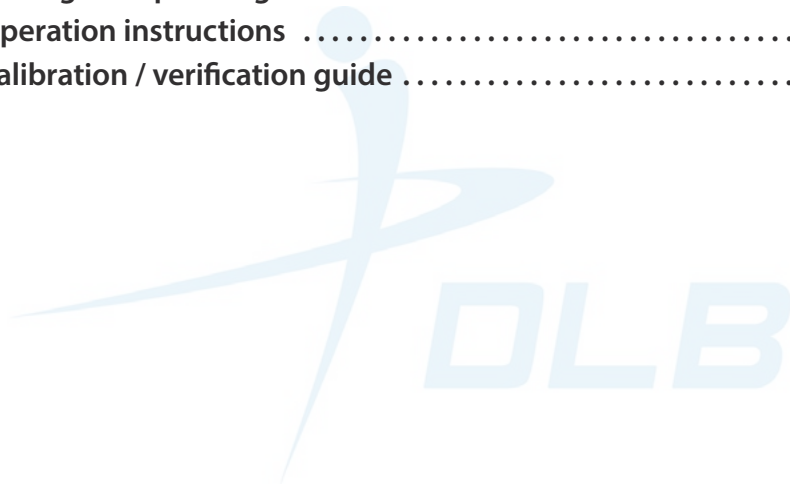# AiJ GO >>

AIJGO-34/COMP

**PERSONAL GROUNDING TESTER WITH PLATFORM,
DOUBLE DUAL FOOT ELECTRODE, RFID READER, LCD DISPLAY,
OPERATING SOFTWARE AND ENTRANCE GATE WITH TURNSTILE**

INSTRUCTION
MANUAL

DLB

TABLE OF CONTENTS

ABOUT THE PRODUCT

- Tester for checking personal grounding before entering an ESD protected area (EPA)
- Testing footwear system and wrist strap/groundable ESD smock system at the same time
- Can be used to test a groundable ESD smock system
- Test result indication on LCD display, with LED light and sound

The AIJGO-34/COMP is a tester for checking personal grounding before entering an ESD protected area (EPA). It may be a good choice if you want to identify persons entering the site. Tester with LIGHT BAR system – such AIJGO products have a steel touch button, the measured results are indicated by LED lights. Type with COMPLEX system – these testers are supplied built-in in an entrance gate with turnstile. COMFORT system product – such AIJGO devices have touch button and RFID reader, an RFID card is required for use, which includes the type of test to be used. This type can be: 1. Footwear system test 2. Wrist strap/groundable ESD smock system test 3. Footwear system and wrist strap/groundable ESD smock system combined test 4. VIP test. The test can start after the card has been scanned.

Thanks to the dual foot electrode, the tester simultaneously measures the resistance of the right and left foot relative to the hand. After the test, the measured values are displayed on the built-in LCD display. The measured results are stored on an internal SD card. In the event of a power disconnection, the gate automatically drops down its turnstile to allow free passage.

It is also possible to configure it so that a test can be carried out without touching the touch button, but an RFID card is required in this case too. The product is supplied with an operating software and can operate individually with this. If required, a management software called PieManager can be purchased to configure it over a LAN network and to retrieve the measured results. The system assigns a test method to users and manages their identification data. It saves the entry data as .csv files (compatible with Excel and text editor) and automatically logs daily events.

It is recommended and sufficient to purchase only one management software if several testers are purchased and networked. Purchasing and networking multiple management software with multiple testers can lead to communication and system malfunctions. If you have several testers and you do not network them, but use them as separate devices, please buy individual software for each device to configure and collect data over the LAN network.

The tester is supplied with manufacturer's calibration certificate, platform, double dual foot electrode and entrance gate with turnstile.

CE declaration

We declare that the AIJGO-34/COMP product complies with the requirements of IEC 61340-5-1, ANSI/ESD S20.20 and Directive 2001/95/EC (General product safety).

Warning

The device can deliver an effective output power of up to 20 µA or less at a maximum voltage of 100 V for 2-4 seconds at 0,5 second cycles. Therefore, persons with an implanted electronic device (e.g. insulin pump, pacemaker, etc.), known or acute hear rhythm disorders and other disorders of the heart's impulse generation and conduction, seizure disorders (e.g. epilepsy) should consult their doctor before using this device.

It is forbidden to modify the device, both in terms of hardware and software. Any modification to the product will void the warranty.

TECHNICAL INFORMATIONS

Resistance values indicated as acceptable by the tester	
Default setting when measuring footwear system	100 KΩ – 100 MΩ
You can also set an upper value of 35 MΩ, see the PieManager management software description.	
Default setting when measuring wrist strap/ groundable ESD smock system	750 KΩ – 35 MΩ

Operating system	Linux Raspbian
	The tester can be configured via LAN network using RJ45 cable
Test voltage	100 V DC
Wrist strap/groundable ESD smock system connection	With a combined 10 mm snap, 4 mm banana plug socket
Power supply	230 V AC
Sizes	1000 x 950 x 1049,5 mm with platform and touch button

