NEW FEATURES &
BETTER PERFORMANCE

ALPHA DIC 2025 SP1

ALPHA DIC 2025 SP1 delivers new measurement tools, smarter workflows, and extended automation — from polar coordinates and API control to advanced probes and UI optimization.

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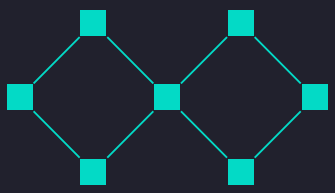
KEY ENHANCEMENTS:

Version 2025 SP1 delivers a focused set of enhancements and refinements, building on the core 2025 release to further improve flexibility, precision, and everyday usability.

NET PROBE
POLAR COORDINATES
WEBSOCKET SUPPORT FOR ALPHA API
IMPROVED TRANS LINE PROBE
AND MORE...

NET PROBE

A brand new probe acts as an advanced tool for complex strain and elongation measurement and visualization of wireframe components and beam structures, as complex as they can be.



The net probe is comprised of an arbitrary number of nodes (points) and edges (lines), with each edge measured separately. Edges can be connected with one another through nodes and you can enclose the entire wireframe. This way, the probe can capture critical spots with the maximum deformation.

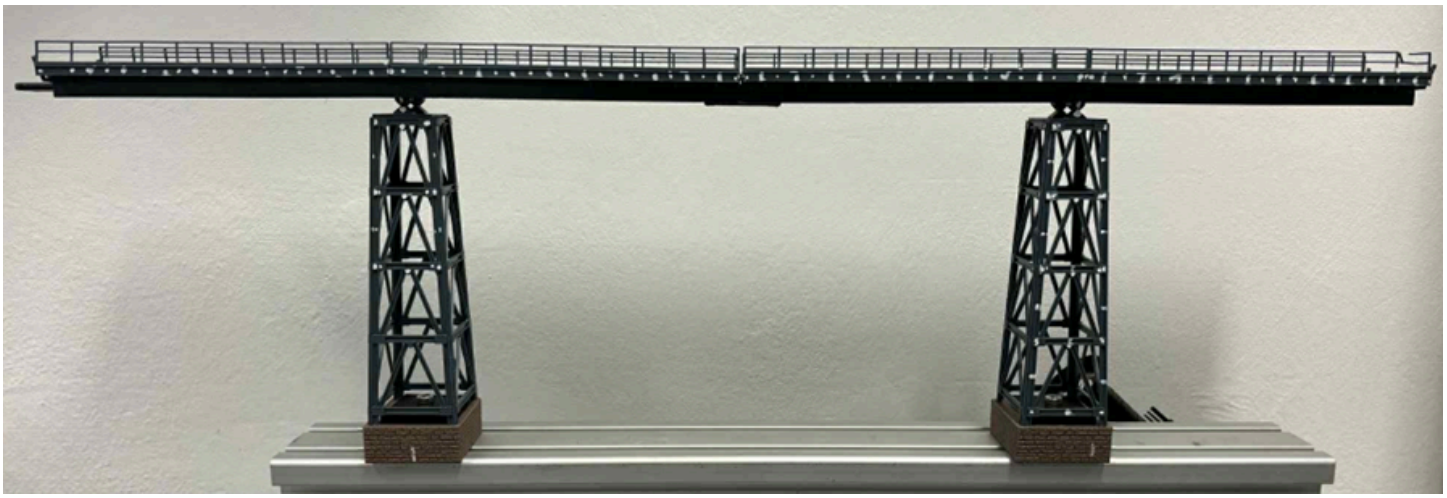
Available in the Net Probe (NP) License Module.

