



BTF08-Q1RM0261

HighLine

WIRE DRAW ENCODERS





Ordering information

Туре	Part no.
BTF08-Q1RM0261	1097307

Included in delivery: MRA-F080-102D2 (1), AHM36B-S3QC012x12 (1)

Product is supplied fully assembled. See individual components for further technical data

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

Illustration may differ



Detailed technical data

Performance

BTF

811	
Measurement range	0 m 2 m
Encoder	Absolute encoders
Resolution (wire draw + encoder)	0.05 mm ^{1) 2)}
Repeatability	≤ 1 mm ³⁾
Linearity	≤ ± 2 mm ³⁾
Hysteresis	≤ 2 mm ³⁾

 $^{^{1)}}$ The values shown have been rounded.

Interfaces

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

Electrical data

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Connection type	Male connector, M12, 4-pin, universal
Supply voltage	18 V 30 V
Power consumption	≤ 1.5 W (without load)
MTTFd: mean time to dangerous failure	240 years (EN ISO 13849-1) ¹⁾

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.

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.

Mechanical data

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Weight	1.42 kg
Measuring wire material	Highly flexible stranded steel 1,4401 stainless steel V4A
Weight (measuring wire)	7.1 g/m
Housing material, wire draw mechanism	Aluminum (anodized), zinc die cast
Spring return force	6 N 14 N ¹⁾
Length of wire pulled out per revolution	200 mm
Life of wire draw mechanism	Typ. 1,000,000 cycles ^{2) 3)}
Actual wire draw length	2.2 m
Wire acceleration	40 m/s ²
Operating speed	8 m/s
Mounted encoder	AHM36 IO-Link Basic, AHM36B-S3QC012X12, 1092014
Mounted mechanic	MRA-F080-102D2, 6028625

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

Ambient data

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EMC	According to EN 61000-6-2, EN 61000-6-3 and EN 61131-9
Enclosure rating	IP64
Operating temperature range	-20 °C +70 °C

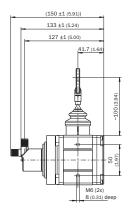
Classifications

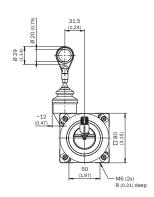
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ECI@ss 5.1.4	27270590
ECI@ss 6.0	27270590
ECI@ss 6.2	27270590
ECI@ss 7.0	27270590
ECI@ss 8.0	27270590
ECI@ss 8.1	27270590
ECI@ss 9.0	27270590
ECI@ss 10.0	27270613
ECI@ss 11.0	27270503
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

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.

Dimensional drawing (Dimensions in mm (inch))





PIN assignment



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

Recommended accessories

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

	Brief description	Туре	Part no.		
Flanges					
\$ _ 0	Flange adapter for HighLine wire draw mechanisms, adaption of face mount flange with centering hub 20 mm to 50 mm servo flange, Aluminum, including 3 countersunk screws M4 x 10 $$	BEF-FA-020-050WDE	2073776		
Other mounting accessories					
	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		

	Brief description	Туре	Part no.
	Compressed air attachment for MRA-F080 and MRA-F130 HighLine wire draw mechanism	MRA-F-P	6073769
J. 40	Additional brush attachment for wire draw mechanism MRA-F080 (2 m and 3 m from HighLine series)	MRA-F080-B	6045341
	Wire draw deflection pulley for wire draw mechanism MRA-F080 (2m and 3m from High-Line series)	MRA-F080-R	6028632
Wire draw me	echanism		
	HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m 2 m $$	MRA-F080-102D2	6028625
Plug connecte	ors and cables		
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A14- 020UB3XLEAX	2095607
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A14- 050UB3XLEAX	2095608
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A14- 100UB3XLEAX	2095609
No No	Head A: female connector, M12, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A14- 020UB3M2A14	2096000
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A14- 050UB3M2A14	2096001
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A14- 100UB3M2A14	2096002
	Head A: female connector, M12, 4-pin, straight Head B: - Cable: unshielded	DOS-1204-G	6007302

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