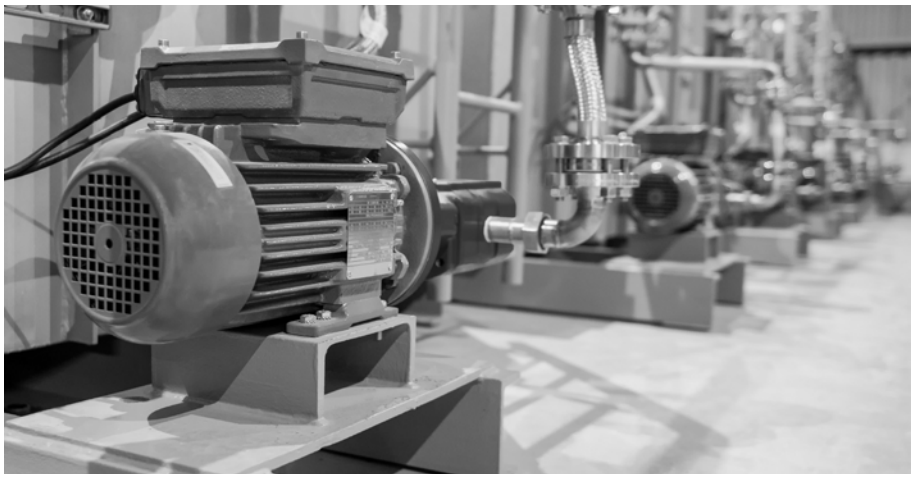
FLUKE

Condition Monitoring and Alignment

Technical Data

# RotAlign™ Core

## Redefining the standard for solving alignment challenges





### Introducing RotAlign™ Core

RotAlign™ Core was designed by some of the world's leading alignment experts to solve problems in the easiest way possible. Featuring the unique single-laser, double detector RotAlign technology laser and sensor heads, it enables powerful, fast, and efficient alignment on rotatable shafts and machines.

RotAlign™ Core is engineered for standard machinery and everyday alignment tasks. It seamlessly integrates hardware, software, and wireless connectivity to deliver accurate shaft alignment data directly to and from the cloud. With a user-friendly, guided interface, virtually anyone can operate the system by following three simple steps: enter dimensions, take measurements, and view results.

### Key benefits at a glance

- **Streamlined Setup:** Single-laser technology simplifies installation with just one sensor and non-adjustable laser, reducing setup time and complexity.
- **High-Precision Alignment:** Dual optical planes and Freeze-Frame Measurement ensure accurate results even with extreme misalignments—without manual pre-alignments.
- **Real-Time Corrections:** Simultaneous live move capability enables technicians to view and adjust alignment in both vertical and horizontal planes instantly, minimizing errors and saving time.

**Adaptive Alignment** represents a breakthrough in precision maintenance—merging intelligent software with next-generation hardware to tackle the full spectrum of alignment challenges, from horizontal and angular to vertical. This smart technology empowers reliability teams to work faster, smarter, and with greater confidence, unlocking new levels of operational efficiency and team productivity.

As the benchmark for innovation in alignment systems, RotAlign™ Core delivers a comprehensive suite of adaptive features that redefine accuracy and speed. With built-in intelligence to minimize human error and streamline workflows, it sets a new industry standard for performance and reliability in machine alignment.

Shaft Alignment App

Locked

Unlocked



## One tablet, total flexibility.

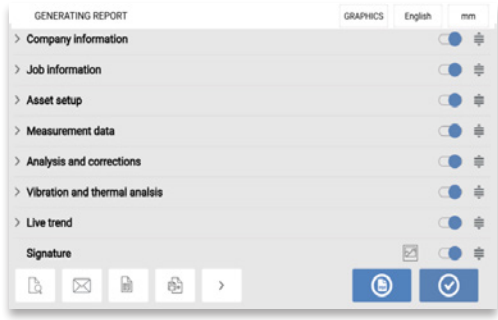
Whether you're working with multiple sensor types or upgrading to meet growing operational needs, RotAlign™ Core supports a unified tablet platform across the product range.

Customers can choose between a **locked** version for dedicated use or an **unlocked** version that enables full tablet functionality, including the capability to install 3rd party applications such as CMMS, Vibration or Thermal Imaging.

For even more flexibility, an Android app version is available, allowing users to leverage their existing devices for alignment.

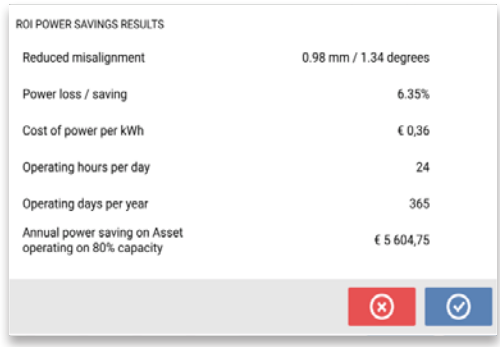
## Customizable Reports

Create tailored reports with ease using RotAlign™ Core's flexible reporting options. Choose from pre-installed full or short templates, or use your own custom layouts. Select exactly what data and graphics to include, rearrange major sections to suit your workflow, and save personalized templates for future use—ensuring every report meets your team's needs with precision and efficiency.




