



MEMS IMU AIST-330 / AIST-330-G

AIST-330 is an ultra-compact, 6 DOF, fully factory calibrated MEMS IMU with high dynamic range and high performance for the most demanding applications.

AIST-330 consists of 3 gyrochips AIST-120, 3-axis accelerometer Analog Devices ADXL-326, control and interface electronics and temperature stabilization system (option). The units is filled with drained gas. External connection: RSG-10 (Russian type). The unit is also available witgout accelerometer as a 3-axis gyroscope with abbreviation AIST-330-G.

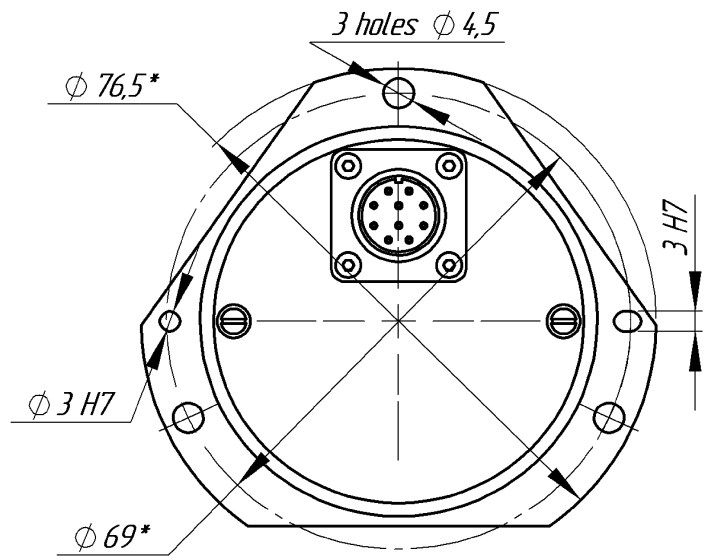
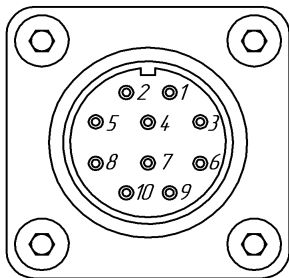
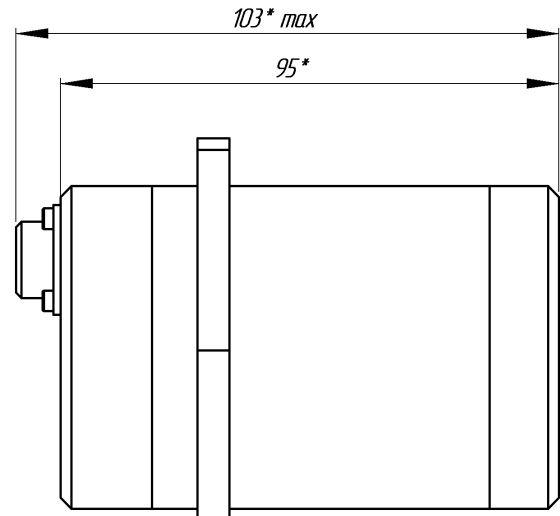
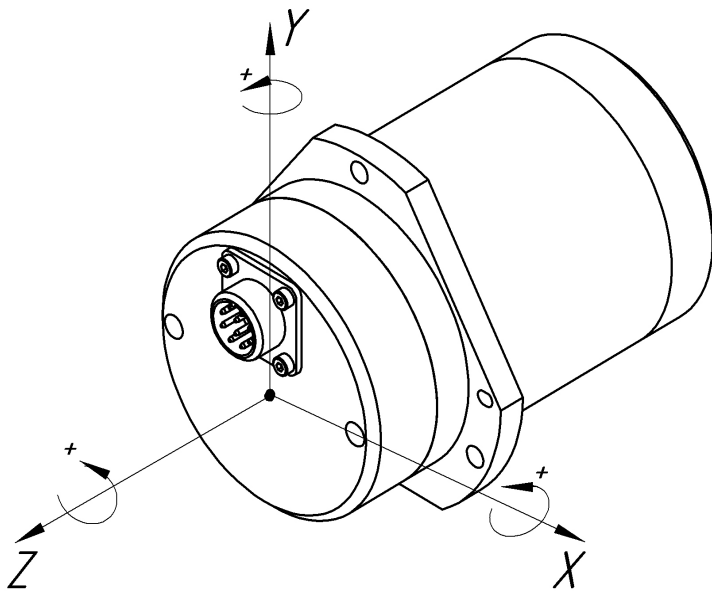
Technical specifications

Modification of AIST-330	AIST-330	AIST-330-G
Performance		
Start up time		< 3 sec
Start up time to full performance ¹		< 2 min.
Axis misalignment		< 2 mrad
MTBF (λ -estimation)		> 50 000 hours
Gyro channels (AIST-120)		
Dynamic range		300 deg/sec
Scale factor nonlinearity (1σ)		0.1%
Scale factor day-to-day repeatability (1σ)		0.1%
In-run bias stability		5 deg/hour
Long-term bias stability (1σ)		50 deg/hour
Random walk ² (1σ)		0.15 deg/sqrt(h)
G-sensitive bias (RMS)		1 deg/h/g
Bandwidth		100 Hz
Accelerometer channels (Analog Devices ADXL-326)		
Dynamic range	16 g	–
Bias stability (1σ)	2 mg	–
Random walk	320 μ g/sqrt(Hz)	–
Bandwidth	100 Hz	–
Interfaces and operating conditions		
Power supply		9..33 VDC; < 8 W
Interface		RS-232, 115 kbaud
Self-check		BIT status output
Vibration (random)		0.002 g ² /Hz, 20-2000 Hz (1σ)
Vibration (harmonic)		<1 g sin (20-150 Hz)
		<3 g sin (150-2000 Hz)
Shock		50 g, 6 ms
External connection		RSG-10
Operating Temperature		-40°C .. +55°C
Storage Temperature		-55°C .. +85°C
Dimensions		Ø 59 x 95 mm
Weight		< 690 g

¹ Unit turn on at -40°C.

² Allan variance estimation.

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10-pin male power/output connector table

Pin	Description
1	9-33 VDC
2, 3	GND
5	RS-232 RXD
8	RS-232 TXD
9	SYS_RECOVERY (factory test and calibration. Do not connect!)
10	CAL_MODE (factory test and calibration. Do not connect!)
7	DEBUG-TX (factory test and calibration. Do not connect!)
4	DEBUG-RX (factory test and calibration. Do not connect!)
6	Reserved (factory test and calibration. Do not connect!)

* Dimensions are in millimeters.