



# Soft Touch Connectorless Logic Analyzer Probes

## Agilent models

Half-size Soft Touch: E5396A, E5398A

Soft Touch: E5387A, E5390A, E5394A

Pro Series: E5402A, E5404A, E5405A, E5406A

### Maximize Reliability, Minimize Intrusion with Connectorless Logic Analyzer Probes

Accurate, easy logic analyzer measurements start at the probe tips. The Agilent E5300A Series and E5400A Pro Series soft touch probes meet the demand for accuracy and reliability while providing a connectorless attachment to your device. Quick, easy and repeatable signal access is achieved without designing in a connector. From basic state and timing analysis to resolving signal integrity problems in high-speed, low-amplitude signals, these low-intrusive probes help digital design engineers tackle their debug challenges.

### Make Reliable Connections

The probe's micro spring-pin technology provides reliable contact to signal pads, even when probing uneven printed circuit boards or contaminated surfaces. Soft touch probes eliminate the need for gold plating or special board processes, stiffeners, handling and cleaning.

### Save Circuit Board Space

The Agilent E5400 Pro Series supports the new industrystandard interface for smaller connectorless probing. Their footprint is 30% smaller than our original soft touch probes. They also do not require any keepout area on the back side of the board, resulting in even greater space saving.

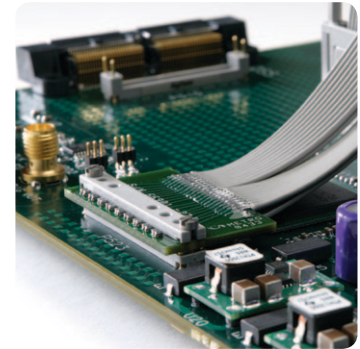
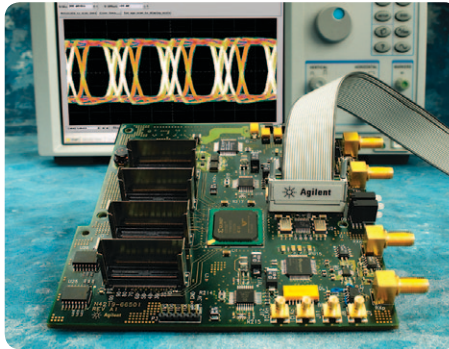


Figure 1. Soft touch connectorless technology is available for Agilent's entire line of logic analyzers.

Table 1. Breakthrough soft touch connectorless probes features and benefits

Features	Benefits
Top mount retention module	Improves reliability and accommodates varying circuit board thicknesses
Pliable micro spring-pin design	Easily attach; get reliable contact even for contaminated or uneven board surfaces
High density signal access in a small footprint	Easily integrate into compact designs with 17-channel or 34-channel models. A low profile (right angle) version is also available.
Easy routing layout	Streamline design flow and eliminate stubs; ensure constant differential mode impedance
< 0.7 pF capacitive loading, > 2.5 Gbits/s rate	Acquire high-speed signals without impacting performance of your circuit
Supports differential or single-ended signals	Obtain differential capability; overcome signal integrity problems at high speeds

[www.agilent.com/find/softtouch](http://www.agilent.com/find/softtouch)



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## Simplify Signal Routing

The soft touch probe footprint allows flow-through routing of differential pair transmission lines as seen in Figure 2. This maintains constant separation between the two traces in each pair, thus ensuring constant differential-mode impedance. Also, flow-through routing eliminates stubs.

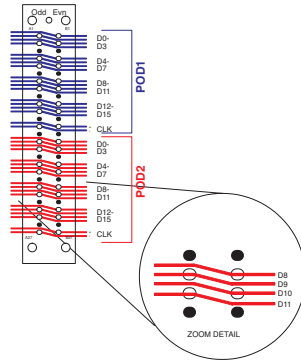


Figure 2. E5394A 34-bit routing

## Minimize Signal Disturbance

< 0.7 pF capacitive loading ensures that your high-speed target system continues to maintain its tight timing margins with the soft touch probe attached.

## Logic Analyzer Compatibility

Agilent E5402A, E5405A, E5406A, E5387A and E5390A are compatible with logic analyzers with 90-pin cable connectors

- 16950A, 16950B, 16951B
- 16760A
- 16962A
- U4154A

Agilent E5404A, E5394A are compatible with logic analyzers with 40-pin cable connectors

- 16910A/16911A
- 16800 Series
- 1680 Series
- 1690 Series

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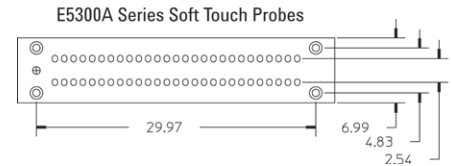


Figure 3. 34-channel soft touch connectorless footprint comparison

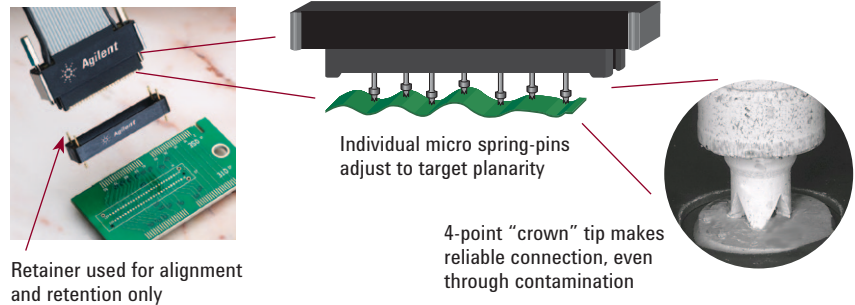


Figure 4. The probe's micro spring-pin technology provides reliable contact to signal pads, even when probing uneven printed circuit boards or contaminated surfaces.

## Related Literature

Publication title	Pub number
<i>Probing Solutions for Logic Analysis Systems Product Overview</i>	5968-4632E
<i>Agilent Technologies 16900 Series Logic Analysis Systems Color Brochure</i>	5989-0420EN, ENUS
<i>Agilent 16800 Series Logic Analyzers Color Brochure</i>	5989-5062EN
<i>Soft Touch Connectorless Probes User's Guide</i>	E5387-97005
<i>Pro Series Connectorless Probes User's Guide</i>	E5404-97004
<i>U4154A Logic Analyzer Module Data Sheet</i>	5990-7513EN

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