imc has been certified according to DIN EN ISO 9001 since 1995. As a device manufacturer, imc does not have an accredited laboratory, but fully complies with IATF16949 requirement 7.1.5.3.2 "Requirements for external laboratories". The protocol set with factory calibration certificate and measurement value protocols as well as the list of test equipment used complies with the requirements of DIN EN ISO 17025.

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Calibration intervall

In order to be able to carry out correct measurements on a permanent basis, imc products must be monitored or calibrated at regular intervals. This period corresponds to the calibration interval. The calibration intervals depend, among other things, on the following factors, e.g. the permissible tolerance band of the measured variable, the stress on the measuring equipment, the results of previous calibrations, the required measuring accuracy and, last but not least, the specifications of the company's quality assurance system.

In principle, the calibration interval should be adjusted so that the balance between risk and cost is optimal. This means that the interval between two calibrations must ultimately be determined and monitored by the user.

In our technical documentation, we recommend a calibration interval of 1 year.

imc Calibration

Calibration is only used to determine and document the deviation of a measuring device. There is no technical intervention in the device during calibration. A traceable device (standard) with a higher accuracy under specified conditions is used as a reference. A target value of a calibrator is compared with the measured value of the system for each channel in each measuring range.

The imc calibration checks whether the measuring amplifier is within the limits of the technical data sheet. Any deviations found can usually be rectified by commissioning an adjustment, but defects can also be identified.

Order Code	Calibration per amplifier	article no.
SERV/CAL-M1	Includes initial calibration of measurement amplifier. Included in delivery: imc calibration certificate with measurement values of the input incl. list of calibration equipment used (pdf, meets requirements of ISO 9001 and ISO 17025)	150000556
SERV/CAL-TEL-CH	Includes initial calibration of one telemetry channel of a telemetry module (decoder). Included in delivery: imc calibration certificate with measurement values of the input incl. list of calibration equipment used (pdf, meets requirements of ISO 9001 and ISO 17025)	150000591

imc Adjustment

In contrast to calibration, adjustment requires an intervention in the device, which causes a permanent change.

The imc adjustment procedure is as follows for each measuring amplifier:

A correction value is formed from the first calibration and stored in the device memory during the subsequent adjustment. The second calibration "initial calibration" is then carried out to check whether the measured values are within the tolerance range specified by the manufacturer.

Order Code	Calibration and adjustment per amplifier	article no.
SERV/ADJ-M1	Includes input calibration, adjustment and calibration of the output channels of measurement amplifier. Included in delivery: imc calibration certificate with measurement values of the input incl. list of calibration equipment used (pdf, meets requirements of ISO 9001 and ISO 17025)	150000557
SERV/ADJ-TEL-CH	Includes input calibration, adjustment and calibration of one telemetry channel of a telemetry module. Included in delivery: imc calibration certificate with measurement values of the input incl. list of calibration equipment used (pdf, meets requirements of ISO 9001 and ISO 17025)	150000612

Accredited calibration

imc offers the possibility of accredited calibration, which meets the requirements of IATF 16949 point 7.1.5.3.2 and ISO 17025. The accredited calibration, e.g. ILAC (DAkkS), is carried out in cooperation with an external accredited laboratory.

The actual values are determined for each measuring range according to a device-specific test plan. (e.g.: for CRFX/UNI2-8 with 5 measuring points voltage, 2 measuring points current, 5 measuring points PT100, 5 measuring points thermocouple). The test plan is available on request or a special test plan can be drawn up in consultation with the customer.

In order to obtain a ILAC-calibrated measuring system for new deliveries, it is necessary to order the "ILAC calibration per measuring amplifier".

Order Code	ILAC: Calibration, adjustment and traceability (with initial delivery)	article no.
SERV/ISO17025-NEW	Includes ILAC calibration of a measurement amplifier in an accredited laboratory. Included in delivery: Calibration certificate with measurement values of the accredited laboratory (pdf)	150000589

ILAC (DAkkS) Service Package

For customers who require an ILAC calibration, we offer the "ILAC Service Package". Here, the measuring amplifier is calibrated at the imc factory and, if necessary, adjusted with subsequent output calibration. The calibration is then carried out in an accredited laboratory.

