



CERTIFIKAT O KALIBRACIJI

CALIBRATION CERTIFICATE

naročnik applicant BILCOM SI, MERJENJE IN REGULACIJA TEMPERATURE, D.O.O.

Prvomajska ulica 35, 3250 Rogaška Slatina

lastnik owner BILCOM SI, MERJENJE IN REGULACIJA TEMPERATURE, D.O.O.

Prvomajska ulica 35, 3250 Rogaška Slatina

merilo measure IR Kamera
IR Camera

tip type TAB - 8897S

serijska številka
serial number



1040006700014700

2D koda na vzorcu
2D code on sample



136366

naravnovanje
adjustment

ni bilo izvedeno
was not performed

rezultat
result

ustreza
meets

Podrobnosti so podane v poglavju stanje merila pred kalibracijo.

Details are given in chapter measure status before calibration.

Podrobnosti so podane v poglavju merilni rezultati.
Details are given in chapter measurement results.

datum kalibracije
date of calibration

20.05.2020

izvedel performed by
Devis Martinčič
internally digitally signed

datum odobritve
date of approval

21.05.2020

odobril approved by
Jure Thaler
odgovorna oseba
responsible person
digitally signed
date: 21.05.2020

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kalibracijski postopek
calibration method

Kalibracija je bila izvedena po navodilu ML10N67 - z meritvijo sevalne temperature črnega telesa z referenčnim sevalnim termometrom in primerjavo rezultatov.

The calibration was carried out following the instruction ML10N67 - by measuring radiation temperature of black body with reference radiation thermometer and comparing results.

mesto kalibracije
place of calibration

LOTRIČ Meroslovje d.o.o.
Laboratorij 2.02, Selca 163, 4227 Selca

pogoji okolja
environmental conditions

		od from	do to	dovoljeno odstopanje v času meritev tolerance during measurements
temperatura zraka <i>air temperature</i>	(°C)	24,5	24,6	± 2
relativna vlaga <i>relative humidity</i>	(%)	47,8	48,1	± 10

**št. certifikatov uporabljenih
referenčnih etalonov**
certificate no. of reference
standards used

250-419-19-16

sledljivost
traceability

Pri izvajaju meritev so bili uporabljeni etaloni, ki so sledljivi do nacionalnih etalonov in s tem do mednarodno podprtih realizacij SI-enot. Sledljivost je zagotovljena s kalibracijo v ustreznem kalibracijskem laboratoriju.

The measurements have been performed with standards that are traceable to national standards and thus to internationally supported realizations of the SI-units. Traceability is ensured by calibration in the relevant calibration laboratory.

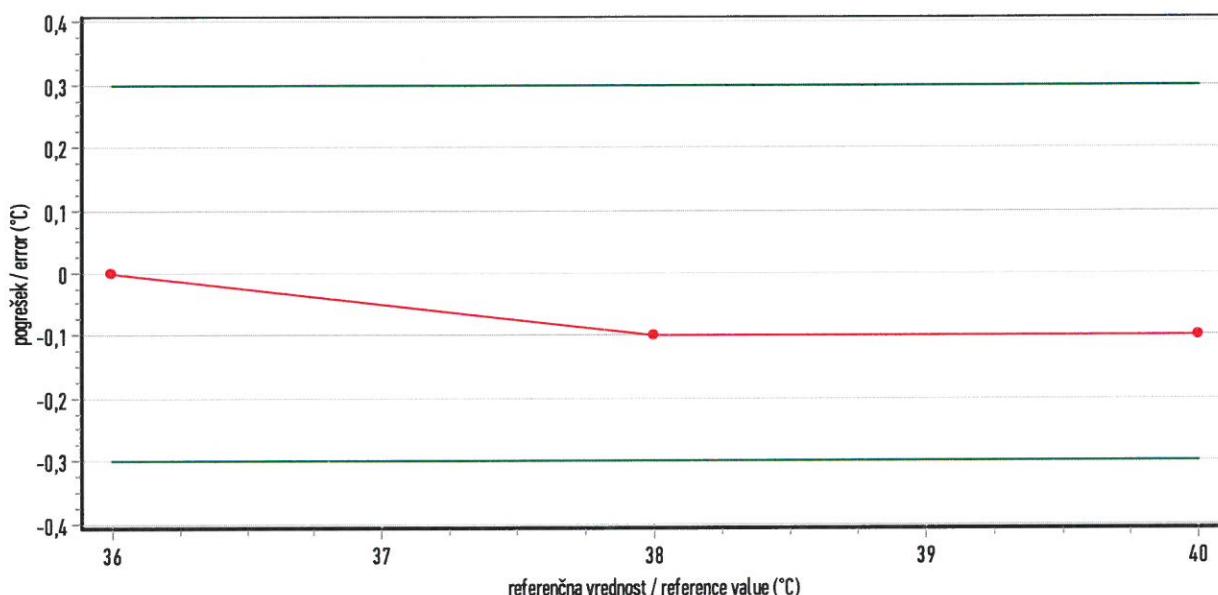
**stanje merjenca pred
kalibracijo (prejeto stanje)**
state of measure before
calibration (as found)

