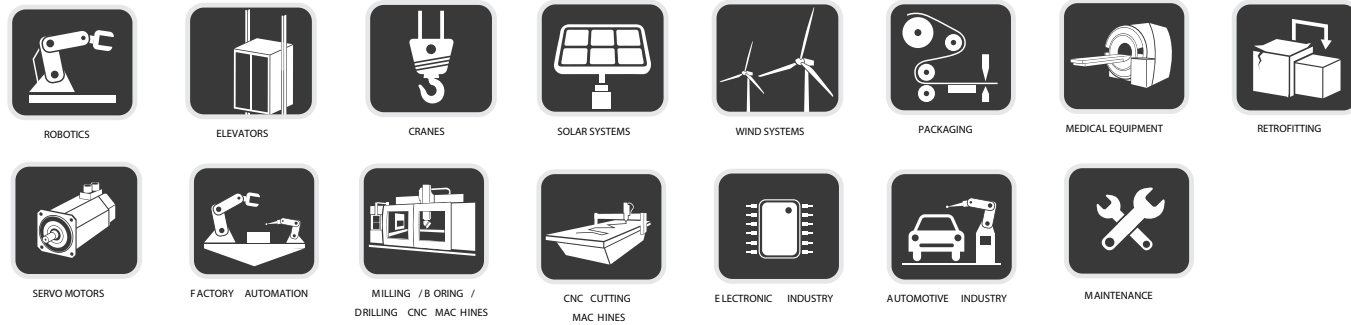


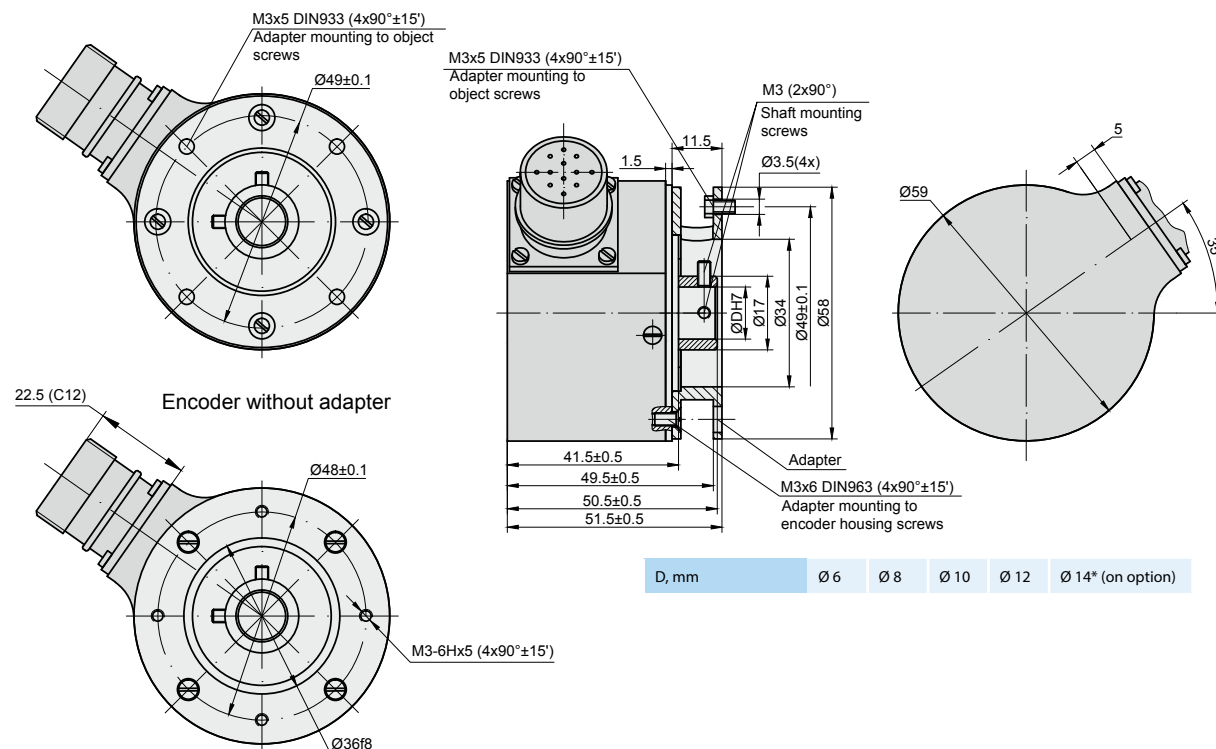
# A58HM

## RECOMMENDED APPLICATIONS



## MECHANICAL DATA

Line number on disc (z)	100; 250; 500; 600; 800; 1000; 1024; 1125; 1250; 1500; 2000; 2500; 3000; 3600; 4000; 5000; 9000; 10800	Starting torque at 20 °C	≤ 0.025 Nm
Pulse number per shaft revolution for A58-F	Z x k, where k=1,2,3,4,5,8,10 (k - interpolation factor)	Rotor moment of inertia	< 1.5x10 <sup>-4</sup> kgm <sup>2</sup>
Maximum shaft speed	10000 rpm	Protection (housing) (IEC 529)	IP64
Permissible motion of shaft: - axial - radial (at shaft end)	±0.03 mm 0.05 mm	Protection (shaft side) (IEC 529)	IP64
Accuracy (T <sub>1</sub> -period of lines on disc in arc. sec) - on option for z < 5000 - on option for z > 5000	±0.1T <sub>1</sub> arc. sec ±0.05T <sub>1</sub> arc. sec ±12.0 arc. sec	Maximum weight without cable	0.35 kg
		Operating temperature	0...+70 °C
		Storage temperature	-30...+80 °C
		Maximum humidity (non-condensing)	98 %
		Permissible vibration (55 to 2000 Hz)	≤ 100 m/s <sup>2</sup>
		Permissible shock (11 ms)	≤ 300 m/s <sup>2</sup>



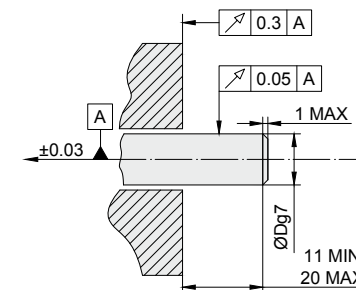
## ELECTRICAL DATA

VERSION	A58 HE-A ~ 11 µApp	A58 HE-AV ~ 1 V pp	A58 HE-F TTL; HTL
Supply voltage (U <sub>p</sub> )	+5 V ± 5%	+5 V ± 5%	+5 V ± 5%; +(10 to 30) V
Max. supply current (without load)	80 mA	120 mA	120 mA
Light source	LED	LED	LED
