



# DATS Inclinator

Digital Servo, Single / Dual Axis



## Sensor design and manufacture from a world leader in load, acceleration and inclination

Wzocontrols Sensors is a specialist sensor and instrumentation manufacturer that provides solutions for test and measurement, industrial, manufacturing, R&D, aerospace and defence applications globally.

[www.wzocontrols.co.uk](http://www.wzocontrols.co.uk)



\* Specifications are subject to change without notice

WZO CONTROLS LTD



The DATS utilises a servo-inclinometer element to sense inclination to a very high accuracy with almost zero hysteresis. Internal temperature and linearity compensation is programmed into the DATS during calibration. This ensures that the output is never outside a 0.08° error margin from true input angle, at any temperature and any angle within its compensated range.

## Features

- Industry-standard RS485 output
- 19-bit analog to digital conversion
- 9 to 18 or 18 to 36 Vdc unregulated supply options
- Dynamic filtering, fast response & high vibration rejection
- Built-in temperature sensing and active compensation
- User-configurable output bandwidth

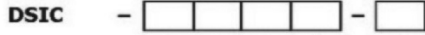
## Applications

- Ordnance Aiming Systems
- Rail track monitoring
- Optical sighting equipment
- Seismic and civil engineering analysis
- Precision platform level control
- Variable temperature environments

Performance			
Angular range	±5°, ±15°, ±60°		
Resolution	0.001°		
Accuracy	0.08°		Note 1
Cross-axis sensitivity	0.2%		of equivalent sensitive axis output
Repeatability	0.008°		Note 2
Response	20Hz maximum		
Environmental			
Temperature range: compensated	-20°C to +70°C		
operable	-40°C to +80°C		
Mechanical shock survival	1,000g 0.5ms half sine		
Sealing	IP65		
EMC			
Emissions	EN 55022: 2006		
Immunity	EN 61000-4-3: 2002		EN 61000-4-8: 1994
	EN 61000-4-4: 2004		EN 61000-4-2: 1996
Output			
Representation	sine of angle		
Measurement update rate	1, 2, 5, 10, 20, 50, 60, or 100		readings per second (set to 10 by default)
Communication	RS485	ASCII	
Bus speeds	RS485	2400, 4800, 9600, 19k2, 38k4, 57k6, 76k8, 115k2, or 230k4	bits per second (set to 115k2 by default)
Electrical			
Supply voltage	9 to 18	18 to 36	Volts
Supply current	100 (single-axis) 140 (dual-axis)	50 (single-axis) 70 (dual-axis)	mA (max.)
Physical			
Dimensions (L×W×H)	65 × 65 × 45		mm
Weight	400		g (nom.)
Notes			
1. This is the absolute error of the DSI combining linearity, calibration uncertainties, and all thermal offset and sensitivity errors over the compensated temperature and measurement ranges.			
2. Maximum deviation over 50 calibrations at constant ambient temperature.			



**How to Order:**



**Number of Axes**

- 1 = Single Axis
- 2 = Dual Axis

**Baseplate**

- 0 = No Baseplate
- B = Baseplate attached
- 1 = Special

**Input Supply**

- 5 = 12V (9 to 18V) dc
- 6 = 24V (18 to 24V) dc

**Output Interface**

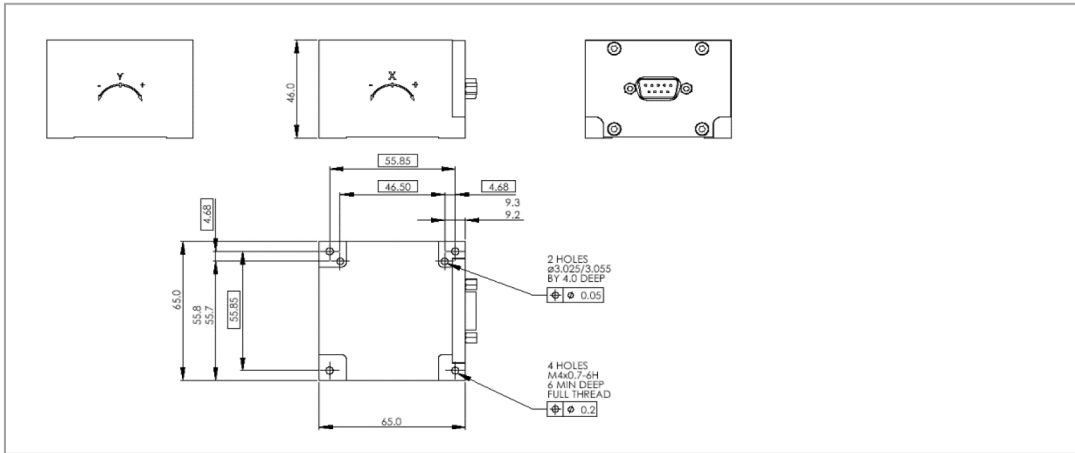
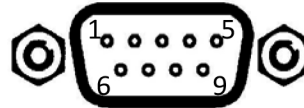
- 1 = RS485 ASCII

