

## BTF13-C1QM10S01

HighLine

**WIRE DRAW ENCODERS** 





#### Ordering information

Туре	part no.
BTF13-C1QM10S01	1134278

Included in delivery: MRA-F130-110D2 (1), BEF-FA-020-050WDE (1), AHM36A-S3CC000S10 (1)

Other models and accessories → www.sick.com/HighLine



#### Detailed technical data

#### **Features**

Special device	J
Specialty	BTF13-C1HM1025 successor: AHM36A-S3CC000S10, 1134073 premounted
Standard reference device	BTF13-C1HM1025, 1034319

#### Safety-related parameters

MTTF <sub>D</sub> (mean time to dangerous failure)	270 years (EN ISO 13849-1) 1)

<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

#### Performance

Measurement range	0 m 10 m
Encoder	Absolute encoders
Resolution (wire draw + encoder)	0.04 mm <sup>1) 2)</sup>
Repeatability	≤ 1.5 mm <sup>3)</sup>
Linearity	≤ ± 2 mm <sup>3)</sup>
Hysteresis	≤ 3 mm <sup>3)</sup>

<sup>1)</sup> The values shown have been rounded.

#### Interfaces

Communication interface	CANopen
Programmable/configurable	✓

#### **Electronics**

Connection type	Male connector, M12, 5-pin, universal

<sup>2)</sup> Example calculation based on the BTF08 with PROFINET: 200 mm (wire draw length per revolution - see Mechanical data): 262,144 (number of steps per revolution) = 0.001 mm (resolution of wire draw + encoder combination).

 $<sup>^{</sup>m 3)}$  Value applies to wire draw mechanism.

Supply voltage	10 V 30 V
Power consumption	≤ 1.5 W (without load)

#### Mechanics

Weight	3.62 kg
Measuring wire material	Highly flexible stranded steel 1,4401 stainless steel V4A
Measuring wire diameter	1.35 mm
Weight (measuring wire)	7.1 g/m
Housing material, wire draw mechanism	Aluminum (anodised), plastic
Spring return force	10 N 20 N <sup>1)</sup>
Length of wire pulled out per revolution	332.4 mm
Life of wire draw mechanism	Typ. 1,000,000 cycles <sup>2) 3)</sup>
Actual wire draw length	10.2 m
Wire acceleration	40 m/s <sup>2</sup>
Operating speed	8 m/s
Mounted encoder	AHM36 CANopen, AHM36A-S3CC000S10, 1134073
Mounted mechanic	MRA-F130-110D2, 6028627

 $<sup>^{1)}</sup>$  These values were measred at an ambient temperature of 25  $\,^{\circ}$  C. There may be variations at other temperatures.

#### Ambient data

ЕМС	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP64, mounted mechanic IP66, Encoder (IEC 60529) IP67, Encoder (IEC 60529)
Operating temperature range	-30 °C +70 °C

#### Certificates

EU declaration of conformity	<b>√</b>
UK declaration of conformity	<b>√</b>
ACMA declaration of conformity	<b>√</b>
Moroccan declaration of conformity	<b>√</b>
China RoHS	<b>√</b>

#### Classifications

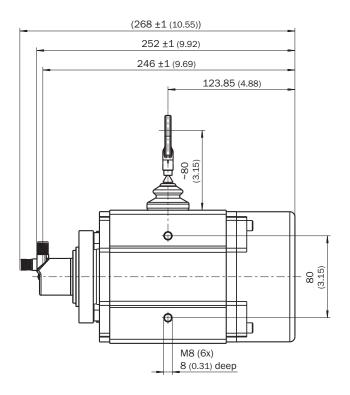
ECLASS 5.0	27270590
ECLASS 5.1.4	27270590
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270590
ECLASS 8.0	27270590
ECLASS 8.1	27270590
ECLASS 9.0	27270590

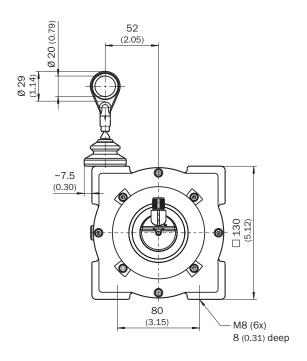
<sup>&</sup>lt;sup>2)</sup> Average values, which depend on the application.

