

	HM03522 [HM03524]	HM02524	HM02022 [HM02024]	HM01522 [HM01524]	HM01022 [HM01024]	HM0722 [HM0724]
Vertical						
Number of Channel	2 [4]	4	2 [4]	2 [4]	2 [4]	2 [4]
Bandwidth	350 MHz	250 MHz	200 MHz	150 MHz	100 MHz	70 MHz
Input Impedance	1 M Ω /50 Ω	1 M Ω /50 Ω	1 M Ω /50 Ω	1 M Ω /50 Ω	1 M Ω	1 M Ω
V/div. 1 M Ω	1 mV/div....5 V/div.	1 mV/div....5 V/div.	1 mV/div....10 V/div.	1 mV/div....10 V/div.	1 mV/div....10 V/div.	1 mV/div....10 V/div.
Max. Input voltage 1 M Ω	200 Vpk					
V/div. 50 Ω	1 mV/div....1 V/div.	1 mV/div....1 V/div.	1 mV/div....1 V/div.	1 mV/div....1 V/div.	N/A	N/A
Probe Attenuation Sense	Standard					
Horizontal						
Sample Rate per Analog Channel	2 GSa/s	1.25 GSa/s	1 GSa/s	1 GSa/s	1 GSa/s	1 GSa/s
Max. Sample Rate	4 GSa/s	2.5 GSa/s	2 GSa/s	2 GSa/s	2 GSa/s	2 GSa/s
Memory Depth per Channel	2 MPts.	2 MPts.	1 MPts.	1 MPts.	1 MPts.	1 MPts.
Max. Memory	4 MPts.	4 MPts.	2 MPts.	2 MPts.	2 MPts.	2 MPts.
Timebase Accuracy	15 ppm	15 ppm	50 ppm	50 ppm	50 ppm	50 ppm
Trigger						
Trigger Rate	2,500 wfs/s	2,500 wfs/s	2,000 wfs/s	2,000 wfs/s	2,000 wfs/s	2,000 wfs/s
Trigger Modes	Slope, Video incl. HDTV, Pulsewidth, Logic, Delayed, Event					
Measurement						
Cursormeasurement List	ΔV , Δt , $1/\Delta t$ [f], V to Gnd, Vt related to Trigger point, ratio X and Y, pulse count, peak to peak, peak+, peak-					
Auto measurements	Amplitude, standard deviation, frequency, period, pulse count, V_{pp} , V_{p+} , V_{p-} , V_{rms} , V_{avg} , V_{top} , V_{base} , t_{width+} , t_{width-} , $t_{duty cycle+}$, $t_{duty cycle-}$, t_{Rise10_90} , t_{Fall10_90} , t_{Rise20_80} , t_{Fall20_80} , pos. edge count, neg. edge count, pos. pulse count, neg. pulse count, trigger frequency, trigger period, phase, delay					
Measurement statistic	Min., max., mean, standard deviation, number of measurements for up to 6 Functions					
HW Counter	6 Digit					
Advanced Math, Math on Math	Standard					
Math Functions std.	ADD, SUB, 1/X, ABS, MUL, DIV, SQ, POS, NEG, INV, INTG, DIFF, SQR, MIN, MAX, LOG, LN, Filter (low-pass, high-pass)					
Pass/Fail Mask testing	Standard					
Mixed Signal						
Mixed Signal Functionality	via Option H03508 (8 Channel) or H03516 (16 Channel)		via Option H03508 (8 Channel)			
Max. Number of Logic Channel	16	16	8	8	8	8
Sample Rate of the Digital Channel	1 GSa/s	1,25 GSa/s	1 GSa/s	1 GSa/s	1 GSa/s	1 GSa/s
Memory Depth of the Digital Channel	1 MPts.	2 MPts.	1 MPts.	1 MPts.	1 MPts.	1 MPts.
Serial Trigger and Decode						
I ² C, SPI, UART/RS-232	H0010 via Analog Channels and/or Logic Channels, H0011 via Analog Channels					
CAN/LIN	H0012 via Analog Channels and/or Logic Channels					
Display						
Display Size	6.5 inch					
Display Resolution	640 x 480					
VirtualScreen	20 div.					
Interfaces						
Monitor Output	Standard: DVI-D					
USB Remote Interface	Standard					
RS-232 Remote Interface	Standard					
Ethernet Remote Interface	Option H0730					
GPIO Remote Interface	Option H0740					
Miscellaneous						
Fan noise	very low					
Dimension (W x H x D)	28.5 x 17.5 x 22 cm	28.5 x 17.5 x 22 cm	28.5 x 17.5 x 14 cm	28.5 x 17.5 x 14 cm	28.5 x 17.5 x 14 cm	28.5 x 17.5 x 14 cm
Footprint	627 cm ²	627 cm ²	399 cm ²	399 cm ²	399 cm ²	399 cm ²
Weight	3.6 kg	3.6 kg	2.5 kg	2.5 kg	2.5 kg	2.5 kg
Power	70 W max.	70 W max.	55 W max.	55 W max.	55 W max.	55 W max.
Component Tester	N/A	N/A	Standard	Standard	Standard	Standard
Additional Bus Signal Source	Standard					
Languages	German, English, French, Spain					

