REPUBLIC OF BULGARIA
Executive agency
Bulgarian accreditation service

Signatory to the EA Multilateral Agreement in this field

ORDER

№ A 167

Sofia, 14.05.2025

Pursuant to Art. 10, para. 1, items 3 and 4, Art. 28, para. 1 and Art. 30, para. 1 of the Law on National Accreditation of Conformity Assessment Bodies, items 6 and 7 of the BAS QR 2 Accreditation Procedure, in connection with an open procedure reg. № 8/7 ЛК/ПА/РО/09.10.2024, assessment report reg. № 8/7 ЛК/4/В/13.12.2024 and statement of the Accreditation Commission reg. № 8/7 ЛК/ПА/2/В/16.04.2025, I hereby

RE-ACCREDIT AND EXTEND THE SCOPE OF ACCREDITATION

DEFENCE INSTITUTE PROFESSOR TSVETAN LAZAROV CENTRAL LABORATORY FOR MEASURING EQUIPMENT

Management and laboratory address:
1592 Sofia, 2 Professor Tzvetan Lazarov Blvd.

To perform calibration of:

Type of the scope: fixed

№	Measuring instrument	Measured value, unit of measure	Measurement Range	Measurement uncertainty	Calibration method
1	2	3	4	5	6
1.	DC ammeters	DC Ampere (A)	from 0 μA to 10 μA from 10 μA to 100 μA from 100 μA to 1 mA from 1 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A from 10 A to 19 A	from 0.023 μA to 0.029 μA from 0.029 μA to 0.081 μA from 0.081 μA to 0.0004 mA from 0.0004 mA to 0.019 mA from 0.019 mA to 0.0003 A from 0.0003 A to 0.005 A from 0.005 A to 0.007 A	РПК 702-12: 2024 Direct method
2.	AC ammeters	AC Ampere (A)	At frequency from 50 Hz to 400 Hz from 100 μA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A from 10 A to 19 A	from 0,20 μA to 0,002 mA from 0,002 mA to 0,008 mA from 0,008 mA to 0,072 mA from 0,072 mA to 0,001 A from 0,001 A to 0,019 A from 0,019 A to 0,03 A	РПК 702-12: 2024 Direct method
			At frequency from 400 Hz to 1 kHz from 100 μA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A	from 0,20 μA to 0,002 mA from 0,002 mA to 0,008 mA from 0,008 mA to 0,072 mA from 0,072 mA to 0,001 A from 0,001 A to 0,019 A	

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Type of the scope: fixed

№	Measuring instrument	Measured value, unit of measure	Measurement Range	Measurement uncertainty	Calibration method
1	2	3	4	5	6
			from 10 A to 19 A	from 0,019 A to 0,03 A	
			At frequency from 1 kHz to 5 kHz from 100 µA to 1 mA from 1 mA to 10 mA from 10 mA to 190 mA	 from 0,74 µA to 0,0074 mA from 0,0074 mA to 0,1 mA from 0,1 mA to 1,3 mA	
3.	DC calibrators	DC Ampere (A)	from 10 µA to 100 µA from 100 µA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A from 10 A to 19 A	from 0,035 µA to 0,087 µA from 0,087 µA to 0,0009 mA from 0,0009 mA to 0,009 mA from 0,009 mA to 0,09 mA from 0,09 mA to 0,001 A to 0,001 A to 0,01 A from 0,01 A to 0,04 A	РПК 702-9: 2024 Direct method
4.	AC calibrators	AC Ampere (A)	At frequency from 50 Hz to 400 Hz from 100 µA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A from 10 A to 19 A	 from 0,3 µA to 0,002 mA from 0,002 mA to 0,026 mA from 0,026 mA to 0,2 mA from 0,2 mA to 0,002 A from 0,002 A to 0,03 A from 0,03 A to 0,04 A	РПК 702-9: 2024 Direct method
			At frequency from 400 Hz to 1 kHz from 100 µA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 1 A from 1 A to 10 A from 10 A to 19 A	 from 0,3 µA to 0,002 mA from 0,002 mA to 0,026 mA from 0,026 mA to 0,2 mA from 0,2 mA to 0,002 A from 0,002 A to 0,03 A from 0,03 A to 0,04 A	
			At frequency from 1 kHz to 5 kHz from 100 µA to 1 mA from 1 mA to 10 mA from 10 mA to 100 mA from 100 mA to 190 mA	 from 0,75 µA to 0,0075 mA from 0,0075 mA to 0,10 mA from 0,10 mA to 0,75 mA from 0,75 mA to 3,7 mA	
5.	DC voltmeters	DC voltage Volt (V)	from 0 mV to 10 mV from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 1000 V	from 0,012 mV to 0,020 mV from 0,020 mV to 0,030 mV from 0,030 mV to 0,0001 V from 0,0001 V to 0,001 V from 0,001 V to 0,005 V from 0,005 V to 0,12 V	РПК 702-12: 2024 Direct method
6.	AC voltmeters	AC voltage Volt (V)	At frequency from 50 Hz to 400 Hz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V	 from 0,058 mV to 0,21 mV from 0,21 mV to 0,0005 V from 0,0005 V to 0,005 V from 0,005 V to 0,057 V	РПК 702-12: 2024 Direct method

