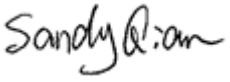
TEST REPORT
FGW TG3
Determination of the Electrical Characteristics of Power Generating Units and Systems, Storage Systems as well for their Components in Medium-, High- and Extra-High Voltage Grids

Report Number..... :	6246949.50
Date of issue..... :	2025-11-08
Total number of pages ..... :	59 pages
Testing Laboratory ..... :	DEKRA Testing and Certification (Suzhou) Co., Ltd.
Address ..... :	No.99, Hongye Road, Suzhou Industrial Park, Suzhou, Jiangsu, P.R. China
Applicant's name..... :	Acrel Co., Ltd.
Address ..... :	No.253, Yulv Road, Jiading, Shanghai, China
Test specification:	
Standard ..... :	FGW TG3 Revision 26 (clause 4.4, 4.5) VDE-AR-N 4110: 2023 (clause 10.3, 10.4)
Test procedure..... :	Partial test
Non-standard test method…….. :	N/A
Test Report Form No..... :	FGW_TR3 V1.0
Test Report Form(s) Originator..... :	DEKRA Testing and Certification (Suzhou) Co., Ltd.
Master TRF ..... :	Dated 2020-10
Test item description ..... :	Protection Relay
Trade Mark ..... :	Acrel 安科瑞电气
Manufacturer..... :	Same as the applicant
Model/Type reference ..... :	AM5SE, AM2SE, AM3
Ratings ..... :	See product marking plate on page 3 and ratings of the test products on page 7.

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Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	Testing Laboratory:	DEKRA Testing and Certification (Suzhou) Co., Ltd.	
Testing location/ address:		No.99, Hongye Road, Suzhou Industrial Park, Suzhou, Jiangsu, P.R. China	
Tested by (name, function, signature):		Shine Yan (ENG)	
Approved by (name, function, signature):		Sandy Qian (REW)	
☐	~~Testing procedure: CTF Stage 1:~~		
~~Testing location/ address ..... :~~			
~~Tested by (name, function, signature) ..... :~~			
~~Approved by (name, function, signature) ..... :~~			
☐	~~Testing procedure: CTF Stage 2:~~		
~~Testing location/ address ..... :~~			
~~Tested by (name + signature) ..... :~~			
~~Witnessed by (name, function, signature)..... :~~			
~~Approved by (name, function, signature) ..... :~~			
☐	~~Testing procedure: CTF Stage 3:~~		
☐	~~Testing procedure: CTF Stage 4:~~		
~~Testing location/ address ..... :~~			
~~Tested by (name, function, signature) ..... :~~			
~~Witnessed by (name, function, signature)..... :~~			
~~Approved by (name, function, signature) ..... :~~			
~~Supervised by (name, function, signature)..... :~~			

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List of Attachments (including a total number of pages in each attachment):
Attachment 1: PHOTO DOCUMENTATIONS

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
All applicable tests were performed. FGW TG3 Revision 26 (clause 4.4, 4.5) VDE-AR-N 4110: 2023 (clause 10.3, 10.4)	DEKRA Testing and Certification (Suzhou) Co., Ltd. No.99, Hongye Road, Suzhou IndustENCrial Park, Suzhou, Jiangsu, P.R. China

Copy of marking plate:



Remark:

1. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
2. Label is attached on the side surface of enclosure and visible after installation

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Possible test case verdicts:

- test case does not apply to the test object ..... : N/A
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement ..... : F (Fail)
- this clause is information reference for installation... : Info.

Testing..... :

Date of receipt of test item(s) ..... : 2025-11-01 (samples provided by applicant)

Dates tests performed..... : 2025-11-01 to 2025-11-05

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

In case of doubt the German version standard will be valid.
Throughout this report a ☐comma / ☒ point is used as the decimal separator.

The following suffixes are used for variables in tables and figures:

EUT	Equipment Under Testing	W	Watt
A	Ampere	p.u.	Per unit
Var	Volt-Ampere reactive	Pn	Nominal Active Power
Un	Nominal Voltage	Pmom	Instantaneous Active Power
In	Nominal Current	Pref	Pmom in case of PV and Storage
MV	Medium Voltage	P10	Active power as 10 s mean value
LV	Low Voltage	Qn	Nominal Reactive Power
LVRT	Low Voltage Ride Through	Sn	Nominal Apparent Power
V1+ / VAC +	Voltage positive sequence	Sk	Symmetrical Fault level
V1- / VAC -	Voltage negative sequence	Ih	Harmonic Current
Kf (Ψk)	Flicker Form Factor	TDC	Total Demand Current Distortion
Ku (Ψk)	Voltage Variation Factor	TDD	Total Demand Distortion
Pst	Short-term flicker disturbance	THDSU	Subgroup Total Harmonic
	factor		Distortion
PGU	Power Generation Unit	Ui	Current Imbalance
Hz	Hertz	Uv	Voltage Imbalance
V	Volt	I+	Current Positive Sequence
		I1-	Current Negative Sequence

Name and address of factory (ies) ..... : Jiangsu Acrel Electrical Manufacturing Co., Ltd.
No.5, Dongmeng Road, Nanzha, Jiangyin, Jiangsu, China

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FGW TR3			
Clause	Requirement - Test	Result - Remark	Verdict

~~VDE-AR-N 4120~~	VDE-AR- N 4110	FGW TG3	CHAPTER OF THE STANDARD(FGW-TG3)	Verdict
~~10.3.4.1~~ ~~10.3.4.2~~ ~~10.3.4.3~~ ~~10.3.4.7~~ ~~11.2.10~~	10.3.3.1 10.3.3.2 10.3.3.3 10.3.4.2.2	4.4	PGU disconnection from the grid	**P**
~~--~~	--	4.5	Verification of connection conditions	**P**
~~10.4.1~~ ~~11.2.11~~	10.4.1	4.5.1	Connection without previous protection trigger	**P**
~~10.4.2~~ ~~11.2.11~~	10.4.2	4.5.2	Connection after triggering of the uncoupling protection	**P**

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Attachment 1: PHOTO DOCUMENTATIONS

Front View

Rear View


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Side View- Panel

Side View- Panel


--- End of test report---

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