MAIN EXPORT COUNTRIES:

PRECIZIKA METROLOGY

*The company under the name **JSC "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.*

A58H1

PHOTOELECTRIC ROTARY ENCODER

The encoder A58H1 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 external flexible coupling. The encoder is used in automatic control, on-line gauging, process monitoring systems, etc.Three versions of output signals are available:

- A58H1-A - sinusoidal signals, with amplitude approx. 11 µApp;
- A58H1-AV - sinusoidal signals, with amplitude approx. 1 Vpp;
- A58H1-F - square-wave signals (TTL) with integrated subdividing electronics for interpolation x1, x2, x3, x4, x5, x8, x10.

HD µm

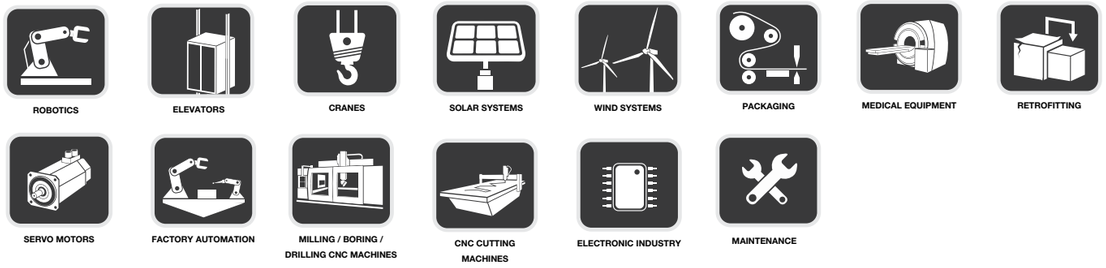
50 YEARS OF EXPERIENCE

TÜV International Certification
TÜV THÜRINGEN CERT ISO 9001:2008 15 100 74491 TIC

Žirmūnų str. 139, LT-09120 Vilnius, Lithuania
sales@precizika.lt
Tel.: +370 (5) 236 3683
Fax.: 370 (5) 236 3609
www. precizika.lt

A58H1

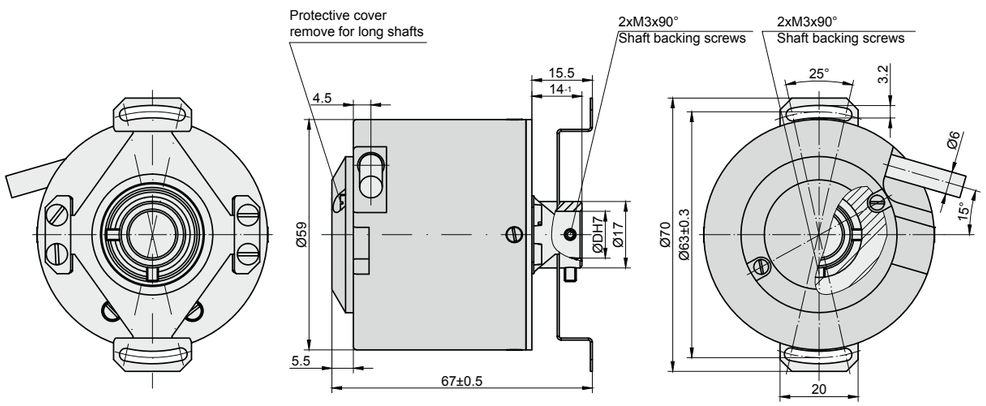
RECOMMENDED APPLICATIONS



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
Pulse number per shaft revolution for A58H1-F	Z x k, where k=1,2,3,4,5,8,10
Maximum shaft speed	10000 rpm
Permissible motion of shaft: - axial - radial (at shaft end)	 ±0.03 mm 0.05 mm
Accuracy (T_1-period of lines on disc in arc. sec)	±0.1T_1 arc. sec
Starting torque at 20°C	≤ 0.025 Nm

