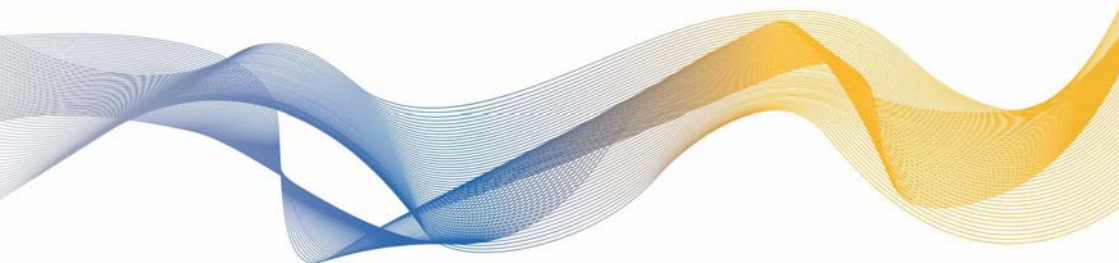


Tracer
User Manual



Contact Us

Phoenix Inspection Systems Limited

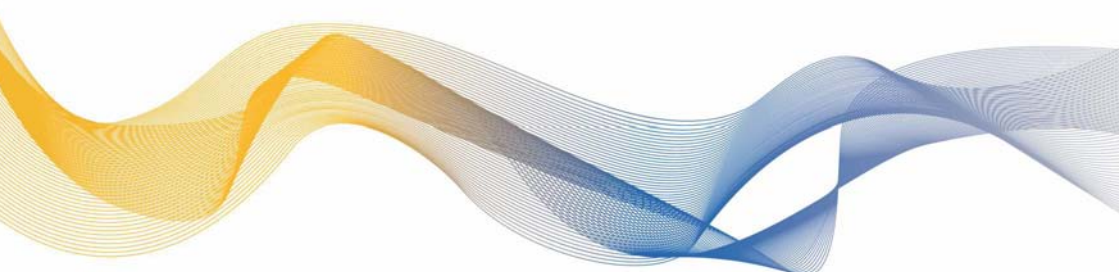
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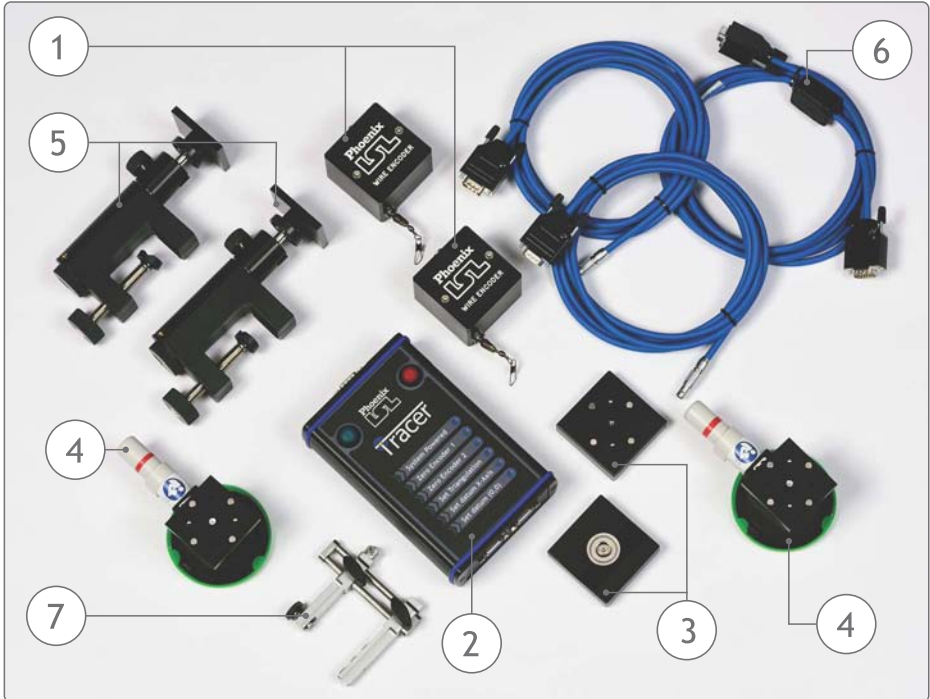
Scan

For more information and training video



Or visit www.phoenixisl.com/tracer

Tracer Kit



1. 2x Wire Encoders
2. 1x Tracer Interface Box
3. 2x Magnetic Encoder Mounts
4. 2x Vacuum Cup Encoder Mounts
5. 2x Clamping Encoder Mounts
6. 1x Instrument Encoder Cable (optional termination)
7. C-Clamp Probe Holder

Encoder Mounting



Magnetic encoder mount, attaches to 100mm OD to flat, ferritic material.



