

TB2016E

Acute TravelBus Logic Analyzer & Protocol Analyzer

このカタログはTB2016シリーズ3機種用ですが、TB2016Eの機能を目立たせています。TB2016シリーズはキャプチャしながら順次デコードして表示していくプロアナモードとトリガが使え、キャプチャ停止後波形表示するロジアナモード（ソフト処理でプロトコルデコード可能）があります。

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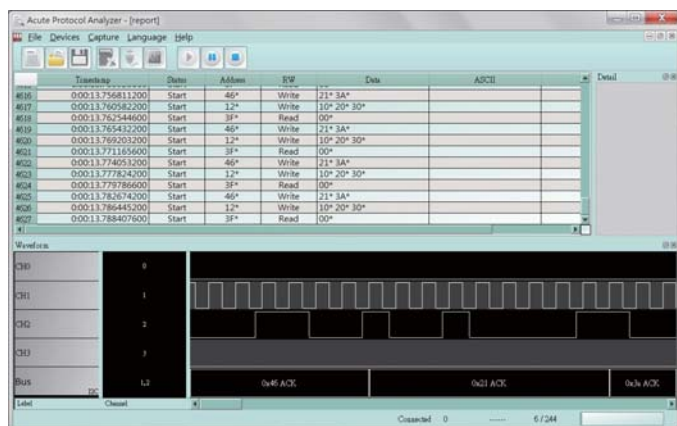


96 x 74 x 24 mm

- 低電圧I/O（例えば 0.9V I2C、1.2V MDIO）に使えるプロトコルアナライザ
- PC-based, USB 3.0 interface/powered
- 200 MHz* timing/state analysis
- Digital channels : 16 (Data), 1 (Clock), 2 (I2C/DP_Aux)
- Memory : PC RAM
- Real time data display and post-capture waveform display
- Bus Decode : I2C, I2S, LIN2.2, SMBus, PWM, SMBus, SPI, UART, USB PD3, ... (70+ decodes)
- Module I (TB2016F, TB2016E, TB2016B)
Protocol Analyzer : I2C, RS232, SPI
- Module II (TB2016E, TB2016B)
Protocol Analyzer : HID over I2C, I2S, LIN2.2, MDIO, PMBus, SMBus, USB1.1
- Module III (TB2016B)
 - Protocol Analyzer : BiSS-C, CAN2.0B, CAN-FD, DALI2.0, Profibus, RS422, RS485, ...
 - Differential channels : 2 (CAN2.0B/CAN-FD), 4 (RS422/485)
 - Stackable with Acute TravelScope DSO to form an MSO
 - Isolated Ground : CAN2.0B/CAN-FD, RS485 (Safety Isolation > 1000Vrms)

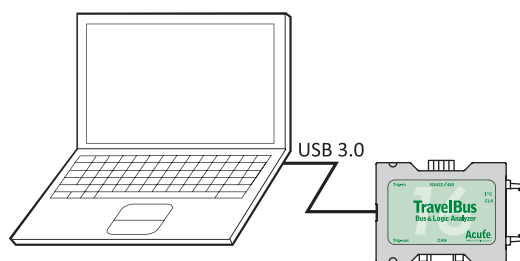
Model	Channels	Module	Bus Decode	DSO stack
TB2016F	19	I	YES	No
TB2016E	19	I, II	YES	No
TB2016B	25	I, II, III	YES	Yes

Software Window



System Requirements

- USB 3.0 port
- Windows 10/11
RAM: at least 4GB



Acute

PC-based T&M Instruments

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TravelBus series

Model		TB2016F	TB2016E	TB2016B
Power	Power Source	USB bus-power (+5V)		
	Static Power Dissipation	0.75W		
	Max Power Dissipation	< 2.5W		
Hardware Interface		USB 3.0		
Timing Analysis (Asynchronous, Max. Sample Rate)		200 MHz*		
State Clock Rate (Synchronous, External Clock)		200 MHz*		
Channels (Data / CLK / I ² C / CAN / RS485)		16 / 1 / 2 / - / -		16 / 1 / 2 / 2 / 4
ロジアナモードでデータ等を使いシーケンスを組んでトリガ設定できるプロトコル	Resolution	5 ns		
	Channels	16 (Max.)		
	Conditions	Yes (4)		
	Pre/Post Trigger Setting	Yes		
	Pass Counter	Yes (0 ~ 65536 times)		
	Event Types	Channel, Pattern, Single, Width, Time-out, External		
	Module I	I ² C, RS232, SPI		
	Module II	---	HID over I ² C, I ² S, LIN2.2, MDIO, PMbus, SMBus, USB1.1	
	Module III	---	BiSS-C, CAN2.0B, CAN-FD, DALI2.0, DP_Aux, SENT, Modbus, Profibus, RS422, RS485, USB PD3	
	Input port (for Stack)	---	TTL 3.3V	
Trigger	Output port (for Stack)	---	TTL 3.3V	
	Range	-6V ~ +6V		
	Resolution	50mV		
Threshold	Accuracy	±100mV + 5%*Vth		
Input Voltage	Maximum	±40V DC, 15Vpp AC		
	Sensitivity	0.5Vpp @150MHz		
Impedance		200KΩ // <5pF		
Maximum target signal speed		Data Port: 15MHz,	CAN Port: 5Mbps, I ² C Port: 400KHz,	RS485 Port: Baud rate 20Mbps
Temperature	Operating / Storage	5°C ~ 45°C (41°F ~ 113°F) / -10°C ~ 65°C (-14°F ~ 149°F)		
プロアナモードで順次デコード表示して解析できるプロトコル	Module I	I ² C, RS232, SPI		
	Module II	---	HID over I ² C, I ² S, LIN2.2, MDIO, PMbus, SMBus, USB1.1	
	Module III	---	BiSS-C, CAN2.0B, CAN-FD, DALI2.0, DP_Aux, Modbus, Profibus, PWM, RS422, RS485, USB PD3	
Protocol Analyzer				
ロジアナモードでデコード（解析）できる70種類超のプロトコル		1-Wire, 3-Wire, 7-Segment, A/D Mux Flash, AccMeter, ADC, APML, BiSS-C, BSD, CAN2.0, CAN FD, Close Caption, CODEC_SSI, DALI2.0, Digital LED, DMX512, DP_Aux, EDID, FlexRay, HDLC, HDQ, HID over I ² C, I ² C, I ² C EEPROM, I ² S, ITU656, IrDA, JTAG, JVC IR, LCD1602, LIN2.2, Line Decoding, Line Encoding, LPT, M-Bus, Math, MDIO, MHL Cbus, Microwire, Mini/Micro LED, MIPI CSI LP, MIPI DSI LP, MIPI I3C 1.1, MIPI SoundWire, Modbus, NEC IR, PECL, PMBus, Profibus, PS/2, PWM, QEI, QI, RC-5, RC-6, RT_SWI, SDQ, SENT, SGPIO, Smart Card (ISO7816), SMBus, SMI, SPI, SSI, ST7669, SWD, SWIM, SWP, UART, UNI/O, USB1.1, USB PD3, Wiegand		
Software features	Bus decode			
Dimension	L x W x H (mm ³)	96x74x24		
Lead Cable		24-pin		
Grippers		5	10	20

* Measure signal under 14MHz ONLY due to data transmission limitation.

Packing list

Item	Quantity
1. TB2016 device	1
2. Terminal Block (F/E/B)	0/0/1
3. D-Sub Connector (F/E/B)	0/0/1
4. Lead Cable (24-pin)	1
5. USB 3.0 Cable	1
6. Grippers (F/E/B)	5/10/20

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

