

TL3000 series

Model	TL3017E	TL3134E	TL3134B	TL3234B+
Power Source	USB bus-power (+5V)			
Static Power Consumption	0.75W			
Max Power Consumption	<2.5W			
Hardware Interface	USB 3.0			
Timing Analysis (Asynchronous, Max. Sample Rate)	1 GHz			2 GHz
State Clock Rate (Synchronous, External Clock)	200 MHz			
Storage	Conventional Timing, Transitional Timing			
Channels (Data / Clock / Ground)	16 / 1 / 2		32 / 2 / 4	
Total Memory	16Mb		1Gb	
Timing Analysis	Available channels (Conventional / Transitional Timing) - Memory per channel			
2 GHz	---		(4 / 3) - 2Gb	
1 GHz	(8 / 6) - 2Mb		(8 / 6) - 1Gb	
500 MHz	(16 / 12) - 1Mb		(16 / 12) - 500Mb	
250 MHz	(16 / 16) - 1Mb		(32 / 24) - 250Mb	
200 MHz	(8 / x) - 2Mb		(8 / x) - 1Gb, (16 / x) - 500Mb	
	(16 / 16) - 1Mb		(32 / 24) - 250Mb	
Resolution	1ns			
Channels	16		32	
States	16			
Events	16			
Pre / Post	Yes			
Pass Counter	Yes (0~1048575 times)			
Types	Channel, Pattern, Single / Multi Level, Width, Time-out, External			
Trigger	I ² C		I ² C, SPI, UART, USB PD 3.0	
Bus I	---		BISS-C, CAN 2.0B/CAN FD, DALI, HID over I ² C, I ² S, I ³ C, LIN 2.2, LPC, MDIO, Modbus, PMBus, Profibus, SMBus, SVI2, USB1.1	
Bus II	---		eMMC 4.5, eSPI, MIPI SPMI 2, NAND Flash, SD 3.0, SVID ³ , Serial Flash (SPI NAND)	
Bus III	---		---	
Group	2 (ch0~7, ch8~15 & clk0)		4 (ch0~7, ch8~15 & clk0, ch16~23, ch24~31 & clk1)	
Range	+5V ~ -5V			
Resolution	50mV			
Accuracy	±100mV + 5%*Vth			
Non-Destructive	±30V DC, 12Vpp AC			
Operation	+10V ~ -10V			
Sensitivity	0.25Vpp @50MHz, 0.5Vpp @150MHz, 0.8Vpp @250MHz			
Data channels	200KΩ//<7pF			
Analog channels	20KΩ//<3pF			
Operating / Storage	5°C~45°C (41°F~113°F) / -10°C~65°C (14°F~149°F)			
Channel to channel skew	< 1ns			
Trig-In	TTL 3.3V level (Rising / Falling)			
Trigger pulse approval	> 8 ns			
Trig-Out	TTL 3.3V, Pulse Width			
Ref. Clock Input	10MHz, Vpp=3.3 to 5V			
Ref. Clock Output	10MHz, TTL 3.3V			
Connector type	MCX jack / female			
I	I ² C		I ² C, SPI, UART, USB PD 3.0	
II	---		BISS-C, CAN 2.0B/CAN FD, DALI, HID over I ² C, I ² S, I ³ C, LIN 2.2, MDIO, Modbus, PMBus, Profibus, PWM, SMBus, USB1.1, USB PD 3.0	
III	---		eSPI, SVID ³	
Zoom In / Out	Yes			
Language	English / Simplified Chinese / Traditional Chinese			
Waveform Height	Adjustable			
Zoom / Report Window	Yes			
Quick Cursor-positioning	Yes			
Import Label(s)	Yes			
Quick Bus Decode Setup	Yes			
Trigger / Auxiliary cursors	1/25			
Data Logger	Saved to Hard Disk Drive			
Software Features	1-Wire, 3-Wire, 7-Segment, A/D Mux Flash, AccMeter, ADC, APML, AVSBus, BiSS-C, BSD, BT1120, CAN 2.0B/FD, Close Caption, CODEC, SSI, DALI, DMX512, DP AUX ¹ , EDID, eMMC 5.1/MMC, eSPI, FlexRay, HD Audio, HDLC, HDQ, HID over I ² C, I ² C EEPROM, I ² S (PCM, TDM), I ³ C, I ⁸⁰ , I ⁸⁰ , IrDA, ITR, RBT656 (CCIR656), JTAG, JVC IR, LCD1602, LED_Ctrl, LIN 2.2, Line Decoding, Line Encoding, Lissajous, LPC, LPT, Math, M-Bus, MDDI, MDIO, MHL CBUS, Microwire, MI (RGMII), MIPI CSI, MIPI DSI LP, MIPI RFFE, MIPI SPMI 2.0, Modbus, NAND Flash, NEC IR, PECL, PMBus, Profibus, PS/2, PWM, QEI, QI, RC-5, RC-6, RGB Interface, S/PDIF, SD 3.0 (SDIO), Serial Flash, Serial IRQ, SGPIO, Smart Card, SMBus (SBS, SPD), SMI, SPI, SPI-NAND, SSI, ST7669, SVI2, SVID ³ , SWD, SWIM, SWP, UART, UNI/Q, USB 1.1, USB PD 3.0, Wiegand, ...			
Line Decoding	Biphase Mark, Differential-Manchester, Manchester (Thomas, IEEE802.3), Miller, Modified Miller, NRZI, ...			
Line Encoding	AMI(Standard, 8B2S, HDB3), Biphase Mark, CML, Differential-Manchester, Manchester (Thomas, IEEE802.4), MLT-3, Miller, Modified Miller, NRZI, Pseudoternary, ...			
Dimension	L x W x H (mm ³)			
Lead Cable	(Data / CLK / Analog / GND)			
Grippers	20		40	

¹ Optional DP AUX adapter needed.
² Upon request ONLY by users who have signed CNDA with Intel, SVID decode supported by all TL3000 models.
³ Upon request ONLY by users who have signed CNDA with Intel, SVID trigger & PA supported by TL3234B+ ONLY.