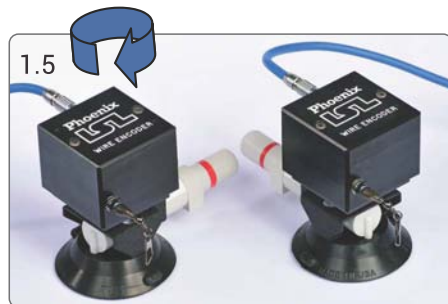
Vacuum cup encoder mount, attaches to 100mm OD to flat, smooth surfaces.



Clamping encoder mount, attaches to 0 to 40mm thick edges, any material.



The wire encoders quickly attach to the mounting bases with small magnets and locating pins.



Wire encoders can instantly be re-positioned to 0°, 90°, 180°, and 270° orientations.



Strong attachment allows use at any angle; vertical, horizontal, or inverted.

Tracer

Set Up

2.1



Set up two encoder mounts 0.3m to 1m apart. The wires should be approximately level with the inspection area, if possible.

2.2



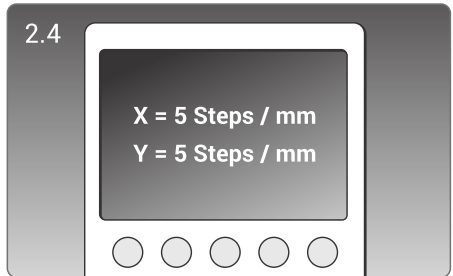
Attach the wire from each encoder to the C-Clamp.

2.3



Connect the wire encoders to the tracer interface box then connect the tracer interface box to your 2-axis instrument, the red 'System Powered' LED will illuminate and indicates the system is ready to start.

2.4



Turn on your instrument and define your scan area setting X and Y encoder resolutions to 5 steps / mm. The maximum area that can be scanned is 2m x 2m.

2.5



Attach the c-clamp to the probe and wedge.

Calibration



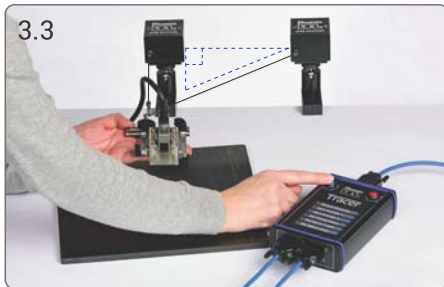
Move the probe to wire encoder one so the wire is fully retracted and press the green button once.

After a short delay the first green LED 'Zero Encoder 1' will illuminate to indicate the zero position for wire encoder one has been set. Ensure this is the wire encoder connected to 'Wire Encoder 1' input on the tracer interface box.



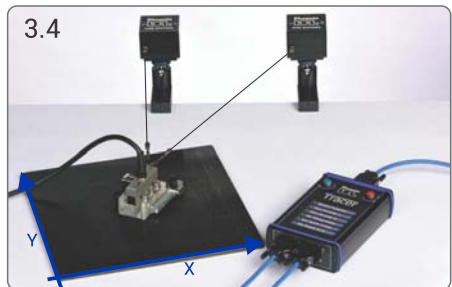
Move the probe to wire encoder two so the wire is fully retracted and press the green button once.

After a short delay the second green LED 'Zero Encoder 2' will illuminate to indicate the zero position for wire encoder two has been set. Ensure this is the wire encoder connected to 'Wire Encoder 2' input on the tracer interface box.



Move the probe to a position directly in front of one of the wire encoders, simulating a right angled triangle with the two wires and an imaginary line between the encoders.

Press the green button once and after a short delay the third green LED 'Set Triangulation' will illuminate.



On the inspection surface, visualise an X-Y axes overlay.

When using an array probe this will normally need to be orientated in line with the Y-axis as required by the Instrument. The part X-Y axes are totally independent of the wire encoder positions and so can be set up at any relative angle.

Tracer

Calibration

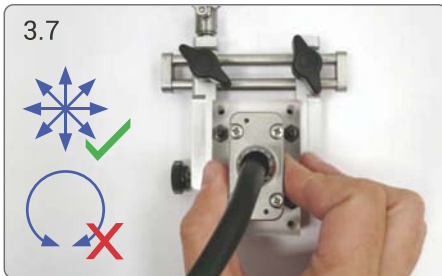


Move the probe to any position along the simulated X-axis ($Y=0$) on the inspection surface. Press the green button once and after a short delay the fourth green LED 'Set datum X-Axis' will illuminate.



Move the probe to the origin simulated X-Y axes (0,0). Press the green button once and after a short delay the fifth green LED 'Set datum (0,0)' will illuminate.

The Tracer is now calibrated and outputting X-Y encoder data to the Instrument. Check the axes are moving in the correct directions and invert the encoder direction on the Instrument if necessary. Move the probe to the scan start position and press start to begin collecting data on the Instrument.



Whilst scanning it is important to keep the array probe orientation aligned with the Y-axis.

The probe can be moved in any direction but should not be rotated. Rotating the probe will introduce errors into the C-scan and result in misalignment between adjacent scans.



If you are not satisfied with the calibration or a button has accidentally been pressed twice then the tracer interface box can be reset at any time by pressing the red button. Calibration can then be restarted.