H0010/H0011 I ² C, SPI, UART/RS-232 Bus Analysis			
I ² C Bus		SPI Bus	UART/RS-232 Bus
Bus Configuration			
Bit/Baud rate	up to 10 Mbit/s (HMO352x/2524), up to 5 Mbit/s (HMO72x...202x)	up to 25 Mbit/s (HMO352x/2524), up to 12.5 Mbit/s (HMO72x...202x)	300, 600, 1,200, 2,400, 4,800, 9,600, 19,200, 38,400, 57,600, 115,200 Baud, up to 62.5 Mbit/s (HMO352x/2524), up to 31 Mbit/s (HMO72x...202x)
Number of Bit's	7 or 10 Bit for Address ID 8 Bit for Data	32 Bit for Data	8 Bit for Data 1, 1.5, 2 Bit for Stop Bit
Polarity	n/a	Chip Select, positive or negative, or without Chip Select (2-wire SPI) Clock rising or falling edge Data High or Low active	High or Low active
Parity	n/a	n/a	none, odd or even
Trigger			
Source	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2 [CH 1...4] H0011: analog Channels CH 1...2 [CH 1...4]	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2, external Trigger Entry for Chip Select, [CH 1...4] H0011: analog Channels CH 1...2, external Trigger Entry for Chip Select, [CH 1...4]	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2 [CH 1...4] H0011: analog Channels CH 1...2 [CH 1...4]
Event	7 or 10 Bit Address ID 7 or 10 Bit Address ID with 8 Bit Data Start, Stop, Restart missing Acknowledge Address ID without Acknowledge	Data packets up to 32 Bit with positive or negative Chip Select or without Chip Select, (2-wire SPI)	Data packets up to 8 Bit
Input format	Hexadecimal or Binary	Hexadecimal or Binary	Hexadecimal or Binary
Hardware accelerated Decode			
Source	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2 [CH 1...4] H0011: analog Channels CH 1...2 [CH 1...4]	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2, external Trigger Entry for Chip Select, [CH 1...4] H0011: analog Channels CH 1...2, external Trigger Entry for Chip Select, [CH 1...4]	H0010: digital Channels LCH 0...15 [Opt. H03508] analog Channels CH 1...2 [CH 1...4] H0011: analog Channels CH 1...2 [CH 1...4]
Display	Bus display, color coded for Read Address ID: Yellow Write Address ID: Magenta Data: Cyan Start: White Stop: White ACK/NACK: Green/Red Error: Red Trigger Condition: Green up to four lines for decoded values, synchronous display of the Bit lines	Bus display, color coded for Data: Cyan Start: White Stop: White Error: Red Trigger Condition: Green up to four lines for decoded values, synchronous display of the Bit lines	Bus display, color coded for Data: Cyan Start: White Stop: White Error: Red Trigger Condition: Green up to four lines for decoded values, synchronous display of the Bit lines
Format	Address ID: hexadecimal Data: ASCII, binary, decimal, hexadecimal	n/a Data: ASCII, binary, decimal, hexadecimal	n/a Data: ASCII, binary, decimal, hexadecimal

