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TLP058
FlexChannel® Logic Probe

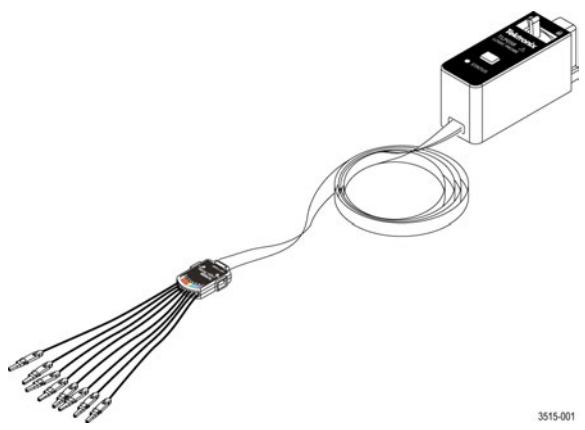
Instructions

1
071-3515-03

Product description

The TLP058 FlexChannel® logic probe connects all instruments with FlexChannel® inputs to digital buses and signals on your device under test (DUT). The probe contains 8 data channels.

All leads include a ground connection at the tip. You can connect the probe leads separately to the target system, or group the leads together using the probe tip holder.



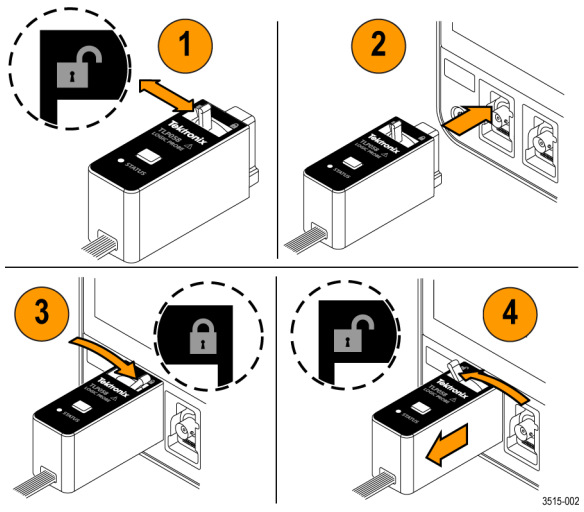
Connecting the probe to the oscilloscope

1. Move the locking lever to the unlocked position then let go to reset locking lever to the center position.
2. Insert the probe into a FlexChannel channel until fully seated and the lock mechanism clicks.
3. Move the locking lever to the locked position. The status light should be a solid green.

NOTE. *It is normal for the logic probe Status light to flash green when the oscilloscope is powering on, and will turn to a steady green once the oscilloscope is fully running.*

NOTE. *If the status LED continues flashing green, flashing red, or is a steady red, contact Tektronix Customer Support for assistance.*

4. To remove the probe, move and hold the locking lever at the unlocked position and pull out the probe.



Connecting the probe to your circuit

Attach the probe to the circuit using the connectors and adapters shown on the back of these instructions. Select the best method for your needs, and then go to Setting up the Probe.

Setting up the probe

The oscilloscope automatically detects and configures channels when you connect a logic probe.

To set and view the digital channel parameters, add the channel with the connected logic probe to the display. Double-tap the Waveform badge for the logic probe channel to open the configuration menu. Digital channel settings include threshold voltage (default is 1.4 V), signal height (for all channels), and channel labels.

