

Terms and Conditions for services provided by the Testing and Calibration Laboratory and the Repair Centre of SONEL S.A.

General provisions

1. Services provided by the Testing and Calibration Laboratory of SONEL S.A. (hereinafter referred to as the Laboratory) and the Repair Centre of SONEL S.A. (hereinafter referred to as the Repair Centre), shall be performed by SONEL S.A. with its registered office in Świdnica, Wokulskiego 11, 58-100 Świdnica, Poland entered in the Register of Entrepreneurs by the District Court for Wrocław-Fabryczna, 9th Economic Division of the National Court Register, under KRS number 0000090121, with a share capital of PLN 1,400,000 fully paid up, holding a tax identification number (NIP): 8840033448, National Business Registry Number (REGON): 890236667 (hereinafter referred to as SONEL S.A.). Customer Service Centre: + 48 74 85 83 912.
2. The Terms and Conditions specify the rights and obligations of the Client and SONEL S.A. with regard to the services provided by the Laboratory and the Repair Centre.
3. Sending a duly completed order is equal to concluding an order contract between the Client and SONEL S.A. A failure to comply with the Terms and Conditions will result in the Client's order being rejected as non-executable. A duly completed order should be attached to the shipment of instruments. In the case of discrepancies between the order of the service order and the conditions set out in the Regulations, the provisions of these Regulations shall prevail.
4. The Laboratory and the Repair Centre are not responsible for the data stored on the internal and external storage media provided with the instrument for calibration and/or repair. User settings may be lost or reset to factory settings during the calibration and/or repair service.

Scope of services provided by the Testing and Calibration Laboratory

1. The Testing and Calibration Laboratory provides calibration services of instruments manufactured by SONEL S.A. in accordance with the valid price list of services published on www.sonel.pl/en/. The laboratory provides additional services by prior arrangement.
The following types of instruments are calibrated:
 - meters for measuring electrical quantities and power network parameters:
 - ✓ voltage meters,
 - ✓ current meters (including clamp meters),
 - ✓ differential current protection meters,
 - ✓ insulation resistance meters,
 - ✓ earth resistance meters,
 - ✓ short-circuit loop impedance meters,
 - ✓ resistance meters,
 - ✓ analysers and recorders of network parameters,
 - ✓ multimeters,
 - ✓ power meters,
 - ✓ multifunction meters covering the functions of the above-mentioned instruments,
 - ✓ portable appliance testers
 - electrical standards:
 - ✓ calibrators,
 - ✓ resistance standards,
 - meters for measurements of non-electrical parameters:
 - ✓ pyrometers
 - ✓ luxmeters
 - ✓ thermo-imaging cameras,
 - ✓ solar radiation meters.
2. The Testing and Calibration Laboratory performs calibrations of instruments manufactured by producers other than SONEL S.A. Ordering such a service must include the scope of calibration agreed with the Laboratory and the price of the service. These arrangements should be made by

email at services@sonel.com. In the absence of a previous quotation for an instrument from another manufacturer, the laboratory sends a confirmation of the terms of the service including the cost and time of the service.

3. In the case of such instruments, one must remember to hand over the following elements together with the instrument:
 - ✓ the charger (if the instrument has one),
 - ✓ the cables (if specific and/or included in the method of measurement),
 - ✓ the user manual and/or the technical specification (if not available on the instrument manufacturer's website),
 - ✓ the service quote received.

4. In the case of instruments that do not have attached batteries or they are discharged, the service will be performed on laboratory accessories.

5. Cables and other connection accessories (crocodile clips, probes, spools, etc.) are not subject to calibration. They are checked only at the Client's request and there is an extra charge for this service.

Such accessories as WS-0x, ERP-1, AutoISO adapters, EVSE are tested at the Client's request together complete with the dedicated instrument – a service which is charged extra.

In the case of instruments with measuring clamps, standard calibration is performed on laboratory clamps. The clamps attached to the device are verified separately.

6. The standard calibration service does not include firmware updates in the devices. The update is performed free of charge at the request of the Customer and applies only to devices for which the possibility of changing the software by the user was provided for at the design stage. The current firmware is available on the website <https://sonel.pl/en/download/firmware/>
7. Details of the calibration process and points of measurements and methods for instruments manufactured by SONEL S.A. are described in Attachment No. 1 to these Terms and Conditions.
8. After prior arrangement of the date and time with the Laboratory, the Ordering Party has a possibility to enter the Laboratory in order to observe the calibration service provided. SONEL S.A. may refuse the participation of the Ordering Party in justified cases/without giving any reason. The Ordering Party undertakes to observe confidentiality and health and safety rules in force at SONEL S.A., and not to hinder the conducted works.
9. With regard to the information and documents provided during the visit described in section 8 of this chapter, the Client undertakes to strictly comply with the following rules:
 - ✓ The Customer agrees to observe confidentiality with regard to all materials, documents and confidential information (collectively referred to as 'Confidential Information') received or obtained orally, in writing or electronically, intentionally or accidentally in connection with the performance of the calibration service, both before and after the date of the performance.
 - Confidential information shall mean all materials, documents, technical, technological, financial, commercial, organizational or other information of economic value not disclosed to the public by the Ordering Party or third parties in a manner allowing an unspecified circle of people to become acquainted with them, both before and after the date of signing the order, within the meaning of the *act of 16 April 1993 on combating unfair competition*.
 - The term business secret shall be understood as failure to disclose to the public technical, technological and organisational information of the company or other information of economic value, with respect to which the entrepreneur has taken necessary measures to maintain confidentiality within the meaning of the *Act of 16 April 1993 on combating unfair competition*.
 - ✓ The Client's obligation to maintain secrecy with regard to Confidential Information, in particular, the prohibition to make it available to third parties.
10. The calibration is confirmed by a calibration certificate.
11. At the express request of the Client, it is possible to issue a certificate before adjustment or repair, provided that the measurement results are available.
12. At the express request of the Client, the calibration certificate may include information on the compliance with the requirements set out in the instrument specification. Determination of conformance to requirements is performed based on the guidance in ILAC-G8:09/2019 "Guidance for Demonstrating Conformance to Specification" based on simple acceptance and the risk of

