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Data Sheet

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TEKTRONIX

Tektronix DPO4EMBD Embedded Serial Triggering and Analysis

Tektronix DPO4EMBD Embedded Serial Triggering and Analysis Module The Tektronix DPO4EMBD is an application module for MSO/DPO4000 and MSO/DPO4000B Series oscilloscopes that enables automated packet-level trigger, decode, search, and event-table analysis for I2C and SPI embedded serial buses. It adds digital bus views, packet decoding with timestamps, and Wave Inspector search marks for embedded-system debug. SPI analysis is available on four-channel models; two-wire SPI only on DPO4102B / DPO4102B-L. The Tektronix DPO4EMBD is an application module for MSO/DPO4000 and MSO/DPO4000B Series oscilloscopes that enables automated packet-level trigger, decode, search, and event-table analysis for I2C and SPI embedded serial buses. It adds digital bus views, packet decoding with timestamps, and Wave Inspector search marks for embedded-system debug. SPI analysis is available on four-channel models; two-wire SPI only on DPO4102B / DPO4102B-L.



MODEL Tektronix DPO4EMBD	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU DPO4EMBD	LISTING https://aumictechlabs.com/products/dpo4embd-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Tektronix DPO4EMBD is an embedded serial triggering and analysis module that extends DPO4000 and MSO/DPO4000 series oscilloscope capabilities for debugging complex embedded

systems. It delivers automated triggering, decoding, and search functionality across nine embedded serial protocols, enabling packet-level analysis on critical bus elements including addresses, data content, and identifiers.

Technical Specifications

The module supports simultaneous decoding of up to four serial and/or parallel buses. Signal acquisition utilizes any analog channel (Ch1–Ch4) and, on MSO models, any digital channel (D0–D15). USB triggering and decode functions operate on all compatible models; HS triggering and decode are available on 1 GHz models in specific series only. Ethernet support is limited to MDO4000C Series (10BASE-T and 100BASE-TX compatible).

Key Features

- Packet-level triggering on addresses, data, start of packets, and unique identifiers across multiple serial buses
- Protocol support: I2C, SPI, CAN, CAN FD, LIN, FlexRay, RS-232/422/485/UART, MIL-STD-1553, ARINC 429, I2S/LJ/RJ/TDM, USB, and Ethernet
- Bus display consolidates individual signals (clock, data, chip enable) for simplified packet boundary identification
- Decoded value display formats: Hex, Binary, Decimal, Signed Decimal, and ASCII depending on protocol
- Event table with time-stamped packet capture exportable to .csv format
- Search and mark functionality for user-defined packet criteria with rapid front-panel navigation
- Single-ended probing recommended for I2C and SPI; single-ended and differential probing for 10BASE-T; differential probing required for 100BASE-TX

Typical Applications

Embedded system validation and debug across automotive, industrial, and communication platforms requiring multi-protocol bus analysis and correlation.

Compatibility & Integration

Designed for Tektronix DPO4000 and MSO/DPO4000 series oscilloscopes. CAN FD and certain USB specifications are not available on MSO/DPO2000 Series.

Features & description

From manufacturer datasheet

Features

• Buses: I2C and SPI packet trigger, decode, and search • I2C trigger: Start, Stop, Repeated Start, Missing ACK, Address (7/10-bit), Data, Address+Data • SPI trigger: SS active, MOSI, MISO, MOSI and MISO, Start of Frame • Decode formats: Hex, Binary • Display: bus only, bus + waveforms, timestamped event table • Signal inputs: any Ch1–Ch4; MSO also D0–D15 • Recommended probing: single-ended • Host series: MSO4000 / DPO4000 / MSO4000B / DPO4000B

Applications

• Microcontroller and DSP I2C / SPI bus debug • FPGA and peripheral interface validation • Embedded board bring-up and intermittent ACK / framing faults • Correlation of serial packet content with analog signal integrity

DPO4EMBD Characteristics / Specifications

PARAMETER	VALUE
Model	DPO4EMBD
Manufacturer	Tektronix
Instrument Type	Embedded Serial Triggering and Analysis Application Module
Compatible Series	MSO/DPO4000 and MSO/DPO4000B
Supported Buses	I2C; SPI
I2C Max Data Rate	up to 10 Mb/s
SPI Max Clock/Data Rate	up to 50 Mb/s (automated decode)
I2C Address Modes	7-bit or 10-bit
I2C Data Trigger Length	1 to 5 bytes
SPI Word Size	4 to 32 bits
SPI Bit Order	MSB first or LSB first
SPI Framing	Idle Time (2-wire) or Slave Select (3/4-wire)
SPI Clock Edge	Rising or Falling
SPI SS Polarity	Active High or Active Low
SPI MOSI/MISO Polarity	Active High or Active Low
SPI Data Search Length	up to 128 bits (four 32-bit words)
Signal Inputs I2C	Any Ch1–Ch4 (and D0–D15 on MSO)
Signal Inputs SPI	Any Ch1–Ch4 (and D0–D15 on MSO)
Recommended Probing	Single-ended
Decode Display Formats	Hex; Binary
Display Modes	Bus; Bus and waveforms; Event table with timestamps
SPI Availability Note	Four-channel models; 2-wire SPI only on DPO4102B / DPO4102B-L Notes Specs from Tektronix MSO/DPO4000B Series datasheet application-module section and DPO4EMBD reseller tables. Confirm firmware revision and exact host model before use.
Buses	I2C and SPI packet trigger, decode, and search

PARAMETER	VALUE
I2C trigger	Start, Stop, Repeated Start, Missing ACK, Address (7/10-bit), Data, Address+Data
SPI trigger	SS active, MOSI, MISO, MOSI and MISO, Start of Frame
Decode formats	Hex, Binary
Display	bus only, bus + waveforms, timestamped event table
Signal inputs	any Ch1–Ch4; MSO also D0–D15
Host series	MSO4000 / DPO4000 / MSO4000B / DPO4000B
Data Rate	up to 10 Mb/s

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	DP04EMBD
Manufacturer	Tektronix
Instrument Type	Embedded Serial Triggering and Analysis Application Module
Compatible Series	MS0/DP04000 and MS0/DP04000B
Supported Buses	I2C; SPI
I2C Max Data Rate	up to 10 Mb/s
SPI Max Clock/Data Rate	up to 50 Mb/s (automated decode)
I2C Address Modes	7-bit or 10-bit
I2C Data Trigger Length	1 to 5 bytes
SPI Word Size	4 to 32 bits
SPI Bit Order	MSB first or LSB first
SPI Framing	Idle Time (2-wire) or Slave Select (3/4-wire)
SPI Clock Edge	Rising or Falling
SPI SS Polarity	Active High or Active Low
SPI MOSI/MISO Polarity	Active High or Active Low
SPI Data Search Length	up to 128 bits (four 32-bit words)
Signal Inputs I2C	Any Ch1-Ch4 (and D0-D15 on MS0)
Signal Inputs SPI	Any Ch1-Ch4 (and D0-D15 on MS0)
Recommended Probing	Single-ended
Decode Display Formats	Hex; Binary
Display Modes	Bus; Bus and waveforms; Event table with timestamps
SPI Availability Note	Four-channel models; 2-wire SPI only on DP04102B / DP04102B-L
Notes	
Specs from Tektronix MS0/DP04000B Series datasheet application-module section and DP04EMBD reseller tables. Confirm firmware revision and exact host model before use.	

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.