

ISO 21498-2 (2021 + 2024)

Full coverage of all tests

MBN LV123 (2014)

- 10.4.1 - Range of unlimited operating capability
 - 10.4.2 - Range of upper limited operating capability
 - 10.4.3 - Range of lower limited operating capability
 - 10.4.4 - Range of highly limited operating capability
 - 10.4.5 - Voltage dynamics
 - 10.4.7 - Overvoltage
 - 10.4.8 - Undervoltage
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BMW GS95023 (2009)

- 9.2.1 Test: Range of unlimited operating capability
 - 9.2.2 Test: Range of upper limited operating capability
 - 9.2.3 Test: Range of lower limited operating capability
 - 9.2.4 Test: Range of highly limited operating capability
 - 9.2.5 Test: Voltage dynamics
 - 9.2.7 Test: Overvoltage
 - 9.2.8 Test: Overvoltage above the limit voltage
 - 9.2.9 Test: Undervoltage
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VW 80300 (2016)

- HVPT-1 HV voltage cycle
- HVPT-2 HV pre-charging
- HVPT-3 Passive discharge
- HVPT-4 Active discharge
- EHV-01 Operation within the regular
HV operating voltage range
- EHV-02 Operation within the HV overvoltage range
- EHV-03 Operation within the HV undervoltage range
- EHV-04 Pre-charging
- EHV-05 Generated HV voltage dynamics
- EHV-06 System HV voltage dynamics
- EHV-07 HV voltage dynamics of energy storage devices

VW 80300 (2021)

- HVPT-1 HV voltage cycle
 - HVPT-2 HV pre-charging
 - HVPT-3 Passive discharge
 - HVPT-4 Active discharge
 - EHV-01 Performance test within the regular
HV operating voltage range
 - Test EHV-01a
 - Test EHV-01b
 - EHV-02 Operation within the HV overvoltage range
 - EHV-03 Operation within the HV undervoltage range
 - EHV-04 Pre-charging
 - EHV-05 Generated HV voltage dynamics
 - EHV-06 System HV voltage dynamics
 - EHV-07 HV voltage dynamics of energy storage devices
 - EHV-08 Generated HV voltage ripple
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MAN CVS43

- 4.1.1 Operating Voltage
 - 4.1.2 Steady-state Overvoltage
 - 4.1.3 Dynamic Overvoltage
 - 4.1.4 Dynamic Undervoltage
 - 4.1.5 Voltage ripple along VCB supply lines -
Component - Measurement
 - 4.2.1 Generated Voltage Dynamics -
Load dump - Measurement
 - 4.2.2 Voltage ripple along VCB supply lines -
Vehicle - Measurement
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STELLANTIS CS.00245

- C_ET_01_HV_V: Resistance to Usual
and Operating Voltage
- C_ET_03_HV_V: Measurement
of Generated Voltage Ripple
- C_ET_04_HV_V: Resistance to Transient Overvoltage
- C_ET_05_HV_V: Resistance to Transient Undervoltage

HVR 1000 EXPANDED STANDARD COVERAGE

3110A and AC supply can be used for 100s of tests within the standards below.

AUTOMOTIVE

ANSI – ANSI ASAE EP455 (Feb03)
Audi – I-EE-32 (2006-06)
BMW – GS 95003-2 (2010)
BMW – GS 95024-2 (2021)
BMW – GS 95024-2-1 (2010)
BMW – GS 95024-2-2 (2011)
Case – New Holland ENS0310 (12-2-2010)
Chrysler CS – 11809 (2009-05-29)
Chrysler CS – 11979 (2010-04-13)
Claas – Claas CN 05 0215 (2004-12)
Cummins 14269 (062021-028)
Cummins 14387 (102020-119)
DAF BSL-003 (1998-12)
DAF BSL-006 (2009-04)
Daimler Chrysler PF-9326, Change D
Daimler – DC-10842 (2003-12)
Fiat – 9-90110 Issue 13 (2007-03)
Ford – CS-2009.1 (2010)
Ford – FMC 1278 Ed. 5 (2024)
Ford – FMC 1278 Ed. 4 (Older Version)
Ford – FMC 1278 (Older Version)
GM – GMW3172 rev H
GM – GMW3172 rev I (2018)
Harley-Davidson – EG-812-22613
Honda – 7794Z-SAAA-000
Hyundai – ES 39110-00 (2012-08-05)
Hyundai – ES95400-10 (2007-11-14)
Hyundai – ES96100-02 (2006-11-16)
ISO – 11452-10 (2004)
ISO – 16750-2 (2023)
ISO – 21780 (2020)
ISO – 21848 (2005)
ISO – 7637-2 (2011)
ISO 16750-2 (2012) (Older Version)
ISO – 7637-2 (2004) (Older Version)
JLR – EMC-CS v1 Amendment 4 (2013-11)
JASO – D 001-94 (1994-03-31)
Mazda – MES PW67600 (1995-07)

MBN – LV 124 (2009)
MBN – LV 148
Mitsubishi – ES X82010 Rev Q (2007-01)
Mitsubishi – ES X82115 Rev C (2009-03)
Nissan – 28400NDS02 Rev.3 (1999-07)
Nissan – 28400NDS03 Rev.3 (2005-08)
Nissan – 28401NDS02 Rev.4 (2008-08)
SAE – SAE J1113-11 (June 2007)
SAE J2139 (September 2005)
SAE J2628 (July 2007)
SAE J1113-2 (July 2004)
SAE J1113-11 (March 2023)
SAE J2139 (December 2014)
SAE J2628 (June 2018)
Stellantis – CS.00244 LV EE Components
Stellantis – CS.00246 48V EE Components
Tesla – TS-0000425-05 Rev 6 (16 V Components)
Tesla – TS-2024048 Rev 1 (48 V Components)
VW 80000 (2009) (Older Version)
VW 80000 (2013)
VW 80101 (2009)
VW TL 820 66 (2006)

AVIATION

Airbus – ABD0100.1.8 Issue E (2005)
Airbus – ABD0100.1.8.1 Issue C (2008)
Boeing – D6-36440E
Boeing – D6-16050
DO-160G (2012) – Section 18
DO-160G (2012) – Section 19
MIL STD 461F (2007) (Older Version)
MIL STD 461G (2015)
MIL STD 1275E

INDUSTRIAL

IEC - 61000-4-19 (2014)