Net Probe placement on one of the pillars ▲

EXAMPLE 1: BEAM BRIDGE INSPECTION

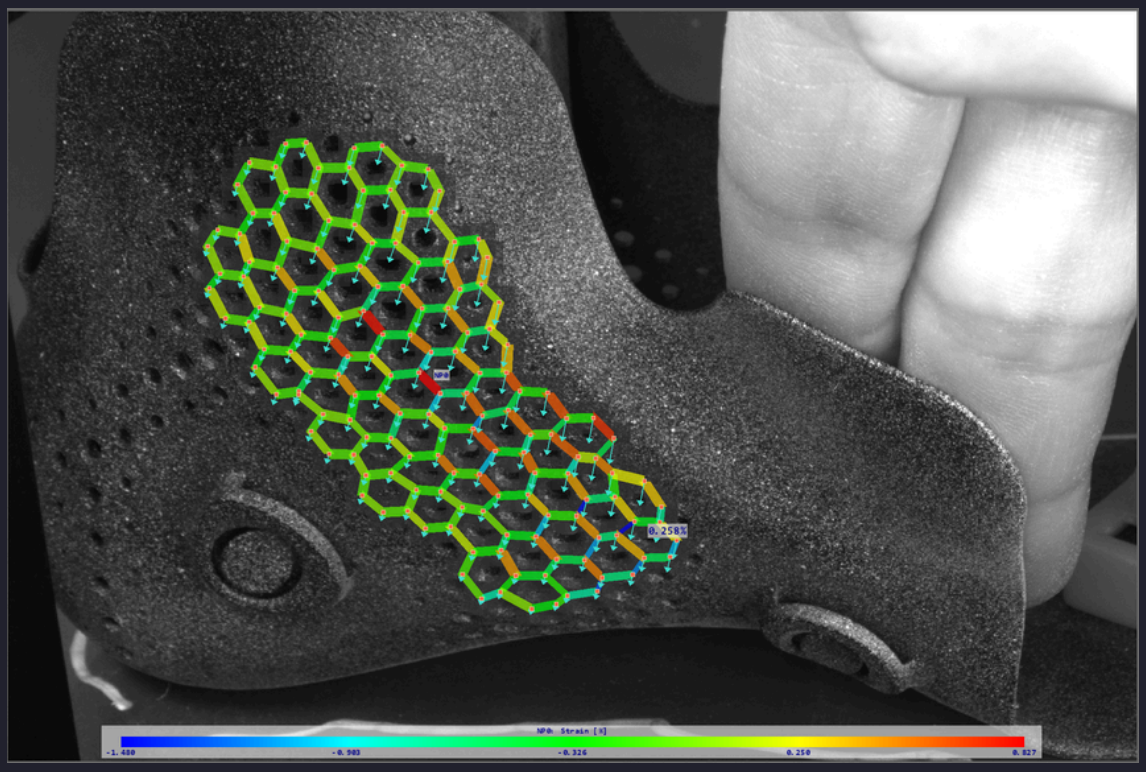
Strain analysis of a beam bridge in this example measures how the pillar structure deforms under applied loads, mapping strain distribution along key members and joints to validate design integrity.

