

The Tester for
High Voltage
Components
of the E-mobility

W 484
W 484 PLUS



Automotive

Transportation

Aerospace

Factory Automation



Designed to test high voltage cable harnesses and components for electric and hybrid vehicles, the low-cost **W 484** meets the requirements of the LV 123 industrial standard. The high voltage generator supplies voltages up to 4,300 Vdc/3,000 Vac and is current limited to a maximum of 3.8 mA. Therefore, the W 484 is considered harmless in accordance with DIN EN 50191. Optionally, an HVG 4300-12 with currents of maximum 12 mA can be used. Resistance measurements in the μOhm -range, insulation tests in the GOhm-range as well as a highly developed ARC detection, differentiated according to ARC and dldt detector, enable a flexible application also in other areas.

The **W 484 PLUS** also provides cost-optimized functionalities for test benches and adaptation modules such as LED, detection or power points, which cover almost all requirements of different bench manufacturers.

■ Generators and Measuring Units

Insulation, Hi-Pot, DC and AC ARC Test	HVG 4300	<ul style="list-style-type: none"> • DC Voltage 48 to 4.300 Vdc • AC Voltage 48 to 3.000 Vac • Current to 3.8 mA_{DC}, to 2.7 mA_{eff}, non-hazardous to touch according to DIN EN 50191 optional with HV generator HVG 4300-12 to 12 mA_{DC}, to 8,5 mA_{eff}, hazardous to touch according to DIN EN 50191 • Ramp Programmable from 120 V/ms to 1,000 V/ms • Measurement Typically up to 10 GOhm, up to 500 MOhm \pm 2 %
	Highly sensitive ARC detection with step detector (voltage drop), slew detector (slew rate) and programmable dldt detector	
Continuity, Short and Component Test	UIF 48	<ul style="list-style-type: none"> • Current 0,5 mA to 1 A • Current ranges 10 mA, 1 A • Voltage 0,5 V to 48 V • Output rating 30 W • Connection/Resistor 1 Ohm to 25 kOhm, 500 μOhm to 100 Ohm (Four Terminal Measurement) • Capacitance from 1 μF to 10 mF \pm (5 % + 100 nF) • Twisted-Pair and Shield Test from 10 pF to 10 nF Checks pair inversion and shield integrity • Components Diodes, Zener diodes, LEDs, Varistors • LV isolation Typically up to 40 MOhm • Voltage measurement 0 to \pm 500 V, frequency DC to 1 kHz
	RLC Meter (optional)	<ul style="list-style-type: none"> • Frequency DC to 50 kHz • Capacitance 100 pF to 10 • Inductance 1 μH to 1 H • RLC Measurement Functions Z Impedance, θ Phase angle, R Resistance (serial or parallel), C Capacitance (serial or parallel), L Inductance (serial or parallel), D Dissipation factor, Q Quality factor
Component Test		

Typical values, valid at the front panel of the tester without adaptation at 25° C and a relative humidity less than 60 %

■ Functional Test

- Functional test of push buttons and switches
- Measurement of time-dependent current/voltage curves
- Import of characteristic curves of external devices and display/interpretation in CEETIS
- Supply of the UUT with external voltages (U1) up to 50 Vdc
- Emulation of the switching processes

■ Switching Matrix

Modules for Wiring Test TPM 8	Version for voltages up to	1.000 Vdc/750 Vac 4.300 Vdc/3.000 Vac	Output connector DIN 41612 C ERNI Output connector Harting Han 46 EE
W 484 PLUS Module TM 260-64 for LED-, Power-, Connector detection- and detection points		<ul style="list-style-type: none">• 64-pin output connector conforming to DIN 41612, type C• Single point matrix, switching elements are transistors• Test point cards with 64 points The functionality of test points is programmable in CEETIS: <ul style="list-style-type: none">• LED points to activate LEDs simultaneously with associated test points, e.g. on an assembly board• Power points to switch external voltages (U1) to 50 Vdc, currents to 150 mA, e.g. for functional tests of relays• Connector detection points to check the presence of all connectors before the electrical test• Detection points to check the non-electrical components such as secondary locks at a connector or clips at the harness• Maximum switchable current 150 mA	
Modules for Functional Test			<ul style="list-style-type: none">• Power modules to switch external voltages (U1) to 50 Vdc, currents to 150 mA (TM 260-64) / bis 3A (TPM 8-A/EE)

■ Safety

HVG 4300	<ul style="list-style-type: none">• Non-hazardous output voltage of the high voltage generators due to certified current limitation to 3,8 mAdc, 2,7 mAeff (according to EN 50191 max. 12 mAdc, 3 mAeff)• Monitoring of the supplied energy against the limit value according to DIN EN 50191
HVG 4300-12	<ul style="list-style-type: none">• Optional HV generator with current limitation to 12 mAdc, 8,5 mAeff• Integrated HV-SAFETY in HVG 4300 for safe disconnection of the connected generators via EMERGENCY STOP, SAFETY, or HV-ENABLE

■ Further Details

Interfaces	<ul style="list-style-type: none">• Ethernet interface with opto-decoupling of the control PC• Remote Control interface to trigger external devices, e.g. feeders and fixtures• Software controlled integration of external devices via LAN, IEEE 488/GPIB, RS 232, CAN-Bus, CANOPEN-Bus, K-Line• Connection to customer specific ERP-Systems
Dimensions W 484	<ul style="list-style-type: none">• Compact 19 inch enclosure• W 484-1 with max. 264 test points Dimensions W x D x H (mm): 450 x 650 x 450, with retractable handles• W 484-2 with max. 528 test points Dimensions W x D x H (mm): 450 x 650 x 620, with retractable handles• W 484-3 with max. 792 test points Dimensions W x D x H (mm): 2 units each 450 x 650 x 450, with retractable handles
Dimensions W 484 PLUS	<ul style="list-style-type: none">• Compact 19 inch enclosure• W 484-1 PLUS with max. 264 HV-, 768 LV-test points Dimensions W x D x H (mm): 450 x 650 x 510, with retractable handles• W 484-2 PLUS with max. 528 HV-, 768 LV-test points Dimensions W x D x H (mm): 450 x 650 x 700, with retractable handles• W 484-3 PLUS with max. 792 HV-, 768 LV-test points Dimensions W x D x H (mm): Box 1, 450 x 650 x 510, Box 2, 450 x 650 x 450 with retractable handles
Power Supply	<ul style="list-style-type: none">• 100 to 240 Vac, 1-phase, 50 to 60 Hz, max. 800 VA



W 484-3 Plus