TECHNOLOGY IN MOTION

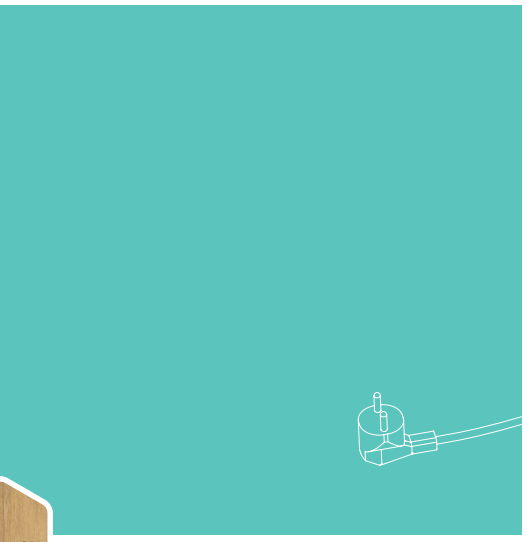
The work described in these operating instructions may only be undertaken by suitably qualified trade professionals.

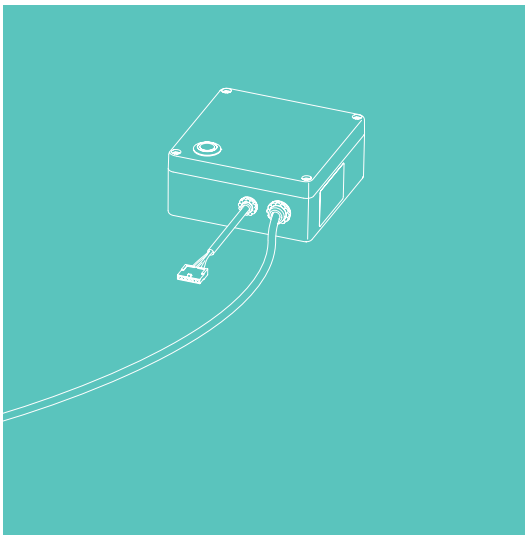


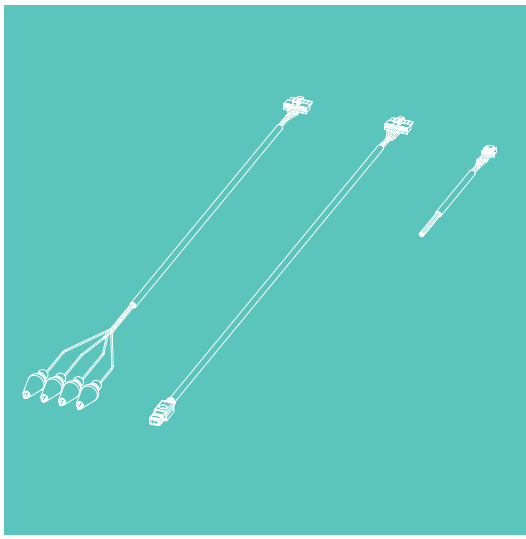
Read these instructions thoroughly before use/installation!
Keep this manual for future reference!

MACO PROTECT

DOOR LOCKS







OPERATING INSTRUCTIONS

24V test unit for 24 V A-TS / M-TS

TIMBER
PVC
ALUMINIUM

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

maco.eu

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1. Notes on using these operating instructions

Target group

These operating instructions are intended exclusively for authorised personnel.
The following persons are authorised to handle the product:

- Carrier:	no special qualifications required
- Assembly personnel:	no installation required
- Installation personnel:	no installation necessary
- Operating personnel:	this device may be operated by instructed persons who have been trained in the safe use of the device and understand the hazards resulting from its operation. **Children must not play with the device.**
- Maintenance personnel	not intended
- General public	not intended for visitors, children, pedestrians, etc.
- Vulnerable persons	e.g. pregnant women or persons with reduced work capacity: not intended

Before you begin using the product ...

› Read these operating instructions carefully before using the device.
Install all components correctly and only as described in these operating instructions and observe all safety and hazard warnings.

› The use of system accessories not expressly approved by MACO, modifications or repair work not expressly authorised by MACO and improper servicing may lead to malfunctions and must be avoided.

› Failure to comply with the operating, safety and hazard instructions described in these operating instructions may impair the proper functioning of the hardware. Such non-compliance will result in the immediate loss of all warranty, guarantee, compensation, and other liability claims against MACO. MACO accepts no liability for any personal injury to people or material damage resulting from improper use contrary to the instructions set out in these operating instructions.

› Failure to comply with the operating instructions will also result in the immediate loss of any rights or claims arising under an existing warranty agreement.