Merila ni možno naravnati.
Measure can not be adjusted.

merilni rezultati (končno stanje)
measurement results (as left)

referenčna vrednost <i>reference value</i> (°C)	prikazana vrednost <i>indicated value</i> (°C)	pogrešek <i>error</i> (°C)	merilna negotovost <i>uncertainty</i> (°C)	NDP <i>MPE</i> (°C)
36,0	36,0	0,0	2,0	0,3 ✓
38,0	37,9	-0,1	2,0	0,3 ✓
40,0	39,9	-0,1	2,0	0,3 ✓

graf pogreškov
errors chart

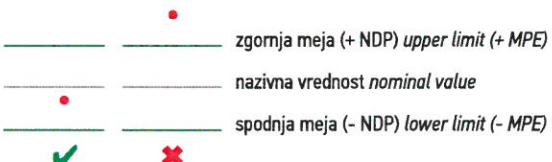


Za boljšo preglednost, so diskretne točke pogreškov pri posamezni merilni vrednosti povezane s črto.
For better clarity, the discrete points of the errors at each measuring point are connected by line.

izjava o merilnem rezultatu
statement of the
measurement result

Največji dovoljeni pogrešek (NDP) je določen glede na uporabnikove tolerance.
Maximum permissible error (MPE) is determined according to user's tolerances.

- ✓ Merilni rezultati ležijo ZNOTRAJ NDP.
The measurement results are WITHIN the MPE.
- ✗ Merilni rezultati ležijo ZUNAJ NDP.
The measurement results are OUTSIDE the MPE.



Izjava o merilnem rezultatu je podana brez upoštevanja razširjene merilne negotovosti.
Statement of the measurement result is based without considering expanded uncertainty.

izjava
statement

Podani merilni rezultati in pripadajoča merilna negotovost se nanašajo izključno na kalibriran vzorec in izmerjene vrednosti v času meritev, ki ne zagotavljajo dolgotrajne stabilnosti.
The measurement results and uncertainties quoted refer only to the calibrated item and to the measured values at the time of measurement, which carry no implication regarding the long term stability.

merilna negotovost
uncertainty

Podana razširjena merilna negotovost je podana kot standardna negotovost pomnožena s faktorjem pokritja $k = 2$, kar za normalno porazdelitev ustreza intervalu verjetnosti približno 95 %. Standardno negotovost smo določili v skladu z EA vodilom EA-4/02 M: 2013.
The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The standard uncertainty of measurement has been determined in accordance with EA Publication EA-4/02 M: 2013.

opombe
comments

Razdalja IR kamere od črnega telesa je bila 30 cm. Emisivnost črnega telesa je bila nastavljena na 0,95.
Distance from IR camera to black body was 30 cm. Black body emissivity was set at 0,95.

Kalibracija je bila izvedena na kanalu surface temperature s programom Temperature Test.
Calibration was performed on channel surface temperature with software Temperature Test.