

Operating Manual



CTC Coupling Transformers

CTC-50-LF / CTC-50-HF
CTC-100-LF / CTC-100-HF
CTC-7637-4-B / CTC-100-PLUS

Rev. A



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1 Introduction

1.1 Product Description

Coupling transformers are used to inject sinusoidal interference signals into power lines. This type of immunity testing is specified in many automotive standards, as well as in MIL-STD-461G and DO-160.

In addition to LF coupling transformers for the extended audio frequency range of 30 Hz – 250 kHz, HF coupling transformers ranging from 5 kHz to 1 MHz are also available. In the higher frequency range, the HF transformers offer significantly lower stray impedance, thereby enabling much lower source impedances than the LF types.

All transformer cores, with the exception of the CTC-100-PLUS, feature a high saturation flux density and smooth saturation behavior to enable simple and safe test procedures.

1.2 Scope of Delivery

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2 For Your Safety

2.1 Used Symbols and Notations

2.1.1 Warning Level

	DANGER	
Type and source of danger		
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.		

	WARNING	
Type and source of danger		
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.		

	CAUTION	
Type and source of danger		
Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or property damage.		

	NOTICE	
Type and source of danger		
Indicates important information about the product or procedures that should be considered for the correct functioning of the device.		

2.1.2 Used Warning Symbols



Warning about a dangerous voltage



Warning about general danger



Description of what should be done or what to pay attention to



2.2 General Safety Advice

The following general safety instructions must be observed during the use of this device. Disregarding this advice or specific warnings in this manual will violate safety standards in the intended uses of this equipment.

The manufacturer is not responsible for consequences resulting from disregarding the advice and warnings.

 **DANGER** 

Electrical voltage – Danger of electric shock

Parts under voltage:
Always cover all parts under voltage that inevitably arise during operation.

Touching of cables, sockets and plugs:
Never touch the contacts of cables, sockets or plugs directly after disconnecting them, as there is a risk of electric shock.

Safety Regulations for the work with electrical equipment:

- Disconnect mains!
- Prevent reconnection!
- Test for absence of harmful voltages!
- Ground and short circuits!
- Cover or close of nearby live parts!

Transformer output with high voltage
The voltage at the transformer output sockets in particular can be life-threatening. Never touch open output cables during operation!

Do not open the housing:
Covers must not be removed by the operating personnel. Maintenance and repair work is reserved exclusively for qualified service personnel.



CAUTION



Important notes

The device must be used exclusively for its intended purpose.

The device is only approved for operation within the connected loads specified on the type label.

Do not insert any mechanical parts, especially metal parts, into the device through the ventilation slots.

Protect the unit from moisture, humidity and condensation. Avoid using liquids near the device.

Never connect loads while the amplifier outputs are switched on.

Operate the device exclusively on the public power supply system (no generators/UPS).

To avoid personal injury and property damage, make sure that the equipment and components used in the test are not overloaded. Read all operating instructions for the devices used thoroughly and ensure that all defined device limits are adhered to. If there are doubts about the suitability of the devices for the test to be performed, contact the manufacturer of the device.

2.3 Intended Use

2.3.1 Hardware

The device may only be operated within the technical data and under the ambient conditions specified in this manual.

Changes to the device are not permitted without the consent and release of the manufacturer. Proper and safe operation of the device requires correct installation and careful operation. This manual is part of the device and must always be accessible to the user. Observe all safety regulations listed in this manual.



CAUTION



The improper use leads to the exclusion of any liability claims.

The operator alone is liable for all damage caused by improper use.



2.4 User

Operation may only be performed by qualified persons.

	CAUTION	
Reading and understanding the operating instructions Never use the device without having read and understood the operating instructions. Always contact the manufacturer if you have any questions.		

Qualified persons within the meaning of the safety instructions in this manual are authorized persons for commissioning and operating systems in accordance with the standards of safety technology.