<sup>3)</sup> The service life depends on the type of load. This is influenced by environmental conditions, the installation location, the measuring range in use, the traversing speed, and acceleration.

ECLASS 10.0	27270613
ECLASS 11.0	27270503
ECLASS 12.0	27270503
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

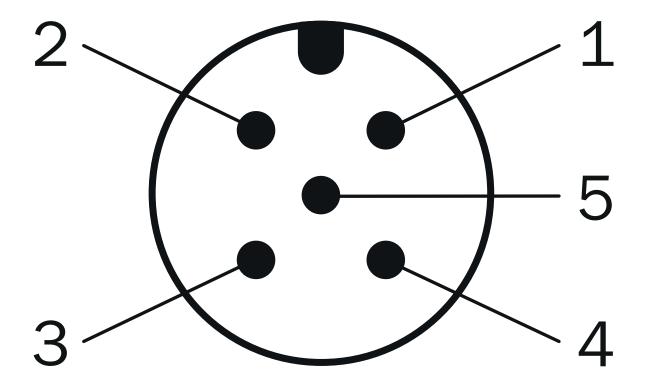
### Dimensional drawing





Dimensions in mm (inch)

## Anschlussbelegung



PIN	Signal	Wire colors (cable connection)	Function
1	CAN Shield	White	Shielding
2	VDC	Red	Supply voltageEn- coder10 V DC 30 V DC
3	GND/CAN GND	Blue	O V (GND)
4	CAN high	Black	CAN signal
5	CAN low	Pink	CAN signal
Housing	-	-	Shielding

#### Recommended accessories

Other models and accessories → www.sick.com/HighLine

	Brief description	Туре	part no.
Mounting systems			
	<ul> <li>Description: Flange adapter for HighLine wire draw mechanisms, adaption of face mount flange with centering hub 20 mm to 50 mm servo flange</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> <li>Items supplied: Including 3 countersunk screws M3 x 10</li> </ul>	BEF-FA-020-050WDE	2073776
0	Description: Joint ball for later insertion in wire end ring with 20 mm diameter. The use of this joint ball enables movement in multiple levels of freedom.	Joint protection for wire rope BTF/PRF/MRA	5318683
	Description: Additional brush attachment for wire draw mechanism MRA-F130 (5 m, 10 m, 20 m and 30 m from HighLine series)	MRA-F130-B	6038562
	Description: Wire draw deflection pulley for wire draw mechanism MRA-F130 (5m, 10m, 20m and 30m from HighLine series)	MRA-F130-R	6028631
	Description: Compressed air attachment for MRA-F080 and MRA-F130 HighLine wire draw mechanism	MRA-F-P	6073769

