



ATM90-ATM12X12

ATM90 SSI

ABSOLUTE ENCODERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
ATM90-ATM12X12	1030033

Other models and accessories → www.sick.com/ATM90_SSI

Detailed technical data

Performance

Number of steps per revolution	4,096
Number of revolutions	4,096
Max. resolution (singleturn, multiturn)	4,096 (12 bit), 4,096 (12 bit) Ex-works: 4,096 steps x 4,096 revolutions, Gray-Code, Set = 0 factory-programmed. Other configurations on request.
Error limits G	0.25° ¹⁾
Repeatability standard deviation σ_r	0.1° ²⁾

¹⁾ In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

²⁾ In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

Interfaces

Communication interface	SSI
Parameterising data	Number of steps per revolution Number of revolutions Code type Electronic adjustment
Initialization time	1,050 ms ¹⁾
Position forming time	0.15 ms
SSI	
Code type	Gray, binary
Code sequence parameter adjustable	CW/CCW
Clock frequency	1 MHz ²⁾
Set (electronic adjustment)	H-active (L = 0 - 4,7 V, H = 10 - Us V)
CW/CCW (counting sequence when turning)	L-active (L = 0 - 1,5 V, H = 2,0 - Us V)

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

²⁾ Minimum, LOW level (Clock +): 500 ns.

Electrical data

Connection type	Cable, 12-wire, radial, 5 m
Supply voltage range	10 V ... 32 V
MTTFd: mean time to dangerous failure	150 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.

Mechanical data

Mechanical design	Through hollow shaft
Shaft diameter	12 mm
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Aluminum die cast
Start up torque	0.5 Ncm
Operating torque	0.4 Ncm
Moment of inertia of the rotor	153.77 gcm ²
Bearing lifetime	3.6 x 10 ⁹ revolutions
Angular acceleration	≤ 600,000 rad/s ²
Operating speed	≤ 2,000 min ⁻¹

Ambient data

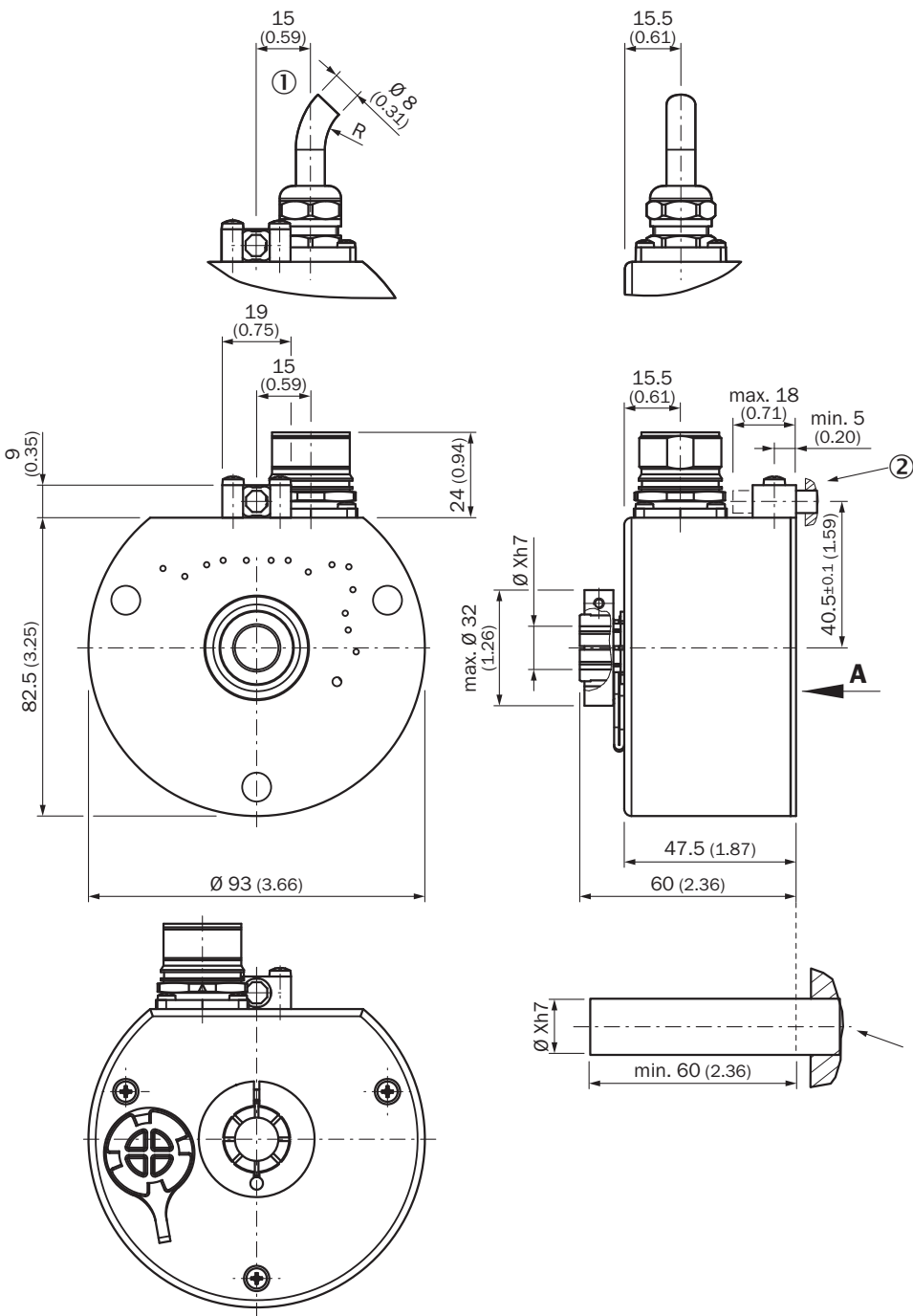
EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65, with shaft seal (according to IEC 60529) ¹⁾
Permissible relative humidity	98 %
Operating temperature range	-20 °C ... +70 °C
Storage temperature range	-40 °C ... +100 °C, without package
Resistance to shocks	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)

¹⁾ With mating connector inserted.

Classifications





ECI@ss 5.0	27270502
ECI@ss 5.1.4	27270502
ECI@ss 6.0	27270590
ECI@ss 6.2	27270590
ECI@ss 7.0	27270502
ECI@ss 8.0	27270502
ECI@ss 8.1	27270502
ECI@ss 9.0	27270502
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))



Recommended accessories

Other models and accessories → www.sick.com/ATM90_SSI

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: cable Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded	LTG-2512-MW	6027531
		LTG-2612-MW	6028516
	Head A: female connector, M23, 12-pin, straight Head B: - Cable: HIPERFACE®, SSI, Incremental, shielded	DOS-2312-G	6027538
		DOS-2312-W01	2072580
	Head A: male connector, M23, 12-pin, straight Head B: - Cable: HIPERFACE®, SSI, Incremental, RS-422, shielded	STE-2312-G	6027537
Programming and configuration tools			
	Programming tool for ATM60, ATM90, and KH53	PGT-01-S	1030111

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:

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