



**Instytut
Energetyki**

**INSTITUTE OF POWER ENGINEERING
– NATIONAL RESEARCH INSTITUTE
Certification and Inspection Department**

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AC 117

CERTIFICATE OF CONFORMITY

No. DZC.522.49.2.2025

Issue No. 01 of 2025.06.30

*Name and address of
the certificate holder:*

**Zakład Aparatury Elektrycznej ERGOM Sp. z o.o.
Nowe Sady 10
94-102 Łódź, Poland**

Name of the product:

Terminal lugs

Type:

K45D 10-240, K90D 10-240

Manufacturer:

**Zakład Aparatury Elektrycznej ERGOM Sp. z o.o.
Nowe Sady 10
94-102 Łódź, Poland**

Parameters:

According to the appendix

*The product meets
requirements of:*

EN IEC 61238-1-1:2019, EN IEC 61238-1-3:2019

*According to the
reports made by:*

**SEP-BBJ; Institute of Power Engineering – National Research Institute;
ZAE ERGOM**

*Numbers of the type test
reports:*

**LA-19.023/1, LA-19.023/2; EWP/35/E/2018-19, EWP/35/E/2019-23,
EWP/35/E/2018-20, EWP/35/E/2018-21; ERGOM/18/05/2019,
ERGOM/22/02/2020, ERGOM/20/06/2019, ERGOM/19/06/2019**

Period of validity:

from 30th of June 2025 until 29th of June 2028

The right to use the certificate of conformity within its validity period applies only to:

- those copies that have identical features, construction and equipment as the product samples submitted for testing
- certificate holder or his authorized representative

The list of technical data is included in the appendices to the certificate of conformity.

Number of appendices: 1

THE SYSTEM OF PRODUCT CERTIFICATION PC_1a (Program 1a acc. to PN-EN ISO/IEC 17067:2014-01)
(product parameters confirmed by type test)



**DIRECTOR OF
INSTITUTE OF POWER ENGINEERING
– NATIONAL RESEARCH INSTITUTE**

Warsaw, 2025.06.30

Mariusz Mazur, M.Sc. Eng

APPENDIX TO THE CERTIFICATE OF CONFORMITY

No. DZC.522.49.2.2025

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LIST OF EVIDENCED PARAMETERS

Cu terminal lugs ¹⁾ of type	K45D 10-240	K90D 10-240
Class - electrical - mechanical	A 1	A 1
Construction / cross-section of Cu cables / conductors [mm ²]	RMC ²⁾ , RM, SM / 10÷240	RMC ²⁾ , RM, SM / 10÷240
Initial scatter $\delta^3)$	$\leq 0,30$	$\leq 0,30$
Mean scatter $\beta^4)$	$\leq 0,30$	$\leq 0,30$
Resistance factor ratio $\lambda^5)$	$\leq 2,0$	$\leq 2,0$
Change in resistance factor $D^6)$	$\leq 0,15$	$\leq 0,15$
Maximum temperature $\theta_{\max}^7)$	$\leq \theta_{\text{ref}}$	$\leq \theta_{\text{ref}}$
Permissible tensile force [N]	$\leq 60 \times A^8) \text{ Cu}$	$\leq 60 \times A^8) \text{ Cu}$

NOTES:

- 1) ¹⁾ Terminal lugs of type K45D 10-240 and K90D 10-240 has common name of: Tubular angle cable lugs, K45D type and K90D type
- 2) ²⁾ In the technical documentation of cable and wire manufacturers, the RMC designation is also known as RMV
- 3) ³⁾ The average value of the resistance factors of six connectors (lugs) before the first heating cycle.
- 4) ⁴⁾ The average value of the resistance factors of six connectors (lugs) calculated from last 11 measurements readings. It specifies if all connectors (lugs) of given type are characterized by similar changes in resistance during the heat cycles.
- 5) ⁵⁾ Resistance factor ratio of tested connector (lug) during the heat cycle test in relation to the initial resistance factor.
- 6) ⁶⁾ The value specifies the size of the resistance factor change based on last 11 measurements readings.
- 7) ⁷⁾ Temperature of the connector (lug) referenced to the temperature of the reference section.
- 8) ⁸⁾ Nominal cross-sectional area