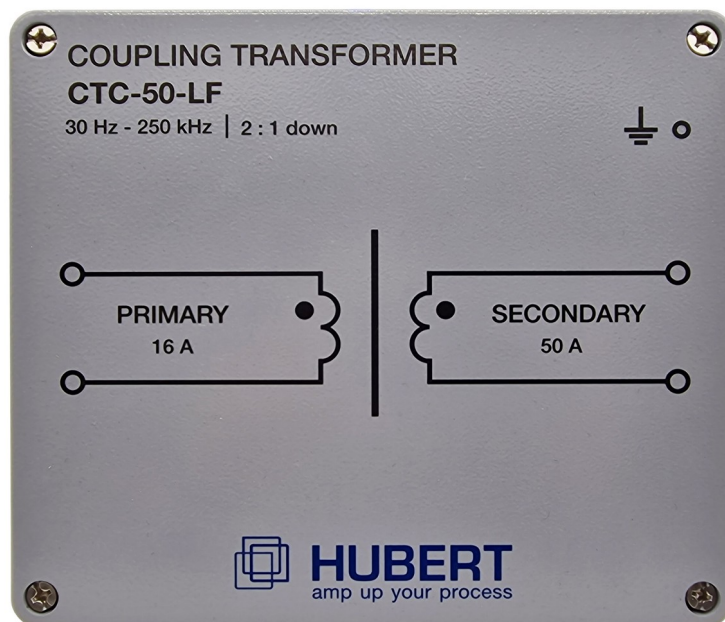
	DANGER	
Risk of injury in case of insufficient qualification Improper work can lead to personal injury and damage to property. Any work may only be carried out by persons who have the necessary training, knowledge and experience.		

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3 Operating Elements

3.1 CTC-50-LF



3.1.1 Front Panel Elements



- [1] (+) PRIMARY-SIDE CONNECTION
4 mm safety sockets

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[2] (-) PRIMARY-SIDE CONNECTION

