

SENT Protocol Data Decode



Comprehensive Trigger Suite

An intelligent serial bus auto-setup function automatically detects bit-rate and voltage threshold for quick configuration. A wide variety of trigger types can be set, including trigger points on Fast and Slow Channels, channel ID, data combinations, and errors. Additionally, these trigger types can be used with the DLM4000 in combination with conventional edge triggers to capture anomalies in the data pulse signal.

Decode List Display

Decoded data from the message frame is conveniently organized in a table format. For Fast Channels, the output data can be displayed in nibble (4 to 24 bit) or a custom user-defined format, where the data size can be set from 0 to 24 bits. For Slow Channels, the output data can be displayed as short or enhanced message format. Deep oscilloscope acquisition memory will provide extended capture times of SENT sensor transmissions for up to 100,000 frames of data.

Simultaneous Analog and SENT Bus Analysis

Analysis can be performed at high speeds simultaneously on up to four different buses operating at different speeds, and four conventional analog signals. This is enhanced by the search function, which will allow the user to look for specific data or errors in the decoded data. Dual-zoom is available to provide a side-by-side zoomed view of the different buses and analog signals for easy debugging alongside each other.

Key Features:

- SENT Auto Setup trigger quickly detects and displays decoded data
- Extensive trigger suite includes analog, logic and SENT specific trigger conditions
- Independent dual-zoom windows for displaying analog and SENT waveforms
- Display decoded Fast and Slow Channels simultaneously in real-time
- Deep memory up to 250MPts for acquisitions as long as 100sec, even when the clock period is 3 us.
- Decode message frames as Nibbles or User-Defined format
- Zoom search function for specific data patterns or errors
- Store decoded data in CSV file format to PC or internal memory
- Trend the data on up to 4 SENT waveforms
- Supports version 2010 and later

Top Image: High-resolution SENT waveform and decoded message frames, stored in acquisition memory, are provided in an intuitive table format making debugging fast and effective.

Specifications

Applicable Standard		SAE J2716 JAN 2010 and older
Clock Period		1 μ s to 100 μ s resolution of 0.01 μ s
Number of Bus Input		Up to 4 buses may be decided at one time
Source Channel		Any analog, logic, or MATH channel
Data Type	Fast Channel	Nibbles User-Defined
	Slow Channel	Short Enhanced
Trigger Modes*		Every Fast CH Fast CH Status & Communication Fast CH Data Every Slow CH Slow CH ID/Data Error
Auto Setup Function		Auto setting of clock period nibble number pause pulse threshold value time axis scale voltage axis scale display of analysis results
Analyzable no. of frames		100,000 frames max
Analysis Results Display	Fast Channel	Time from trigger position Sync/Cal period Tick Status & Communication Data CRC Frame Length Information
	Slow Channel	Time from trigger position ID Data CRC Information
Auxiliary Analysis Functions		Data search and trend functions
Analysis Result Save Function		List data and trend data can be saved to CSV format files

*DLM2000 trigger mode limited to Every Fast CH

Oscilloscope Models

Model	Description
DLM4038	DLM4038 Mixed Signal Oscilloscope, 8 Channel, 350 MHz
DLM4058	DLM4058 Mixed Signal Oscilloscope, 8 Channel, 500 MHz
DLM2024	DLM2024 Mixed Signal Oscilloscope, 4 Channel, 200 MHz
DLM2034	DLM2034 Mixed Signal Oscilloscope, 4 Channel, 350 MHz
DLM2054	DLM2054 Mixed Signal Oscilloscope, 4 Channel, 500 MHz
/F9	SENT Decode Analysis

Recommended Probe Accessories

Model	Description
701938	\pm 600V Passive Probe, 200 MHz, 10M Ω , approx. 13.5 pF
701939	\pm 600V Passive Probe, 500 MHz, 10M Ω , approx. 10.5 pF
702906	\pm 1000V Passive Probe, Wide Operating Temperature Range, 200 MHz, 10M Ω , approx. 16 pF
701920	\pm 12V Differential Probe, 500 MHz, 100k Ω , approx. 2.5 pF
701922	\pm 20V Differential Probe, 200 MHz, 500k Ω , approx. 7 pF
701924	\pm 25V Differential Probe, 1 GHz, 1 M Ω , approx. 1.1 pF
701988	\pm 40V Logic Probe, 8-bit, 100 MHz, 1 M Ω , 10 pF
701989	\pm 6V Logic Probe, 8-bit, 250 MHz, 100 k Ω , 3 pF
701934	Probe Power Supply – 4 LEMO output jacks



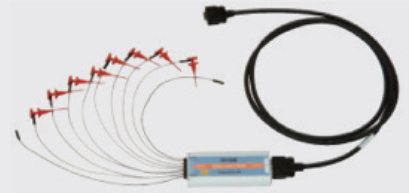
701920



702906



701924



701988/701989

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Subject to change without notice

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