Incremental signals	Two sinusoidal I <sub>1</sub> and I <sub>2</sub> Amplitude at 1 kΩ load: - I <sub>1</sub> = 7-16 µA - I <sub>2</sub> = 7-16 µA	Differential sine +A/-A and +B/-B Amplitude at 120 Ω load: - A = 0.6-1.2 V - B = 0.6-1.2 V	Differential square-wave U1/U1 and U2/U2. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V at U <sub>p</sub> =+5 V - low (logic "0") ≤ 1.5 V at U <sub>p</sub> =10 to 30 V - high (logic "1") ≥ 2.4 V at U <sub>p</sub> =+5 V - high (logic "1") ≥ (U <sub>p</sub> -2) V at U <sub>p</sub> =10 to 30 V
Reference signal	One quasi-triangular I <sub>0</sub> peak per revolution. Signal magnitude at 1 kΩ load: - I <sub>0</sub> = 2-8 µA (usable component)	One quasi-triangular +R and its complementary -R per revolution. Signals magnitude at 120 Ω load: - R = 0.2-0.8 V (usable component)	One differential square-wave U0/U0 per revolution. Signal levels at 20 mA load current: - low (logic "0") < 0.5 V at U <sub>p</sub> =+5 V - low (logic "0") < 1.5 V at U <sub>p</sub> =10 to 30 V - high (logic "1") > 2.4 V at U <sub>p</sub> =+5 V - high (logic "1") > (U <sub>p</sub> -2) V at U <sub>p</sub> =10 to 30 V
Maximum operating frequency	(-3 dB) ≥ 160 kHz	(-3 dB) ≥ 180 kHz	(160 x k) kHz, k-interpolation factor
Direction of signals	I <sub>2</sub> lags I <sub>1</sub> for clockwise rotation	B lags A for clockwise rotation	U2 lags U1 with clockwise rotation
Maximum rise and fall time	-	-	< 0.5 µs
Standard cable length	1 m, without connector	1 m, without connector	1 m, without connector
Maximum cable length	5 m	25 m	25 m
Output signals			