Type of the scope: fixed

№	Measuring instrument	Measured value, unit of measure	Measurement Range	Measurement uncertainty	Calibration method
1	2	3	4	5	6
			from 100 V to 1000 V	from 0,057 V to 0,59 V	
			At frequency from 400 Hz to 1 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 1000 V	 from 0,058 mV to 0,21 mV from 0,21 mV to 0,0005 V from 0,0005 V to 0,005 V from 0,005 V to 0,057 V from 0,057 V to 0,59 V	
			At frequency from 1 kHz to 10 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 190 V	 from 0,058 mV to 0,21 mV from 0,21 mV to 0,0005 V from 0,0005 V to 0,005 V from 0,005 V to 0,057 V from 0,057 V to 0,084 V	
			At frequency from 10 kHz to 50 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 19 V	 from 0,070 mV to 0,31 mV from 0,31 mV to 0,0009 V from 0,0009 V to 0,013 V from 0,013 V to 0,018 V	
7.	DC voltage calibrators	DC voltage Volt (V)	from 0 mV to 10 mV from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 1000 V	from 0,0041 mV to 0,005 mV from 0,005 mV to 0,01 mV from 0,01 mV to 0,000054 V from 0,000054 V to 0,00046 V from 0,00046 V to 0,0059 V from 0,0059 V to 0,064 V	РПК 702-8: 2024 Direct method
8.	AC voltage calibrators	AC voltage Volt (V)	At frequency from 50 Hz to 400 Hz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 1000 V	 from 0,053 mV to 0,12 mV from 0,12 mV to 0,001 V from 0,001 V to 0,01 V from 0,01 V to 0,10 V from 0,10 V to 0,97 V	РПК 702-8: 2024 Direct method
			At frequency from 400 Hz to 1 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 100 V from 100 V to 1000 V	 from 0,053 mV to 0,12 mV from 0,12 mV to 0,001 V from 0,001 V to 0,01 V from 0,01 V to 0,10 V from 0,10 V to 0,97 V	
			At frequency from 1 kHz to 10 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V	 from 0,10 mV to 0,37 mV from 0,37 mV to 0,059 V from 0,059 V to 0,072 V	

Type of the scope: fixed

№	Measuring instrument	Measured value, unit of measure	Measurement Range	Measurement uncertainty	Calibration method
1	2	3	4	5	6
			from 10 V to 100 V from 100 V to 190 V	from 0,072 V to 0,21 V from 0,21 V to 0,34 V	
			At frequency from 10 kHz to 50 kHz from 10 mV to 100 mV from 100 mV to 1 V from 1 V to 10 V from 10 V to 19 V	 from 0,10 mV to 0,37 mV from 0,37 mV to 0,059 V from 0,059 V to 0,072 V from 0,072 V to 0,086 V	
9.	Digital RLC meters	Induction Henry (H)	At frequency 1 kHz from 10 µH to 100 µH from 100 µH to 1 mH from 1 mH to 10 mH from 10 mH to 100 mH from 100 mH to 1 H	 from 0,25 µH to 0,25 µH from 0,25 µH to 0,001 mH from 0,001 mH to 0,007 mH from 0,007 mH to 0,07 mH from 0,07 mH to 0,0058 H	РПК 702-3: 2024 Direct method
		Capacity Farad (F)	At frequency 1 kHz from 1 pF to 10 pF from 10 pF to 100 pF from 100 pF to 1000 pF from 1000 pF to 10 nF from 10 nF to 100 nF from 100 nF to 1 µF	 from 0,0066 pF to 0,0075 pF from 0,0075 pF to 0,25 pF from 0,25 pF to 0,55 pF from 0,55 pF to 0,0065 nF from 0,0065 nF to 0,065 nF from 0,065 nF to 0,0058 µF	
10.	DC resistance meters: (ohmmeters, earth testers, megohmmeters)	Electrical resistance Ohm (Ω)	from 0,01 Ω to 100 Ω from 100 Ω to 10 кΩ from 10 кΩ to 1 MΩ from 1 MΩ to 1 000 MΩ	from 0,0023 Ω to 0,004 Ω from 0,004 Ω to 0,00052 kΩ from 0,00052 kΩ to 0,00031 MΩ from 0,00031 MΩ to 0,69 MΩ	РПК 702-21: 2024 Direct method
11.	Single-value and multi-value measures of DC resistance	Electrical resistance Ohm (Ω)	from 0,1 Ω to 100 Ω from 100 Ω to 10 kΩ from 10 kΩ to 1 MΩ from 1 MΩ to 1 000 MΩ	from 0,0035 Ω to 0,016 Ω from 0,016 Ω to 0,0023 kΩ from 0,0023 kΩ to 0,00058 MΩ from 0,00058 MΩ to 0,82 MΩ	РПК 702-11: 2024 Direct method
12.	DC and AC clamp meters	DC Ampere (A)	from 1 A to 100 A from 100 A to 500 A from 500 A to 950 A	from 0,01 A to 0,20 A from 0,20 A to 0,36 A from 0,36 A to 0,68 A	РПК 702-10: 2024 Direct method
		AC Ampere (A)	At frequency from 50 Hz to 100 Hz from 1 A to 100 A	 from 0,01 A to 0,21 A	

