**SCOPE 23 ЛК**

**Sofia, 28.07.2025**

 **EMSYST-6 LTD.**

**CALIBRATION LABORATORY EMSYST**

**Management and Laboratory address:**

Bulgaria, 1784 Sofia, 133 Tsarigradsko Shosse Blvd, BIC IZOT, Office 304

**To perform calibrating of:**

| **Type of the scope:** F*ixed* |
| --- |
| **№** | **Measuring Instrument** | **Measure and, Measure****ment Unit** | **Measurement Range** | **Measurement****Uncertainty**  | **Calibration Method**  |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. | Standard Electricity Meters, Electronic, Single-Phase and Three-Phase for Active Energyat frequency 50 Hz | Electrical Energy, Active, kWh | Per phaseFrom 1,25 Ws to 21,6.106 WsVoltage (U):From 50 V to 300 VCurrent (I):From 0,05 A to 120 APower Factor:From 1 to 0,5 ind, or from 1 to 0,8 capTime interval from 1 s to 600 s | 0,020 %at cos φ = 1U ≤ 230 V | WI 7.6.1-1№ E-MK-01/20 |
| 0,025 %at cos φ = 1U>230 Vand atcos φ =0,5 ind/ cos φ =0,8 capU ≤ 230 VI ≤ 12 A |
| 0,030 % atcos φ = 0,5 ind/cos φ = 0,8 capI > 12 A |
| 2. | Standard Electricity Meters, Electronic, Single-Phase and Three-Phase for Reactive Energyat frequency 50Hz | Electrical Energy, Reactive, kvarh | Per phasefrom 0,625 vars to 21,6.106 varsVoltage (U)from 50 V to 300 VCurrent (I) from 0,05 A to 120 APower Factor from 1 to 0,25, ind or capTime interval From 1s to 600s | 0,025 %at sin φ =1U ≤ 230 V | WI 7.6.1-1№ E-MK-01/20 |
| 0,030 %at sin φ =1U > 230 V, and at sin φ =0,25 ind/capU ≤ 230 VI ≤ 12 A |
| 0,035 %at sin φ =0,25ind/capI > 12 A |
| 3. | Test Benches with an Electronic Standard Electricity Meter for Metrological Verification of Electricity Meters, Single-Phase and Three-Phase, for Active and Reactive Energy at frequency 50Hz  | Electrical Energy,Active, kWh, and Reactive, kvarh | For active energy, per phasefrom 1,25 Ws to 21,6.106 WsVoltage (U) from 50 V to 300 VCurrent (I) from 0,05 A to 120 APower Factor From 1 to 0,5 ind, or from 1 to 0,8 capTime intervalfrom 1 s to 600 s | 0,020 % at cos φ =1U ≤ 230 V | WI 7.6.1-4№ EУ-МК-04/25 |
| 0,025 % at cos φ =1U > 230 Vand atcos φ =0,5 ind/cos φ =0,8 capU ≤ 230 VI ≤ 12 A |
| 0,030 %atcos φ =0,5 ind/cos φ =0,8 capI > 12 A |
| For reactive energy, per phaseFrom 0,625 vars to 21,6.106 varsVoltage (U) from 50 V to 300 VCurrent (I) from 0,05 A to 120 APower factor from 1 to 0,25 ind or capTime interval from 1 s to 600 s | 0,025 %at sin φ = 1U ≤ 230 V |
| 0,030 % at sin φ = 1U > 230 Vand atsin φ = 0,25 ind/capU ≤ 230 VI≤ 12 A |
| 0.035 % at sin φ =0,25 ind/capI >12 A |
| 4. | Flow Meters and Portable Flow Meter Stations, Calibrated with Operating Fluid Water in the range from 0,006 m3/h to 70,00 m3/h | Volume, m3 | From 0,001 m3to 0,3 m3(at the range from 0,006 m3/hto 30,0 m3/h)(at the range from 30,0 m3/h to 70,0 m3/h) | 0,10 %0,20% | WI 7.6.1-2№ P-MK-01/20 |

**References:**

1. WI 7.6.1-1 № E-MK-01/20 Calibration Methodology for Standard Electronic Electricity Meters, validated on 17.07.2020;

2. WI 7.6.1-4 № ЕУ-МК-04/25 Calibration Methodology for Test Benches with an Electronic Standard Electricity Meter for Metrological Verification of single-phase and three-phase electricity meters for active and reactive energy, validated on 22.05.2025;

3. WI 7.6.1-2 № P-MK-01/20 Calibration Methodology for Flow Meters and Portable Flow Meter Stations, validated on 03.09.2020.

***Note:***

*The calibrations of measurement instruments for positions 1, 2 and 3 shall be carried out in the Laboratory premises, and on the customer’s site.*

*The calibrations of measurement instruments for position 4 shall be carried out only in the Laboratory premises.*