4 mm safety sockets

3.1.2 Rear Panel Elements



[1] GROUND TERMINAL

Connection to the housing

[2] (-) SECONDARY-SIDE CONNECTION

Clamp with flat lever

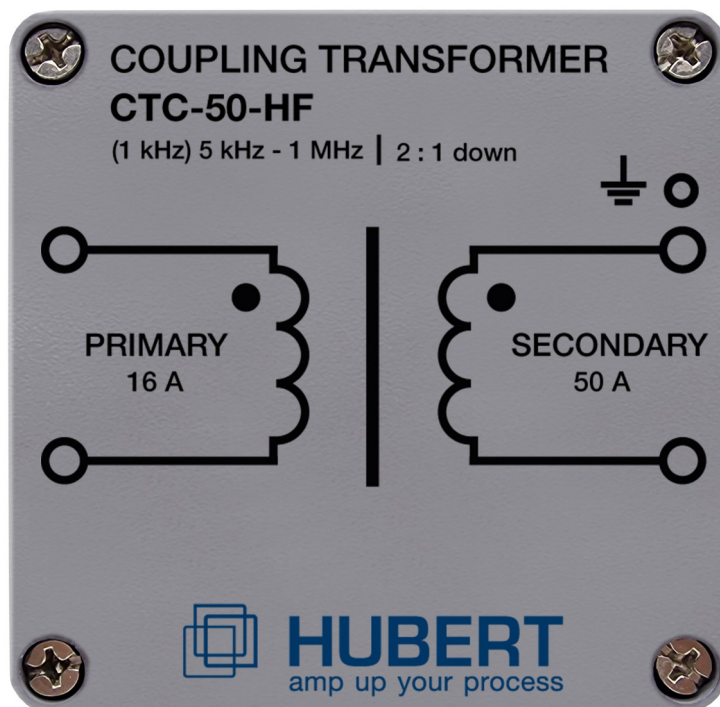
[3] (+) SECONDARY-SIDE CONNECTION

Clamp with flat lever

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3.2 CTC-50-HF



3.2.1 Front Panel Elements



[1] (+) PRIMARY-SIDE CONNECTION

4 mm safety sockets

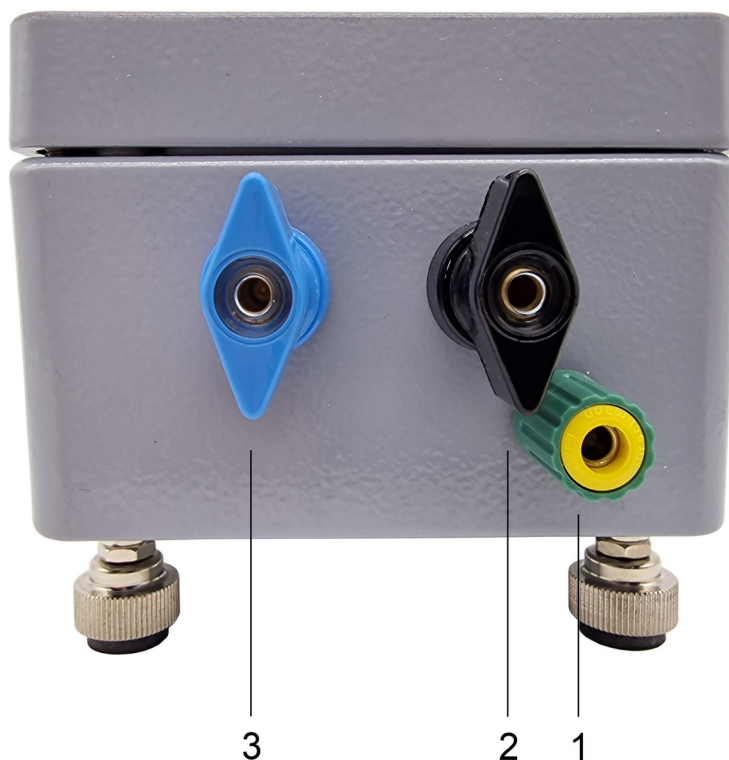
[2] (-) PRIMARY-SIDE CONNECTION

4 mm safety sockets

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3.2.2 Rear Panel Elements

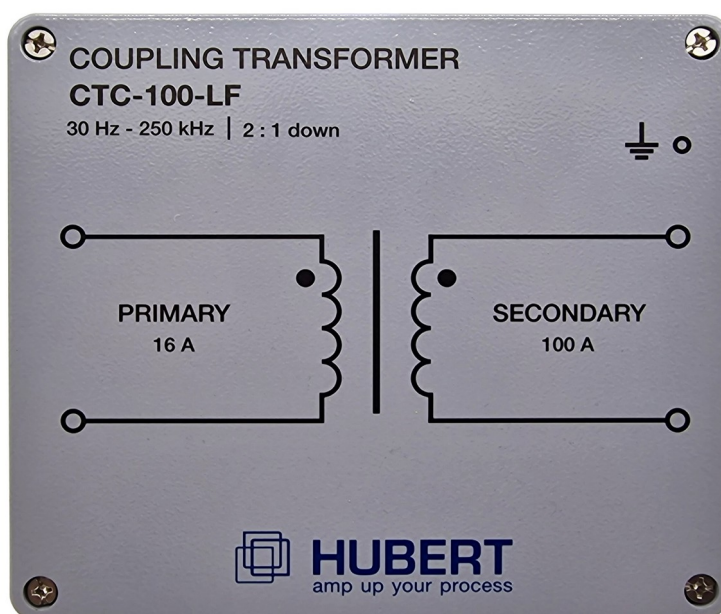


- [1] **GROUND TERMINAL**
Connection to the housing
- [2] **(-) SECONDARY-SIDE CONNECTION**
Clamp with flat lever
- [3] **(+) SECONDARY-SIDE CONNECTION**
Clamp with flat lever

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3.3 CTC-100-LF



3.3.1 Front Panel Elements



- [1] (+) PRIMARY-SIDE CONNECTION
4 mm safety sockets

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[2] (-) PRIMARY-SIDE CONNECTION

