



ADVANCED CENTRIC SYSTEMS B.V

INERTIAL ANGULAR MEASUREMENT UNITS  
FOR STABILIZATION SYSTEMS

**Product brochure**



## **THE PROBLEM**

Modern weapon and fire control systems, as well as various types of surveillance payloads, incorporate sophisticated stabilization systems. The stabilization subsystem is an essential element of these systems as it keeps them aligned and balanced and enables accurate aiming and stable, fully-controlled operation under extreme battlefield conditions.

To function properly, stabilization systems require reliable, on-going angular measurement data. Older angular measurement technologies utilized mechanical gyroscopes, but these sensitive devices often proved unreliable under the excessive shocks and vibrations that are typical of such environments as gun turrets and surveillance payloads.

Today's weapon turret and surveillance payload stabilization systems require angular measurement units that are more reliable and that may be integrated seamlessly into the stabilization system, regardless of the operational conditions.

## **THE SOLUTION**

ACS presents IAMUSS – Inertial Angular Measurement Units for Stabilization Systems.

The IAMUSS series consists of three inertial angular measurement unit models that utilize the fiber-optic gyroscope technology.

The various models in the IAMUSS series offer enhanced reliability and trouble-free integration in the stabilization systems of tank gun systems, machine gun turrets and remotely-controlled weapon stations, electro-optical payloads and fire control systems of naval vessels.

The IAMUSS series includes single-axis and dual-axis angular rate measurement units with AC, DC or customized data format options.

The various models in the IAMUSS series require no periodic maintenance or calibration.

The inertial angular measurement units of the IAMUSS series offer an effective, combat-proven solution to the stabilization needs of modern weapon systems and surveillance payloads.

## **KEY FEATURES & MAJOR ADVANTAGES**

### **Key Features & Major Advantages**

- Inertial angular measurement units based on fiber-optic gyroscope technology
- Seamless integration in weapon system & surveillance payload stabilization systems
- Typical applications:

- Stabilization systems for tank guns
- Stabilization systems for machine gun turrets & remotely-controlled weapon stations
- Stabilization systems for surveillance payloads
- Stabilization for fire control systems of naval vessels
- Combat proven in land and marine applications

Specifications:

Parameter	Model A (Dual Axis)	Model B (Dual Axis)	Model C (Single Axis)
<b>Physical Characteristics</b>			
Output Signal	DC	AC	AC
Power Supply	±15 VDC	+26 VAC 400 Hz	+26 VAC 400 Hz
Power Consumption	< 3 Watts	< 3 Watts	< 2 Watts
Weight	1.65 kg	4.5 kg	1.4 kg
Dimensions	122x110x110mm	200x165x115mm	146x100x80mm
<b>Performance Characteristics</b>			
Drift	±180 °/hr	±1260 °/hr	±1260 °/hr
Drift Stability (1 minute average)	15 °/hr	180 °/hr	180 °/hr
Random Walk	0.2 °/hr	0.2 °/hr	0.2 °/hr
Bias vs. Temperature	72 °/hr	1440 °/hr	1440 °/hr
Scale Factor (over full temperature range)	166.7 ± 3.0% mVdc/°sec.	100.0 ± 4.0% mVdc/°sec.	100.0 ± 4.0% mVdc/°sec.

Bandwidth	60 Hz	30 Hz	30 Hz
Input Rate (per channel)	±60	±60	±60
Start Up Time	1.0 second	1.0 second	1.0 second
MTBF	10,000 hours	10,000 hours	15,000 hours
<b>Environmental Conditions</b>			
Operating Temperature	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C
Vibrations (20-2000 Hz)	6.0 G RMS	6.0 G RMS	6.0 G RMS
Shock	40 G, 11 ms	40 G, 18 ms	40 G, 18 ms
Gun Fire Shock	±265 G, 1 ms	1,000 G, 0.6 ms	1,000 G, 0.6 ms