



BTFO8-P1HM0341

HighLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
BTF08-P1HM0341	1034893

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

Detailed technical data

Performance

Measurement range	0 m ... 3 m
Reproducibility	≤ 0.3 mm ¹⁾
Linearity	≤ ± 3 mm ²⁾
Hysteresis	≤ 1.5 mm ¹⁾
Resolution (wire draw + encoder)	0.02 mm ^{3) 4)}

¹⁾ Value applies to wire draw mechanism.

²⁾ Value valid taking into account the exact length of the measuring wire per revolution (indicated on the label on the wire draw mechanism).

³⁾ The values shown have been rounded.

⁴⁾ 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).

Interfaces

Encoder	Absolute encoders
Electrical interface	PROFIBUS DP
Connection type	Bus adaptor with cable screw fixings or connector, radial ¹⁾
Address setting	0 ... 127, DIP switch
Protocol	PROFIBUS DP V0 (A3M60), Profil für Encoder (07hex) - Class 2 (ATM60 PROFIBUS)
Bus termination	Via DIP switches
Set (electronic adjustment)	Via PRESET push button or protocol
Encoder profile	Encoder profile version 1.1 class 1 and class 2 (A3M60), Profil für Encoder (07hex) - Class 2 (ATM60 PROFIBUS)

¹⁾ Please order the bus adaptor separately.

Electrical data

Initialization time	A3M60, ATM60 PROFIBUS ^{1) 1)}
Supply voltage	10 V ... 32 V
Power consumption	1.5 W, A3M60 2 W, ATM60 PROFIBUS
MTTFd: mean time to dangerous failure	60 years (A3M60) ^{2) 3)} 150 years (ATM60 PROFIBUS) ^{2) 3)}

¹⁾ Valid positional data can be read once this time has elapsed.

²⁾ 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.

³⁾ The value applies to the mounted encoder.

Mechanical data

Weight (including encoder)	1.78 kg (A3M60) 2.09 kg (ATM60 PROFIBUS)
Weight (mechanics)	1.5 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), die-cast zinc
Length of wire pulled out per revolution	200 mm ¹⁾
Spring return force	6 N ... 14 N ²⁾
Life of wire draw mechanism	Typ. 1 million cycles ^{3) 4)}
Actual wire draw length	3.2 m
Measuring wire diameter	1.35 mm
Wire acceleration	40 m/s ²
Operating speed	10 m/s
Mounted encoder	ATM60 SSI
Part number encoder	1030014
Mounted mechanic	MRA-F080-103D2
Part number mechanic	6030125

¹⁾ The data shown is a mean value. The exact length is indicated on the label on the wire draw mechanism.

²⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

³⁾ A cycle consists of the wire being pulled out and drawn in.

⁴⁾ 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 and EN 61000-6-3
Enclosure rating encoder	IP67
Enclosure rating mechanic	IP64
Resistance to shocks	100 g, 6 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	30 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
Working temperature range (encoder)	-10 °C ... +70 °C, A3M60 -20 °C ... +70 °C, ATM60 PROFIBUS
Working temperature range (mechanics)	-30 °C ... +70 °C

Classifications

Dimensional drawing (Dimensions in mm (inch))



	Brief description	Type	Part no.
Flanges			
	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

	Brief description	Type	Part no.
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
	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
Adapters and distributors			
		AD-ATM60-KA3PR	2029225
		AD-ATM60-SR3PR	2031985
Plug connectors and cables			
	Head A: Flying leads Head B: Flying leads Cable: PROFIBUS DP, PUR, shielded	LTG-2102-MW	6021355
Spare parts			
	Spare mounting set for HighLine wire draw mechanisms for fitting encoders with servo flange	MRA-F-K	6028633
Wire draw mechanism			
	HighLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m ... 3 m	MRA-F080-103D2	6030125

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