▼ Beam bridge model used for the Net Probe demonstration

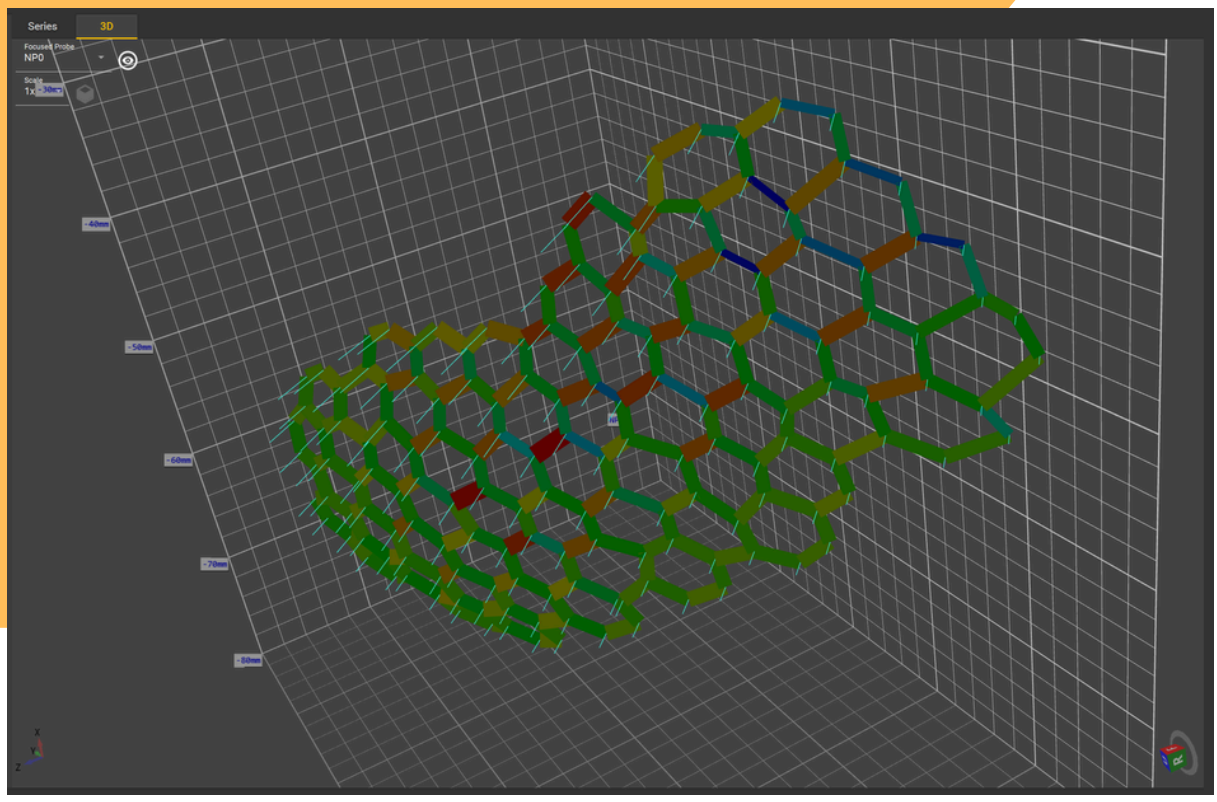


EXAMPLE 2: MEDICAL PROTECTIVE GEAR VERIFICATION

This measurement engages in strain testing of an ankle orthosis and verifies how the brace deforms under realistic loads during use. Net Probe was used here instead of a DIC Area for measuring strain in critical regions with holes on a repetitive pattern.