Acute TravelLogic

Logic Analyzer & Protocol Analyzer



123 x 76 x 21 mm³

- PC-based
- USB 3.0 Interface
- 34 Channels (Max.)
- 2 GHz Timing (Max.) / 200MHz State Analysis
- 8Gb Memory (Max.)
- Stacks with Acute or another DSO to form as an MSO
- Bus Decode : BiSS-C, CAN 2.0B/CAN FD, DP_Aux¹, DMX512, EDID, eMMC 5.0, eSPI, I²C, I²S, I³C, MIPI DSI LP, NAND Flash, NEC IR, Profibus, SD 3.0/SDIO, Serial Flash, SPI, SVID², SWD, UART, USB1.1, USB PD 3.0... (90+)
- Bus Trigger I : I²C, SPI, UART, USB PD 3.0
- Bus Trigger II : BiSS-C, CAN 2.0B/CAN FD, DALI, I²S, I³C, LIN 2.2, LPC, MDIO, Modbus, PWM, ...
- Bus Trigger III : eMMC 4.5, eSPI, MIPI SPMI 2.0, NAND Flash, SD 3.0, SVID³, ...
- Protocol Analyzer I : I²C, SPI, UART, USB PD3.0
- Protocol Analyzer II : BiSS-C, CAN 2.0B/CAN FD, DALI, I²S, I³C, LIN2.2, MDIO, PWM, USB1.1, ...
- Protocol Analyzer III : eSPI, SVID³, ...

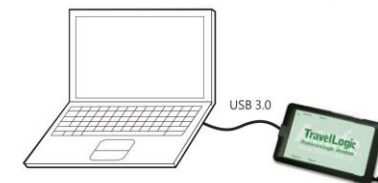
Model	Channels	Sample Rate	Memory	Bus Trigger	Protocol Analyzer
TL3017E	17	1 GHz	16Mb	I ² C	I ² C
TL3134E	34	1 GHz	1Gb	I	I
TL3134B	34	1 GHz	1Gb	I, II	I, II
TL3234B+	34	2 GHz	8Gb	I, II, III	I, II, III

Software Window



System Requirements

- USB 3.0 port
- Win 7, Win 8, Win 10 (64 bit)
- PC RAM 16GB (recommended) or 8GB at least



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Protocol Analyzer:

It is hardware decoding, may log protocol data very long time if without waveforms.
Application timing: Preliminary protocol debug.

Support multiple protocols with different operating modes

Real-time data search

Stack with a DSO as an MSO in logic analyzer mode

The screenshot shows the Protocol Analyzer interface. At the top, there are buttons for 'Connect', 'Protocol', 'Protocol Analyzer', 'Show Waveforms', 'Run', and 'Stack DSO'. Below these is a 'Search' field. The main area is divided into a 'Protocol report' table and a 'Waveform' view. The table lists timing, data, address, R/W, and ASCII. The waveform shows digital signals with bus decodes overlaid.

Real-time data statistics

Hide items for easy view

Protocol report

Show waveforms with bus decodes

Three icons representing different Protocol Analyzer modes: DATA, DATA, and DATA.

Protocol Analyzer

Show real-time protocol data
Application timing: massive protocol data with some idles in between

Protocol Logger

Like data logger, save massive data into SSD hard drive
Application timing: massive protocol data

Protocol Monitor

Like dash cameras, record protocol data by the device's memory only
Application timing: trigger event only happens in very long time

Packing List :



Software and Manual Download links at: <http://www.acute.com.tw>

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Logic Analyzer:

Capture digital waveforms and support bus decodes.
Able to stack with a DSO to form as an MSO.

Flow chart bus triggers :

The screenshot shows the Logic Analyzer flow chart bus trigger configuration screen. It includes a 'Run' button, a 'State 1' section with 'Address' and 'Data' fields, and a 'Counter 1' section with 'Trigger' and 'Counter x 1' options.

Power trigger for serial bus, 8-states flow chart setting with Counter/Timer

Detail parameters for each states

Quick View

Right-click and drag on the clock waveform to see the frequency and the number of transitions

The screenshot shows the Logic Analyzer interface with a waveform and a report window. The waveform shows digital signals with bus decodes. The report window displays a table of data points.

Clear setting

Single or repetitive captures

Fast DSO stack setting

Display digital and analog waveforms at the same phase

Report window

Measurement Type	Label Name A	Label Name B	From	To	Minimum	Maximum	Average
Period Time	BUS_IDC		Begin	End	10ns	97.995us	24.719us
Frequency	BUS_IDC		Begin	End	100MHz	17.273KHz	40.454KHz
Cycle Count	BUS_IDC		Begin	End	---	---	6627
Positive Pulse Count	BUS_IDC		Begin	End	---	---	6628

Measurement Statistics Tab

Quick measurement and statistics for selected channels.