Technical Software Specifications - SPS TestManager

Automotive software package 48V v1.2

The software package includes tests for electrical and electronic components in motor vehicles.
TestManager version SPS TestManager v2.19 or higher is required.
The required hardware can also be seen in the hardware matrix.
(Not all tests from each standard are supported)

List of standards and tests supported by the SPS TestManager software:

BMW GS 95026

2013-10

- E48-01a Long-term overvoltage
- E48-02 Transient overvoltage
- E48-03 Transient process in the lower operating range with limited function
- E48-04 Recuperation
- E48-05 Superimposed AC voltage
- E48-06 Slow decrease and increase of the supply voltage
- E48-07 Slow decrease, quick increase of the supply voltage
- E48-08 Reset behavior
- E48-09 Short interruptions
- E48-10 Start pulses
- E48-11 Loss of ground BN48
- E48-12 Ground offset
- E48-13 Internal dielectric strength
- E48-14 Closed-circuit current
- E48-15 Operation in the range without functional limitation
- E48-16 Operation in the upper range with functional limitation
- E48-17 Operation in the lower range with functional limitation
- E48-18 Overvoltage range
- E48-19 Undervoltage range
- E48-20 Fault current
- E48-21 Short circuit in signal circuit and load circuits

Hyundai/Kia ES95400

SPEC No 11

- 6.1 Operating voltage test
- 6.2 Transient undervoltage test
- 6.3 Transient overvoltage test
- 6.4 Slow decrease and increase of supply voltage
- 6.5 Immunuty to voltage ripple test
- 6.6 Power domain isolation test of the DUT with mixed-voltage power sources
- 6.7 Parasitic current test
- 6.9 Immunuty to voltage ripple test
- 6.10 Reset test
- 6.11 Voltage Interruption Test
- 6.13 Single line interruption test
- 6.14 Multi line interruption test
- 6.15 Ground loss test

ISO 21780

2020-08

- Test-01: Nominal voltage range
- Test-02: Transitory voltage ranges
- Test-03: Short term overvoltage
- Test-05: Starting profile
- Test-06: Long term overvoltage
- Test-08: Decrease and increase of supply voltage
- Test-09: Voltage ripples
- Test-10: Reinitialisation
- Test-11: Discontinuities in supply voltage
- Test-12: Ground loss
- Test-13: Fault current
- Test-14: Ground offset
- Test-15: Short circuit in signal line and load circuit
- Test-16: Quiescent current

ISO 21848

2005-04

- 4.1 Direct current
- 4.2. Overvoltage
- 4.3 Superimposed alternating voltage
- 4.4 Slow decrease and increase supply voltage
- 4.5 Discontinuities in supply voltage
- 4.6 Reversed voltage
- 4.7 Open circuit test
- 4.8 Short circuit protection

LV 148

2013-09

- E48-01a Long-term overvoltage
- E48-02 Transient overvoltage
- E48-03 Transient process in the lower operating range with limited function
- E48-04 Recuperation
- E48-05 Superimposed AC voltage
- E48-06 Slow decrease and increase of the supply voltage
- E48-07 Slow decrease, quick increase of the supply voltage
- E48-08 Reset behavior
- E48-09 Brief interruptions
- E48-10 Start pulses
- E48-11 Mass loss
- E48-12 Ground offset
- E48-13 Internal dielectric strength
- E48-14 Closed-circuit current
- E48-15 Operation in the range without functional limitation
- E48-16 Operation in the upper range with functional limitation
- E48-17 Operation in the lower range with functional limitation
- E48-18 Overvoltage range
- E48-19 Undervoltage range
- E48-20 Fault current
- E48-21 Short circuit in signal circuit and load circuits

RNDS-C-20355

2020-11

- MEQ/TE 02: Resistance to slow decrease and increase of supply voltages
- MEQ/TE 03: Re-initialization test
- MEQ/TE 04: Resistance to non usual power supply voltages
- MEQ/IC 03: Resistance to overvoltage pulse

Tesla TS-2024048

2024-02

- 13.1 Supply voltage range test
- 13.2 Vehicle off mode test
- 13.3 Supply voltage ripple emissions
- low voltage supply line
- 13.4 supply voltage ripple
- 13.5 Immunity to transients on supply lines (TSUP) test
- 13.6 Immunity to supply voltage dips test
- 13.7 Reverse supply voltage test
- 13.8 Immunity to short circuits in I/O lines test
- 13.9 Immunity to supply voltage hot unplug test
- 13.10 Supply voltage offset test
- 13.11 Ground reference offset test
- 13.13 Output overload test
- 13.14 Stall or locked rotor test

VDA 320

2015-01

- E48-01a Long-term overvoltage
- E48-02 Transient overvoltage
- E48-03 Transient event in lower limited operation range
- E48-04 Recuperation
- E48-05 Superimposed alternating voltage
- E48-06 Slow decrease and increase of the supply voltage
- E48-07 Slow decrease, quick increase of the supply voltage
- E48-08 Reset behavior
- E48-09 Brief interruptions
- E48-10 Start pulses
- E48-11 Mass loss
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- E48-15 Operation in the range without functional limitation
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- E48-17 Operation in the lower range with functional limitation
- E48-18 Overvoltage range
- E48-19 Undervoltage range
- E48-20 Fault current
- E48-21 Short circuit in signal circuit and load circuits

VW 82148

2013-09

- E48-01a Long-term overvoltage
- E48-02 Transient overvoltage
- E48-03 Transient process in the lower operating range with limited function
- E48-04 Recuperation
- E48-05 Superimposed AC voltage
- E48-06 Slow decrease and increase of the supply voltage
- E48-07 Slow decrease, quick increase of the supply voltage
- E48-08 Reset behavior
- E48-09 Brief interruptions
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- E48-14 Closed-circuit current
- E48-15 Operation in the range without functional limitation
- E48-16 Operation in the upper range with functional limitation
- E48-17 Operation in the lower range with functional limitation
- E48-18 Overvoltage range
- E48-19 Undervoltage range
- E48-20 Fault current
- E48-21 Short circuit in signal circuit and load circuits

Xiaomi Q/MAT 5523

2024-11

- 7.4 Quiescent current
- 7.5 Ripple test - emission test
- 7.6 Ripple test - immunity test
- 7.7 Drop load
- 7.9 Voltage drop
- 7.10 Reverse polarity
- 7.11 Short Circuit Test
- 7.12 Power supply pin hot-plug test
- 7.13 Power Supply Bias Test
- 7.14 Ground Offset Test
- 7.15 Output overload
- 7.16 Stall test
- 7.17 Voltage ramp down test
- 7.18 Reset test
- 7.19 Ground failure
- 7.20 Fault current test

Zeekr Q/JKR J7111409A

2019-12

- Test-01: Nominal voltage range
- Test-02: Lower and upper transitory voltage ranges
- Test-03: Short term overvoltage
- Test-05: Starting profile
- Test-06: Long term overvoltage
- Test-08: Decrease and increase of supply voltage
- Test-09: voltage ripples
- Test-10: Reinitialization
- Test-11: Discontinuities in supply voltage
- Test-12: Ground loss
- Test-13: Fault current
- Test-14: Ground offset
- Test-15: Short circuit in signal line and load circuit
- Test-16: Quiescent current