



#### EA MLA Signatory Český institut pro akreditaci, o.p.s. (Czech Accreditation Institute) Hájkova 2747/22, Žižkov, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products and on changes and amendments to some Acts, as amended

## CERTIFICATE OF ACCREDITATION

No. 317/2025

OPTOKON, a.s. with registered office Červený Kříž 250, 586 01 Jihlava Company Registration No. 13692283

for the Calibration Laboratory No. **2315** OPTOKON Calibration Laboratory

Scope of accreditation:

Calibration in the fields of temperature, humidity and optical quantities to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

#### ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the abovementioned Accredited Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Accredited Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited conformity assessment body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 580/2023 of 07/11/2023, and/or any administrative acts building upon it.

The Certificate of Accreditation is valid until: 02/07/2026

Prague: 27/06/2025





Signed in the Czech original: Jan Velíšek on 27/06/2025

Jan Velíšek
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute

This translation of the Czech original has been issued by: Eliška Frycová

## Accredited entity according to ČSN EN ISO/IEC 17025:2018:

#### OPTOKON, a.s.

CAB number 2315, OPTOKON Calibration Laboratory Červený Kříž 250, 586 01 Jihlava

### **Calibration laboratory locations:**

1. **OPTOKON Jihlava** Calibration Laboratory OPTOKON, Červený Kříž 250, 586 01 Jihlava

2. **OPTOKON Malaysia** Calibration Laboratory OPTOKON Malaysia, OPTOKON PLT, 303-4-25, KRYSTAL POINT, JALAN

SULTAN AZLAN SHAH, 11900 BAYAN LEPAS. PULAU PINANG, Malaysia

### CMC for the field of measured quantity: Temperature

| Ord.<br>number | Calibrated quantity / Subject of calibration | Noi<br>min. unit | ninal ra | nnge<br>max. unit | Parameter(s)<br>of the<br>measurand | Lowest stated<br>expanded<br>measurement<br>uncertainty <sup>2</sup> | Calibration principle                                | Calibration<br>procedure<br>identification <sup>3</sup> | Loca-<br>tion |
|----------------|--|------------------|----------|-------------------|-------------------------------------|--|--|---|---------------|
| 1              | Indicating (direct indicating) thermometers  | -40 °C           | to       | 140 °C            |                                     | 0.41°C   | Comparison with a standard in a conditioning chamber | PPKL 2.8  | 1             |

Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>&</sup>lt;sup>3</sup> If the document identifying the calibration procedure is dated only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

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### CMC for the field of measured quantity: Air humidity

| Ord.<br>number | Calibrated quantity / Subject of calibration |           | minal range | :      | -Parameter(s) of the<br>measurand | Lowest stated expanded                  |                               | Calibration<br>procedure<br>identification <sup>3</sup> | Loca- |
|----------------|--|-----------|-------------|--------|-----------------------------------|---|-------------------------------|---|-------|
|                |  | min. unit | max.        | unit   |                                   | measurement<br>uncertainty <sup>2</sup> | Calibration principle         |   | tion  |
| 1              | Indicating (direct indicating)               |           |             |        |                                   |   | Comparison with a standard in | PPKL 2.9  | 1     |
|                | Hygrometers                                  | 30 % RH   | to 90       | ) % RH | 21 °C to 25 °C                    | 3.7 % RH                                | a conditioning chamber        |   |       |

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### CMC for the field of measured quantity: Optical quantities

| Ord.<br>number | Calibrated quantity / Subject of calibration    | Non       | ninal rang | e       | Parameter(s) of the  | Lowest stated<br>expanded<br>measurement<br>uncertainty <sup>2</sup> | Calibration principle  | Calibration procedure identification <sup>3</sup> | Loca-<br>tion |
|----------------|---|-----------|------------|---------|----------------------|--|--|---|---------------|
|                |   | min. unit | max        | unit    | measurand            |  |  |   |               |
|                | Optical power / optical power meters            |           |            |         |                      |  | Comparison of measurement of optical radiation in fibre by an optical power meter detector with standard optical power meter using comparative | PPKL 2.1<br>(ČSN EN 61315 ed. 3)                  | 1, 2          |
|                |   | -60 dBm   | to         | -50 dBm | 635 nm to 980 nm     | 4.5 %  | method   |   |               |
|                |   | -50 dBm   |            | -40 dBm |                      | 3.2 %  |  |   |               |
|                |   | -40 dBm   |            | +10 dBm |                      | 3.0 %  |  |   |               |
|                |   | -60 dBm   |            |         | 1,270 nm to 1,610 nm | 4.2 %  |  |   |               |
|                |   | -50 dBm   |            | -40 dBm |                      | 2.7 %  |  |   |               |
|                |   | -40 dBm   | to         | +10 dBm |                      | 2.5 %  |  |   |               |
|                |   | -60 dBm   | to         | -50 dBm | 1,625 nm to 1,650 nm | 4.6 %  |  |   |               |
|                |   | -50 dBm   | to         | -40 dBm |                      | 3.2 %  |  |   |               |
|                |   | -40 dBm   | to         | +10 dBm |                      | 3.0 %  |  |   |               |
| 2              | Optical attenuation / optical attenuator        |           |            |         |                      |  | Measurement of insertion loss for individual settings of an  | PPKL 2.2<br>(ČSN EN 61300-3-4                     | 1, 2          |
|                |   | 0 dB      | to         | 40 dB   | 1,270 nm to 1,650 nm | 0.26 dB  | attenuator   | ed. 2)  |               |
|                |   | 40 dB     | to         | 65 dB   |                      | 0.30 dB  |  |   |               |
| 3              | Wavelength / optical source for fibre optics    |           |            |         |                      |  | optical radiation in fibre by  | PPKL 2.3<br>(ČSN EN 61315 ed. 3)                  | 1, 2          |
|                |   | 600 nm    | to 1       | ,700 nm | medium wavelength    | 0.33 nm  | optical spectral analyser (OSA)  |   |               |
|                |   | 600 nm    | to 1       | ,700 nm | maximum intensity    | 0.33 nm  |  |   |               |
| 4              | Optical return loss / optical return loss meter |           |            |         |                      |  | Measurement of optical return loss and comparison with a reference value   | PPKL 2.4<br>(ČSN EN 61300-3-6<br>ed. 2)           | 1, 2          |
|                |   | 3 dB      | to         | 32 dB   | 1,000 nm to 1,700 nm | 0.5 dB   |  |   |               |

