



We guarantee the authenticity of this digital document which has been digitally signed and marked with a unique temporal mark.

You can find in the following table the document reference, the digital signer Authority and a unique QR code reporting the main feature of the documents and addressing to the CESI website where the cover page of the document is figured in.

This digital feature avoids any counterfeit of the report and guarantees its original issue in any part.

The document is fully PDF compliant.

Document name	Power Xpert™ UX17 Rated voltage 17.5 kV; Rated normal current 3150 A (4000 A with forced cooling); Rated short-circuit current 40 kA; Rated frequency 50/60 Hz
Date of issue	August 25 th , 2020
CESI reference number	C0007032
Client	Eaton FZE – Dubai, (UAE)
Signed by	



CESI S.p.A.

Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Capitale sociale € 8.550.000 interamente versato
C.F. e numero iscrizione Reg. Imprese di Milano 00793580150
P.I. IT00793580150
N. R.E.A. 429222



Certificate of Type Conformity

in compliance with Standards

IEC 62271-100 (2017-06) / IEC 62271-200 (2011-10)

Product	three-phase air-insulated metal-enclosed switchgear and controlgear composed by No. 1 functional unit
Designation	Power Xpert™ UX17
Manufacturer	Eaton FZE - Dubai, (UAE)
Applicant	Eaton FZE - Dubai, (UAE)
Main ratings	Rated voltage 17,5 kV; Rated normal current 3150 A (4000 A with forced cooling); Rated SC current 40 kA; Rated frequency 50/60 Hz
Main performance	Dielectric tests, Temperature-rise tests, Mechanical operation tests, Short-time withstand current and peak withstand current tests, Basic short-circuit test-duties, Single-phase and double-earth fault tests, Out-of-phase making and breaking tests, cable-charging current switching tests

The certified product has been evaluated as compliant with the following standards:

IEC 62271-100 (2012-09) clauses 6.106, 6.108, 6.110, 6.111.9.1.3
 IEC 62271-200 (2011-10) clauses 6.2, 6.4, 6.5, 6.102, 6.6, 6.101
 IEC TR 62271-307 (2015-09) clauses 4.1, 4.2, 4.3, 4.4, 4.5.

This document attests that the certified product meets all the requirements relevant to the ratings assigned by the applicant and listed in the Evaluation Report indicated in the following pages and verified by testing according to the above specified normative reference documents and attests, by means of periodic surveillance, that the manufacturing process guarantees the constant conformity of the product with the above normative reference documents.

This certificate has been issued according to a Product Certification scheme type 5 (see requirements of ISO/IEC17067:2013 item 5.3.7).

This certificate is composed of 5 pages.

25 August 2020

25 August 2020

24 August 2023

First Issue date

Current Issue Date

Expiry Date

Only integral reproduction of this document is allowed without written permission from CESI.
 The authenticity of this document is guaranteed by the authorized signature.
 Digital authentic document provided through PDF format allows certified digital delivery.

Approved by



PRD N° 018B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
 Signatory of EA, IAF and ILAC Mutual Recognition agreements

