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Application Note-Noise Level of STS

Revision History

Version 1.0 Apr. 2023 – Initial release

Applicable products and models

Listed in the table below.

Description

Huawei smart transformer station STS shall be designed and manufactured according to IEC 62271-202, IEC 60076 and IEC 61439 standard. And the noise level of STS shall be fully complied and tested in accordance with IEC 60076-10 "Power transformer – Part 10 Determination of sound levels – Application guide".

Detailed noise level for each applicable STS is listed in the table below.

STS type	Noise level (Sound power level)	Equivalent environment
JUPITER-3000K-H1	64 dB(A) @1m	 Factory level/ Loud and noisy talk
JUPITER-6000K-H1	70 dB(A) @1m	
JUPITER-9000K-H1	75 dB(A) @1m	

Test condition & test method

The STS sound level measurements are carried out at rated output voltage and rated frequency, and immediately after the background measurements, A-weighted sound pressure level measurements are carried out for each measuring position located around the transformer as detailed in the IEC 60076-1.

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Subject: Application Note-Noise Level of SUN2000 Inverter and Energy Storage System

Revision History

Version 2.0 Dec. 2022

Applicable products and models

Listed in the table below.

Description

According to IEC62109 "Safety of power converters for use in photovoltaic power systems", noise level is part of safety requirement of inverters and noise level conformity tests should be carried out. Huawei SUN2000 inverters strictly meet such requirements and have passed the test of noise level according to the standard and been awarded IEC62109 certificate. For energy storage system, similar requirement has also been described in IEC/EN62477 "Safety requirements for power electronic converter systems and equipment", and Huawei LUNA2000 energy storage system has passed the test of noise level according to this standard and been awarded IEC/EN62477 certificate. Detailed noise level for each applicable inverter and energy storage system is listed in the table below.

Inverter type	Noise level	Equivalent environment
SUN2000L-2~5KTL	≤25 dB (Typical Condition)	 Library level/ Whisper in the ear
SUN2000-2~5KTL-L0	≤25 dB (Typical Condition)	
SUN2000-2~6KTL-L1	≤29 dB (Typical Condition)	
SUN2000-3~10KTL-M0/M1	≤29 dB (Typical Condition)	
SUN2000-12~20KTL-M0/M2	≤29 dB (Typical Condition)	
LUNA2000-5/10/15-S0	≤29 dB (Typical Condition)*	
SUN2000-12, 15, 17KTL-M5	≤45 dB (Typical Condition)	 Office level/ Normal discussion
SUN2000-20, 25KTL-M5	≤50 dB (Typical Condition)	
SUN2000-30, 36, 40KTL-M3	≤50 dB (Typical Condition)	
SUN2000-33KTL-A, 36KTL	≤55 dB (Typical Condition)	
SUN2000-50KTL-M3	≤65 dB (Typical Condition)	
SUN2000-50/60KTL-M0	≤55 dB (Typical Condition)	
SUN2000-100/105KTL-H1	≤55 dB (Typical Condition)	 Factory level/ Loud and noisy talk
SUN2000-100KTL-M1	≤65 dB (Typical Condition)	
SUN2000-100KTL-M2	≤65 dB (Typical Condition)	
SUN2000-115KTL-M2	≤65 dB (Typical Condition)	
SUN2000-185KTL-H1	≤65 dB (Typical Condition)	
SUN2000-200KTL-H2/H3	≤65 dB (Typical Condition)	
SUN2000-215KTL-H0/H3	≤65 dB (Typical Condition)	
SUN2000-330KTL-H1/H2	≤75dB (Typical Condition)	

Note: Test condition: The tested equipment operates at rated power, and the test equipment is 1m right in front of the front-side of the tested equipment.

*LUNA2000 Noise Level 850V,5KW @1m at 30℃