Differences H0010/H0011		
Feature	H0010	H0011
Logic Channels (LCH 0...LCH 15) as source for serial bus trigger and decode	x	-
Analog Channels (CH 1...CH 4) as source for serial bus trigger and decode	x	x
Time synchronous decode of two serial busses	x	-

H0012 CAN/LIN Bus Analysis

CAN Bus		LIN Bus
Bus Configuration		
Bit rates	Pre-Defined or User-Select, 100 Bit/s...4 Mb/s (HM0352x/2524), 100 Bit/s...2 Mb/s (HM072x...202x)	Pre-Defined or User-Select, 100 Bit/s...4 Mb/s (HM0352x/2524), 100 Bit/s...2 Mb/s (HM072x...202x)
Signal Type	CAN-L or CAN-H, Single Ended or Differential Probe (Analog Channels only)	n/a
Sample Point Range	25...90%	n/a
Threshold	Pre-Defined or User-Select	Pre-Defined or User-Select
Polarity	n/a	High or Low Active
Protocol Version	n/a	1.x, 2.x, J2602, 1.x or 2.x
Trigger		
Source	digital Channel LCH 0...15 (Opt. H03508), analog Channel CH 1...2 [CH 1...4]	digital Channel LCH 0...15 (Opt. H03508), analog Channel CH 1...2 [CH 1...4]
Event	Start of Frame (SOF), End of Frame (EOF) Error Frame Error condition: Stuff Bit Error, CRC Error, Not Acknowledge, Form Error Overload Frame Data Frame (11 or 29 Bit ID) Remote Frame (11 or 29 Bit ID) Identifier: 0, 1, X (Don't Care) Pattern, Trigger when =, ≠, <, > Identifier and Data: ID and 64 Bit data pattern (0, 1, X), trigger when =, ≠, <, >	Start of Frame (SOF), Wake Up Frame Error Frame Error condition: Checksum Error, Parity Error Synchronisation Error Identifier: 0, 1, X (Don't Care) Pattern, Trigger when =, ≠, <, > Identifier and Data: ID and 64 Bit data pattern (0, 1, X), trigger when =, ≠, <, >
Input format	Hexadecimal or Binary	Hexadecimal or Binary
Hardware accelerated Decode		
Source	digital Channel LCH 0...15 (Opt. H03508), analog Channel CH 1...2 [CH 1...4]	digital Channel LCH 0...15 (Opt. H03508), analog Channel CH 1...2 [CH 1...4]
Display Bus	color coded for Start and End of Frame: White brackets Data ID: Magenta, Remote ID: Yellow DLC: White, Data: Cyan, CRC: White ACK: Green, Overload: White, Error: Red up to four lines for decoded values, synchronous display of the Bit lines	color coded for Start and End of Frame: White brackets Break: Magenta, Synchronisation: White Identifier: Yellow, Parity: Green, Data: Cyan Checksum: White, Error: Red, Wake Up: Magenta up to four lines for decoded values, synchronous display of the Bit lines
Table	Display of Bus 0 or 1 Frame Number State (Frame Type or Error Description) Start Time, Identifier, DLC, CRC, Data	Display of Bus 0 or 1 Frame Number State (Frame Type or Error Description) Start Time, Identifier, Length, Checksum, Data
Format	Identifier & other: hexadecimal Data: ASCII, binary, decimal, hexadecimal	Identifier & other: hexadecimal Data & Checksum: ASCII, binary, decimal, hexadecimal