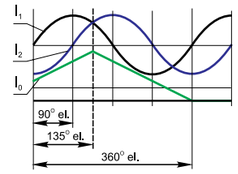
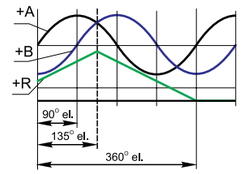
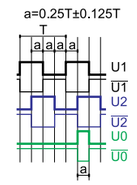
Rotor moment of inertia	< 1.5x10^{-4} kgm^2
Protection (housing) (IEC 529)	IP64
Protection (shaft side) (IEC 529)	IP64
Maximum weight without cable	0.3 kg
Operating temperature	-10...+70 °C
Storage temperature	-30...+80 °C
Maximum humidity (non-condensing)	98 %
Permissible vibration (55 to 2000 Hz)	≤ 100 m/s^2
Permissible shock (11 ms)	≤ 300 m/s^2



D, mm	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14* (on option)

**For one side fixation from encoder flange side*

ELECTRICAL DATA

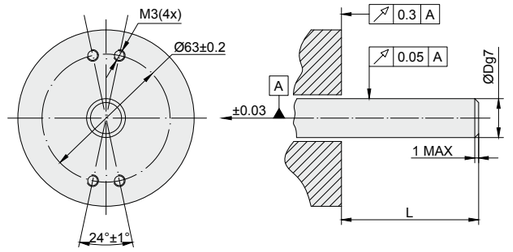
VERSION	A58H1-A ⁓ 11 µApp	A58H1-AV ⁓ 1 Vpp	A58H1-F ⊓⊔ TTL; ⊓⊔ HTL
Supply voltage (U_p)	+5 V ± 5%	+5 V ± 5%	+5 V ± 5%; +(10 to 30) V
Max. supply current (without load)	80 mA	120 mA	120 mA
Light source	LED	LED	LED
Incremental signals	Two sinusoidal I_1 and I_2 Amplitude at 1 kΩ load: - I1 = 7-16 µA - I2 = 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/$\overline{U1}$ and U2/$\overline{U2}$. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V at U_p=+5 V - low (logic "0") ≤ 1.5 V at U_p=10 to 30 V - high (logic "1") ≥ 2.4 V at U_p=+5 V - high (logic "1") ≥ (U_p-2) V at U_p=10 to 30 V
Reference signal	One quasi-triangular I_0 peak per revolution. Signal magnitude at 1 kΩ load: - I_0 = 2-8 µA (usable component)	One quasi-triangular +R and its complementary -R per revolution. Signals magnitude at 120Ω 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_p=+5 V - low (logic "0") < 1.5 V at U_p=10 to 30 V - high (logic "1") > 2.4 V at U_p=+5 V - high (logic "1") > (U_p-2) V at U_p=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_2 lags I_1 for clockwise rotation (viewed from shaft side)	+B lags +A for clockwise rotation (viewed from shaft side)	U2 lags U1 with clockwise rotation (viewed from shaft side)
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:

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

MOUNTING REQUIREMENTS

L, mm
11 min for one side fixation
56 min for both side fixation
56 max for version with protective cover
11 min for version without protective cover



ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C9 12-pin round connector	C12 12-pin round connector	D9 9-pin flat connector	D15 15-pin flat connector	RS10 10-pin round connector	ONC 10-pin round connector

DIGITAL READOUT DEVICES	CS3000	CS5500
EXTERNAL INTERPOLATOR	NK	

ORDER FORM

A58H - XX - XXXX - XX - XXX - XX/X

OUTPUT SIGNAL VERSION:	PULSE NUMBER PER REVOLUTION:	SHAFT HOLE DIAMETER:	SUPPLY VOLTAGE:	CABLE LENGTH:	CONNECTOR TYPE:
A AV F	100 ... 108000	6, 8, 10, 12,14* mm *with additional hub for shaft mounting, for one side fixation from flange side	05V - +5V 30V - +(10 to 30)V* *only for A58H-F with HTL output	AR01 - 1m AR02 - 2m AR03 - 3m ...	W - without connector B12 - round, 12 pins C9 -round, 9 pins C12 - round, 12 pins D9 - flat, 9 pins D15 - flat, 15 pins RS10 - round, 10 pins ONC - round, 10 pins

ORDER EXAMPLES:	1) A58H1-AV-1024-6-05V-AR01/W 2) A58H1-F-4000-8-30V-AR06/C12 3) A58H1-F-4000/500-8-30V-AR06/C12