• Signal type: CAllopen, DeviceNet*  • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Signal type: CAllopen, DeviceNet* • Description: CAllopen, DeviceNet* • Connection type head A: Ried connector, M12, 5-pin, straight, A-coded • Signal type: CAllopen, DeviceNet* • Connection type head A: Ried connector, M12, 5-pin, straight, A-coded • Signal type: CAllopen, DeviceNet* • Connection type head A: Ried connector, M12, 5-pin, straight, A-coded • Connection type head A: Ried connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head B: Rien's gloods • Signal type: CAllopen, DeviceNet* • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Misc connector, M12, 5-pin, straight, A-coded • Connection type head B: Misc connector, M12, 5-pin, straight, A-coded • Connection type head B: Misc connector, M12, 5-pin, straight,		Brief description	Туре	part no.
- Signal type: Chilopen, unshelded  - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Signal type: Chilopen, DeviceNet* - Description: CANopen, shielded-DeviceNet* - Description: CANopen, shielded-DeviceNet* - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Signal type: Chilopen, DeviceNet* - Connection type head A: Mac connector, M12, 5-pin, straight, A-coded - Signal type: Chilopen, Endedded-DeviceNet* - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Signal type: Chilopen, Endedded-DeviceNet* - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Signal type: Findbus, CANopen, DeviceNet* - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Connection type head A: Female connector, M12, 5-pin, straight, A-coded - Connection type head B: Fing leads - Signal type: Chilopen, DeviceNet* - Application: Diag chain operation, Zones with oils and lubriconts - Connection type head B: Fing leads - Connection type head B: Fing leads - Signal type: Chilopen, DeviceNet* - Connection type head B: Fing leads - Signal type: Chilopen, DeviceNet* - Note: Wite shelded AF: Rim, overall sheld C-caree tin-plated - Connection type head B: Fing leads - Signal type: Chilopen, DeviceNet* - Description: Chilopen, DeviceNet* - Description: Chilopen, DeviceNet* - Description: Chilopen, DeviceNet* - Description: Fieldbus, Chilopen, DeviceNet* - Description: Fieldbus, Chilopen, DeviceNet* - Description: Fieldbus, Shelded, Chilopen, De	connectors an	d cables		
Signat type: CANopen, shielded DeviceNet <sup>W</sup> Connection systems: Strew-type turninals Permitted cross-sections: 5.075 mm²  Connection type head & Mele connector, M12, 5 pin, straight, A coded Signat type: CANopen, DeviceNet <sup>W</sup> Description: CANopen, DeviceNet <sup>W</sup> Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A coded Connection type head & Fremale connector, M12, 5 pin, straight, A		Signal type: CANopen	CAN male connector	6021167
Signal type: CANopen, DeviceNet™ Oconnection type head A: Female connector, M12, 5-pin, straight, Acoded Connection type head B: Flying leads Signal type: Felicitous, CANopen, DeviceNet™ Cable: 2 m, 4-wire, PiR, halogen-free Description: Felicitous, CANopen, DeviceNet™ Cable: 2 m, 4-wire, PiR, halogen-free Description: Felicitous, Sidney Connection type head B: Female connector, M12, 5-pin, Acoded Connection type head B: Female connector, M12, 5-pin, Acoded Connection type head B: Female connector, M12, 5-pin, Acoded Connection type head B: Female connector, M12, 5-pin, Acoded Connection type head B: Female connector, M12, 5-pin, Acoded Connection type head B: Flying leads Connection type head B: Flying leads Connection type head B: Flying leads Signal type: CANopen, DeviceNet™ Tems supplied: B) the meter Cable: 4-wire, twisted pair Description: CANopen, Shelded, DeviceNet™ Note: Wire shield AIPR film, overall shield C-screen tim-plated Connection type head B: Male connector, M12, 5-pin, straight, A coded Connection type head B: Male connector, M12, 5-pin, straight, A coded Connection type head B: Male connector, M12, 5-pin, straight, A coded Connection type head B: Male connector, M12, 5-pin, straight, A coded Connection type head B: Male connector, M12, 5-pin, straight, A coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-	6	<ul> <li>Signal type: CANopen, DeviceNet™</li> <li>Description: CANopen, shieldedDeviceNet™</li> <li>Connection systems: Screw-type terminals</li> </ul>	DOS-1205-GA	6027534
