

No. GYY21-24

TEST REPORT

Name of product 36kV, 1250A Screened Separable Connector
With mechanical cable lug

Type Specification CJB30-1250M, 1*630, MCL

Applicant United Electric/GCA Co., Ltd.

Testing category Commission test



GCA 500kV High Voltage Laboratory



GCA High Voltage Laboratory Test Report**1. Commission Unit**

United Electric/GCA Co., Ltd.

2. Description of samples

Name of product: 36kV, 1250A Screened Separable Connector, With mechanical cable lug

Type Specification: CJB30-1250M, 1*630, MCL

Manufacturer: United Electric/GCA Co., Ltd.

Date of manufacturing:

Way of sample incoming: Customer Sampling Sending

3. Testing Reference

IEC 60502-4:2010 Power Cables with extruded Insulation and their Accessories for rated Voltages from 1kV ($U_m=1,2kV$) up to 30kV ($U_m=36kV$) —
Part 4: Test Requirements on Accessories for cables

IEC 61238:2018 Compression and mechanical connectors for power cables

4. Category of test

Commission tests

5. Date of testing

2024-5-15 ~2024-5-21

6. Conclusion:

The samples taken by client self were tested according to the testing standards IEC60502. All items were tested positive.

Tested by Zhideng Li

Reviewed by Yiwei Lu

Approved by Liying Long

Date 2024-5-21



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7. The installation of Samples

Test sequence 1: 36kV 1250A Screened separable connector CJB30-1250M (install with UE-MCL 500-630-48/AL mechanical cable lug) + 630sq.mm CU conductor cable + Bushing + Copper cable lug

Test sequence 2: 36kV 1250A Screened separable connector CJB30-1250M (install with UE-MCL 500-630-48/AL mechanical cable lug) + Cable + Bushing + Outdoor termination (Cooperation test)

Test sequence 3: UE-MCL 500-630-48/AL mechanical cable lug + 400sq.mm CU conductor cable + 630sq.mm AL conductor cable

8. Test sequence and results

Test sequence 1			
Product name	36kV 1250A Screened Separable connector CJB30-1250M, 1*630, MCL	Standard	IEC 61238-1-3
Items	Requirements	Results	Remarks
Temperature rise measurement	1250A, temperature rise data <65K	1250A, temperature rise data <38K	Pass

Note



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Test sequence 2				
Product name		36kV 1250A Screened Separable connector CJB30-1250M, 1*630, MCL		Standard
				IEC 60502-4
No.	Items	Requirements	Results	Remarks
1	A.C voltage withstand	81kV, 5min, No breakdown, no flashover	81kV, 5min, No breakdown, no flashover	Pass
2	Partial discharge	30kV, $\leq 10\text{pC}$	31kV, $\leq 1.3\text{pC}$	Pass
3	Impulse voltage at 95°C	170kV, 10 impulses at each polarity No breakdown, no flashover	170kV, 10 impulses at each polarity No breakdown, no flashover	Pass
4	Heating cycles in air	3 cycles at 95°C and 45kV No breakdown, no flashover	3 cycles at 95~100°C and 45kV No breakdown, no flashover	Pass
5	Heating cycles under water	3 cycles at 95°C and 45kV No breakdown, no flashover	3 cycles at 95~100°C and 45kV No breakdown, no flashover	Pass
6	Partial discharge at 95°C	30kV, $\leq 10\text{pC}$	30kV, $\leq 1.3\text{pC}$	Pass
	Partial discharge at ambient temperature	30kV, $\leq 10\text{pC}$	30kV, $\leq 1.3\text{pC}$	Pass
7	Impulse voltage at 95°C	170kV, 10 impulses at each polarity No breakdown, no flashover	170kV, 10 impulses at each polarity No breakdown, no flashover	Pass
8	A.C voltage dry withstand	45kV, 15min, No breakdown, no flashover	45kV, 15min, No breakdown, no flashover	Pass
9	Examination	No visible damage	No visible damage	Pass
Note				

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Test sequence 3 Mechanical Test					
Product name	UE-MCL 500-630-48/AL Mechanical cable lug		Cable	0.6/1kV, 1×400sq.mm CU conductor 0.6/1kV, 1×630sq.mm AL conductor	
Sample No.	Standard	Requirements	Test Results	Results	Remarks
EN2405032-01	IEC 61238-1-3: 2018 Chapter 7 Rate of tensile force: 500N/s	Tensile force ≥ 20kN, Slippage ≤ 3mm (400mm ² CU conductor cable)	20.022kN maintained for 60s, no slippage; 23.960kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: A1: 55.1Nm A2: 54.6Nm A3: 54.0Nm Selected electronic universal testing machine for testing
EN2405032-02			20.025kN, maintained for 60s, no slippage; 24.026kN, maintained for 60s, cable slippage 1.53mm; 27.589kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: B1: 54.4Nm B2: 54.1Nm B3: 54.5Nm Selected electronic universal testing machine for testing
EN2405032-03			20.019kN, maintained for 60s, no slippage; 22.667kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: C1: 54.2Nm C2: 54.0Nm C3: 54.1Nm Selected electronic universal testing machine for testing
EN2405032-04		Tensile force ≥ 20kN, Slippage ≤ 3mm (630mm ² AL conductor cable)	20.09kN, maintained for 60s, no slippage; 24.10kN, maintained for 60s, no slippage; 34.29kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: D1: 54.6Nm D2: 54.0Nm D3: 54.4Nm
EN2405032-05			20.09kN, maintained for 60s, no slippage; 24.09kN, maintained for 60s, no slippage; 31.69kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: E1: 54.5Nm E2: 55.0Nm E3: 54.9Nm
EN2405032-06			20.09kN, maintained for 60s, no slippage; 24.09kN, maintained for 60s, no slippage; 31.19kN, the cable continued to slip, the force value decreased, testing stopped.	Pass	Installation torque: F1: 54.7Nm F2: 55.1Nm F3: 54.5Nm

Environmental conditions: 22.5°C/56.6%RH

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Samples and testing photos of sequence 3

<p>Before Testing</p>	
<p>During Testing</p>	
<p>After Testing</p>	