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| Ord.<br>number | Calibrated quantity / Subject of calibration   | Nom       | inal rang | e       | Parameter(s) of the measurand  | Lowest stated expanded                  | Calibration principle                                    | Calibration procedure identification <sup>3</sup> | Loca-<br>tion |
|----------------|--|-----------|-----------|---------|--|---|--|---|---------------|
|                |  | min. unit | max.      | . unit  |  | measurement<br>uncertainty <sup>2</sup> |  |   |               |
|                |  | 32 dB     | to        | 42 dB   |  | 0.7 dB                                  |  |   |               |
|                |  | 42 dB     | to        | 52 dB   |  | 1.0 dB                                  |  |   |               |
|                |  | 52 dB     | to        | 61 dB   |  | 1.5 dB                                  |  |   |               |
| 5              | Optical length of SMF fibre/<br>OTDR optical reflectometers                              | 0 km      | to        | 50 km   | 1,310 nm, 1,550 nm,<br>1,625 nm  | 0.40 m                                  | Method based on optical fibre delay line                 | PPKL 2.5<br>(ČSN EN 61746-1)                      | 1, 2          |
|                | Optical length of MMF fibre/   |           |           |         |  |   | Method based on optical fibre                            | PPKL 2.5  | 1             |
|                | optical reflectometers   | 0 km      | to        | 5 km    | 850 nm, 1,300 nm   | 0.20 m                                  | delay line   | (ČSN EN 61746-2)                                  |               |
|                | Optical attenuation of SMF fibre/ OTDR optical   |           |           |         | 1,310 nm, 1,550 nm,  |   | OTDR measurement of attenuation for various power        | PPKL 2.5<br>(ČSN EN 61746-1)                      | 1, 2          |
|                | reflectometers   | 0 dB      | to        | 20 dB   | 1,625 nm   | 0.02 dB                                 | levels and distances                                     |   |               |
|                | Spectral responsiveness /<br>optical radiation detectors –<br>Newport 818-xx photodiodes |           |           |         | 635 to 940 nm,<br>1,625 nm, 1,650 nm<br>at optical power<br>-10 dBm to |   | Measurement of optical power and current                 | PPKL 2.7  | 1, 2          |
|                |  | 0         | to        | 1       | -20 dBm  | 3 %                                     |  |   |               |
|                |  |           |           |         | 1,270 nm to 1,610 nm<br>at optical power<br>-10 dBm to                 |   |  |   |               |
|                |  | 0         | to        | 1       | -20 dBm  | 2,6 %                                   |  |   |               |
| 7              | Wavelength / Optical spectrum analyzers  | 1250 nm   | to 1      | 650 nm  |  | 0.2 nm                                  | Comparison with a reference wavelength meter             | PPKL 2.6<br>(ČSN EN 62129-1)                      | 1, 2          |
|                | Optical power / Optical spectrum analyzers   | -40 dBm   | to -      | +10 dBm | 1,250 nm to 1,650 nm   | 2.5 %                                   | Comparison with a reference optical power meter          | PPKL 2.1<br>(ČSN EN 61315 ed. 2)                  | 1, 2          |
|                | Linearity / Optical spectrum analyzers   |           |           |         |  |   | Comparison with a reference optical power meter using an | PPKL 2.6<br>(ČSN EN 62129-1)                      | 1, 2          |
|                |  | -60 dBm   | to        | -50 dBm | 1,310 nm, 1,550 nm   | 0.24 dB                                 | optical attenuator                                       | ,   |               |
|                |  | -50 dBm   | to        | -40 dBm |  | 0.09 dB                                 |  |   |               |
|                |  | -40 dBm   | to        | 0 dBm   |  | 0.05 dB                                 |  |   |               |

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<sup>&</sup>quot;This document is an appendix to the certificate of accreditation. In case of any discrepancies between the English and Czech versions, the Czech version shall prevail, both for the certificate appendix and the certificate itself."