Roberto Pisoni

I. Detailed Ratings assigned by the Manufacturer

Metal-enclosed switchgear	
Manufacturer	Eaton FZE Dubai
Type	Power Xpert UX17
Voltage	17,5 kV
Frequency	50/60 Hz
Normal current	3150 A
Insulation level	
- Lightning impulse withstand voltage to earth and between phase	95 kV _{peak}
- Power frequency withstand voltage to earth and between phases	38 kV _{rms}
Short-time withstand current	
- Main circuit	40 kA
- Earthing circuit	20 kA
Peak withstand current	
- Main circuit	104 kA
- Earthing circuit	52 kA
Short-circuit duration	3 s
IP coding	IP4X
Number of phases	3
Normal current	3150 A
Normal current with forced cooling	4000 A
Busbar compartment	
Manufacturer	Eaton FZE Dubai
Number of phases	3
Section of the main busbar	3x(10x100) mm
Section of the derivation busbar	3x(10x100) mm
Section of the main earthing circuit	1x(6x60) mm
Voltage	17,5 kV
Rated insulation level	
Power frequency withstand voltage	38 kV
Lightning impulse withstand voltage	95 kV
Rated normal current main busbar (with forced cooling)	3150 A (4000 A)
Rated normal current for derivation busbar (with forced cooling)	3150 A (4000 A)
Rated-short time withstand current	40 kA
Rated peak withstand current	104 kA
Circuit-breaker	
Manufacturer	Eaton FZE Dubai
Type	175 W-VACi/40
Class	E2, C2, M2, S1
Voltage	17,5 kV
Lightning impulse withstand voltage to earth and between phase	95 kV _{peak}
Power frequency withstand voltage to earth and between phases	38 kV _{rms}
Normal current	3150 A
Normal current with forced cooling	4000 A
Frequency	50/60 Hz
Short-circuit making current	104 kA
Short-circuit breaking current	40 kA
Short-circuit duration	3 s
d.c. component (referred to time constant = 45 ms)	33 %
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U _c)	30 kV
Rate of rise (U/t)	0,42 kV/μs
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s

Out-of-phase breaking current (voltage factor 2,5)	10 kA
Rated Cable charging breaking current	31,5 A
Rated single capacitor bank breaking current	400 A
Rated back to back capacitor bank breaking current	400 A
Rated back-to-back capacitor bank inrush making current	8 kA at 3 kHz
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-41167
Opening gap dimension	8,5 ±1 mm
Maximum permissible wear	3 mm
Closing Speed	(0,9 to 1,1) m/s
Opening Speed	(1 to1,3) m/s
Maximum Overtravel	1 mm
Maximum Opening rebound	2 mm
Maximum contact bounce duration	2 ms
Operating mechanism	
Type	Spring Charged
Supply voltage	
Closing device	110 V d.c.
Opening device	110 V d.c.
Motor	110 V d.c.
Medium-voltage cast resin current transformers	
Manufacturer	RITZ
Type	GSS0175R5b-2
Ratio (I_{pn}/I_{sn})	3150 A/ 5-5-5 A
Insulation level	17,5/38/95 kV
Frequency	50/60 Hz
Short-time thermal current (I_{th})	40 kA, 3 s
Dynamic current (I_{dyn})	104 kA
Three pole air insulated earthing switch in fixed version	
Manufacturer	ABB
Type	EK6-1710-275
Number of poles	3
Rated-short time withstand current	40 kA
Rated- peak withstand current	104 kA
Rated duration of short-circuit	3 s
Classes	
Mechanical endurance test	M0
Making capability class	E1

II. Type Tests

Hereunder the list of the test reports and relevant performances assessed.
All documents issued by CESI are available in CESI archive for 10 years.

Standard / Clause	Description of test	Test report
IEC 62271-200 / 6.101 IEC 62271-100 / 6.106, 6.108, 6.110, 6.111.9.1.3	Basic short-circuit test-duties, Single-phase and double-earth fault tests, Out-of-phase making and breaking tests (OP2), cable-charging current switching tests	B6000237-1
IEC 62271-200 / 6.6	Short-time withstand current and peak withstand current tests	B5014845-1 B5003235

Standard / Clause	Description of test	Test report
IEC 62271-200 / 6.2	Dielectric tests	B5015237 B6010585-1
IEC 62271-200 / 6.5	Temperature-rise tests	B5014765-2 B5014902-2
IEC 62271-200 / 6.102	Mechanical operation tests	B5014765-2 B7004289-1

III. Conformity Evaluation

Evaluation of:

- product identification
- type test results
- representativeness of the tested specimens
- additional documents (Extension Report and Comparison File)

is duly reported in the following document issued by CESI:

- **Evaluation Report C0007008**

The Manufacturer guarantees that the products are manufactured according to the submitted drawings.