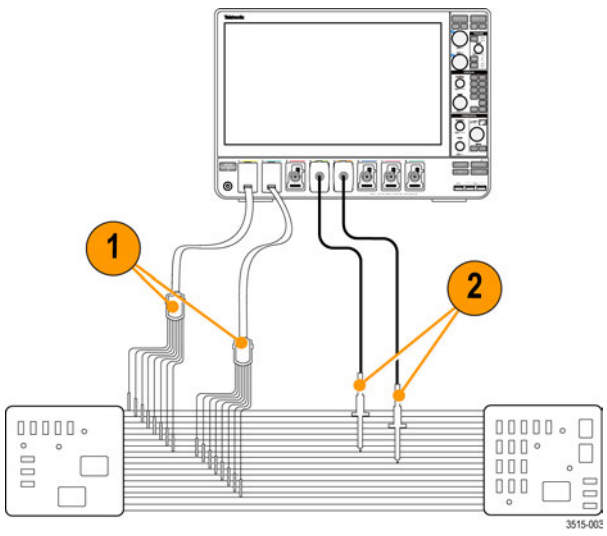
Using the probe

See the oscilloscope documentation and Help topics for how to display and trigger on digital logic signals and buses.

Functional check

Follow the instructions for connecting the probe to the oscilloscope and setting up the probe. Connect your probe leads to active logic signals on your DUT. You should see logic activity immediately on all connected, active channels. If you do not see an active signal, use an analog probe to verify signal activity on the logic signal points.

Typical application



1. Use the logic probe to view digital signals on a system bus.
2. Use an analog probe to view analog waveform information of a digital signal.

Accessories

The probe comes standard with a Logic Probe Accessory Kit (Tektronix part number 020-3170-XX). See the illustration on the following page. See the label in the accessories box lid for information on the individual accessories.

Specifications

Table 1: Electrical and mechanical specifications

Characteristic	Description
Input channels	8 digital
Input resistance	100 kΩ ±1.0%
Input capacitance	3.0 pF
Input signal swing	
Minimum	400 mV p-p
Maximum	30 V p-p, ≤200 MHz (centered around the DC threshold voltage) at the probe tip 10 V p-p, ≥200 MHz (centered around the DC threshold voltage) at the probe tip
Maximum nondestructive input signal	30 V p-p, ±42 V peak, ±50 V_{DC}
Threshold voltage	± 40 V
Minimum detectable pulse width	1 ns
Maximum input toggle rate	500 MHz
Maximum sample rate	6.25 GS/s
Digital to analog trigger skew	5 ns
Probe length	1.0 m (3.28 ft)

Table 2: Environmental specifications

Characteristic	Description
Temperature	
Operating	0 °C to +50 °C (+32 °F to +122 °F)
Nonoperating	–40 °C to +71 °C (–40 °F to +160 °F)
Humidity	Noncondensing, and as limited by a maximum Wet-Bulb temperature of +39 °C (+102 °F)
Operating	5% to 90% relative humidity to +40 °C (104 °F) 5% to 55% relative humidity +40 °C to +50 °C (+104 °F to 122 °F)
Nonoperating	5% to 90% relative humidity to +40 °C (+104 °F) 5% to 39% relative humidity +40 °C to +60 °C (+104 °F to 140 °F)
Altitude	
Operating	3,000 m (9,842 ft) maximum
Nonoperating	12,000 m (39,370 ft) maximum

Equipment Recycling. This symbol indicates that this product complies with the applicable European Union requirements according to Directives 2012/19/EU and 2006/66/EC on waste electrical and electronic equipment (WEEE) and batteries. For information about recycling options, check the Tektronix Web site (www.tek.com/productrecycling).

Safety summary

Connect and disconnect properly. Connect the probe output to the measurement instrument before connecting the probe to the circuit under test. Disconnect the probe input and the probe ground from the circuit under test before disconnecting the probe from the measurement instrument.

Observe all terminal ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product. Connect the probe reference lead to earth ground only.

Do not operate without covers.

Avoid exposed circuitry. Do not touch exposed connections and components when power is present.

Do not operate with suspected failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do not operate in wet/damp conditions.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry.

Safety terms and symbols in this manual.