**Range**

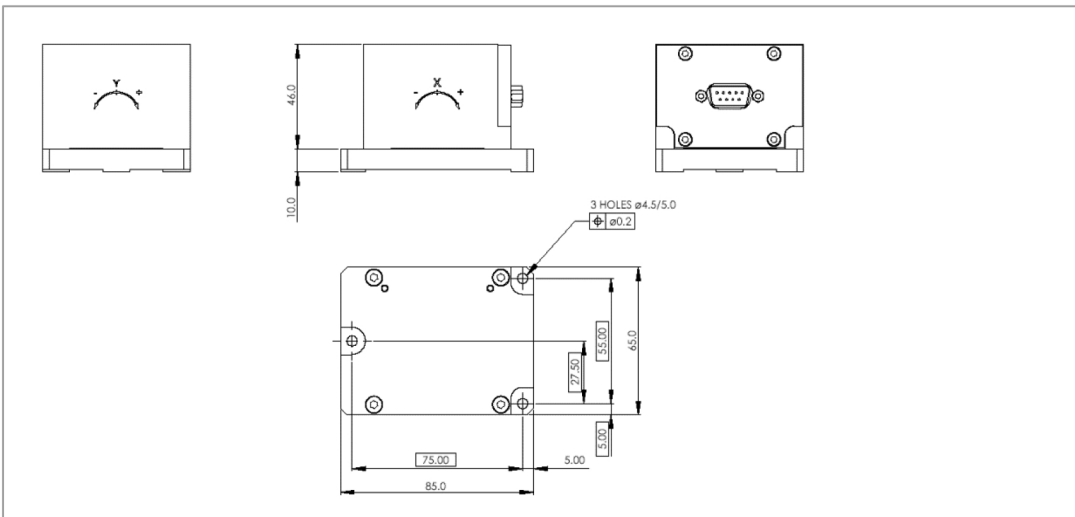
- 5 = ± 5 °
- 15 = ± 15 °
- 60 = ± 60 °

**Electrical Connections:**

- Pin 1 – Supply +
- Pin 2 – Supply -
- Pin 3 – Data +
- Pin 4 – Data -
- Pin 5 – Data GND
- Pin 6 – Factory setup, do not use
- Pin 7 – Factory setup, do not use
- Pin 8 – Not Connected
- Pin 9 – Not Connected



No Baseplate



Baseplate



## Accessories

Wzocontrols Sensors offers a broad range of accessories and services to enhance the performance and capabilities of our sensor products, including:

- line voltage and battery enabled power supplies
- specialized mating connectors
- cable assemblies
- high performance digital displays and universal input indicators
- repair and calibration services for all brands of accelerometers, inclinometers and load cells

## Customisation

With extensive in-house engineering capabilities, Wzocontrols Sensors offers not only a large range of standard sensors but also unique expertise in the design, development and manufacture of specialized sensors and systems that meet specific customer application and performance requirements.

The need to customise our sensors to the specific requirements of an application to ensure they deliver improved safety and efficiency, with optimized cost and return-on-investment is often critical to project success.

Using customer driven elements of sensor design, output and performance, Wzocontrols Sensors will tailor a device to meet almost any application. Major cost and performance benefits may be realized by specifying a customized sensor where performance and mechanical design are optimally matched to specific application demands.