. Connection type head B: Flying leads . Signat type: Fleidbus, CANopen, DeviceNet™ . Application: Drag chain operation, Zones with oils and lubricants . Connection type head B: Female connector, M12, 5-pin, A-coded . Connection type head B: Female connector, M12, 5-pin, A-coded . Connection type head B: Female connector, M12, 5-pin, A-coded . Connection type head B: Flying leads . Signal type: CANopen, DeviceNet™ . Items supplied: By the meter . Cable: 2-mic. Whate Connector, M12, 5-pin, Straight, A-coded . Connection type head B: Flying leads . Connection type head B: Flore Connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Signal type: Fleidbus, CANopen, DeviceNet™ . Application: Drag chain operation, Zones with oils and lubricants . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, Straight, A-coded . Connection type head B: Male connector, M12, 5-pin, A-coded . Connection type head B: Male connector, M12, 5-pin, A-coded . Connection type head B: Male connector, M12, 5-pin, A-coded . Connection type head B: Male connector, M12, 5-pin, A-coded .	Co	<ul> <li>Signal type: CANopen, DeviceNet™</li> <li>Description: CANopen, shieldedDeviceNet™</li> <li>Connection systems: Screw-type terminals</li> </ul>	STE-1205-GA	6027533
Onnection type head B: Female connector, M12, 5-pin, A-coded Oconsection type head A: Flying leads Connection type head B: Flying leads Signal type: CANOpen, DeviceNet™ Rems supplied: By the meter Cable: 4-wire, twisted pair Description: CANOpen, shielded, DeviceNet™ Note: Were shield AI-Pt film, overall shield C-screen tin-plated Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fieldbus, CANOpen, DeviceNet™ Application: Drag chain operation, Zones with oils and lubricants  Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Conne	No.	<ul> <li>Connection type head B: Flying leads</li> <li>Signal type: Fieldbus, CANopen, DeviceNet™</li> <li>Cable: 2 m, 4-wire, PUR, halogen-free</li> <li>Description: Fieldbus, shielded, CANopen, DeviceNet™</li> </ul>	YF2A15-020C1BXLEAX	2106283
Connection type head B: Flying leads Signal type: CANopen, DeviceNet™ Items supplied: By the meter Cable: 4-wire, (wisted pair Description: CANopen, shielded, DeviceNet™ Note: Wire shield Al-Pt film, overall shield C-screen tin-plated  Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fleidbus, CANopen, DeviceNet™ Cable: 2 m, 4-wire, PUR, halogen-free Description: Fleidbus, shielded, CANopen, DeviceNet™ Application: Drag chain operation, Zones with oils and lubricants  Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fleidbus, CANopen, DeviceNet™ Cable: 5 m, 4-wire, PUR, halogen-free Description: Fleidbus, shielded, CANopen, DeviceNet™ Application: Drag chain operation, Zones with oils and lubricants  Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type h		<ul> <li>Connection type head B: Female connector, M12, 5-pin, A-coded</li> <li>Connection type head C: Male connector, M12, 5-pin, A-coded</li> </ul>	DSC-1205T000025KMC	6030664
• Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Signal type: Fieldbus, CANopen, DeviceNet™ • Cable: 2 m, 4-wire, PUR, halogen-free • Description: Drag chain operation, Zones with oils and lubricants • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Signal type: Fieldbus, CANopen, DeviceNet™ • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Fieldbus, shielded, CANopen, DeviceNet™ • Application: Drag chain operation, Zones with oils and lubricants • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Cable: 10 m, 4-wire, PUR, halogen-free • Description: Fieldbus, shielded, CANopen, DeviceNet™ • Application: Drag chain operation, Zones with oils and lubricants • Connection type head B: Female connector, M12, 5-pin, A-coded • Connection type head B: Female connector, M12, 5-pin, A-coded • Connection type head B: Female connector, M12, 5-pin, A-coded • Connection type head C: Male connector, M12, 5-pin, A-coded • Connection type head C: Male connector, M12, 5-pin, A-coded • Cable: 0.5 m, TPU • Description: Shielded  Wire draw mechanism • Product segment: Wire draw mechanism • Product family: Wire draw mechanism for wire draw encoders • Description: HighLine wire draw mechanism for servor flange with 6 mm shaft, measuring range	///	<ul> <li>Connection type head B: Flying leads</li> <li>Signal type: CANopen, DeviceNet™</li> <li>Items supplied: By the meter</li> <li>Cable: 4-wire, twisted pair</li> <li>Description: CANopen, shielded, DeviceNet™</li> </ul>	LTG-2804-MW	6028328
Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 5 m, 4-wire, PUR, halogen-free Description: Fieldbus, shielded, CANopen, DeviceNet™ Application: Drag chain operation, Zones with oils and lubricants  Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 10 m, 4-wire, PUR, halogen-free Description: Fieldbus, shielded, CANopen, DeviceNet™ Application: Drag chain operation, Zones with oils and lubricants  Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head C: Male connector, M12, 5-pin, A-coded Cable: 0.5 m, TPU Description: Shielded  Wire draw mechanism  Product segment: Wire draw mechanism Product family: Wire draw mechanism for wire draw encoders Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range	100	<ul> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Fieldbus, CANopen, DeviceNet™</li> <li>Cable: 2 m, 4-wire, PUR, halogen-free</li> <li>Description: Fieldbus, shielded, CANopen, DeviceNet™</li> </ul>		2106279
• Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Signal type: Fieldbus, CANopen, DeviceNet™ • Cable: 10 m, 4-wire, PUR, halogen-free • Description: Fieldbus, shielded, CANopen, DeviceNet™ • Application: Drag chain operation, Zones with oils and lubricants  • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head B: Female connector, M12, 5-pin, A-coded • Connection type head C: Male connector, M12, 5-pin, A-coded • Cable: 0.5 m, TPU • Description: Shielded  Wire draw mechanism  • Product segment: Wire draw mechanism for wire draw encoders • Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range	100	<ul> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Fieldbus, CANopen, DeviceNet™</li> <li>Cable: 5 m, 4-wire, PUR, halogen-free</li> <li>Description: Fieldbus, shielded, CANopen, DeviceNet™</li> </ul>		2106281
Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head C: Male connector, M12, 5-pin, A-coded Cable: 0.5 m, TPU Description: Shielded  Wire draw mechanism  Product segment: Wire draw mechanism Product family: Wire draw mechanism for wire draw encoders Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range	100	<ul> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Fieldbus, CANopen, DeviceNet™</li> <li>Cable: 10 m, 4-wire, PUR, halogen-free</li> <li>Description: Fieldbus, shielded, CANopen, DeviceNet™</li> </ul>		2106282
Product segment: Wire draw mechanism     Product family: Wire draw mechanism for wire draw encoders     Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range	133	<ul> <li>Connection type head B: Female connector, M12, 5-pin, A-coded</li> <li>Connection type head C: Male connector, M12, 5-pin, A-coded</li> <li>Cable: 0.5 m, TPU</li> </ul>	Y-CAN cable	6083185
<ul> <li>Product family: Wire draw mechanism for wire draw encoders</li> <li>Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range</li> </ul>	Wire draw mechanism			
• Items supplied: Without encoder		<ul> <li>Product family: Wire draw mechanism for wire draw encoders</li> <li>Description: HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m 10 m</li> </ul>	MRA-F130-110D2	6028627

# BTF13-C1QM10S01 | HighLine WIRE DRAW ENCODERS

	Brief description	Туре	part no.
programming devices			
A B. WA	<ul> <li>Product segment: Programming devices</li> <li>Product family: PGT-12 Pro</li> <li>Description: Hand-held programming device for the programmable SICK AHS/AHM36 CANopen encoders, TMS/TMM61 CANopen inclination sensors, TMS/TMM88 CANopen, TMS/TMM88 Analog, and wire draw encoders with AHS/AHM36 CANopen. Compact dimensions, low weight, and intuitive operation.</li> <li>Items supplied: 1 x PGT-12-Pro standalone programming tool, 4 x 1.5 V (AA) alkaline mignon batteries</li> </ul>	PGT-12-Pro	1076313

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

## **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

