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DATA SHEET

BTF13-Q1RM1S01

HighLine
Wire draw encoders

SICK Sensor Intelligence

WIRE DRAW ENCODERS

BTF13-Q1RM1S01

ORDERING INFORMATION

Type	part no.
BTF13-Q1RM1S01	1141418

Further device versions and accessories at www.sick.com/HighLine



DETAILED TECHNICAL DATA

FEATURES

Special device	✓
Specialty	Joint ball 5318683 pre-mounted
Standard reference device	BTF13-Q1RM1062, 1110596

SAFETY-RELATED PARAMETERS

MTTF _D (mean time to dangerous failure)	240 years (EN ISO 13849-1) ¹⁾
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¹⁾ 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)	0.02 mm ^{1) 2)}
Repeatability	≤ 1.5 mm ³⁾
Linearity	≤ ± 2 mm ³⁾

¹⁾ The values shown have been rounded.

²⁾ 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).

³⁾ Value applies to wire draw mechanism.

Hysteresis	$\leq 3 \text{ mm}^3$
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³⁾ Value applies to wire draw mechanism.

INTERFACES

Communication interface	IO-Link / IO-Link V1.1 / COM3 (230,4 kBaud)
Programmable/configurable	✓

ELECTRONICS

Connection type	Male connector, M12, 4-pin, universal
Supply voltage	18 V ... 30 V
Power consumption	$\leq 1.5 \text{ W}$ (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 ¹⁾
Length of wire pulled out per revolution	332.4 mm
Life of wire draw mechanism	Typ. 1,000,000 cycles ^{2) 3)}
Actual wire draw length	10.2 m
Wire acceleration	40 m/s ²
Operating speed	8 m/s
Mounted encoder	AHM36 IO-Link Advanced, AHM36A-S3QC014X12, 1101532
Mounted mechanic	MRA-F130-110D2, 6028627

¹⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

²⁾ Average values, which depend on the application.

³⁾ 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.

AMBIENT DATA

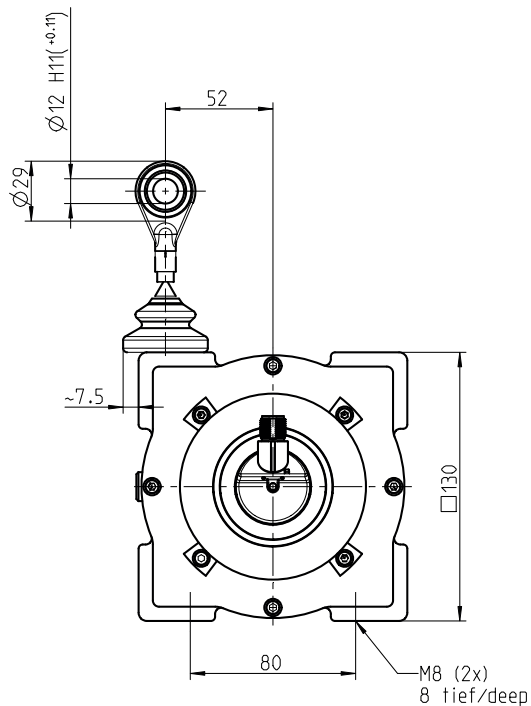
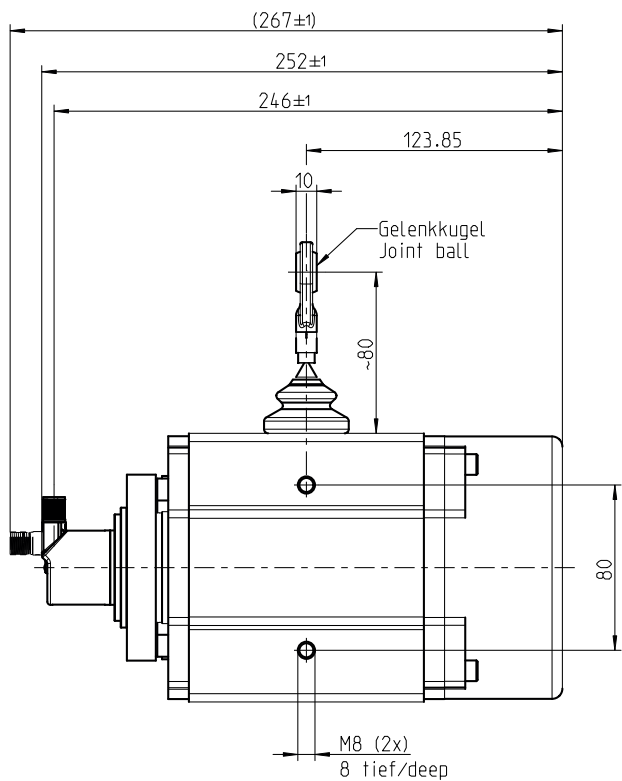
EMC	According to EN 61000-6-2, EN 61000-6-3 and EN 61131-9
Enclosure rating	IP64, mounted mechanic IP66, Encoder (IEC 60529) IP67, Encoder (IEC 60529)
Operating temperature range	-20 °C ... +70 °C