## Built-in ROI Calculator

The integrated ROI calculator in the RotAlign™ Core app provides instant visibility into the financial benefits of precision alignment. By calculating savings from reduced downtime, extended equipment lifespan, and improved energy efficiency, users can quantify the value of each alignment task. This feature supports informed decision-making, helps justify maintenance investments, and enhances operational efficiency—all within a single, user-friendly interface.




**RotAlign™ Core** is built for connected reliability, enabling seamless cloud-based data sharing with ARC 4.0 PC software. This connectivity bridges the gap between field technicians and reliability teams, enhancing collaboration and performance tracking.

By integrating alignment data into broader reliability workflows, RotAlign™ Core helps teams work smarter and faster—unlocking full capacity to solve alignment challenges with precision and insight.

## Tailored feature bundles.

RotAlign™ Core offers Starter, Advanced and Expert feature bundles, so teams can select the level of capability that matches their expertise and operational requirements.

## Upgrades can be performed anytime, in the field.

— ensuring your alignment solution grows seamlessly with your business needs.

| | Starter | Advanced | Expert |
|---|---|---|---|
| Short-Flex coupling & Tolerances | ✓ | ✓ | ✓ |
| Live Move H and V | ✓ | ✓ | ✓ |
| Soft Foot | ✓ | ✓ | ✓ |
| 8-Point Active Clock | ✓ | ✓ | ✓ |
| Static Feet & Multiple Feet | ✓ | ✓ | ✓ |
| Quality Factor & SD | ✓ | ✓ | ✓ |
| Space Coupling | | ✓ | ✓ |
| Thermal Growth & Coupling Targets | | ✓ | ✓ |
| Vertical Alignment | | ✓ | ✓ |
| Continuous Sweep & Multi-Point | | | ✓ |
| 3 Machine Train | | | ✓ |
| Post Processing by Edit Points | | | ✓ |

# A look behind the curtain

## Single Laser Technology – the key to precision alignment:

The RotAlign™ Series technology, based on the inherent Prüftechnik single-laser technology, provides precise measurement results and the easiest mounting and measuring in the field. The RotAlign™ Core sensor includes two HD position sensitive detectors (PSD) and MEMS inclinometers. These combined with detector extension capability make it possible to measure and document the initial alignment condition, no matter how serious the misalignment.

## Simultaneous Live Move – an unbeatable benefit

Simultaneous Live Move, another strong problem-solving feature, allows the user to survey the physical alignment corrections in real time in both vertical and horizontal directions. No matter what measuring mode used or in what angle or direction the laser and sensor heads come to stop, leave them mounted as they shim and adjust the machine as proposed by the device.

- Monitor the alignment process in real time on the handheld device display
- See the physical alignment result immediately
- Colored tolerance smiley faces show the degree of alignment quality
- Quickly re-measure to confirm the alignment result







## Profit from ASI – Active Situational Intelligence

RotAlign™ Core offers different measuring modes to align coupled and uncoupled shafts. It adapts to the user's experi- ence and skill level as well as to the alignment challenge for a variety of industrial assets. Check out these features:

- **Continuous Sweep**
  Single-laser technology simplifies installation with just one sensor and non-adjustable laser, reducing setup time and complexity.
- **Multipoint Mode**
  The measurement mode is for machines with sleeve bearings and can be utilized on both coupled and uncou- pled shafts.
- **3-Train Machine**
  This capability works by using a unique multi-coupling measurement capability to measure all couplings simultaneously in one process, allowing technicians to see the real-time effects of adjustments across the entire train, avoiding trial and error.

# Shaft Alignment Tablet

| General specifications | | |
|---|---|---|
| **CPU** | Processor: | Octa-Core (8): 2.2 GHz (2) and 1.8 GHz (6) |
| | Memory: | 4 GB LPDDR4X SDRAM/64 GB UFS Flash |
| **Display** | Technology: | Corning® Gorilla® Glass |
| | Resolution: | 600 nits, color WXGA 1280x800 |
| | Dimensions: | 8 inch/20.3 cm |
| **Power Supply** | Operating time: | Up to 11 Hours |
| | Battery: | 6100 mAh 3.87 V rechargeable Li-Ion Polymer; (23.61 Wh) |
| | Charging: | USB-C |
| **Connectivity** | Wifi: | IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v/w/mc/ax 2x2 MU-MIMO; Wi-Fi® certified; IPv4, IPv6 (Wi-Fi 6) |
| | Bluetooth: | Bluetooth v5.1 / 2.1+EDR Class 2 (Bluetooth LE) |
| | RFID: | Integrated RFID with read and write capabilities<br>Docking connector (charge and data)<br>USB-C side port (tablet charging and data only) |
| **Environmental protection** | IP 65: | Dustproof and water jets resistant |
| | Relative humidity: | 5% to 95% non-condensing |
| **Drop test** | 1.2 m (4 ft) | |
| **Temperature range** | Operation: | -20°C to 50°C (-4°F to 122°F) |
| | Storage: | -40°C to 70°C (-40°F to 158°F) |
| **Dimensions** | 267 mm L x 171 mm H x 35 mm D 10 33/64” x 6 47/64” x 1 3/8” | |
| **Weight** | 930 g/2.1 lbs | |
| **Camera** | Rear: | Image capture:<br>13 MP auto-focus camera with user controllable LED flash |
| | Front: | 5MP |
| **CE conformity** | Refer to the CE compliance certificate in www.pruftechnik.com | |
| **Carrying case** | Dimensions | 595 x 355 x 115 mm<br>(23 1/2” x 14” x 4 1/2”) |