4 mm safety sockets

3.3.2 Rear Panel Elements



[1] GROUND TERMINAL

Connection to the housing

[2] (-) SECONDARY-SIDE CONNECTION

Clamp with flat lever

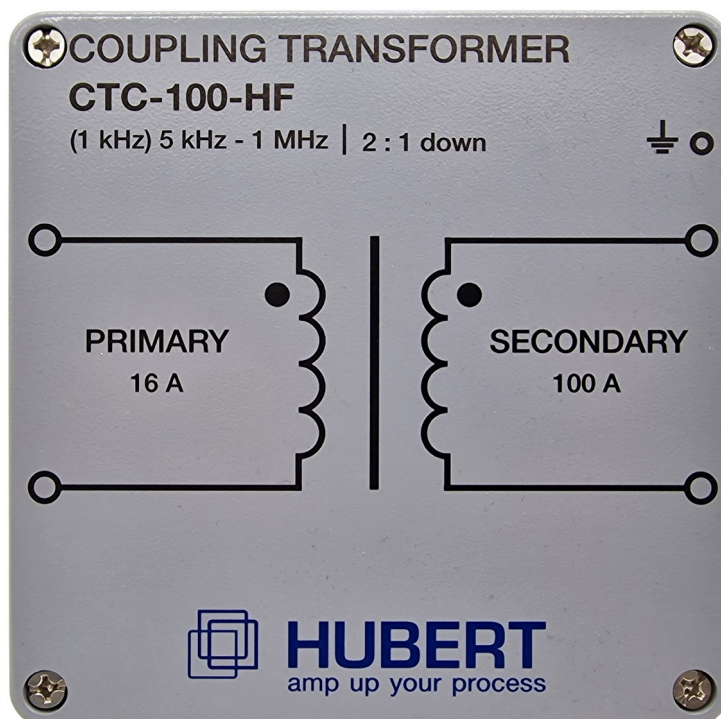
[3] (+) SECONDARY-SIDE CONNECTION

Clamp with flat lever

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3.4 CTC-100-HF



3.4.1 Front Panel Elements



- [1] (+) PRIMARY-SIDE CONNECTION
4 mm safety sockets
- [2] (-) PRIMARY-SIDE CONNECTION
4 mm safety sockets

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3.4.2 Rear Panel Elements

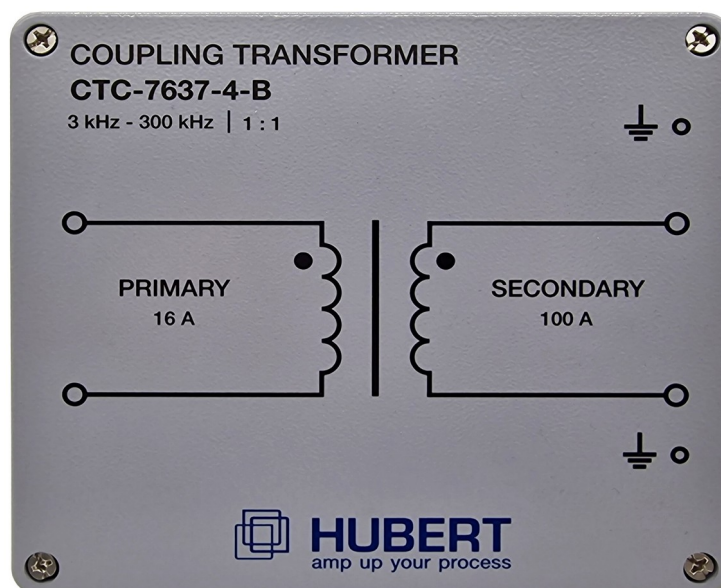


- [1] **GROUND TERMINAL**
Connection to the housing
- [2] **(-) SECONDARY-SIDE CONNECTION**
Clamp with flat lever
- [3] **(+) SECONDARY-SIDE CONNECTION**
Clamp with flat lever