› The test wiring must be completed first; the main power supply must only be connected afterwards.

› Before using the device, check that the specified temperature range is suitable for the ambient conditions.

Usage instructions

› These operating instructions are continuously revised and the latest versions are available for download at https://www.maco.eu/assets/760462. The QR code, providing direct access to the latest version, together with the date of issue, can be found at the end of these operating instructions.

› All illustrations are for illustrative purposes only and are intended solely to improve understanding.

› Unless otherwise stated, all dimensions are given in **millimetres**.

› For further information about our currently available products, please visit our website at www.maco.eu.

› If in doubt, please consult your MACO contact person!

› Please send any suggestions or proposals for improving our installation instructions by email to feedback@maco.eu

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Applicable documents

The following documents must be observed in addition to these instructions and/or provide additional information:

› eCat online catalogue: https://ecat.maco.eu/

› Operating and maintenance instructions for end users - Doc. no. 757585

› Operating and maintenance instructions for emergency exit and panic doors for end users – Doc. no. 760364

› Installation instructions for the A-TS Comfort motor, access solutions and interfaces - Doc. no. 760322

› Installation instructions M-TS PVC - Doc. no. 759143

› Installation instructions M-TS timber - Doc. no. 759142

› M-TS aluminium Installation instructions - Doc. no. 759144

› M-TS composite doors installation instructions - Doc. no. 759720

Current version of all documents can be found on our website at www.maco.eu.

2. Explanation of notes

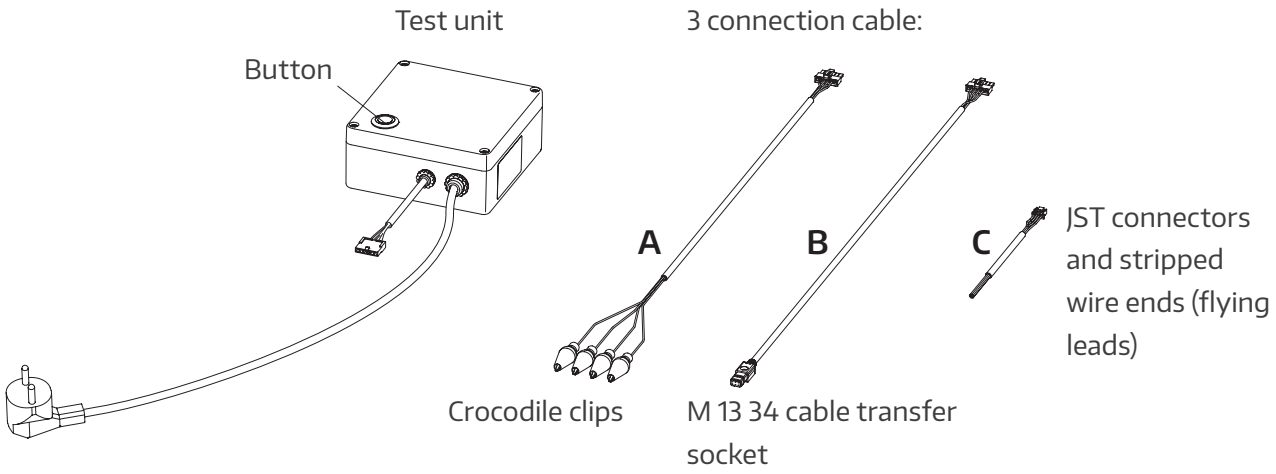
In these instructions, steps that require particular attention are marked with the following note:



Note: to avoid material damage, or faults when using the device.

In addition the safety instructions and warning notices contained in the manuals for the tested devices must be observed.

3. Scope of delivery



4. Power supply

The entire power supply is provided via a standard 230V AC socket (mains voltage: 88 ... 264 V AC).

5. Test procedure

In test mode, the test unit unlocks the door lock and, after unlocking, returns it to its initial position.

6. Technical data

Dimensions (W x H x D)	122 x 55 x 120 mm
Net weight	900 g
Mains voltage	88 ... 264 V AC
Frequency range	47 ... 63 Hz
Output voltage	22 ... 27.6 V DC, max. 1.5 A
Voltage supply	230 V AC (0.55 A)
Measurement inputs	– 4 crocodile clips, – Connector for M13 34 cable transfer, – JST connector
Measurements	– Door lock motor and correct wiring up to the door frame, – Door lock motor and correct wiring within door leaf, – Directly at the lock motor
Housing material	PVC
Operation	One-button operation
Operating temperature/ambient temperature	0 ... 50°C
Relative humidity	20 ... ~90%, non-condensing
Storage temperature	-40 ... + 85°C
Operating environment	in covered and enclosed indoor areas
Area of application	Industrial area: yes Residential areas, commercial/business premises, small businesses: yes
Housing protection rating	IP 54
Certificate	CE
Duty cycle	DC 50%
Protection class	I
max. altitude	-

7. Intended use

› The test unit is intended to verify the correct operation of the assemblies variably connected via the three connection cables (crocodile clips/M13 34 cable transition/JST connector), namely the wiring up to the door frame, the wiring within the door leaf, or the door lock motor. Only MACO door motors for A-TS and M-TS may be connected to the test unit. Any use other than that specified is prohibited!