Order Code	ILAC service package	article no.
SERV/PAC-ISO17025	Includes calibration before and after adjustment, adjustment of the measurement amplifier at imc and an ILAC calibration in an accredited laboratory. Included in delivery: Calibration certificate with measurement values of the accredited laboratory (pdf), imc manufacturer calibration certificate with measurement values before and after adjustment, incl. list of calibration equipment used (pdf, meets the requirements of ISO 17025)	150000555

Calibration certificate

imc supplies a manufacturer's calibration certificate that conforms to ISO 9001. The protocol set with manufacturer's calibration certificate and measured value logs as well as the list of test equipment used complies with the requirements of ISO 17025. The protocol set lists all target and actual values with pass/fail evaluation of each calibration performed.

The customer receives a device certificate with measured value logs for each calibration ordered. The logs are archived (electronically) at imc for 10 years.

Order Code	Calibration protocol per amplifier	article no.
SERV/CAL-PROT	imc manufacturer calibration certificate with measurement values and list of calibration equipment used (**pdf**, meets the requirements of ISO 9001 and ISO 17025). Only in conjunction with initial delivery	150000566
SERV/CAL-PROT-PAPER	imc manufacturer calibration certificate with measurement values and list of calibration equipment used. With signature and seal, (**paper print**, meets the requirements of ISO 9001 and ISO 17025)	150000578

Tolerances for errors

imc specifies the individual tolerance limits (e.g. temperature error) in detail in the data sheets, which results in the total tolerance.

In the measured value logs, the fail/pass evaluation is carried out via the permissible total deviation.

Normal and traceability

imc tests and calibrates the devices from the imc portfolio as the manufacturer.

The services are generally described in the QM manual, on the website and in the service data sheets. In particular, the technical data sheets for the product, the imc test plan for the product and the documentation for the respective calibration instructions apply.

imc does not offer general calibration services.

As a ISO 9001 certified company, all our test equipment is subject to test equipment monitoring. This means that they are safely monitored and have traceability via the ILAC calibration chain. This makes it possible to order a "ILAC traceability certificate" for the calibration of imc devices at no extra charge. Calibration is then carried out exclusively with test equipment with ILAC traceability.

The procedure whereby a measuring device is calibrated with the aid of a higher-grade standard and this in turn is calibrated with an even higher-grade standard is known as a calibration chain. The aim of this calibration chain is the complete traceability of the measuring equipment to the national standards.

Order Code	ILAC - Traceability certificate for calibrator devices	article no.
SERV/CERT-CAL	Certificate to prove that calibration at imc to be performed with calibrator devices that are conform to ILAC. Delivery comprises ILAC (DAkkS) protocols (pdf) for the involved calibrator devices. Only in conjunction with calibration or adjustment	150000204

General notes

imc recommends having **a service check carried out after each calibration**. The imc Service Check ensures that the customer receives a fully functionally tested device. In addition, any wearing parts are replaced and any necessary hardware updates are carried out to protect your investment. Further details on the imc Service Check can be found in the Service Check data sheet.

Each function test is carried out according to the manufacturer's test plan and is performed by experienced specialists, taking into account the known history of the device.

The following overview shows the assignment of the devices and measuring modules to the above-mentioned groups.

<table>
<tr><th>Group</th><th>imc Product</th><th>Type</th><th>Example</th><th>Calibration (per amplifier)</th><th>Calibration + Adjustment (per amplifier)</th><th>DAkkS Service Package</th><th>HV Check</th><th>Service Check</th><th>Repair flat rates</th></tr>
<tr><td rowspan="6">B1</td><td>ARGUSfit</td><td>device</td><td rowspan="6">B1 - base unit
a slimline base unit with 0 to 3 measuring amplifier

(CRFX-2000GP, CRPL-2, CRPL-3)</td><td colspan="4" rowspan="15">X</td><td rowspan="6">150000559</td><td rowspan="6">150000562</td></tr>
<tr><td>BUSDAQ</td><td>device</td></tr>
<tr><td>BUSDAQflex</td><td>device</td></tr>
<tr><td>CRONOSflex</td><td>device</td></tr>
<tr><td>CRONOS-PL (small)</td><td>device</td></tr>
<tr><td>C-SERIE</td><td>device</td></tr>
<tr><td rowspan="8">B2</td><td>CRONOScompact</td><td>device</td><td rowspan="8">B2 - base unit
a wide base unit

