ACOEM AT-400

Technical Datasheet

Innovative and groundbreaking, the 2-axis PSD shaft alignment tool redefines the standards of precision and efficiency in alignment procedures.

- Unleash productivity and efficiency with advanced sensors and precise 2-axis measurement, delivering superior results across diverse applications.
- Intuitive and user-friendly interface for simplified navigation and an enhanced user experience.

Maximize machinery performance with our 2-axis shaft alignment tool. Achieve precise alignment, minimize vibration, and extend equipment lifespan

Easily verify the presence of soft foot with the **SoftCheck™** feature to make a reliable alignment

Get better automatic guidance for a base-bound or bolt-bound situation with the **FeetLock™** function

Align machines in horizontal and vertical direction in only one move with Acoem **VertiZontal™** feature and save time

Easily manage thermal growth with **Target values**

The **Multiple Feet function** is useful for machines with more than two pairs of feet to ensure proper alignment.

Hot Check™, Target values obtained by measuring in cold condition and then in hot condition to determine the machine's thermal expansion.

The spacer shaft function is used when the alignment is performed on machinery using membrane coupling.

OL2R Live (OffLine to Running), measure and monitor dynamic machine movements in real time (OL2R brackets is **needed)**

Shim Simulator shows how different shim adjustments affect coupling errors.

Offset/Cardan provides you with shaft alignment of horizontally and vertically mounted machines with offset drive shaft.

TD9

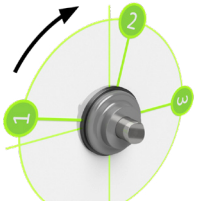
The large detector features a 20x20 mm^2 size and offers a high-resolution of 0.001 mm, making it ideal for precise position sensing and different measurement applications.

TD9

Introducing the market's thinnest 2-axis sensor, weighing 306 g. With a 20-meter measurement range, it revolutionizes precision applications with its compact design and exceptional accuracy.

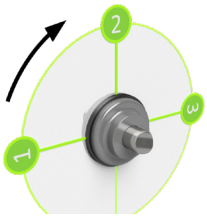
acoem

Measuring methods.



Tripoint™ method
In the Tripoint method, the alignment condition can be calculated by taking three points while rotating the shaft at least 60°. In this method, all points are taken manually.

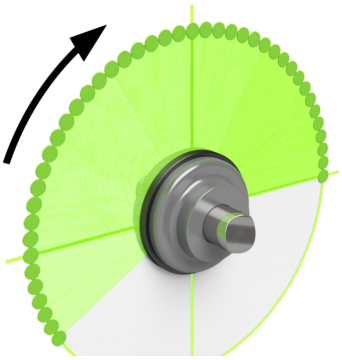
TRIPOINT Express™ method
This method seamlessly incorporates the Tripoint approach, offering the added advantage of fully automated measurements throughout the process.



Clock™ method
In the Clock method, machinery positions are calculated by taking three points with 180° of rotation.

Multipoint method
This function enables measurement initiation from any position on the rotation, allowing recording of multiple points for optimized calculations. Ideal for turbine and sliding bearing applications.

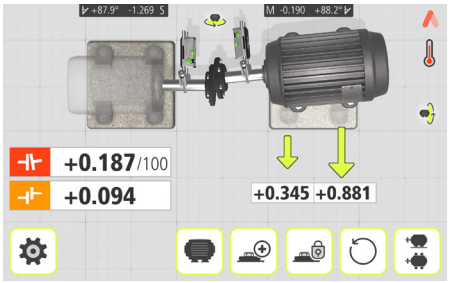
Multipoint Express method
Our method follows the classic Multipoint method approach, but with the advantage of automated measurements for greater convenience.

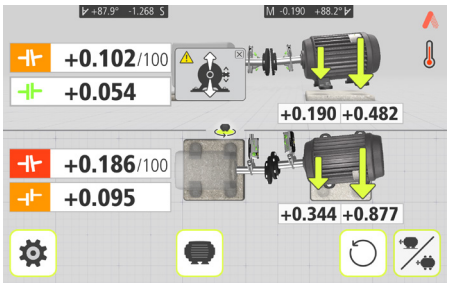


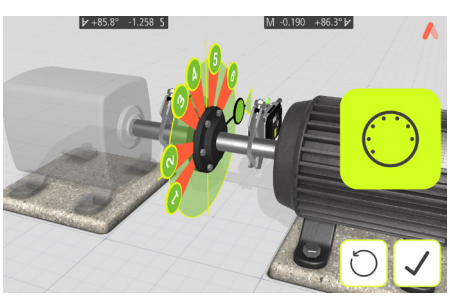
SWEEP method
The Sweep method automates the measurement recording during a sweep of the shafts, providing a convenient way to assess alignment on coupled machines. By recording numerous points a precise result is ensured. The recording of data is stopped manually.

