



**Instytut  
Energetyki**

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AC 117

# **CERTIFICATE OF CONFORMITY**

**No. DZC.522.3.2022**

**Issue No. 02 of 2024.06.24**

**Name and address of the certificate holder:** Zakład Aparatury Elektrycznej ERGOM Sp. z o.o.  
10 Nowe Sady Str.,  
94-102 Łódź, Poland

**Name of the product:** Terminal lugs

**Type:** KMA 25-400

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

**Parameters:** According to the appendix

**Application of the product:** Cable termination of class 2 aluminium conductors with parameters according to appendix

**The product meets requirements of:** EN IEC 61238-1-1:2019, EN IEC 61238-1-3:2019

**According to the reports made by:** Instytut Energetyki; ZAE ERGOM

**Number of the type test report:** EWP/35/E/2021-28, EWP/35/E/2020-24, EWP/35/E/2021-25,  
EWP/35/E/2021-26, EUR.4032.72.2023.R1.EN,  
DZC.4032.07.2024; ERGOM/35/06/2021, ERGOM/24/11/2020,  
ERGOM/30/03/2021, ERGOM/31/03/2021

**Period of validity:** from 24<sup>th</sup> of June 2024 until 03<sup>rd</sup> of February 2025

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

- these copies that meet the requirements specified above and have the same characteristics (parameters) as the model / product samples submitted for testing
- certificate holder or his authorized representative

*The list of evidenced parameters 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)



pp of the DIRECTOR OF  
INSTITUTE OF POWER ENGINEERING  
– NATIONAL RESEARCH INSTITUTE

Prof. Grzegorz Tchorek, DSc, PhD

Warsaw, 2024.06.24



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## APPENDIX TO THE CERTIFICATE OF CONFORMITY

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### LIST OF EVIDENCED PARAMETERS

Al-Cu terminal lugs <sup>1)</sup> of type	KMA 25-400
Class - electrical - mechanical	A 1
Construction / cross-section of Cu cables / conductors [mm <sup>2</sup> ]	RMC <sup>2)</sup> , RM, SM / 25 - 400
Initial scatter $\delta$ <sup>3)</sup>	$\leq 0,30$
Mean scatter $\beta$ <sup>4)</sup>	$\leq 0,30$
Resistance factor ratio $\lambda$ <sup>5)</sup>	$\leq 2,0$
Change in resistance factor D <sup>6)</sup>	$\leq 0,15$
Maximum temperature $\theta_{\max}$ <sup>7)</sup>	$\leq \theta_{\text{ref}}$
Permissible tensile force [N]	$\leq 40 \times A$ <sup>8)</sup> Al

#### NOTES:

- <sup>1)</sup> Terminal lugs of type KMA 25-240 has common name of "aluminium-copper tight tubular terminal lugs KMA 25-400"
- <sup>2)</sup> In the technical documentation of cable and wire manufacturers, the RMC designation is also known as RMV
- <sup>3)</sup> The average value of the resistance factors of six connectors (lugs) before the first heating cycle.
- <sup>4)</sup> 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.
- <sup>5)</sup> Resistance factor ratio of tested connector (lug) during the heat cycle test in relation to the initial resistance factor.
- <sup>6)</sup> The value specifies the size of the resistance factor change based on last 11 measurements readings.
- <sup>7)</sup> Temperature of the connector (lug) referenced to the temperature of the reference section.
- <sup>8)</sup> Nominal cross-sectional area [mm<sup>2</sup>]

