



IEC 61701:2020
Salt mist corrosion testing of photovoltaic (PV) modules
Confirmation of test results

VDE Renewables File Ref.: 10398/ ET-20210823-165

Applicant: Sunman (Zhenjiang) Company Limited
No.1 Mingzhu South Road, Youfang Town, Yangzhong City, 212218
Zhenjiang, Jiangsu, China

Product: Crystalline silicon Photovoltaic (PV)-Modules

Type:

A) SMDXXXM-6X12DW,	B) SMDXXXM-6X10DW,	C) SMDXXXM-4X12DW,
D) SMDXXXM-4X09DW,	E) SMBXXXM-6X12DW,	F) SMBXXXM-6X10DW,
G) SMBXXXM-4X12DW,	H) SMBXXXM-4X09DW,	I) SMBXXXM-6X12UW,
J) SMBXXXM-6X10UW,	K) SMBXXXM-4X12UW,	L) SMBXXXM-4X09UW,
M) SMDXXXM-6X12UW,	N) SMDXXXM-6X10UW,	O) SMDXXXM-4X12UW,
P) SMDXXXM-4X09UW,	Q) SMFXXXF-6X24DW,	Q) SMFXXXF-6X24DB,
R) SMFXXXF-6X20DW,	R) SMFXXXF-6X20DB,	S) SMFXXXF-4X24DW,
S) SMFXXXF-4X24DB,	T) SMFXXXF-4X18DW,	T) SMFXXXF-4X18DB,
U) SMFXXXF-6X24UW,	U) SMFXXXF-6X24UB,	V) SMFXXXF-6X20UW,
V) SMFXXXF-6X20UB,	W) SMFXXXF-4X24UW,	W) SMFXXXF-4X24UB,
X) SMFXXXF-4X18UW,	X) SMFXXXF-4X18UB,	Y) SMFXXXM-6X12DW,
Z) SMFXXXM-6X10DW,	AA) SMFXXXM-4X12DW,	AB) SMFXXXM-4X09DW,
AC) SMFXXXM-6X12UW,	AD) SMFXXXM-6X10UW,	AE) SMFXXXM-4X12UW,
AF) SMFXXXM-4X09UW,	AG) SMFXXXM-5X12UW,	AH) SMDXXXF-6X24DW,
AH) SMDXXXF-6X24DB,	AI) SMDXXXF-6X20DW,	AI) SMDXXXF-6X20DB,
AJ) SMDXXXF-4X24DW,	AJ) SMDXXXF-4X24DB,	AK) SMDXXXF-4X18DW,
AK) SMDXXXF-4X18DB,	AL) SMDXXXF-6X24UW,	AL) SMDXXXF-6X24UB,
AM) SMDXXXF-6X20UW,	AM) SMDXXXF-6X20UB,	AN) SMDXXXF-4X24UW,
AN) SMDXXXF-4X24UB,	AO) SMDXXXF-4X18UW,	AO) SMDXXXF-4X18UB,
AP) SMBXXXF-6X24DW,	AP) SMBXXXF-6X24DB,	AQ) SMBXXXF-6X20DW,
AQ) SMBXXXF-6X20DB,	AR) SMBXXXF-4X24DW,	AR) SMBXXXF-4X24DB,
AS) SMBXXXF-4X18DW,	AS) SMBXXXF-4X18DB,	AT) SMFXXXF-12X12UW,
AT) SMFXXXF-12X12UB,	AU) SMFXXXF-12X09UW,	AU) SMFXXXF-12X09UB,
AV) SMFXXXF-12X08UW,	AV) SMFXXXF-12X08UB,	AW) SMFXXXF-12X04UW,
AW) SMFXXXF-12X04UB,	AX) SMFXXXF-12X12DW,	AX) SMFXXXF-12X12DB,
AY) SMFXXXF-12X08DW,	AY) SMFXXXF-12X08DB,	AZ) SMFXXXF-12X04DW,
AZ) SMFXXXF-12X04DB		

XXX in the type replaces the power in watt and can be any number between:

325 - 380 for A), E), I), M), Y), AC)	270 - 315 for B), F), J), N), Z), AD), AG)
215 - 250 for C), G), K), O), AA), AE)	160 - 190 for D), H), L), P), AB), AF)
415 - 440 for Q), U), AH), AL), AP)	345 - 365 for R), V), AI), AM), AQ)
275 - 290 for S), W), AJ), AN), AR), AV), AY)	205 - 220 for T), X), AK), AO), AS)
405 - 440 for AT), AX)	310 - 330 for AU),
135 - 145 for AW), AZ)	

Manufacturer: Sunman (Zhenjiang) Company Limited

Standard: IEC 61701:2020, Salt mist corrosion test

Test conditions

Test method:	3
Testing time:	168 hrs
Chamber temperature:	40°C
Relative Humidity:	93 %
Mist pH level:	7



Pass criteria

Power degradation: < 5%

Dry Insulation: > 40 MΩm²

Wet insulation: > 40 MΩm²

Ground continuity: < 0.1Ω

Bypass diode functionality: Shall be functional after test

Summary of test results:

Maximum power degradation:	allowed	max. 5 %
	measured	max. 0.04 %

The measured degradation is below the allowed degradation.

Dry insulation resistance:	required	min. 18.0 MΩ
	measured	>500 MΩ

The measured dry insulation resistance is above the limit.

Wet insulation resistance:	required	min. 18.0 MΩ
	measured	>500 MΩ

The measured wet insulation resistance is above the limit.

Visual inspection: No findings

Ground continuity test:	allowed	max. 0.1Ω
	measured	max. 0.0018Ω

Bypass diode functionality test: Still functional after test

The complete test results and the relevant bill of materials are given in Test Report No.: TRPVM- ET-20210823-165-1

VDE Renewables GmbH

Zhiyao Wang
Zhiyao Wang

Dean Wen
Dean Wen

Shanghai, 2021-10-27