misjudgement associated with this principle. The cost of service is in accordance with the valid price list of services.

13. Calibration records are recorded each time in the SONEL S.A. Database.
14. The Testing and Calibration Laboratory SONEL S.A. stipulates that the results presented on the calibration certificate correspond to the metrological properties of the instrument on the day of calibration and does not bear responsibility for the effects of using the measuring instruments by the Client or the third party.
15. At the request of the ordering party a duplicate of the calibration certificate can be sent. Certificates older than 5 years are not sent. The cost of issuing a duplicate is in accordance with the valid price list of services.
16. Complaints that affect the quality of the calibration service can be submitted:
 - in writing to the following address:
Laboratorium Badawczo-Wzorcujące SONEL S.A.
Wokulskiego 11
58-100 Świdnica
Poland

or

- by electronic mail to the following e-mail address: services@sonel.com

The Complaint should include:

- first name and surname,
- company name,
- address/e-mail of the complainant,
- description of the complaint.

Complaints are processed within 14 days of the date of delivery to the Testing and Calibration Laboratory. If it is not possible to process the complaint within the given time limit, the Client is informed about the actions taken to date and the approximate time of implementation.

17. Mechanical defects and other faults of the instrument do not constitute grounds for complaint related to the execution of the calibration service performed by the Testing and Calibration Laboratory of SONEL S.A. The laboratory shall not be responsible for any damage occurring/discovered after the service has been provided, including any physical defects in the instrument. If any defects of the instrument are found, the Laboratory shall immediately inform the Client. The handing over of the instrument to the Client (whether the Client collects the instrument personally or the instrument is handed over to a carrier) means that the instrument was undamaged at the time of handing over.
18. The Testing and Calibration Laboratory of SONEL S.A. does not allow its Clients or other third parties to use the PCA accreditation symbol AP 173.

Scope of services provided by the Repair Centre

1. The Repair Centre carries out repairs of instruments manufactured by SONEL S.A. only.
2. Instruments sent to the Repair Centre should be delivered together with equipment.
3. Warranty repairs are performed free of charge except in cases specified in the manufacturer's warranty terms and conditions. Repairs are carried out strictly in accordance with the requirements of the instrument manufacturer. Warranty repair time starts from the moment the instrument is delivered to the service with a properly completed order and warranty card and/or a copy of the proof of purchase. The Repair Centre reserves the right to refuse repair under warranty free of charge if:
 - ✓ the instrument has been tampered with by persons not authorised to carry out repairs,
 - ✓ the instrument is mechanically defective,
 - ✓ the damage is a result of operations that were incompatible with the intended use of the device, as described in the user's manual,
 - ✓ the instrument is damaged as a result of force majeure or environmental influences,
 - ✓ the required documents confirming the manufacturer's warranty are missing (warranty card, copy of the proof of purchase).
4. In case of post-warranty repairs, the Client, by signing the instrument repair order document or by

sending the instrument by a courier, accepts the conditions of service provided by SONEL S.A. specified in these Terms and Conditions. If the cost of repair is covered by the first lump sum up to 200 EUR net per item, the service is carried out automatically with a predefined consent of the Client. In other cases, the Client receives a repair estimate and is obliged to accept the estimate in order for the service to be performed.

In the case of deferred payment, the Client's consent to carry out a chargeable repair must be made in writing with a legible signature of the accepting party. Defective modules replaced during repair shall be issued to the Client only at his request, expressed when accepting the instrument for repair. If no such request is made, the replaced parts will be sent for disposal.

5. By submitting an instrument for repair, the Client declares that he owns the instrument or has full right to use it.
6. The Repair Centre provides a 3-month warranty for the performed repair and the replaced spare parts. In individual cases the service may change the period of responsibility for the performed service.
7. The Repair Centre reserves the right not to carry out the repair.
8. The document that entitles to personally collect the instrument after it has been repaired is the original confirmation of accepting the instrument for repair.

Commissioning of services and performance

1. Services of the Laboratory and the Repair Centre can be ordered via the form available at www.sonel.pl/en/order-form.
2. Calibration prices depend on the scope of the selected service. A detailed price list is available on the Laboratory's website. Prices for service repairs are set individually each time.