▲ Color strain map of Net Probe on a protective gear



▲ 3D graph of Net Probe with displacement vectors

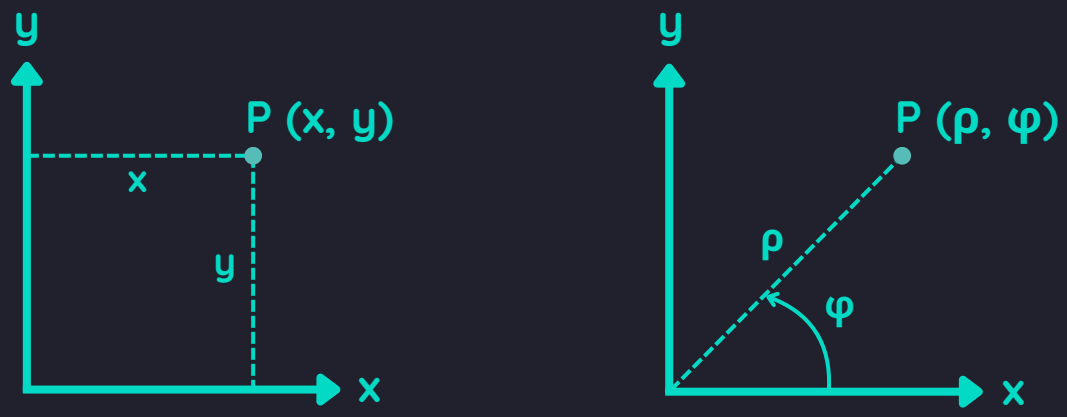
POLAR COORDINATES

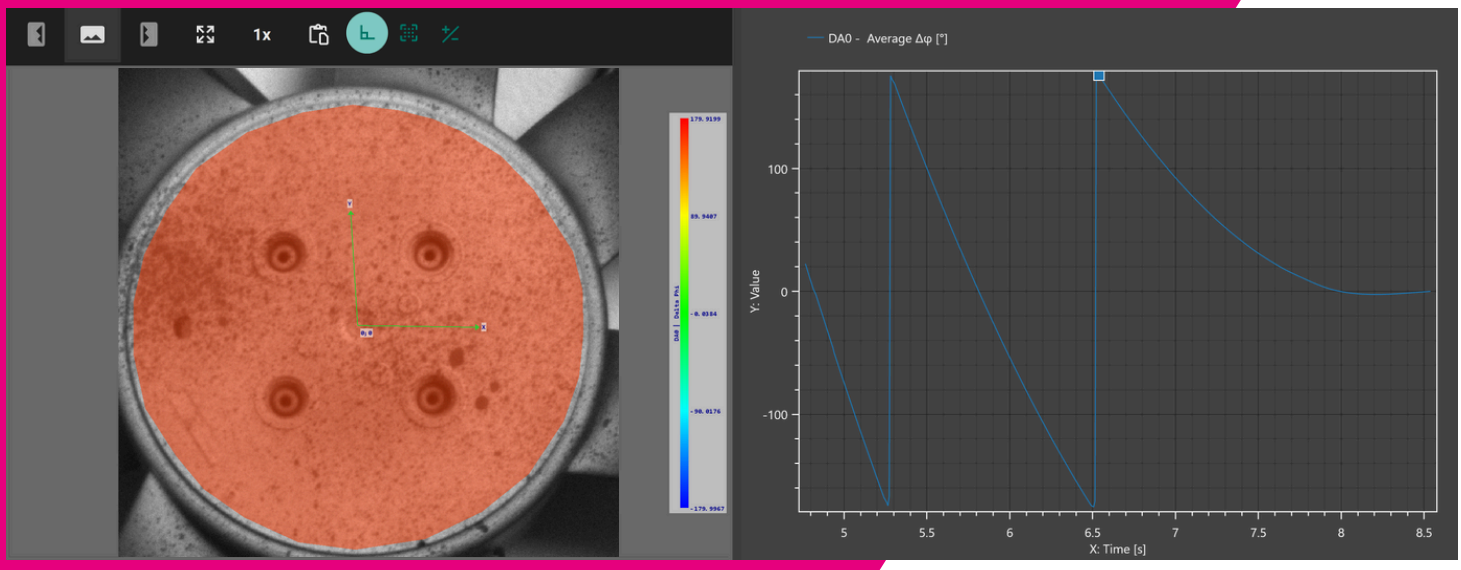
The origin of polar coordinate system in 2D space is implicitly placed during a normal calibration and afterwards the zero value of the angle is assigned to the X axis. Both absolute and change in the measured quantity values can be used when using polar coordinates with Point Probes, Line Probes and DIC Areas.

Utilization of polar coordinates can be beneficial in many applications and for a wide range of parts, for example, turbines, break discs or pipelines. Similar to cylindrical coordinates and objects with rotational symmetry, but in 2D.

DIFFERENCE BETWEEN CARTESIAN AND POLAR COORDINATE SYSTEM

Polar coordinate system represents a point in a plane using a radial distance (ρ) from the origin and a polar angle (φ). The default 2D Cartesian coordinate system uses 2 linear distances (x and y).





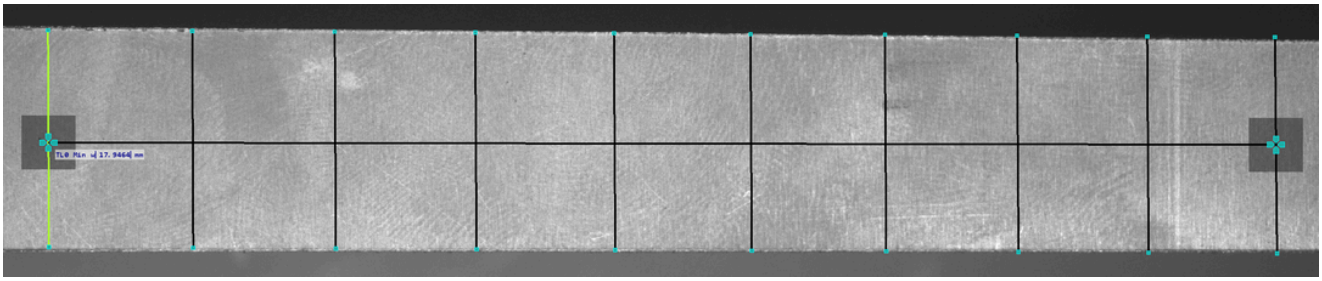
▲ Fan rotation start-up measurement in Polar Coordinates (tangential displacements (φ))

WEBSOCKET SUPPORT FOR ALPHA API

A lightweight web-based Alpha API client for remote control of Alpha DIC. **Alpha4Web** demonstrates real-time WebSocket communication, allowing users to connect, start and stop measurements, monitor live values, and access camera streams directly from a web browser on any device.