› The test unit is only permitted for use in combination with the motor for the 3-latch automatic lock (104130), the Comfort motor 2.0 A-TS (482967) and the M-TS motorised lock.

› Before installation, please ensure that all components are in perfect condition.
Damaged or defective components must not be used under any circumstances.

› The product is intended for use in covered and enclosed indoor areas.

8. Reasonably foreseeable misuse

CAUTION	Improper installation, use that is not in accordance with the intended purpose or is otherwise unusual, the use of system accessories not expressly approved by MACO, modifications or repair work not expressly authorised by MACO and improper servicing can lead to malfunctions and must be avoided. Any measures not expressly authorised by MACO, shall result in the loss of all liability, warranty and any separately agreed guarantee claims.

Misuse includes, but is not limited to, the following:

› when used in areas with high levels of dust, a corrosive atmosphere, high electrostatic charge, or high humidity

› when used by children at play ("cleaning and maintenance")

› by failing to follow the operating instructions; the mains supply must be switched off at all terminals when carrying out any work on the test unit

9. Certificates and proof of performance

Certificates and proof of performance can be found at www.maco.eu.

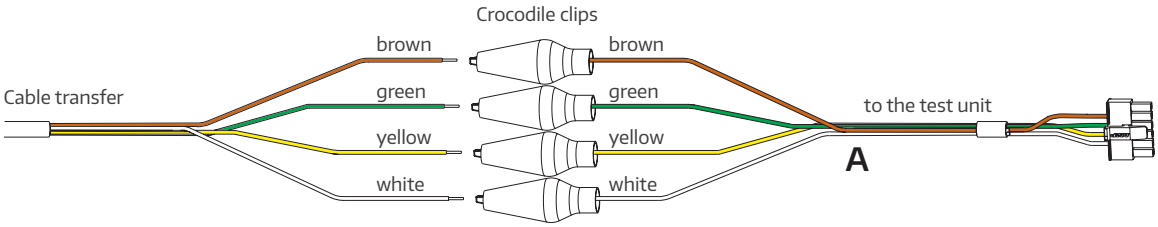
10. Operating modes

10.1 Test 1: door lock motor and complete wiring up to the door frame

The door lock is installed and fully wired. The correct operation is to be demonstrated.

Operation:

1. Connect the test unit to the connection cable using the connection cable with crocodile clips, matching the wire colours as shown; the red and blue wires are not required:



CAUTION	The crocodile clips must not touch each other! Otherwise, a fault will occur.

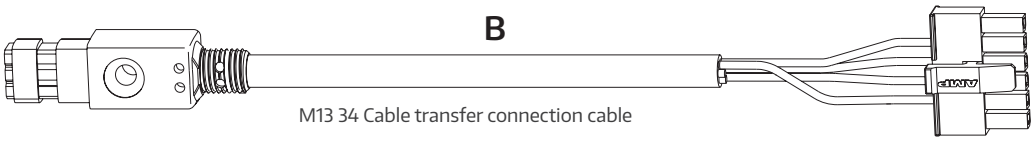
2. Set up power supply (see page 6)
3. Start test procedure by the brief press of a button
4. Evaluation
   a) If the door lock opens and then returns to its home position, the entire installation has been carried out correctly.
   b) If the door lock does not respond, there is a fault in the wiring between the door lock motor and the door frame and/or the door lock motor is faulty (carry out test 2).

10.2 Test 2: door lock motor and complete wiring within the door leaf

Measurements are taken directly on the cable transfer to verify the correct wiring from the door lock motor to the cable transfer is correct.

