

MAIN EXPORT COUNTRIES:



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.

A110

PHOTOELECTRIC ANGLE ENCODER



The semi-precision photoelectric rotary encoder A110 is used to establish an informational link between the key machine components, industrial robots, comparators and DCC, NC or Digital Readout Units. It provides information about the value and direction of motion. The encoder is used in automatic control, on-line gauging, process monitoring systems, etc. Three versions of output signals are available:

- A110-A - sinusoidal signals, with amplitude approx. 11 μ App;
- A110-AV - sinusoidal signals, with amplitude approx. 1 Vpp;
- A110-F - square-wave signals (TTL), with integrated subdividing electronics for interpolation x1, x2, x5, x10, x20, x25, x50 and x100.

The modification with distance-coded reference marks is available.



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A110

RECOMMENDED APPLICATIONS



RADAR / TELESCOPE



MEDICAL EQUIPMENT



RETROFITTING



ROTARY TABLE



MILLING / BORING /
DRILLING / CNC MACHINE



AUTOMOTIVE INDUSTRY



HIGH-PRECISION
MACHINE TOOL

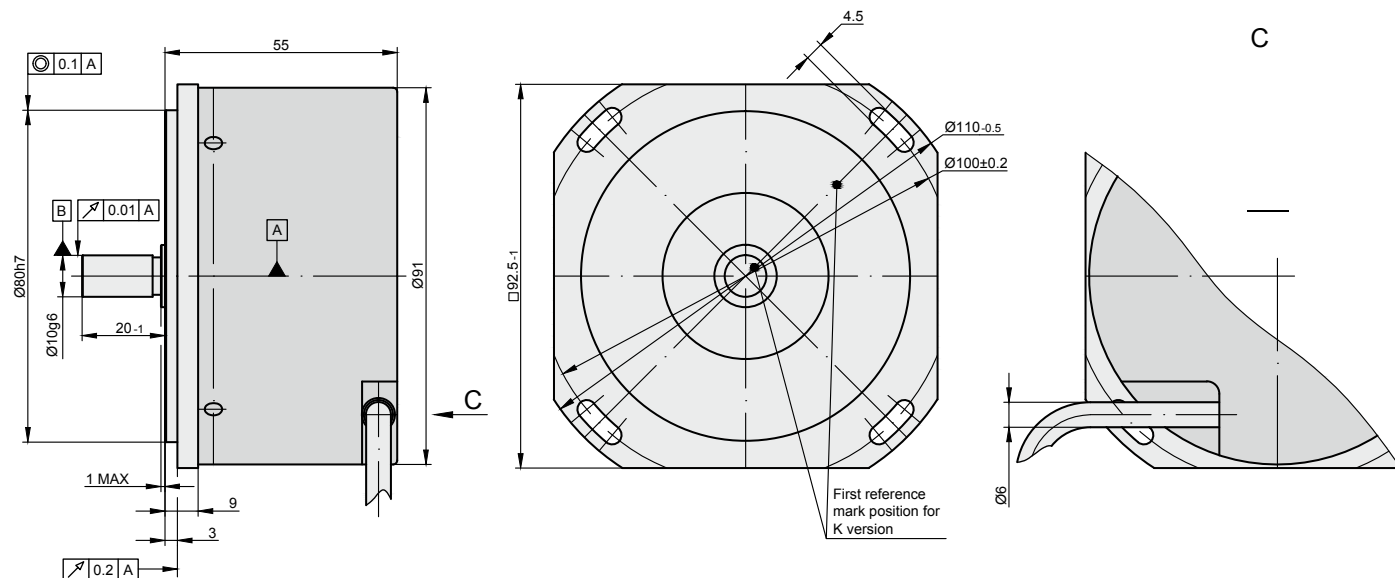


MAINTENANCE

MECHANICAL DATA

Line number on disc (z)	18000
Number of output pulses per revolution for A90H-F	18000; 36000; 90000; 180000; 360000; 450000; 900000; 1800000
Reference signal: - standard (S) - distance-coded (K)	one per shaft 36 per shaft revolution
Maximum shaft speed	5000 rpm
Maximum shaft load: - axial - radial (at shaft end)	10 N 10 N

Accuracy	$\pm 7.5; \pm 5.0$ arc. sec
Starting torque at 20 °C	≤ 0.01 Nm
Rotor moment of inertia	$< 20 \times 10^{-6}$ kgm ²
Protection (IEC 529)	IP64
Maximum weight without cable	0.7 kg
Operating temperature	0...+50 °C
Storage temperature	-30...+80 °C
Maximum humidity (non condensing)	98 %
Permissible vibration	≤ 100 m/s ²
Permissible shock (6 ms)	≤ 300 m/s ²



ELECTRICAL DATA

VERSION	A110-A $\sim 11 \mu A_{pp}$	A110-AV $\sim 1 V_{pp}$	A110-F \square TTL
Supply voltage (U_p)	+5 V $\pm 5\%$	+5 V $\pm 5\%$	+5 V $\pm 5\%$
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 k Ω load: - $I_1 = 7-16 \mu A$ - $I_2 = 7-16 \mu A$	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 - high (logic "1") ≥ 2.4 V
Reference signal	One quasi-triangular I_0 peak per revolution. Signal magnitude at 1 k Ω load: - $I_0 = 2-8 \mu A$ (usable component)	One quasi-triangular +R and its complementary -R per revolution. Signals magnitude at 120 Ω load: - R = 2-8 V (usable component)	One differential square-wave $U0/\overline{U0}$ per revolution. Signal levels at 20 mA load current: - low (logic "0") < 0.5 V - high (logic "1") > 2.4 V
Maximum operating frequency (-3 dB) \geq	160 kHz	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	-	-	$< 0.5 \mu s$
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 mm².

ACCESSORIES

CONNECTOR S 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			
COUPLING	SC70						
EXTERNAL INTERPOLATOR	NK						

ORDER FORM

A110		-	XX	-	XXXXX	-	X	-	X	-	XX	-	XX/X
OUTPUT SIGNAL VER SION:		PUL S E NUMBER PER RE VOLUTION:		REFERENCE SIGNAL:		ACCURAC Y GRADE:		CABLE LENG T H:		CONNECTOR T YPE:		COUPLING:	
A AV F		18000 ... 1800000		S - one per revolution, K - 36 per revolution, distance coded		50 - ±5.0arc.sec. 75 - ± 7.5 arc.sec.		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		0 - without coupling 1 - with coupling	
ORDER EXAMPLE:				1) A110-F-18000-K-50-AR02/C12-0									