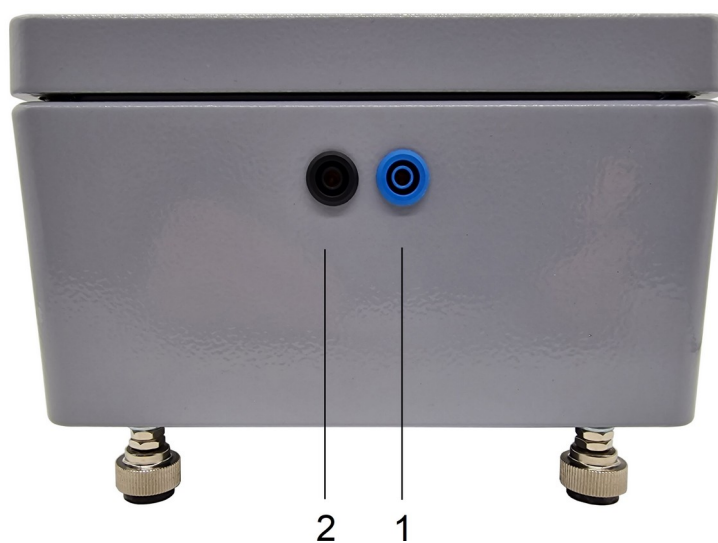
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3.5 CTC-7637-4-B



3.5.1 Front Panel Elements

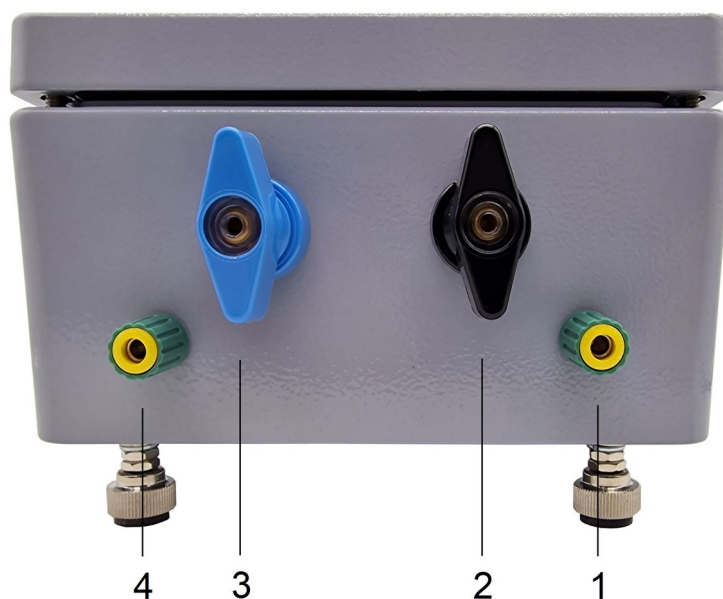


- [1] (+) PRIMARY-SIDE CONNECTION
4 mm safety sockets
- [2] (-) PRIMARY-SIDE CONNECTION
4 mm safety sockets

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3.5.2 Rear Panel Elements

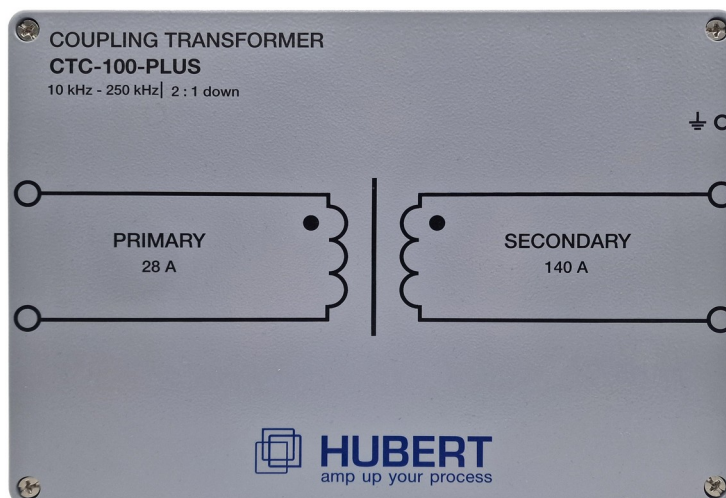


- [1] **GROUND TERMINAL**
Connection to the housing
- [2] **(-) SECONDARY-SIDE CONNECTION**
Clamp with flat lever
- [3] **(+) SECONDARY-SIDE CONNECTION**
Clamp with flat lever
- [4] **GROUND TERMINAL**
Connection to the housing