The lead time for the service is counted from the moment of instrument delivery to the company's headquarters, the time is respectively:

- to 7 working days for the laboratory service and
- to 14 working days for service repairs.

The completion date may change in the case of orders for a non-standard calibration service, the product is found to be faulty during calibration. The Contractor reserves the right to change the aforementioned deadline for the service in cases of factors that have not been known to the Contractor prior to commencement of the order. In justified situations, the Contractor may withdraw from the service it has accepted.

3. If the order is made by electronic means on SONEL's website www.sonel.pl/en/order-form, the proper form of payment for the service is an electronic invoice with a deferred payment of 7 days. Upon agreeing with the Sales Department, it is possible to settle via:
 - prepayment (PRO FORMA) – after prior acceptance of the cost of services, the Client makes a prepayment to the account on the basis of the received PRO FORMA.

In exceptional situations, by way of individual arrangements with SONEL S.A., it is possible to make a transfer (deferred payment with a payment deadline other than 7 days). In the case of a bank transfer payment, it is necessary to send copies of documents confirming entry in the appropriate register of business activity, as well as the tax identification number and the original of the order to perform the service with authorization to issue a VAT invoice. The order should be signed by authorised persons.

4. Placing an order via the form made available by the Laboratory requires the Client's consent to the processing of his personal data by SONEL S.A. in order to carry out the ordered services as well as the acceptance of the present Terms and Conditions. Placing an order by the Client using its own form means that the Client consents to the processing of his personal data by SONEL S.A. for the purpose of carrying out the ordered services and accepts these Terms and Conditions.
5. All orders are carried out professionally, with the utmost care and as soon as reasonably practicable.

Delivery and acceptance conditions

1. The Client shall take care of proper packing of the instrument in order to prevent any damage during transportation. Proper packaging instructions can be found at <https://www.sonel.pl/en/knowledge-centre/faq/>. If the service is ordered via the website, an address label/waybill sent after the order is generated needs to be printed and attached.
2. Upon the completion of the order, the instruments will be delivered to the Client at the address selected by the Client in the service order form.
3. The following method of transportation is available:
 - **own-account transport** to the registered office of SONEL S.A. (The Client delivers the package via his own supplier).
4. **For warranty service, the cost of return shipment is covered by SONEL S.A**
5. The deadline for return delivery of the instruments depends on the chosen payment method.
6. Each Client order is treated as a whole and sent to the address in one package. In the case of bigger orders, SONEL S.A. reserves the right to execute them in separate batches.
7. At the individual request of the Client, individual parts of the order may be delivered by separate shipments. If so, the shipping costs are agreed with the Client.
8. In the case the device sent to the Laboratory and/or Repair Centre proves to be faulty, and the user does not agree to its repair (as regards the devices manufactured by SONEL S.A.), an invoice for expertise will be issued in accordance with the valid price list of services. If the user does not agree to the repair of the instrument, and the Laboratory has performed complete measurements, the user will pay the full cost for the laboratory service.
9. From the moment the meter is handed over to the courier, it is the haulier that is liable for any loss, shortage or damage to the consignment arising from the moment of its acceptance for delivery until its delivery to the Client, and for any delays in the haulage of the consignment.

Notification services

1. SONEL S.A. has implemented an IT system whose aim is to automatically transfer information concerning the order to the Clients.
2. During the execution of the order the system automatically sends an e-mail to the contact address provided by the Client with information about changes in the status.
3. When placing an order, the Client may order additional free notification services:
 - SMS with notification of change in order status,
 - SMS and e-mail reminder about the next calibration date, sent before the expiry of 12 months from the date of the last recorded calibration service.
4. The equipment shall be handed over for sending with the provision of the waybill number. Tracking of the shipment is possible based on the received waybill number. For shipping information, please contact the courier company.
5. The system also enables the ordering party to receive comments/information regarding repair details directly from the service technician. The Client may refer to the above information by sending a return message, which is systemically linked to his order.

Data protection

1. Pursuant to Article 13 of the Regulation 2016/679 of the European Parliament and of the Council of the European Union of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, I hereby announce that the controller of your personal data is SONEL S.A. with its registered office in Świdnica, postal code 58-100 at Wokulskiego 11, Poland, Tax Identification Number (NIP): 8840033448.
2. Personal data may be visible:
 - ✓ in order to establish, perform, terminate the contract (the basis for the performance of Article 6(1)(b) and (f) c) GDPR);
 - ✓ in order to authorize the representation of a party (basis for the implementation of Article 6(1)(b) and (a) c) GDPR);
 - ✓ for marketing purposes, which is an independent premise legalizing the processing of personal data and consent is not required - Recital (47) of the Preamble to the GDPR states that "The

processing of personal data for direct marketing purposes may be considered as an action performed in a legitimate interest.") , the data is processed until the objection to further processing of personal data for marketing purposes is expressed (Article 21(3) of the GDPR). If the data subject raises such an objection, the Administrator will no longer process this data for this purpose (the basis for processing Article 6(1)(f) and GDPR, legitimate interests pursued by the administrator or by a third party);

