn-fg-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...M7620: 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

#### l Connection type

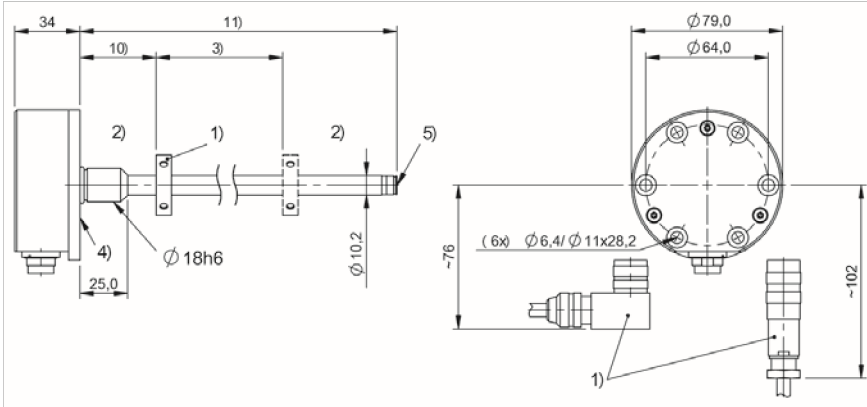
SR = Connector  
K = Cable out radial (PUR)  
F = Cable out radial (PTFE)

#### m Connection type characteristic 1

for connector:  
32 = M16x0.75 connector with 8 pins  
115 = M12x1 connector with 8 pins

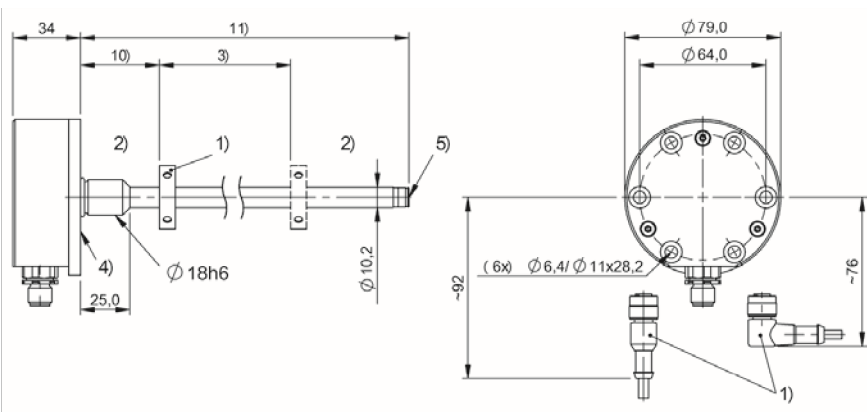
for cable (length in meters):  
02, 05, 10, 15, 20, 50, 100

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



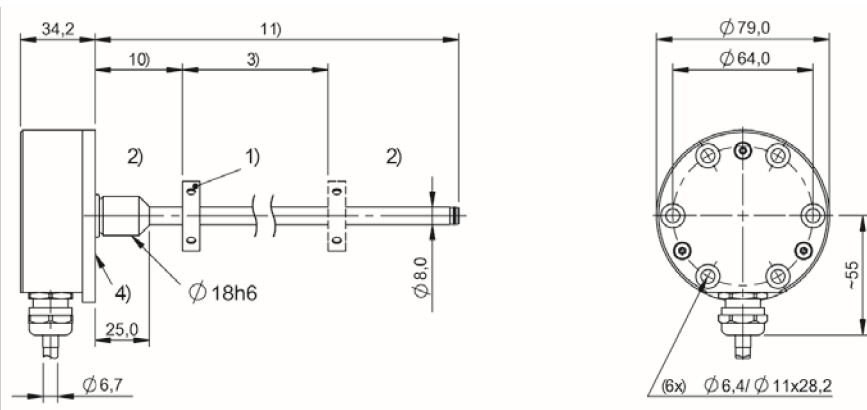
- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 4) Mounting surface
- 5) Internal threads M4x4/6 deep
- 10) Null point
- 11) Installation length

**BTL7-C570-Mxxxx-K-SR115**



- 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-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 -K- 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...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

### BTL5-ab-Mnnnn-fg-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

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 Connection type

SR = Connector, radial

K = Cable out radial (PUR)

