Troubleshooting Power in Automotive Electronics Applications

R&S®Scope Rider — the portable automotive oscilloscope

Challenge

Troubleshooting automotive applications brings a wide range of challenges. Testing electric drives requires floating measurements at voltages up to 700 VDC or higher. Debugging communications between different modules requires triggering on and decoding of serial protocols such as CAN/LIN, CAN-FD and SENT. And tests are often performed in a mobile setting where battery operation is important.

Solution

The R&S®Scope Rider is the only portable, battery-operated handheld oscilloscope that offers up to 500 MHz bandwidth, isolated channels with 1000 V (RMS) maximum isolation rating and laboratory-class performance. Trigger & decode functionality for popular automotive protocols, advanced analysis functionality such as harmonic and spectrum analysis as well as a high-resolution frequency counter make it an excellent choice for troubleshooting automotive designs.

Your benefit	Features
High bandwidth and superior performance	 1 60 MHz to 500 MHz bandwidth with channel isolation for up to 1000 V (RMS) 1 Excellent sensitivity: 2 mV/div to 100 V/div 1 10-bit A/D converter 1 Advanced triggering capabilities 1 33 automatic measurement functions
Serial trigger & decode for automotive and general purpose protocols	 I²C/SPI, UART, CAN/LIN, CAN-FD, SENT support Symbolic labels Dedicated decode table for easier analysis
Advanced analysis functions	 Spectrum analyzer Harmonic analyzer Frequency counter Logic analyzer Data logger

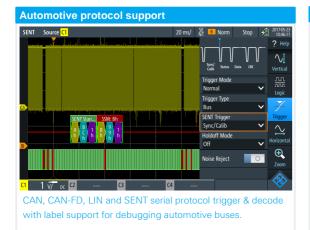


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signals to be captured while analyzing analog input signals.





Frame		, ID			Values		State	
	Start	Type	bit	[hex]	DLC	8 bit [hex]	[hex]	State
	-500 ms	Data	11	064	3	D0 E7 20	35CE	Ok
	-498 ms	Data	29	01A54321		07 24 4E 7C CC	5AA0	Ok
3	-496 ms	Remote	11	1E5	2		2C0E	Ok
4	-495 ms	Data	11	1E5	2	2B B4	45DB	Ok
5	-493 ms	Data	29	0630ABCD	4	18 46 51 B1	7324	Ok
6	-491 ms	Remote	29	03B1C002	4		4E15	Ok
7	-489 ms	Data	11	0A2	4	70 61 C3 CB	0999	CRC; Frm Erro
8	-488 ms	Error						Error Frame
9	-487 ms	Data	29	01234ABC	8	B5 C1 46 AE A7 29 1E 7F	62B6	Ok
10	-484 ms	Ovld						Ovld Frame
	1 v/ oc (2		-	G -		C4		4

errors.

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Ordering information

Popular options/accessories			
Bundles			
Power electronics bundle - History/segmented memory - Advanced triggering - Harmonics analysis	R&S*RTH-PKPWR - R&S*RTH-K15 - R&S*RTH-K19 - R&S*RTH-K34		
Automotive bundle - CAN/LIN serial trigger & decode - CAN-FD serial trigger & decode - SENT serial trigger & decode	R&S*RTH-PKAUTO - R&S*RTH-K3 - R&S*RTH-K9 - R&S*RTH-K10		
Hardware options			
Mixed signal, 250 MHz, 8 digital channels	R&S*RTH-B1		
Software options			
I ² C/SPI serial trigger & decode	R&S*RTH-K1		
UART/RS-232/422/485 serial trigger & decode	R&S*RTH-K2		
CAN/LIN serial trigger & decode	R&S°RTH-K3		
CAN-FD serial trigger & decode	R&S®RTH-K9		
SENT serial trigger & decode	R&S®RTH-K10		
History/segmented memory	R&S®RTH-K15		
Advanced triggering	R&S°RTH-K19		
Harmonics analysis	R&S°RTH-K34		
Wireless LAN	R&S*RTH-K200 R&S*RTH-K200US		
Web interface remote control	R&S°RTH-K201		
Passive probes			
500 MHz, 10:1, isolated, 300 V CAT III, compact lab probe	R&S*RT-ZI10C/-2/-4		
500 MHz, 100:1, isolated, 600 V CAT IV, 1000 V CAT III (3540 V CAT 0)	R&S*RT-ZI11		
Current probes			
20 kHz, 2000 A, AC/DC	R&S°RT-ZC02		
100 kHz, 30 A, AC/DC	R&S°RT-ZC03		
Accessories			
Accessory extension set for R&S°RT-ZI10/ R&S°RT-ZI11	R&S®RT-ZA21		
Soft carrying bag	R&S°HA-Z220		
Hard shell protective carrying case	R&S®RTH-Z4		
Car adapter	R&S®HA-Z302		
Battery charger for lithium-ion battery	R&S®HA-Z303		
Replacement lithium-ion battery pack	R&S®HA-Z306		

Languages supported: English, German, French, Spanish, Russian, simplified and traditional Chinese, Korean and Japanese.