- ✓ for other purposes resulting from legitimate interests pursued by the administrator or by a third party, in particular, but not exclusively, for the purpose of pursuing claims or protecting against claims, as well as for archival and security purposes, in the scope of considering possible complaints or requests and satisfying the principle of accountability referred to in art. 5 sec. 2 of the GDPR, (the basis for processing Art. 6 section 1 letter f) and GDPR, legitimate interests pursued by the administrator or by a third party).
3. We obtained personal data directly from the data subject or from the entity with whom we concluded a contract. Providing data is voluntary, but as a consequence of refusing to provide personal data, the contract will not be concluded and the contract will not be performed.
 4. Scope of processed personal data (name and surname; contact telephone number; e-mail address; address (street, house number, apartment number, postal code, city, country), address of residence/business/registered office (if different from the address In the case of Service Recipients or Customers who are not consumers, the Administrator may additionally process the company name and tax identification number of the Service Recipient or Customer).
 5. Providing data is a statutory requirement, and failure to provide it makes it impossible to conclude and/or perform the contract.
 6. In certain cases, personal data may be disclosed to the following categories of recipients:
 - ✓ entities providing the Administrator with advisory and legal assistance services,
 - ✓ entities providing the Administrator with technical support services and providers of IT solutions enabling the Administrator to conduct business (e.g. software providers, e-mail and hosting providers),
 - ✓ The Polish Center for Accreditation, which is a national accreditation body authorized to accredit conformity assessment bodies under the Act of 13 April 2016 on conformity assessment and market surveillance systems (in connection with the mandatory audits conducted by PCA, which are a necessary element of the accreditation process (i.e. assessment of the SONEL S.A. calibration laboratory),
 - ✓ other public authorities acting on the basis of applicable law.
 7. Personal data will be processed accordingly: for the period necessary for the proper performance of the contract (as a rule, the duration of the contract); for the period of limitation of claims arising from the provisions of law (as a rule, 3 years, maximum 6 years from the date of termination of the contract); as well as for the period of storage of accounting and tax documentation resulting from the provisions of law (as a rule, we will store data for the time necessary for tax and settlement purposes, i.e. for 5 years from the end of the year in which the tax obligation was updated), unless there will be another legal basis for further processing, e.g. data processing by us in the scope of considering possible complaints or requests and meeting the accountability principle referred to in art. 5 sec. 2 GDPR.
 8. The data subject has the right to request the Administrator to access his personal data, rectify them, delete or limit their processing, object to processing, as well as the right to transfer data. The provisions specify to what extent each of these rights can be exercised. This will depend in particular on the legal basis and purpose of personal data processing by the Administrator.
 9. The data subject has the right to lodge a complaint with the supervisory body, i.e. the Office for Personal Data Protection, if he considers that the Administrator is processing his personal data in violation.
 10. Personal data will not be used for automated decision-making causing legal effects towards the data subject, including profiling.

More information on our website in the Privacy Policy tab <https://sonel.pl/en/privacy-policy-google-play/>

Final provisions

1. In matters not covered by these Terms and Conditions, the provisions of the Civil Code and the provisions of the Act on special conditions of consumer sale and amending the Civil Code and the provisions of the Act on the protection of certain consumer rights shall apply.
2. By placing an order, the ordering party agrees to the processing of its personal data for the purpose of providing the service and carrying out the order, as well as accepting these Terms and Conditions.
3. A court competent to examine disputes arising from an agreement concluded with entrepreneurs conducting business activity shall be a court competent for the registered office of SONEL S.A.
4. Client hereby declares that is not an entity listed in Annex 1 of Council Regulation (EC) No 765/200, in Annex 1 to Council Regulation (EU) No 269/2014 and that is not an entity included in the list of persons and entities subject to the measures referred to in Art. 1 of the Act of April 16, 2022 on unique solutions to prevent support for aggression against Ukraine and protect national security. Client also declares that he does not permanently or incidentally cooperate, irrespective of the type and form of cooperation, with the entities included in one of the sanctions lists.
5. These Terms and Conditions are valid from 10 October 2023

The Terms and Conditions have been approved by:
President of the Management Board of SONEL S.A.

ANNEX 1 TO TERMS AND CONDITIONS FOR SERVICES PROVIDED BY THE TESTING AND CALIBRATION LABORATORY AND THE REPAIR CENTRE OF SONEL S.A.

1. Standard Calibration Procedure for Instruments Manufactured by SONEL S.A.

A team of engineers from the Testing and Calibration Laboratory of SONEL S.A., based on the experience and knowledge of the manufacturer of measuring instruments, has developed a standard calibration procedure.

The standard calibration procedure is performed when the ordering party does not specify detailed requirements for the calibration process and applies only to the calibration of the instruments manufactured by SONEL S.A.

Individual requirements concerning the calibration process should be agreed with the Testing and Calibration Laboratory of SONEL S.A. at the stage of inquiry and/or offer preparation.

Ordering the calibration service without first establishing the requirements concerning the calibration process with the Laboratory will be treated as acceptance of standard calibration procedure performed according to the methods and measurement points described in this document.