IMPROVED TRANS LINE PROBE

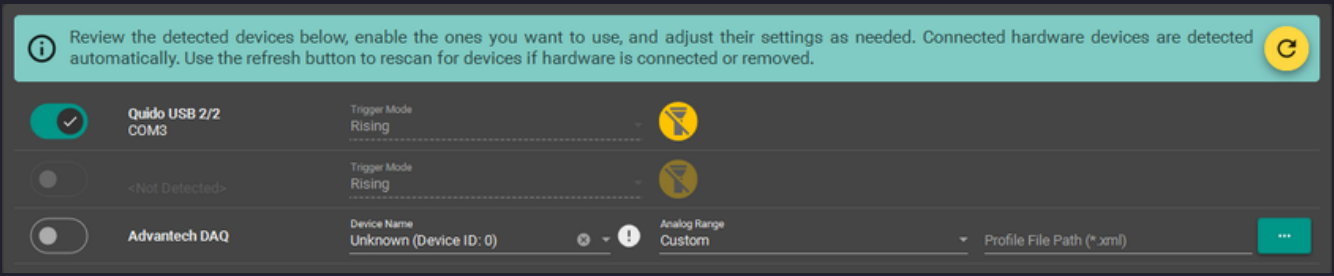
A new feature has been introduced to the Trans Line Probe. In some applications, it is necessary to capture contractions and change in width across the entire reference length. That is exactly why **Width Lines over Endpoints** option was added to the probe settings, right beneath the number of width lines.



ERGONOMIC IMPROVEMENTS

UI updates that make working with Alpha DIC SW more comfortable and efficient:

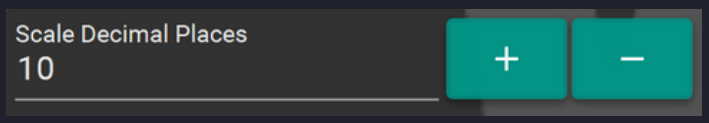
- **Automatic Detection:** Both lights relays and I/O devices are automatically detected during initialization with Device Selection screen that opens on the first application start.

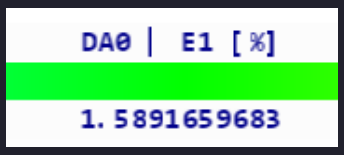


- **Record Image Preview:** Now shown in the offline method overview, making it easier to identify and select the correct dataset at a glance.

- **Segment Value Display:** Bend Line Probe can be divided into many segments and line value distribution appears on the entire probe. With this new feature, it is possible to hover over the individual segments and show their local values. The values of each segment are saved as well when data is being exported.

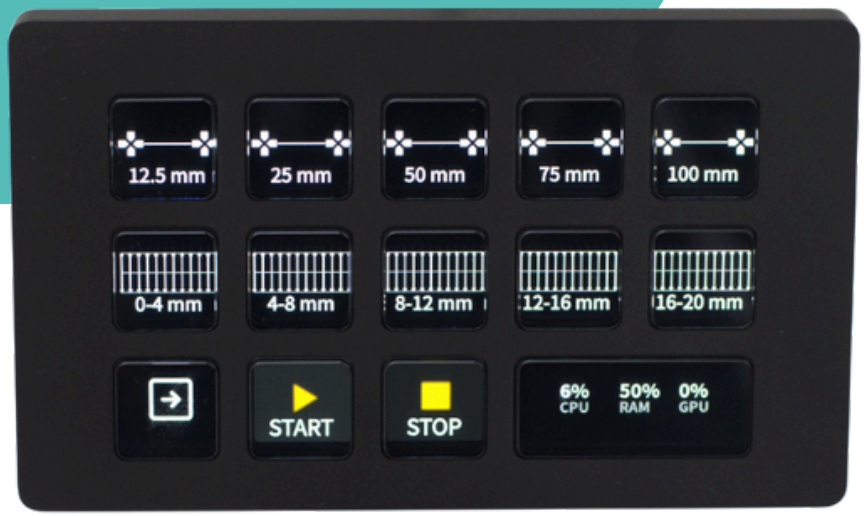
- **Scale Decimal Places:** The number of decimal places shown on color scales and value labels can be adjusted with the option in global tracking settings and set up to the maximum of 10 decimal places.