# RotaAlign™ Core Sensor

| General specifications | | |
|---|---|---|
| **Type** | 6-axis | 2 planes (4 displacement axes and 2 angles) |
| **Measurement** | Optical range | 14 x 14 mm (0.55 x 0.55 in.) |
| | Area | Unlimited, dynamically extendible |
| | Resolution | 1 µm (0.04 mil); Angular 10 µRad |
| | Error | < 2% |
| | Transmitted rate | Approx. 20 Hz |
| **Inclinometer** | Resolution | 0.1° |
| | Error | Roll +-1°; Pitch +- 3° |
| **LED indicators** | 1 LED for laser adjustment, battery and charge status; 1 LED for BT communication | |
| **Power supply** | Battery | Lithium-Ion rechargeable battery 3.7 V, 4.7 Wh |
| | Operating time | 30 hours (continuous use) |
| | Charging time | 2.5 h for up to 80%; 4 h for up to 100% |
| | Charging | USB-C |
| **External interface** | Integrated low power 2.4 GHz Radio (BT LE); USB 2.0 Full Speed | |
| **Radio transmission distance** | Up to 50 m (160 ft) direct line of sight | |
| **Environmental protection** | IP 65 | Dustproof and water jets resistant, shockproof |
| | Relative humidity | 10% to 90% |
| **Ambient light protection** | Optical and active electronic digital compensation | |
| **Temperature range** | Operation | -10°C to 50°C (14°F to 122°F) |
| | Charging | 0°C to 35°C (32°F to 95°F) |
| | Storage | -20°C to 50°C (-4°F to 122°F) |
| **Dimensions** | Approx. 104 x 72 x 54 mm (4 1/8” x 2 13/16” x 2 1/8”) | |
| **Weight** | Approx. 231 g (8.2 oz) | |
| **CE conformity** | Refer to the CE compliance certificate in www.pruftechnik.com | |



# RotaAlign™ Core Laser

| General specifications | | |
|---|---|---|
| **Type** | Semiconductor laser diode | |
| **Laser** | Power | < 1 mW |
| | Divergence | 0.3 mrad |
| | Wavelength | 630-640 nm (red, visible) |
| | Separation distance | Up to 10 m |
| | Adjustment | No |
| | Safety class | Class 2 according to IEC 60825-1:2014 Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019. Safety precaution: Do not look into laser beam |
| **Inclinometer** | Resolution | 0.1° |
| | Error | Roll +-1° |
| **LED indicators** | 1 LED for battery and charge status | |
| **Power supply** | Battery | Lithium-Ion rechargeable battery 3.7 V, 4.7 Wh |
| | Operating time | 40 hours (continuous use) |
| | Charging time | 2.5 h for up to 80%; 4 h for up to 100% |
| | Charging | USB-C |
| **External interface** | Integrated low power 2.4 GHz Radio (BT LE); USB 2.0 Full Speed | |
| **Radio transmission distance** | Up to 50 m (160 ft) direct line of sight | |
| **Environmental protection** | IP 65 | Dustproof and water jets resistant, shockproof |
| | Relative humidity | 10% to 90% |
| **Temperature range** | Operation | -10°C to 50°C (14°F to 122°F) |
| | Charging | 0°C to 35°C (32°F to 95°F) |
| | Storage | -20°C to 50°C (-4°F to 122°F) |
| **Dimensions** | Approx. 101 x 75 x 37 mm (4” x 2 15/16” x 1 7/16”) | |
| **Weight** | Approx. 190 g (6.7 oz) | |
| **CE conformity** | Refer to the CE compliance certificate in www.pruftechnik.com | |




**Visit fluke.com to get complete details about these products or ask your local Fluke sales representative.**

**Fluke.** Keeping your world up and running.™

CMA.Fluke.com

©2026 Fluke Corporation.
Specifications subject to change without notice.
260457-en

Modification of this document is not permitted
without written permission from Fluke Corporation.

FLUKE
Condition Monitoring and Alignment