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓

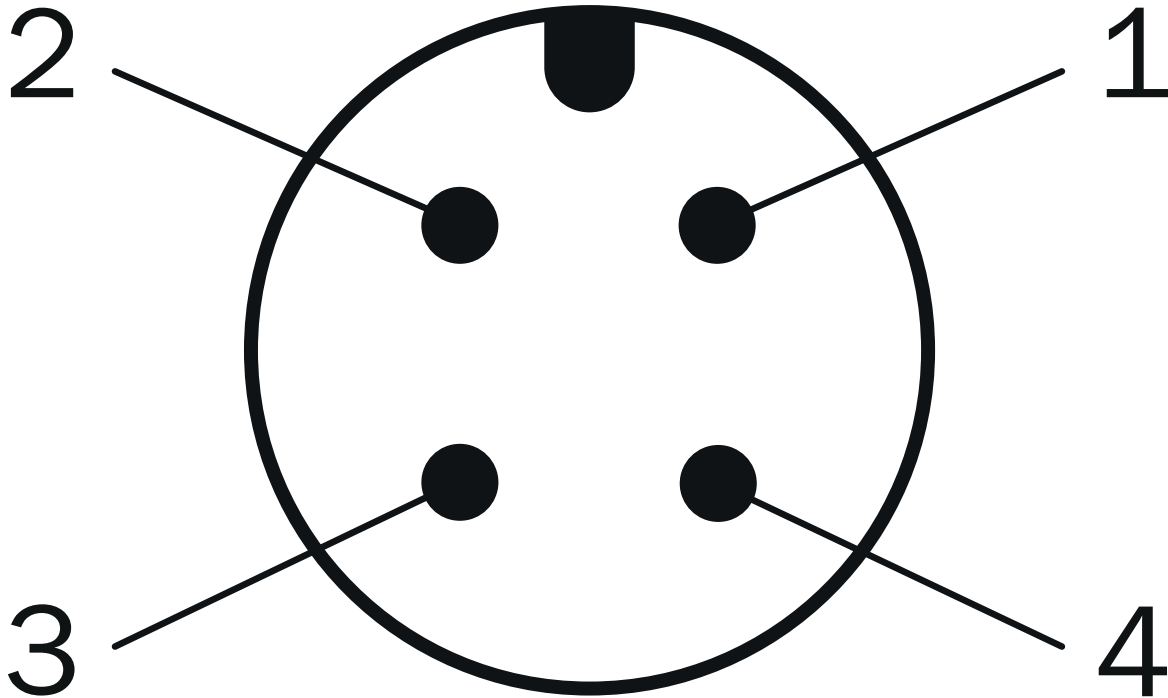


DIMENSIONAL DRAWING



Dimensions in mm (inch)

ANSCHLUSSBELEGUNG



PIN	Wire color	Signal	Function		
-	-	-	Basic	Advanced	Advanced Smart Task
1	Brown	L+	Encoder supply voltage 18-30 V (+Us)		
2	White	I/Q	Not connect- ed - no function	Multifunctional pin (configurable as switching input or switching output)	
3	Blue	L-	Encoder supply voltage 0 V (GND)		
4	Black	C/Q	IO-Link communication		
		-	-		Switching out- put (SIO mode)

Further information as well as suitable accessories, example applications and downloads such as CAD di-
mensional models, operating instructions and software can be found at www.sick.com/1141418



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SICK AT A GLANCE

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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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