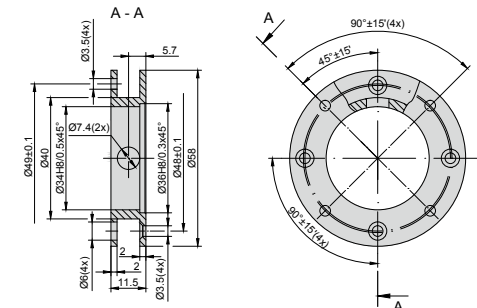
Note:

- Maximum working rotation speed (with proper encoder counting) is limited by maximum operating frequency and maximum mechanical rotation speed.
- If cable extension is used, power supply conductor cross-section should not be smaller than 0.5 mm<sup>2</sup>.

## MOUNTING DIMENSIONS



## ADAPTER



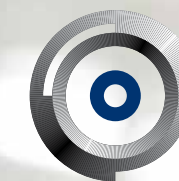
## ACCESSORIES

CONNECTORS FOR CABLE	C9 12-pin round connector	C12 12-pin round connector	RS10 10-pin round connector	ONC 10-pin round connector
DIGITAL READOUT DEVICES	CS3000			CS5500
EXTERNAL INTERPOLATOR	NK			

## ORDER FORM

A58 HM - XX - XXXX/XXXX - XX - XX - XXX - X						
OUTPUT SIGNAL VERSION:	PULSE NUMBER PER REVOLUTION:	OPTIONAL ON DISC (Z):	LINE NUMBER	SHAFT HOLE DIAMETER:	SUPPLY VOLTAGE:	CONNECTOR TYPE:
A AV F	100 ... 108000	100 ... 10800		6, 8, 10, 12, 14*, mm *with additional hub for shaft mounting	05V - +5V 30V - +(10...30)V* *only for A58HM-F with HTL output signals	C9 - round, 9 pins C12 - round, 12 pins RS10 - round, 10 pins ONC - round, 10 pins
						ADAPTER:
						W - without adapter S - with adapter

## MAIN EXPORT COUNTRIES:



**PRECIZIKA**  
METROLOGY



**İMAJ TEKNİK**

The company under the name "Precizika Metrology" began work after the change of name of the Lithuanian - American Joint Venture "Brown & Sharpe - Precizika". The company has a proud history of old traditions in the leadership of design and production of metrological equipment. Its workforce has been involved for over fifty years in the supply of measuring technology and systems to automate factories as well as in the development of optical scale manufacturing technology.

In 2000, the production process was certified to fully meeting the requirements of EN ISO 9002:1994, in 2003 – EN ISO 9001:2000.

The company's goal is to consistently supply high quality products and services to meet customer demands on a timely basis. The company's main products are linear and angular glass scale gratings, and the linear and rotary displacement measuring systems.

JSC "Precizika Metrology" represents worldwide known companies and suppliers of measuring equipment, CNC centers, executes installation and services of them, trains the users, and executes upgrading of used CMM and manual cutting machine-tools.

# A58HM

PHOTOELECTRIC ROTARY ENCODER



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The encoder A58HM is used to measure angular position of the key machine components, industrial robots, comparators, rotary tables, servo drives and to establish an informational link with DCC, NC or Digital Readout Units. The encoder has integrated stator coupling so it can be fixed directly onto object shaft. Mounting adapter - similar to adapter of encoder A58H - is available on request. The encoder is used in automatic control, on-line gauging, process monitoring systems, etc. The housing of the encoder is fixed to an object by means of four screws M3 or through adapter. The fixation to object shaft is made by two screws M3. Three versions of output signals are available:

- A58HM-A - sinusoidal signals, with amplitude approx. 11  $\mu$ App;
- A58HM-AV - sinusoidal signals, with amplitude approx. 1 Vpp;
- A58HM-F - square-wave signals (TTL or HTL) with integrated subdividing electronics for interpolation x1, x2, x3, x4, x5, x8, x10.