Operation:

1. Connect the test unit to the M13 34 cable transfer using the reverse-polarity-protected connection cable.



M13 34 Cable transfer connection cable

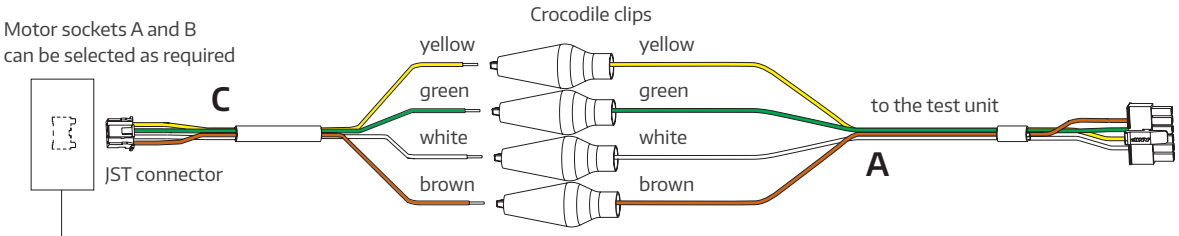
2. Set up power supply (see page 6)
3. Start test procedure by the brief press of a button
4. Assessment
   a) If the door lock unlocks and then returns to its initial position, the wiring has been carried out correctly.
   b) If the door lock shows no response, there is a fault in the wiring between the door lock motor and the cable transfer unit and/or the door lock motor is defective (carry out check 3).

10.3 Test 3: door lock motor

The measurement verifies that the door lock motor is functioning correctly while ruling out other possible fault sources, as it makes direct contact with the door lock motor. The door lock must be removed to do this.

Operation:

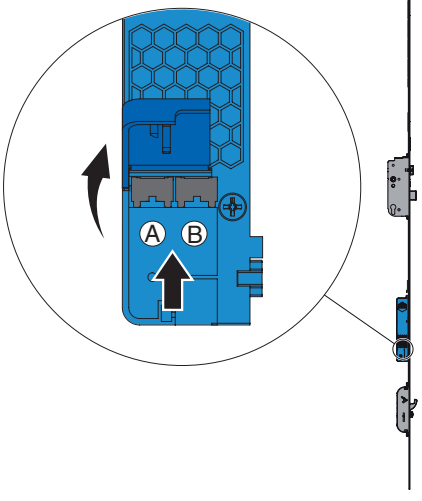
1. Connect the connection cable with the JST connector (flying leads) to one of the two sockets in the door lock motor. The test unit is connected to the cable end using the connection cable and crocodile clips, ensuring the colours match; the red and blue wires are not required:



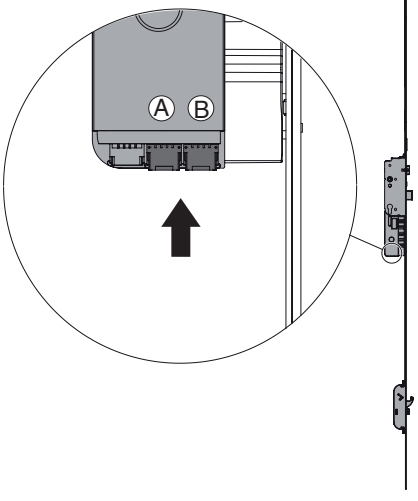
CAUTION

The crocodile clips must not touch each other!
Otherwise, a fault will occur.

A-TS (Comfort motor)



M-TS



2. Set up power supply (see page 6)
3. Start test procedure by the brief press of a button
4. Assessment
   a) If the door lock opens and then returns to its initial position, no fault is present.
   b) If the door lock does not respond, the door lock motor is faulty.

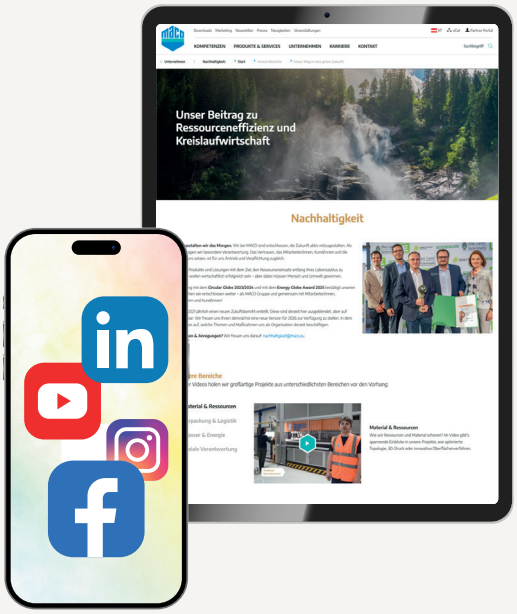
11. Disposal

The disposal must be carried out in accordance with local regulations and laws.

Notes

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TECHNOLOGY IN MOTION

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or scan the QR code.

Created: 11/2026 – Changed: 03/11/2026-(tp)
Doc. no. 760462
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