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3.6 CTC-100-PLUS



3.6.1 Front Panel Elements

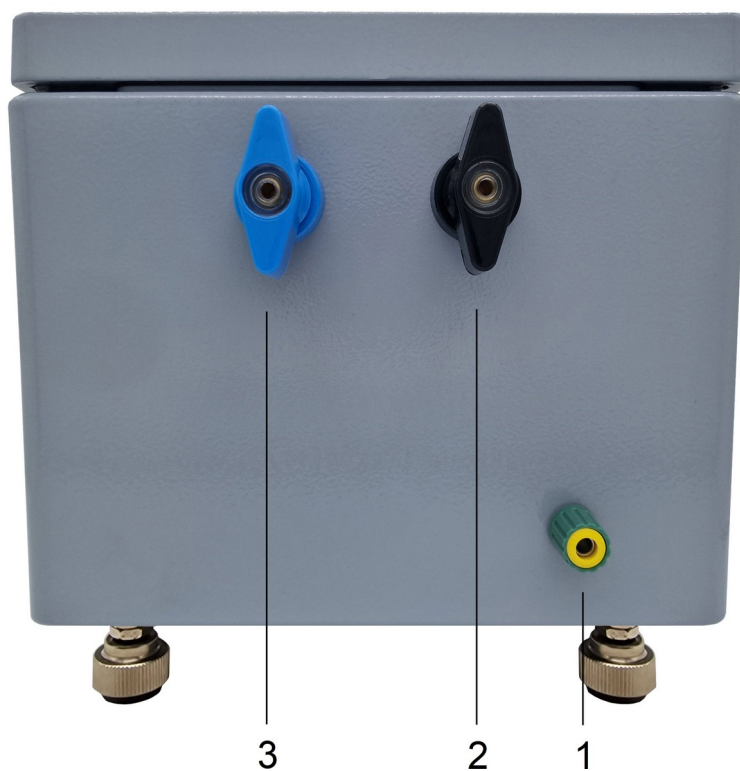


- [1] (+) PRIMARY-SIDE CONNECTION
4 mm safety sockets
- [2] (-) PRIMARY-SIDE CONNECTION
4 mm safety sockets

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3.6.2 Rear Panel Elements



- [1] **GROUND TERMINAL**
Connection to the housing
- [2] **(-) SECONDARY-SIDE CONNECTION**
Clamp with flat lever
- [3] **(+) SECONDARY-SIDE CONNECTION**
Clamp with flat lever

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4 Maintenance and Support

4.1 Maintenance and Calibration

The device is maintenance-free. Factory calibration can be performed if necessary. The frequency of factory calibration is determined by the operator.

4.2 Cleaning

Clean the device only with a damp cloth. Use only solvent-free cleaning agents without aggressive components.

4.3 Support

If you have further questions about this product, please visit the support area on our website www.drhubert.com.

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5 Decommissioning and Disposal

5.1 Decommissioning

- Turn off the device.
- Unplug the power plug.
- Remove all cables.
- Store the device in its original packaging or equivalent.

5.2 Disposal

Dispose of the device in accordance with local regulations for the disposal of electrical and electronic components.

6 Warranty and Disclaimer

Dr. Hubert GmbH warrants this amplifier product for normal use and operation within specifications for a period of two (2) years from date of shipment and will repair or replace any defective product which was not damaged by negligence, misuse, improper installation, accident or unauthorized repair or modification by the buyer. This warranty is applicable only to defects due to material or workmanship. Dr. Hubert GmbH disclaim any other implied warranties of merchantability or fitness for a particular purpose. Dr. Hubert GmbH will not be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of use or data, interruption of business and the like), even if Dr. Hubert GmbH has been advised of the possibility of such damages arising from any defect or error in this manual or product.

7 Directives

This device complies with the relevant European Union harmonisation legislation:

- EMC Directive
- Low Voltage Directive
- RoHS Directive



8 Contact

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9 Document History

Document Version	Date	Changelog
1	October 2026	First publication

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