SWEEP Express method
Our method is similar to the classic Sweep method, but with one key distinction: data recording halts automatically when shaft rotation ceases.

Our ACOEM AT-400 Premium product is packed with helpful features.







Effortlessly navigate through our user-friendly interface, **GuideU™,** designed to make it a breeze to follow and understand.

Get the position of both the shafts in real time with Acoem **True Live™** feature

DUAL VIEW for large machines, enabling real-time alignment visualization in both horizontal and vertical directions simultaneously.

Instantly generate an automatic **PDF report** from the field on the mobile device, and add logo

Take pictures of your machines and setup to illustrate automatically in the report

Sensor Specifications

Hardware Type	M9 1-1216, S9 1-1217
Physical	
Housing Material	Anodized Aluminum frame and high impact ABS plastic.
Weight	M9: 306 g (10,8 oz) S9: 306 g (10,8 oz)
Dimensions	TD9: 100mm x 77,3mm x 43mm (3,9 in x 3,0 in x 1,7 in)
Environment	
Operating Temp	-10 to 50 °C (14 to 122 °F)
Storage Temp	-20 to 70 °C (-4 to 158 °F)
Long term storage Temp Room Temp	18 to 28 °C (64 to 82 °F)
Battery Charging Temp	0 to 40 °C (32 to 104 °F
Relative humidity	10 – 90 %
Environmental protection	IP65 (Dust tight and protected against watere jets)
Sensing Technology	
Laser	650 nm class II diode laser
Laser power	< 1 mW
Measurement distance	63 mm to 20 m
Detector	2-axis PSD
Detector sizeword	20 mm x 20 mm (0,79 in x 0,79 in)
Detector resolution	1 µm
Measurement accuracy	1% ± 3 µm
Signal processing	Digital signal processing with sidespot rejection, edge detection, ambient light elimination and anti-vibration mode
Ambient light protection	Optical filtering and ambient light signal rejection.
Inclinometer	Dual High Performance MEMS inclinometers
Inclinometer resolution	0,01 °
Inclinometer accuracy	±0,1 °
Gyroscope	6-Axis MEMS Inertial Motion Sensor with drift compensation and automatic field calibration
Gyroscope accuracy	±1 °
Battery	
Type	High performance Li Ion rechargeable battery or external power
Operating time	8 hours continuous use (measuring)
Charging	8 h
LED indicators	Unit state, laser transmission and 5 battery status indicators with instant battery check
Communication	
Wireless communication	Bluetooth low energy (Bluetooth 5)
Communication range	10 m (33 ft)
Connectors	1 USB Mini port (IP67)
ACOEM Alignment Display	

A sunlight-readable, 8-inch capacitive multi-touch display with super-hardened Gorilla Glass, plus rain and glove mode.
IP67 ruggedness rating (including the ports) for fullywaterproof and dust-tight performance.
Wide operating temperatures of -20°C to 60°C (-4°F to 140°F).

Packaging & Deliverables

Each **ACOEM AT-400 D** is delivered with the following package:

- **Acoem M9**
- **Acoem S9**
- **Acoem AT DU**
- **Rod kit**
- **Magnetic base ON-OFF**
- **Extension fixture 49mm**
- **Chain 8 mm 60 links (L=970 mm)**
- **Magnetic v-bracket 2**
- **Tape measure 5 m**
- **Acoem usb**
- **V-bracket complete 2**
- **Angled universal tool 2**
- **USB-cable A-mini B 2m**
- **Power supply 4 USB-ports 5 VDC**
- **Quick Guide AT**

* Specifications subject to change without notice. Images used are for illustrative purposes only. All trademarks and registered trademarks are the property of their respective owners. ©202 Acoem and all related entities. All rights reserved.

Select Your Package

ACOEM AT-400 D - Acoem Alignment Display with Acoem Home included
ACOEM Home is an offline software on ACOEM DU, transferring data via USB, providing secure functions and apps.

ACOEM AT-400 T - Tablet Display included
Our system features a Wi-Fi enabled tablet capable of sharing reports and receiving app updates seamlessly.

ACOEM AT-400 - Tablet Display unit not included.

ACOEM AT-400 Ultimate

ACOEM AT-400/D/T + ACOEM T21 . Add capability to measure rectangular flatness. Use the M9 sensor as receiver.

Centralize and share your reports with your team, consolidate your plant's alignment status, and assign alignment workorders to team members.

Available on the App Store Google Play

acoem
CREATING ENVIRONMENTS OF POSSIBILITY