- **One Click Installation:** Within a single setup wizard, Alpha DIC automatically detects the available drivers and offers to install them immediately, eliminating the need for a separate installation step. The wizard also deploys preconfigured calibrations and methods into the correct folders, including dedicated presets for the latest optical extensometer **Swift 3D**.

- **Alpha Deck:** An extension of Alpha API for easy manual operation with 13 programmable HW buttons with LED screen. An optional little extra for Swift 3D featuring gauge length presets, thickness/diameter range inputs or light operation.



X-Sight ALPHA DIC 2025 SP1 release includes the following 25 new features:

- Major Material Design library update
- WebSocket support for Alpha API along with an example client (Alpha4Web)
- File and folder selection dialogs now use the default Windows ones
- Added the option to edit method notes from PP screen and method overviews
- Added “width lines over endpoints” to Trans Lines
- Added options to modify and rename existing camera models
- Added plane offset editing chip to PP screen
- Added recorded image preview to offline method overview
- Added polar coordinate computed types to points, lines and areas
- Added a reverse correlation option to PP
- Line-based probes maintain L0 within certain precision in 3D
- Added the options of automatic detections and “Detect at Start” to 3D
- Added option to swap calibration in existing methods
- Added “Scale Decimal Places” option to global tracking settings
- Moving mouse over valued line segments displays their values in UI
- Implemented PulseGen commands for Output Mode and Trigger Mode
- Added Net Probe as a new probe type, with its own separate license module
- Added option to create RT method shortcut from method overview
- Improved configuration of Advantech I/O devices
- Added AOI definition to records imported to PP
- Added measurement start/stop triggers to Light Control device
- Added language selection screen to the first run of Alpha DIC
- Added option to unlock and move 2D coordinate system from inside a method
- Added SWIFT 3D licensing module
- Major probe AI detection overhaul

Minor Tweaks:

- Removed RealTimeMeasurement license feature
- Fixed minor issue when probe addition/removal was not properly handled when holding multiple keys at once
- Set bar check value boxes to 2 decimal places
- Joined brightness indicator in stitched scenes to a single axis
- OpenGL components now use an optional debugging context instead of explicit error checking, so it should work faster than before
- Fix handling of offline records without any image data
- Added a keyboard shortcut for switching cameras in stereo (S)
- Raised image buffer pool sizes to support cameras with higher resolutions than usual
- Tweaked logic that refreshes the displayed probe names with additional information
- Added default specimen thickness to global calibration settings
- Added grid background control to calibration views
- Fixed issue that compute every N-th option was not applied on immediate click on Compute
- Fixed wrapping of method notes in UI
- Added “AI Models” directory to standard Alpha installation
- Fixed issue with entering Crack Probe on a single click
- Made admin logged in by default
- Added Daheng camera library to application defaults
- Loading default camera user set on camera load can be turned off in global camera settings
- Fixed minor issue when deleting probe components (inner points, area nodes...) as they were selected
- Fixed rare issues with improper initialization at startup
- Improved UI layout of I/O device views
- Added invalid records to PP method overview
- Raised commonly used numeric maximums in UI
- Possibly fix newly occurring crashes in Spinnaker SDK
- Saving results in PP asks about their name first
- Fix freezing on virtual or unresponsive serial ports
- Selected RT method in the overview remains selected when returning to the overview
- Remove “Restart Input Devices” button from the measurement screen
- Fix issues with a single value being assigned to multiple outputs at once
- Slightly modified default values in DOLI output
- Records without their own calibration are no longer supported even if it is available at a legacy location
- Added check for available output devices when opening methods and running measurements
- Fixed multiple dialogs error when opening a method without needed license
- Fixed issue with cameras without timestamp data on high FPS (Basler, Sapera)
- Detail camera alignment saves separate calibrations without the scene camera
- Fix issue with renaming entities to the same name with different case
- Crack probe yellow indicator always transparent
- Various other minor UI tweaks

Contact

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Technical support

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