The measurement methods, according to which the Laboratory performs calibrations, are standardized and described in the following instructions:

IW01 Calibration of digital meters, issue 2.3 dated 29/08/2022,
IW02 Calibration of calibrators, edition 1.6 dated 29/08/2022,
IW03 Calibration of high resistance standards by technical electrometric method, issue 1.6 dated 29/08/2022,
IW04 Calibration of resistance standards by low voltage methods, issue 1.6 dated 29/08/2022,
IW05 Calibration of luxmeters, issue 1.2 dated 29/08/2022,
IW06 Calibration of pyrometers, issue 2.3 dated 28/04/2023,
IW07 Calibration of short-circuit loop meters, issue 1.3 dated 29/08/2022,
IW09 Calibration of differential current protection meters, issue 2.1 dated 29/08/2022,
IW10 Calibration of frequency meters, issue 2.1 dated 29/08/2022,
IW11 Calibration of power meters, issue 1.1 dated 29/08/2022,
IW12 Calibration of solar radiation meters issue 1.0 dated 24/06/2022.

The standard calibration process for particular types of devices is realised according to measuring functions and the number of measurement points described in tables below.

The number of measurement points assigned to a particular measurement function has been selected optimally in relation to the range of the instrument to be calibrated within the given function.

2. Non-standard calibration service for instruments manufactured by SONEL S.A.

Ordering a non-standard service of calibration of instruments manufactured by SONEL S.A. should always be preceded by an inquiry sent to the e-mail address services@sonel.com. The ordering party should provide a detailed specification of its requirements for the calibration process in the enquiry. Based on the enquiry, a quotation will be prepared, which will refer to the individual requirements of the ordering party. The ordering of the calibration service on the basis of the presented offer will be treated as acceptance of the agreed methods and measurement points.

3. Calibration of instruments from other manufacturers

Ordering a service of calibration of instruments from other manufacturers should always be preceded by an inquiry sent to the e-mail address services@sonel.com. Based on the enquiry, a quotation will be prepared, which will refer to the detailed requirements of the ordering party. If no specified requirements are submitted, the Laboratory, as a part of its offer, will propose its own methods and measurement points. The ordering of the calibration service on the basis of the presented offer will be treated as acceptance of the agreed methods and measurement points.

A standard process of calibrating individual instruments from other manufacturers, based on user manuals, data sheets or other available technical documents of devices.

The number of measurement points assigned to a specific measurement function has been optimally selected taking into account the specification of the device, points of practical importance, the typical scope of use of a given functionality and the technical capabilities of the Laboratory.

4. Points outside the scope of accreditation

The standard calibration procedure may include points outside the scope of accreditation. This is conditioned by the technical capabilities of the Laboratory. Measuring points not carried out under accreditation are marked in the calibration certificate with the symbol # and they are:

- measurement of fault loop parameters: reactance, impedance and resistance below 100 m Ω ,
- the function of measuring the resistance of test leads performed by the meter,
- measurement of current, voltage, resistance - point 0 if present,
- measurement of voltage and current harmonics,
- DC resistance measurement point 29 M Ω for the test voltage of 10,000 V and 34 T Ω for the test voltage of 15,000 V,
- FLASHTEST for AC voltage,
- measurement of lighting intensity,
- measurement of insolation (irradiance).

The detailed scope of accreditation is specified in the document of the Polish Center for Accreditation AP 173. For luxmeters and irradiance meters, only a non-accredited certificate is issued.

Table 1. Standard CMM and CMP calibration procedure. Functions and measurement points.

Functions \ Type of instrument	CMM-10	CMM-11	CMM-30	CMM-40	CMM-60	CMP-1 (current only)	CMP-2 (current only)	CMP-200 (current only)	CMP-200F (current only)	CMP-3kR (current only)	CMP-400 (current only)	CMP-401 (current only)	CMP-600 (current only)	CMP-1000 (current only)	CMP-1005 (current only)	CMP-1006 (current only)	CMP-1015-PV (current only)	CMP-2000 (current only)	CMP-3000 (current only)
Measurement of direct current	6	6	5	5	4	-	3	-	-	-	-	3	3	3	2	3	4	3	3
Measurement of alternating current	6	5	6	5	5	4	3	5	4	5	6	2	2	2	2	2	3	2	5
Measurement of DC voltage	5	5	5	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Measurement of the alternating current voltage	5	4	4	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resistance	7	7	7	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total number of measurement points:	29	27	27	28	29	4	6	5	4	5	6	5	5	5	4	5	7	5	8

Functions \ Type of instrument	CMP-1 (voltage, current, resistance)	CMP-2 (voltage, current, resistance)	CMP-200F (voltage, current, resistance)	CMP-400 (voltage, current, resistance)	CMP-401 (voltage, current, resistance)	CMP-600 (voltage, current, resistance)	CMP-1000 (voltage, current, resistance)	CMP-1005 (voltage, current, resistance)	CMP-1006 (voltage, current, resistance)	CMP-1015-PV (voltage, current, resistance)	CMP-2000 (voltage, current, resistance)	CMP-3000 (voltage, current, resistance)
Measurement of direct current	-	3	-	-	3	3	3	2	3	4	3	3
Measurement of alternating current	4	3	4	6	2	2	2	2	2	3	2	5
Measurement of DC voltage	2	2	4	5	5	5	5	2	3	5	4	5
Measurement of the alternating current voltage	2	2	4	5	5	4	5	1	3	4	4	5
Resistance	3	3	6	7	7	7	7	3	7	7	7	7
Total number of measurement points:	11	13	18	23	22	21	22	10	18	20	20	25

