

HVR Series Standards List

Automotive Standards

	HVR1000CS	HVR2000CS	HVR2000RG
BMW - GS 95023 (2009-12)			
9.2.1 - Range of unlimited operating capability	☒	☒	
9.2.2 - Range of upper limited operating capability	☒	☒	
9.2.3 - Range of lower limited operating capability	☒	☒	
9.2.4 - Range of highly limited operating capability	☒	☒	
9.2.5 - Voltage dynamics	☒	☒	
9.2.6 - Voltage ripple	☒	☒	☒
9.2.7 - Overvoltage	☒	☒	
9.2.8 - Overvoltage above the limit voltage	☒	☒	
9.2.9 - Undervoltage	☒	☒	
9.2.12 - Voltage offset	☒	☒	
9.2.13 - Interactions between LV and HV system	☒	☒	
9.3.4 - Overcurrent protection (electrical energy storage)	☒	☒	
9.3.5 - Short circuit	☒	☒	
9.3.7 - Isolation resistance	☒	☒	
9.3.10 - Active discharge	☒	☒	
9.3.11 - Passive discharge	☒	☒	
9.3.15 - HV interlock	☒	☒	
9.3.18 - Diagnosis of the HV voltage	☒	☒	
9.3.19 - Failure of LV supply voltage	☒	☒	
9.4.1 - Isolation monitoring	☒	☒	
9.4.3 - Service disconnect	☒	☒	
9.4.5 - Detection of open HV cables	☒	☒	
9.4.6 - Requirements for HV battery	☒	☒	
9.4.7 - Requirements for DC/DC converter HV/LV	☒	☒	
ISO - 21498-2 (2021 & 2024)			
6.2 - DC supply voltage variation within operational range.swg	☒	☒	
6.5 - Generated voltage ripple.swg	☒	☒	
6.6 - Immunity to voltage ripple.swg	☒	☒	☒
6.7 - Overvoltage.swg	☒	☒	
6.8 - Undervoltage.swg	☒	☒	
6.9 - Voltage offset.swg	☒	☒	
6.11 - Immunity to load dump voltage.swg	☒	☒	
6.12 - Short circuit.swg	☒	☒	
MAN CVS43:2021-01			
3.3.7 - Test of excessive EB conductor current	☒	☒	
4.1.1 - Operating Voltage	☒	☒	
4.1.2 - Steady-state Overvoltage	☒	☒	
4.1.3 - Dynamic Overvoltage	☒	☒	
4.1.4 - Dynamic Undervoltage	☒	☒	
4.1.7 Immunity – Single pole insulation fault	☒	☒	
4.1.9 Active discharge	☒	☒	
4.1.10 Passive discharge	☒	☒	
4.2.2 Voltage ripple along VCB supply lines – Vehicle – Measurement	☒	☒	
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	☒	☒	
10.5.4 - Overcurrent protection	☒	☒	
10.5.6 - Isolation resistance	☒	☒	
10.5.8 - Residual voltage	☒	☒	

10.5.17 - Behavior in the event of a crash	☒	☒	
10.5.18 - Measuring the HV voltage	☒	☒	
10.5.19 - Failure of LV supply voltage	☒	☒	
10.6.1 - Isolation monitoring	☒	☒	
10.6.2 - Service disconnect function	☒	☒	
10.6.3 - Pre-charge circuit	☒	☒	
10.6.4 - Detection of open HV cables	☒	☒	
10.6.5 - Additional requirements for HV battery	☒	☒	
10.6.5.1 - Switching equipment HV battery	☒	☒	
10.6.5.2 - Overcurrent protection HV battery	☒	☒	
10.6.6 - Additional requirements for DC/DC converter HV/LV	☒	☒	
10.6.7 - Additional requirements for inverters	☒	☒	
Stellantis - CS.00245 HV EE Components			
5.2.2 C_ET_01_HV_V: Resistance to Usual and Operating Voltage	☒	☒	
5.2.3 C_ET_02_HV_V: Resistance to Ripple On High Voltage Network	☒	☒	☒
5.2.4 C_ET_03_HV_V: Measurement of Generated Voltage Ripple	☒	☒	
5.2.5 C_ET_04_HV_V: Resistance to Transient Overvoltage	☒	☒	
5.2.6 C_ET_05_HV_V: Resistance to Transient Undervoltage	☒	☒	
5.2.7 C_ET_06_HV_V: Resistance to Load Dump Pulse	☒	☒	
VW - VW 80300 (2016)			
HVPT-1 - HV voltage cycle	☒	☒	
HVPT-2 - HV pre-charging	☒	☒	
HVPT-3 - Passive discharge	☒	☒	
HVPT-4 - Active discharge	☒	☒	
HVPT-5 - HV insulation resistance to LV	☒	☒	
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	☒	☒	
EHV-12 - HV overcurrent	☒	☒	
VW - VW 80300 (2021)			
HVPT-1 - HV voltage cycle	☒	☒	
HVPT-2 - HV pre-charging	☒	☒	
HVPT-3 - Passive discharge	☒	☒	
HVPT-4 - Active discharge	☒	☒	
HVPT-5 - HV insulation resistance to LV	☒	☒	
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	☒	☒	
EHV-09 - System HV voltage ripple	☒	☒	☒
EHV-12 - HV overcurrent	☒	☒	
EHV-13 - HV service life (additional)	☒	☒	
EHV-14 - On/off durability testing for HV components	☒	☒	
EHV-15 - Functionality of HV interlock, maintenance connector, and crash signaling	☒	☒	