Type of the scope: fixed

№	Measuring instrument	Measured value, unit of measure	Measurement Range	Measurement uncertainty	Calibration method
1	2	3	4	5	6
			from 100 A to 500 A from 500 A to 950 A	from 0,21 A to 0,40 A from 0,40 A to 0,77 A	
13.	Wattmeters	Active power, 50 Hz Watt (W)	cos φ = 1 from 23 W to 460 W from 460 W to 2300 W cos φ = 0,5 positive from 11,5 to 230 W from 230 W to 1150 W cos φ = 0,5 negative from 11,5 W to 230 W from 230 W to 1150 W	from 0,10 W to 0,14 W from 0,14 W to 0,47 W from 0,54 W to 0,54 W from 0,54 W to 0,62 W from 0,54 W to 0,54 W from 0,54 W to 0,59 W	РПК 702-13: 2024 Direct method
14.	Digital frequency meters (frequency, period, time interval meters)	Frequency Hertz (Hz)	Frequency from 2 Hz to 15 GHz for a level not exceeding 10 V peak to peak from 2 Hz to 1 kHz from 1 kHz to 1 MHz from 1 MHz to 1 GHz from 1 GHz to 15 GHz	 from 0,06 Hz to 2.10^{-5} kHz from 2.10^{-5} kHz to 9.10^{-7} MHz from 9.10^{-7} MHz to 2.10^{-9} GHz from 2.10^{-9} GHz to 2.10^{-8} GHz	РПК 702-7: 2024 Direct method
		Period/Time interval second (s)	Period from 0,1 μs to 1000 μs for a level not exceeding 10 V peak to peak from 0,1 μs to 1 ms from 1 ms to 1000 ms	 from 0,06 μs to 0,0003 ms from 0,0003 ms to 0,04ms	
			Time interval from 1 μs to 1000 μs for a level not exceeding 10 V peak to peak from 1 μs to 1 ms from 1 ms to 1000 ms	 from 0,06 μs to 0,0004 ms from 0,0004 ms to 0,04 ms	
15.	Pulse generators (time sources)	Period/Time interval second (s)	Period from 0,02 μs to 1 ms to 1 ms to 1000 ms	from 0,001 μs to 5.10^{-8} ms from 5.10^{-8} ms to 5.10^{-5} ms	РПК 702-20: 2024 Direct method
			Time interval from 0,1 μs to 1 μs	from 0,031 μs to 0,031 μs	

Type of the scope: fixed					
№	**Measuring instrument**	**Measured value, unit of measure**	**Measurement Range**	**Measurement uncertainty**	**Calibration method**
1	2	3	4	5	6
			from 1 μs to 1 ms from 1 ms to 1000 ms	from 0,031 μs to 0,0004 ms from 0,0004 ms to 0,04 ms	
		Voltage Volt (V)	DC voltage from 0,01 V to 1 V from 1 V to 100 V	 from 0,000 077 V to 0,000 25 V from 0,000 25 V to 0,018 V	
16.	Highly stable standard frequency generators	Frequency Hertz (Hz)	0,1 MHz; 1 MHz; 5 MHz; 10 MHz	5.10^{-8}	РПК 702-1: 2024 Direct method
17.	Generators and other frequency sources	Frequency Hertz (Hz)	from 2 Hz to 15 GHz for a level not exceeding 10 V peak to peak from 2 Hz to 1 kHz from 1 kHz to 1 MHz from 1 MHz to 1 GHz from 1 GHz to 15 GHz	 from 0,05 Hz to 1.10^{-5} kHz from 1.10^{-5} kHz to 8.10^{-7} MHz from 8.10^{-7} MHz to 1.10^{-9} GHz from 1.10^{-9} GHz to 4.10^{-9} GHz	РПК 702-18: 2024 Direct method
18.	Oscilloscopes	Period second (s)	from 0,02 μs to 1 ms from 1 ms to 1 s	from 0,002 μs to 0,12 ms from 0,12 ms to 0,12 s	РПК 702-6: 2024 Direct method
		Voltage Volt (V)	from 0,03 V to 6 V from 6 V to 30 V	from 0,003 V to 0,14 V from 0,14 V to 0,70 V	
19.	Gauge blocks	Length Meter (m)	from 0,5 mm to 100 mm	from 0,00015 mm to 0,00026 mm	РПК 702-5: 2024 Comparator method
			125 mm	0,0011 mm	
			150 mm	0,0013 mm	
			175 mm	0,0014 mm	
			200 mm	0,0014 mm	
20.	Micrometers	Length Meter (m)	from 0,5 mm to 500 mm	from 0,0016 mm to 0,0050 mm	РПК 702-16: 2024 Direct method
21.	Calipers (height gauges, depth gauges, thickness gauges)	Length Meter (m)	from 0,5 mm to 500 mm	0,03 mm	РПК 702-15: 2024 Direct method