Table 2. Standard calibration procedure for DIT pyrometers and KT thermal imaging cameras

Type of instrument	DIT-120	DIT-130	DIT-200	DIT-500	KT-80	KT-128	KT-130	KT-140	KT-145	KT-150	KT-160	KT-160A	KT-165		KT-195	KT-200	KT-256	KT-256F	KT-250		KT-320		KT-384	KT-385	KT-400	KT-560	KT-640	KT-650	KT-670
													Measurement range up to °C						Measurement range up to °C										
350	650	350	650	350	650																								

Measurement points ° C	50	50	50	50	35	50	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	250	250	250	250	150	150	150	200	150	150	150	200	200	200	250	250	250	250	200	250	200	250	200	200	250	250	250	250	250
	450	350	450	450	240	380	240	240	340	240	240	340	340	450	340	450	450	450	340	450	340	450	390	340	450	450	450	450	450
Total number of measurement points:	4	3	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Table 3. Standard calibration procedure for LXP and LP luxometers. Functions and measurement points.

Type of instrument	LP-1	LXP-1	LXP-2	LXP-10B LP-10B	LXP-10A LP-10A
Functions					
Measurement of lighting intensity	8	10	9	12	14
Total number of measurement points	8	10	9	12	14

Table 4. Standard calibration procedure for MIC. Functions and measurement points.

Type of instrument	MIC-1	MIC-1T	MIC-2	MIC-3	MIC-5	MIC-10	MIC-30	MIC-1000	MIC-2500	MIC-2501	MIC-2505	MIC-2510	MIC-251	MIC-5000	MIC-5001	MIC-5005	MIC-5010	MIC-5050	MIC-10k1	MIC-15k1	MIC-RS	AutoISO***
Functions																						
DC resistance (insulation resistance measurement function)	23	23	20	17	20	14	16	14	16	15	13	16	16	14	17	21	21	20	27	29	19	20
DC resistance (function for measuring the resistance of equipotential bonding) **	3	3	-	6		6	6	-	-	6	-	6	6	-	-	-	6	6	6	-		-
DC resistance (low voltage resistance measurement function)	5	5	4	4	4	4	4	6	4	-	-	4	4	-	-	-	-	-	-	-	8	-
AC 50 Hz voltage	7	7	3	3	3	3	3	3	3	5	3	3	3	3	5	7	7	3	3	3		-
DC voltage	14	14	4	3	3	4	4	4	3	6	4	3	3	-	7	11	11	4	4	4		-
AC 50 Hz current	3	3	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
DC current	6	6	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Total number of measurement points:	61	62	31	33	30	31	33	27	26	32	20	32	32	17	29	39	45	33	40	36	27	20

* MIC-1000 measurement to No. 220987, MIC-2500 measurement to No. 241921.

** If the function occurs.

*** Calibrated with instrument

Table 5. Standard calibration procedure for MMR. Functions and measurement points.

Type of instrument \ Functions	MMR-600	MMR-610	MMR-620	MMR-630	MMR-650	MMR-6000	MMR-6200	MMR-6500	MMR-6700
DC resistance	9	9	9	9	9	9	9	12	13
Total number of measurement points:	9	9	9	9	9	9	9	12	13

Table 6. Standard calibration procedure for MPI. Functions and measurement points.

Type of instrument \ Functions	MPI-502	MPI-505	MPI-506	MPI-507	MPI-508	MPI-510	MPI-511	MPI-520	MPI-525	MPI-530*	MPI-530 IT*	MPI-535/536	-MPI-540*	MPI-540* /MPI-540-PV Solar**	PVM-1020	EVSE
AC 50 Hz voltage	2	3	2	2	3	3	3	2	2	2	2	2	2	2	2	-
DC voltage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Frequency	1	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-
AC 50 Hz current – C3 clamp	-	-	-	-	-	-	-	6	-	5	5	-	-	-	-	-
AC 50 Hz current – F3 clamp	-	-	-	-	-	-	-	-	-	4	4	-	-	-	-	-
DC current (short-circuit current measurement function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Short circuit loop parameters (Z L-PE)	6	6	6	6	6	6	6	6	6	6	6	6	6	6	-	6
Short circuit loop parameters (Z L-N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Short circuit loop parameters (Z L-PE RCD)	6	6	6	6	6	6	6	6	6	6	6	6	6	6	-	6
Time interval (RCD tripping)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	-	-
DC resistance (insulation resistance measurement function)	-	6	6	8	6	6	6	5	6	5	5	5	5	5	8	10
DC resistance (function for measuring the resistance of equipotential bonding with 200 mA current)	4	7	4	4	7	7	7	4	4	6	6	6	6	6	4	-
DC resistance (low voltage resistance measurement function)	3	4	3	3	4	4	4	3	4	3	3	3	3	3	3	-
AC 50 Hz current (differential IΔn)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-
AC 50 Hz voltage (touch U _B)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-
AC 50 Hz Resistance (RE earth in TT networks)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-
AC resistance (RE earth)	-	-	-	8	-	4	4	8	8	12	12	12	12	12	-	-
AC resistance (RE of multiple earths using clamps)	-	-	-	-	-	-	-	-	-	5	5	5	5	5	-	-
AC resistance (earth measurement by dual clamps)	-	-	-	-	-	-	-	-	-	3	3	3	3	3	-	-
AC 50 Hz current – C2 clamp	-	-	-	-	6	6	6	-	-	-	-	-	-	-	-	-
DC voltage (recorder)	-	-	-	-	-	-	-	-	-	-	-	12	12	12	-	-