(CRC-400-XX, SPAR-R-N, SPAR-2-N, CRXT-2000)</td><td rowspan="8">150000560</td><td rowspan="8">150000563</td></tr>
<tr><td>CRONOS-PL (large)</td><td>device</td></tr>
<tr><td>CRONOS-SL</td><td>device</td></tr>
<tr><td>CRONOS-XT</td><td>device</td></tr>
<tr><td>EOS</td><td>device</td></tr>
<tr><td>SPARTAN-N</td><td>device</td></tr>
<tr><td>SPARTAN (classic)</td><td>device</td></tr>
<tr><td rowspan="12">M1</td><td>CRONOSflex</td><td>handle</td><td>UPS-HANDLE, Li-IO-HANDLE</td><td rowspan="2">150000558</td><td rowspan="2">150000561</td></tr>
<tr><td>CRONOS-XT</td><td>handle</td><td>CRXT/POWER-X</td></tr>
<tr><td>ARGUSfit</td><td>handle</td><td>UPS-NiMH</td></tr>
<tr><td>µ-CANSAS</td><td>module</td><td rowspan="12">M1 - modules
single measuring modules

(CRFX/ICPU-8, CRXT/UNI-4, CANFX/SCI16)</td><td rowspan="24">150000556</td><td rowspan="24">150000557</td><td rowspan="24">150000555</td><td>X</td><td>X</td><td>X</td></tr>
<tr><td>ARGUSfit</td><td>module</td><td>150000581</td><td rowspan="10">150000558</td><td rowspan="23">150000561</td></tr>
<tr><td>ANDIS</td><td>module</td><td>150000581</td></tr>
<tr><td>CANSAS</td><td>module</td><td>150000581</td></tr>
<tr><td>CANSAS Druck</td><td>module</td><td>X</td></tr>
<tr><td>CANSAS IHR</td><td>module</td><td>X</td></tr>
<tr><td>CANSASfit</td><td>module</td><td rowspan="11">150000581</td></tr>
<tr><td>CANSASflex</td><td>module</td></tr>
<tr><td>CANSAS-SL</td><td>module</td></tr>
<tr><td>CRONOSflex</td><td>module</td></tr>
<tr><td>CRONOS-XT</td><td>module</td></tr>
<tr><td>iMEAX</td><td>module</td></tr>
<tr><td rowspan="6">M1</td><td>CRONOScompact</td><td>module</td><td rowspan="6">M1 - modules
plug-in modules

(CRC/UNI2-8, SPAR/U16)</td><td rowspan="6">X</td></tr>
<tr><td>CRONOS-PL</td><td>module</td></tr>
<tr><td>CRONOS-SL</td><td>module</td></tr>
<tr><td>C-SERIE</td><td>module</td></tr>
<tr><td>SPARTAN-N</td><td>module</td><td>X</td></tr>
<tr><td>SPARTAN (classic)</td><td>module</td><td>X</td></tr>
</table>

Group	imc Product	Type	Remarks	Calibration (per channel)	Calibration + Adjustment (per channel)	Service Check	Repair flat rates
T1	T1-PCM	module	one channel module	150000591	150000612	150000590	150000609
	TEL1-PCM	module					
T2	CTP	module	Multi-channel modules				
	CTP-NT	module					
	MT32 / CT	module					
	MTP	module					X
	MTP-NT	module					X
T3	Decoder	module	Multi-channel / built into decoder			X	150000609
T4	for all products	module	Data acquisition (controller, receiver, transmitter)	X	X	150000590	150000609
D1	RPM-8000	device		150000596 [1]			X
D2	Decoder	device		X	X	150000592	150000611
	Gateway	device					
	HF-Box	device					
	PCM-Receiver	device					
	Power Generator	device					
D3	TEL/HOUSING	device	Housing for modules			150000594	150000610

1 This consultation includes the service check and calibration for an RPM-8000 device. Adjustment is not provided for this device.

Contact imc

An Axiometrix Solutions Brand

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Tech support

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Service and maintenance

Our service team is at your disposal for service and maintenance inquiries:

Phone: (Germany): +49 30 629396-333
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imc ACADEMY - Training center

The safe handling of measurement devices requires a good knowledge of the system. At our training center, experienced specialists are here to share their knowledge.

E-Mail: schulung@imc-tm.de
Internet: https://www.imc-tm.com/service-training/imc-academy

International partners

You will find the contact person responsible for you in our overview list of imc partners:

Internet: https://www.imc-tm.com/imc-worldwide/

imc @ Social Media

https://www.facebook.com/imcTestMeasurement
https://www.youtube.com/c/imcTestMeasurementGmbH
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