#### m Connection type characteristic 1

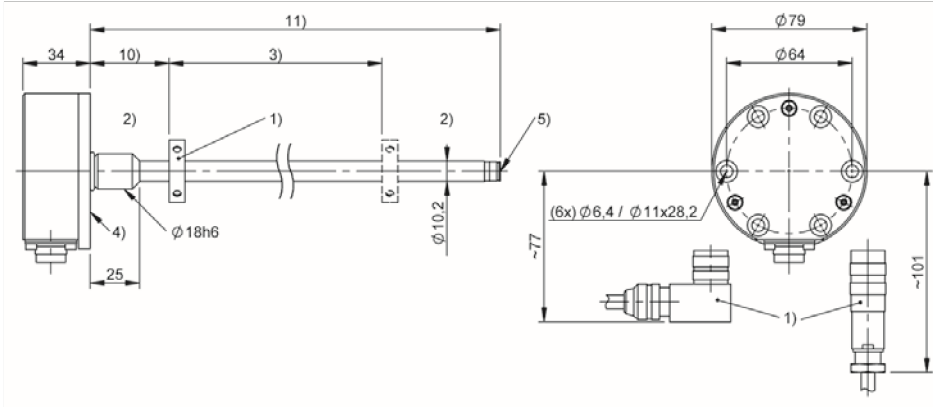
for connector:

32 = M16x0.75 connector with 8 pins

for cable (length in meters):

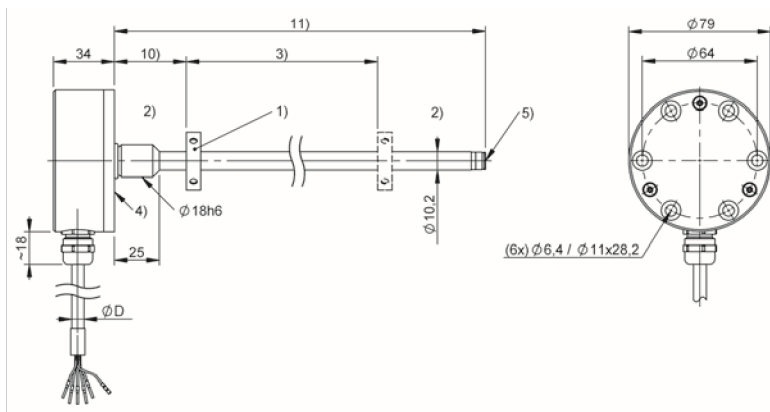
02, 05, 10, 15, 20

**BTL5-A11-Mxxxx-K-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

**BTL5-G11-Mxxxx-K8-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 -K- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25...4000: ± 30µm  d = 4, 5, 6, 8 nnnn = 25...4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
Protection degree	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC

## BTL5-abcde-Mnnnn-fg-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

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

#### g Form factor characteristic

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

#### l Connection type

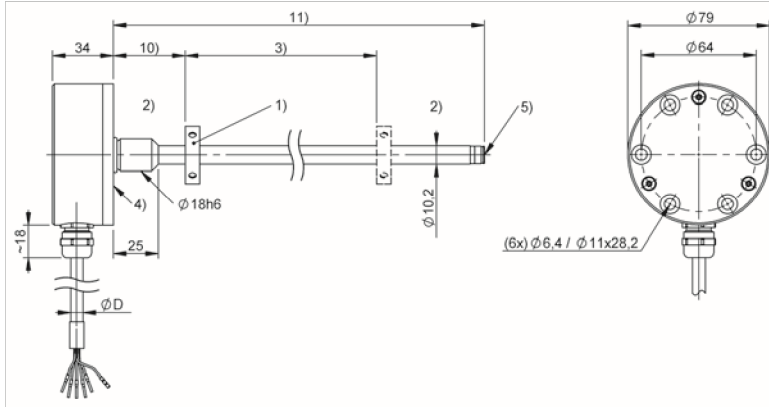
SR = Connector, radial  
K = Cable out radial (PUR)

#### m Connection type characteristic 1

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

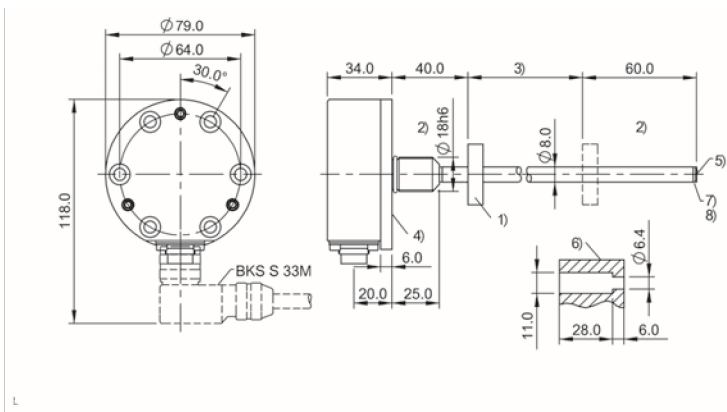
for cable (length in meters):  
02, 05, 10, 15, 20

**BTL5-Sxxxx-Mxxxx-K-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-K8-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
- 6) Detail locating hole. (6x)
- 7) Lockwasher
- 8) Ø9 DIN 6799