DC Voltage (recorder)	-	-	-	-	-	-	-	-	-	-	-	-	15	15	15	-	-
AC current (C4 clamp - recorder)	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	-	-
AC current (F3 clamp - recorder)	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	-	-
Frequency (recorder)	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	-	-
Voltage harmonics (recorder)	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	-	-
Current harmonics (recorder)	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	-	-
Open circuit voltage U_{oc} (parameter for photovoltaic installations)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-
Short-circuit current I_{sc} (parameter for photovoltaic installations)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-
DC current (current measurement function using a clamp adapter)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
AC current 50 Hz (current measurement function using a clamp adapter)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Total number of measurement points:	31	41	37	37	48	52	52	49	45	66	66	128	128	138	26	28	

*In the case of a selection with the luxmeter function, the measurement points for the luxmeter probe are presented in Table 3. Calibration of the luxmeter probe is not subject to PCA accreditation.

**In the case of a selection MPI-540-PV Solar, the measurement points for the IRM-1 are presented in Table 12. Calibration of the IRM-1 is not subject to PCA accreditation.

Table 7. Standard MIE and MRP calibration procedure. Functions and measurement points.

Functions \ Type of instrument	MIE-500	MRP-1	MRP-110	MRP-120	MRP-200	MRP-201
AC voltage	3	3	3	3	3	5
Time interval (RCD tripping)	3	3	3	3	3	3
AC current (differential $I_{\Delta n}$)	5	5	5	5	13	21
Short circuit loop parameters (Z L-PE)	7	-	-	-	-	-
AC voltage (touch UB)	10	10	10	10	10	10
AC Resistance (RE earth in TT networks)	10	10	10	10	10	10
AC resistance (short circuit loop)	-	-	7	-	7	-
Total number of measurement points:	38	31	38	31	46	49

Table 8. Standard calibration procedure for MRU. Functions and measurement points.

Functions \ Type of instrument	MRU-10	MRU-11	MRU-20	MRU-21	MRU-30	MRU-100	MRU-101	MRU-105	MRU-106	MRU-120	MRU-
AC voltage	1	1	1	1	1	1	1	1	1	1	1
AC resistance (earth resistance measurement function)	13	-	13	13	-	-	-	-	-	-	-
AC resistance (of auxiliary electrodes in the function of earth resistance measurement)	10	6	10	10	-	8	8	8	8	12	12

DC resistance (function for measuring the resistance of equipotential bonding with 200 mA current)	-	-	7	7	4	-	-	-	-	-	-
AC current - C3 clamp	-	-	-	-	4	-	-	-	-	-	5
AC current - F3 clamp	-	-	-	-	-	-	-	-	-	-	3
AC resistance (earth resistance measurement function with a 2-wire method)	-	5	-	-	5	7	7	7	7	-	-
AC resistance (RE earth)	-	18	-	-	15	19	19	19	19	23	19
AC resistance (RE of multiple earths using clamps)	-	-	-	-	10	10	10	10	10	13	10
AC resistance (earth measurement by dual clamps)	-	-	-	-	4	-	-	-	-	5	3
AC resistance (function for measuring the resistance of equipotential bonding)	-	-	-	-	-	-	-	-	-	7	6
AC resistance (measurement of earth resistance using the impact method)	-	-	-	-	-	-	-	-	-	-	8
Total number of measurement points:	-	1	31	31	43	45	45	45	45	61	67

Table 9. Standard calibration procedure for MZC. Functions and measurement points.

Functions	MZC-2	MZC-20E	MZC-200	MZC-201	MZC-202	MZC-300	MZC-301	MZC-302	MZC-303	MZC-303E	MZC-304	MZC-305	MZC-306	MZC-310S	MZC-320S	MZC-330S
AC voltage	3	2	3	3	3	3	3	3	3	3	5	5	5	2	2	2
Short circuit loop measurement	8	10	14	14	7	7	7	7	7	7	6	8	8	17	17	17
Short circuit loop measurement (RCD mode)	-	-	-	-	-	-	-	5	5	5	6	8	8	-	-	-
AC resistance (function for measuring the resistance of test leads)	-	-	-	-	-	2	2	2	2	2	-	-	-	-	-	-
DC resistance (function for measuring the resistance of equipotential bonding with 200 mA current)	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-
DC resistance (low voltage resistance measurement function)	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
AC Voltage - touch UST and effective touch UT	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2
Total number of measurement points:	11	12	17	17	10	12	12	17	17	17	28	21	21	21	21	21

Table 10. Standard calibration procedure for PAT. Functions and measurement points.

