

Technical Software Specifications - SPS TestManager

Automotive software package 12V - 24V v1.0

The software package includes tests for electrical and electronic components in motor vehicles.

TestManager version SPS TestManager v2.15 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 95003-2

2010-01

- 5.2.1.1 Testing for immunity to 18 V transient
- 5.2.1.2b Component immunity to ripple on power supply leads
- 5.2.1.3 Decreasing / increasing of operating voltage
- 5.2.1.4 Ground offset
- 5.2.1.5 Cranking profile
- 5.2.1.6 Very brief voltage dip
- 5.2.1.7 Brief voltage dip
 - 5.2.1.7.1 Brief off / on for bus nodes
- 5.2.1.9 Voltage impulse due to switch-off of loads
- 5.3.1 Quick chargers / jump start
- 5.3.2 Load dump impulses
- 5.3.3 Protection against polarity reversal
- 5.3.5 Short-circuit strength

BMW GS 95024-2-2

2011-02

- E-01 Long-term overvoltage
- E-02 Transient overvoltage (18 V pulse)
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Short interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruption
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground offset
- E-17 Short circuit in signal circuit and load circuits
- E-19 Closed-circuit current
- E-21 Backfeeds
- E-40 Very brief voltage drop
- E-41 Brief off on for bus nodes
- E-42b Low-resistance voltage impulse on charge wire

2021-03

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Brief interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground offset
- E-17 Short circuit in signal circuit and load circuits
- E-19 Closed-circuit current
- E-21 Backfeeds
- E-23 Equalizing current of multiple supply voltages
- E-40 Very brief voltage drop
- E-41 Brief off on for bus nodes
- E-42b Low-resistance voltage impulse on charge wire

FCA CS.00054

2018-01

- 5.2 Electrical System Operating Requirement
- 5.3 Supply Voltage Variations
- 5.4 Supply Over Voltage and Reverse Voltage
- 5.5 Electronical System Compatibility Requirements
- 5.7 Conducted Transient Emissions
- 5.9 Transient Immunity

Fiat 9.90111-01

2012-06

- 4.1. Electrical System operating Environment
- 4.2 Supply Voltage Variations
- 4.3 Supply Over Voltage and Reverse Voltage
- 4.4 Electronical System Compatibility Requirements
- 5.4 Conducted Transient Emissions
- 6.4 Transient Immunity

GMW 3172

2015-06

- 8. Development
- 9. Design Validation (DV)

Honda 1901Z-XP7F-V010

2010

- Power supply fluctuation test

ISO 16750-2

2012-11

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

LV 124

2013-06

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Short interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground offset
- E-17 Short circuit in signal circuit and load circuits
- E-19 Closed-circuit current
- E-21 Backfeeds

MBN 10567

2018-03

- 7.1 Operating voltage range test
- 7.2 Long term overvoltage test
- 7.3 Transient overvoltage test
- 7.4 Transient undervoltage test
- 7.5 Jump start
- 7.6 Load dump test
- 7.7 Superimposed alternating voltage
- 7.8 Slow decrease and increase of the supply voltage
- 7.9 Start pulses test
- 7.10 Reset behavior
- 7.11 Short interruptions test
- 7.12 Pin interruption test
- 7.13 Connector interruption
- 7.14 Reverse polarity
- 7.15 Ground offset test
- 7.16 Quiescent current test
- 7.17 Feedback test
- 7.19 Equalizing current test for components
with several supply voltages

MBN LV 124-1

2011-03

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Short interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground offset
- E-17 Short circuit in signal circuit and load circuits
- E-19 Closed-circuit current
- E-21 Backfeeds

Mitsubishi ES-X82115

2009-03

- 6. Electrical system operating environment
- 7. Supply voltage variations
- 8. Supply over voltage and reverse voltage
- 9. Electrical system compatibility requirements
- 10. Specific requirements for motors and inductive devices

Nissan 28401NDS02

2002-04

- 6.1. Resistance to electrical disturbances tests
- 6.2. Immunity to conducted disturbance tests

2016-03

- 6.1. Resistance to electrical disturbances tests
- 6.2. Immunity to conducted disturbance tests

PSA B21 7110

2012-07

- 7.1. Low voltage network (12 V)
- 7.3. EMC immunity tests (general case)
- 7.4. EMC emission tests (general case)

2019-04

- 7.1. Electrical resist tests
- 7.2. EMC immunity tests
- 7.3. EMC emission tests (general case)

Renault 36-00-808

2012-07

- 6.1. Resistance to electrical disturbances tests
- 6.2. Immunity to conducted disturbance tests

2016-03

- 6.1. Resistance to electrical disturbances tests
- 6.2. Immunity to conducted disturbance tests

Volvo 31822854

2018-02

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

VW 80000

2013-06

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Short interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground offset
- E-17 Short circuit in signal circuit and load circuits
- E-19 Closed-circuit current
- E-21 Backfeeds

2017-10

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Brief interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground potential difference
- E-17 Short circuit in signal circuit and load circuits
- E-19 Quiescent current
- E-21 Backfeeds
- E-23 Equalizing current of multiple supply voltages

2021-07

- E-01 Long-term overvoltage
- E-02 Transient overvoltage
- E-03 Transient undervoltage
- E-04 Jump start
- E-05 Load dump
- E-06 Superimposed alternating voltage
- E-07 Slow decrease and increase of the supply voltage
- E-08 Slow decrease, quick increase of the supply voltage
- E-09 Reset behavior
- E-10 Brief interruptions
- E-11 Start pulses
- E-12 Voltage curve with electric system control
- E-13 Pin interruptions
- E-14 Connector interruption
- E-15 Reverse polarity
- E-16 Ground potential difference
- E-17 Short circuit in signal circuit and load circuits
- E-19 Quiescent current
- E-21 Backfeeds
- E-23 Equalizing current of multiple supply voltages