Type of the scope: fixed					
№	**Measuring instrument**	**Measured value, unit of measure**	**Measurement Range**	**Measurement uncertainty**	**Calibration method**
1	2	3	4	5	6
22.	Strokes of length: - measurement lines - tape measuring	Length Meter (m)	from 0 mm to 2 000 mm from 0 mm to 10 000 mm	0,60 mm 0,60 mm	РПК 702-14: 2024 Direct method
23.	Length indicators	Length Meter (m)	from 0 mm to 25 mm	0,003 mm	РПК 702-17: 2024 Direct method
24.	Measuring devices for pressure: mechanical and electromechanical pressure gauges and vacuum gauges	Pressure Pascal (Pa)	from minus 80 kPa to 0 kPa from 0 kPa to 200 kPa from 200 kPa to 2000 kPa from 2 MPa to 7 MPa from 7 MPa to 69 MPa	from 0,10 kPa to 0,06 kPa from 0,06 kPa to 0,13 kPa from 0,13 kPa to 0,40 kPa from 0,0004 MPa to 0,0007 MPa from 0,0007 MPa to 0,008 MPa	РПК 702-2: 2022 Direct method

The calibration of the specified measuring instruments is performed in the laboratory premises.

References:

1.	РПК 702-1:2024	High stability standard frequency source calibration methodology
2.	РПК 702-2:2024	Methodology for calibration of mechanical and electromechanical pressure measuring devices
3.	РПК 702-3:2024	Methodology for calibration of inductance and capacitance meters
4.	РПК 702-5:2024	Methodology for calibration of flat-parallel end length measures by direct contact method of comparative measurement
5.	РПК 702-6:2024	Oscilloscope calibration methodology
6.	РПК 702-7:2024	Digital frequency meter calibration methodology
7.	РПК 702-8:2024	Methodology for calibration of electrical voltage calibrators
8.	РПК 702-9:2024	Methodology for calibration of electric current calibrators
9.	РПК 702-10:2024	Continuity tester calibration methodology
10.	РПК 702-11:2024	Single-value and multi-value measures of DC resistance
11.	РПК 702-12:2024	Methodology for calibration of ammeters and voltmeters
12.	РПК 702-13:2024	Wattmeter calibration methodology
13.	РПК 702-14:2024	Methodology for calibrating outline length measures
14.	РПК 702-15:2024	Calibration methodology for calipers
15.	РПК 702-16:2024	Micrometric instrument calibration methodology
16.	РПК 702-17:2024	Length indicators calibration methodology
17.	РПК 702-18:2024	Frequency generator calibration methodology
18.	РПК 702-20:2024	Time source calibration methodology
19.	РПК 702-21:2024	Methodology for calibration of electrical resistance meters

I ORDER

To issue the certificate of accreditation reg. № 7 ЛК/14.05.2025, valid until 14.05.2029 and this order as an integral part of it.

The certificate of accreditation with the enclosure to be received by the director of Defence institute Professor Tsvetan Lazarov, Sofia, the head of Central laboratory for measuring equipment at Defence institute Professor Tsvetan Lazarov, Sofia, or other authorized person in the office of EA BAS.

Upon receipt of the certificate and the enclosure issued, the the accredited person is obliged to return to EA BAS the originals of accreditation certificate № 7 ЛК/25.06.2024 and its enclosure - EA BAS order reg. № А 247/25.06.2024.

This order shall be notified to the Central laboratory for measuring equipment at Defence institute Professor Tsvetan Lazarov, Sofia, within 3 (three) days from its issuance.

Eng. Irena Borislavova

Executive Director
of Executive Agency Bulgarian Accreditation Service