Functions	PAT-1	PAT-2	PAT-2E	PAT-10	PAT-800	PAT-805	PAT-806	PAT-810	PAT-815	PAT-820	PAT-85	PAT-86
AC 50 Hz voltage - function of measuring supply voltage	-	-	1	1	1	1	1	1	1	1	1	1
AC 50 Hz voltage - function of measuring voltage in PE supply cable	-	-	-	-	2	2	2	2	2	2	2	2
DC resistance - insulation resistance measurement	6	6	8	8	6	10	10	10	10	10	12	12
DC resistance - insulation resistance measurement welders	-	-	-	-	-	-	3	-	-	-	-	3

Circuit resistance L-N	3	3	3	3	-	-	-	-	-	-	-	-
AC 50 HZ resistance - measurement of PE resistance using 2-wire method with 200 mA current	3	3	3	3	3	3	3	-	-	-	-	-
AC 50 HZ resistance - measurement of PE resistance using 3-wire method with 200 mA current	-	-	-	-	-	-	-	3	3	3	3	3
AC 50 HZ resistance - measurement of PE resistance using 4-wire method with 200 mA current	-	-	-	-	-	-	-	1	1	1	1	1
AC 50 HZ resistance - measurement of PE resistance using 2-wire method with 10 A current	-	-	-	3	-	3	3	-	-	-	-	-
AC 50 HZ resistance - measurement of PE resistance using 2-wire method with 25 A current	-	-	-	-	-	3	3	-	-	-	-	-
AC 50 HZ resistance - measurement of PE resistance using 3-wire method with 10 A current	-	-	-	-	-	3	3	-	3	3	3	3
AC 50 HZ resistance - measurement of PE resistance using 3-wire method with 25 A current	-	-	-	-	-	3	3	-	3	3	3	3
AC 50 HZ resistance - measurement of PE resistance using 4-wire method with 10 A current	-	-	-	-	-	1	1	-	1	1	1	1
AC 50 HZ resistance - measurement of PE resistance using 4-wire method with 25 A current	-	-	-	-	-	1	1	-	1	1	1	1
AC 50 Hz current - measurement of touch leakage current	-	-	3	3	3	3	3	3	3	3	3	3
AC 50 Hz current - measurement of equivalent leakage current	3	3	3	3	3	3	3	3	3	3	3	3
AC 50 Hz current - measurement of differential leakage current	-	-	3	3	3	3	3	3	3	3	3	3
AC 50 Hz current - measurement of PE leakage current	-	-	-	-	3	3	3	3	3	3	3	3
AC 50 Hz current - function of differential leakage current measurement with the clamp meter	-	-	-	-	-	-	-	-	3	3	3	3
AC 50 Hz current - function of PE leakage current measurement with the clamp meter	-	-	-	-	-	-	-	-	3	3	3	3
AC 50 Hz current - function of measuring with the clamp meter	-	-	-	-	-	-	-	-	3	3	3	3
AC 50 Hz current - current consumption measurement with power measurement	-	-	-	-	2	2	2	2	2	2	2	2
AC 50 Hz current - differential current in the function of RCD parameters measurement	-	-	2	2	-	-	-	2	2	2	2	2
Apparent power - at 230 V 50 Hz and PF = 1	-	-	-	-	2	2	2	2	2	2	2	2
Active power - at 230 V 50 Hz and PF = 1	-	-	-	-	-	-	-	2	2	2	2	2
Apparent power - at 230 V 50 Hz - current clamp measurement	-	-	-	-	-	-	-	-	2	2	2	2
Active power - at 230 V 50 Hz - current clamp measurement	-	-	-	-	-	-	-	-	2	2	2	2
Time interval - RCD parameters measurement function	-	-	2	2	-	-	-	2	2	2	2	2
AC 50 Hz U_p (peak) voltage of welding equipment in no-load condition U_0	-	-	-	-	-	-	7	-	-	-	-	7
AC 50 Hz U_R (r.m.s) voltage of welding equipment in no-load condition U_0	-	-	-	-	-	-	3	-	-	-	-	3
AC 50 Hz current - measurement of leakage current in welders	-	-	-	-	-	-	6	-	-	-	-	6
AC 50 Hz voltage (FLASHTEST)	-	-	-	-	-	-	-	-	-	2	-	-
AC 50 Hz current (FLASHTEST)	-	-	-	-	-	-	-	-	-	4	-	-
Total number of measurement points:	15	15	28	31	28	46	65	39	60	66	62	81

Table 11. Standard calibration procedure for PQM. Functions and measurement points.

Type of instrument Functions	PQM-700	PQM-701	PQM-701Z	PQM-701Zr	PQM-702	PQM-703	PQM-710	PQM-711	PQM-707
Measurement of DC voltage	15	17	17	17	17	17	17	17	15
Measurement of the alternating current voltage	15	18	18	18	18	18	18	18	15
Alternating current measurement (C-x clamp)	16	16	16	16	16	16	16	16	16
Alternating current measurement (F-x clamp)	12	12	12	12	12	12	12	12	12
Frequency	5	5	5	5	5	5	5	5	5
Voltage harmonics	9	9	9	9	9	9	9	9	9
Current harmonics	9	9	9	9	9	9	9	9	9
Total number of measurement points:	81	86	86	86	86	86	86	86	81

Table 12. Standard calibration procedure for solar radiation meters (irradiance). Functions and measurement points.

Type of instrument Functions	IRM-1
Measurement of solar radiation (irradiance)	1
Total number of measurement points:	1

THE END