These terms may appear in this manual:

WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*

CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Symbols on the product. This symbol may appear on the product:

CAUTION
Refer to Manual

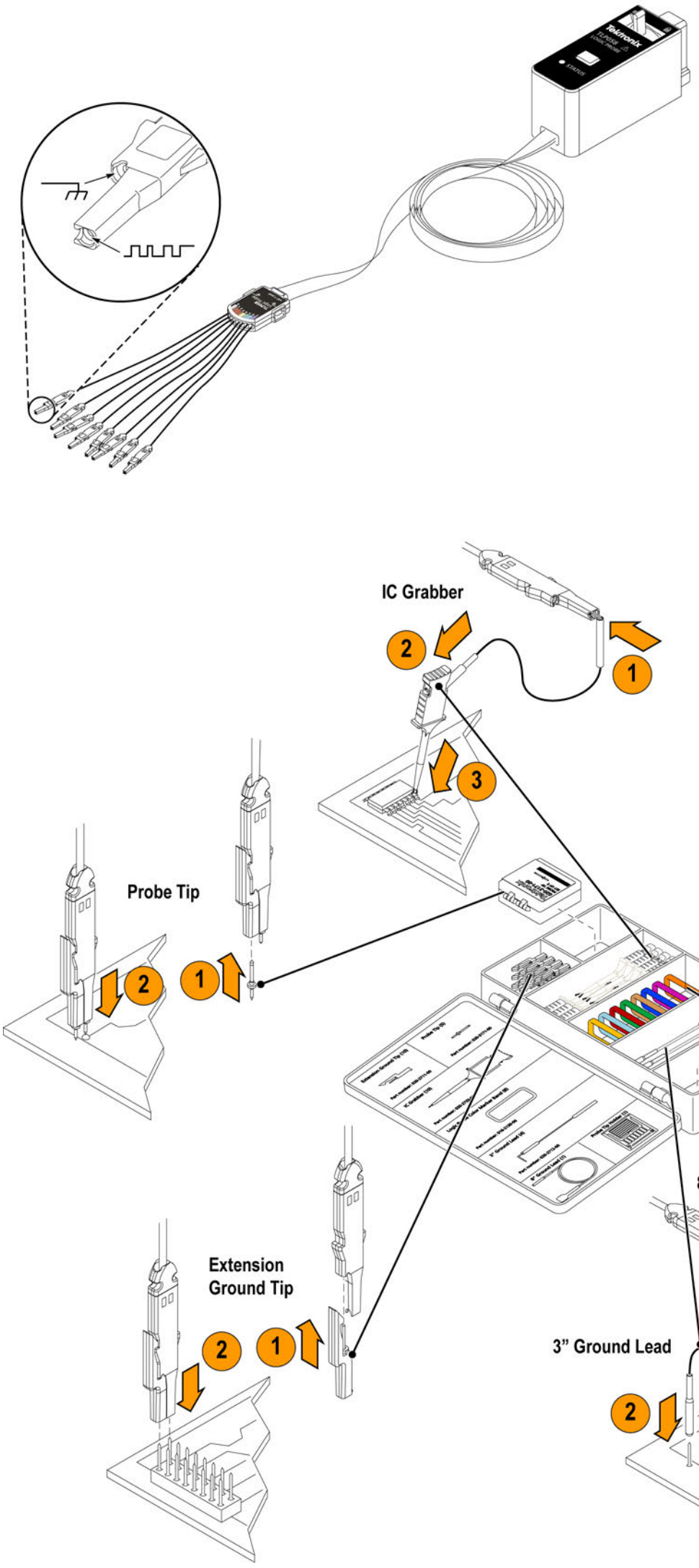
Contacting Tektronix

Web site: www.tektronix.com
Phone: 1-800-833-9200
Address: Tektronix, Inc.
Department or name (if known)
14200 SW Karl Braun
Drive P.O. Box 500
Beaverton, OR 97077
USA
Email: techsupport@tektronix.com

Warranty information

For warranty information, go to www.tektronix.com/warranty.

Connecting the probe to the circuit



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