Gate properties

- Manual rotation with mechanical assistance (rotary motor)
- Rotation can be blocked electronically
- Automatic turnstile drop down in the event of power disconnection
- Connectable to a fire alarm system, it can be set to drop down the turnstile after a signal from the system, allowing free passage through the gate.
- For indoor use only
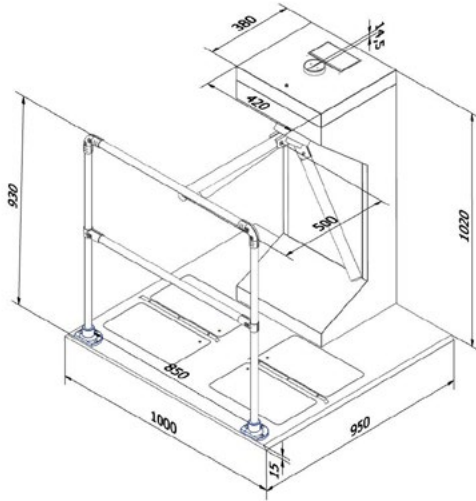
Order codes

AIJGO-34/COMP	Personal grounding tester with platform, double dual foot electrode, and entrance gate with turnstile
AIJGO-BAR1	Barrier for AIJGO-22/COMP or AIJGO-34/COMP tester
AIJGO-OLED	Optional gate opening touch button outwards
AIJGO-34/MSW	PieManager management software for AIJGO-34 and AIJGO-34/COMP (if buying more than one tester, it is sufficient and recommended to buy one if they will be networked together)

PARTS OF THE TESTER

1.	Steel touch button with 9 RGB LEDs
2.	Combined 4 mm banana plug and 10 mm snap socket for connecting wrist strap/groundable ESD smock
3.	LCD display

4.	Speaker location

5.	RFID reader
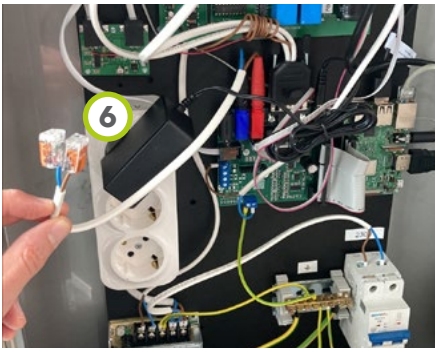
6.	Cable for connecting foot electrodes
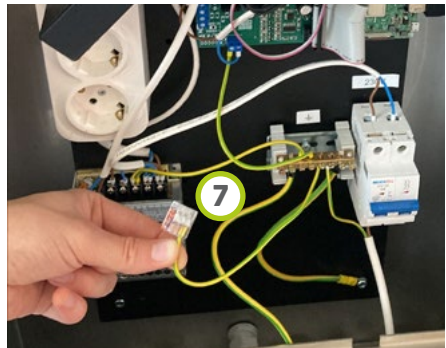
7.	Connector to the common grounding point of the gate

| 8. | AIJGO-OLED - Optional gate opening touch button outwards |

TURNSTILE CONTROL SYSTEM
Wiring guide

Turnstile control system

Arm dropping (Input)

Crossing confirmation
(Output, Normally Open)

Crossing confirmation (Input)

Output direction start (Input)

Input direction start (Input)

LED (-)
LED direction 1 (Output)

LED direction 2 (Output)
LED Common (Output)

Output latch control
(Output 24V 1A)

Input latch control
(Output 24V 1A)

Arm motor (Output)

12V DC 1A (Output)

Power, 24V DC 2A

ITEMS SUPPLIED WITH THE TESTER

The tester is supplied built-in in an entrance gate

Platform with foot electrodes, foot electrode cables

PACKAGING DIMENSIONS AND WEIGHTS OF THE PRODUCT

	SIze of the package	Weight of the package
AIJGO-34/COMP - 1. package	112 x 48 x 45 cm	73 kg
AIJGO-34/COMP - 2. package with barrier	100 x 105 x 14 cm	56 kg
AIJGO-34/COMP - 2. package without barrier	100 x 105 x 14 cm	53 cm

1. package

2. package

RFID reader (built-in)

Multifunctional unit that can handle cards that comply with most known RFID standards:

LF reader (low frequency), 125/134 kHz types:

eMarine (EM4100, 4102, 4200), HID ProxCard II, Indala, Indala, Kantech, ISO 18000, ISO 11784/85 HDX, ISO 11784/85 FDX(-B), TI RFID (Tiris, e.g. RI-TRP-R4FF, RI-TRP-W4FF), Casi Rusco, HITAG 1/S, HITAG 2

HF reader (high frequency), 13,56 MHz types:

ISO-14443A type of encoders: Mifare Classic (1k/4k), Mifare Ultralight, Mifare DESFire, Mifare Plus, Mifare ProX, Mifare SmartMX

ISO-15693 type of encoders: Texas Instruments TAG-IT Plus, Texas Instruments TAG-IT Standard, Texas Instruments TAG-IT Pro, PicoPass, HID iClass, Legic Advant

ISO-14443B type of encoders: SRI512, SRT512, SRI4K, SRIX4k, ISO-14443B type card emulation

ISO-18092/NFC type communication: active P2P communication according to NFCIP-1, NFC card emulation (passive), mobile phone with NFC function (Android, iOS, Windows Mobile) in the modes listed previously

ASSEMBLY INSTRUCTIONS
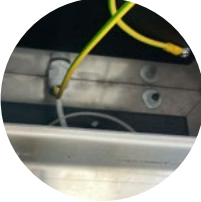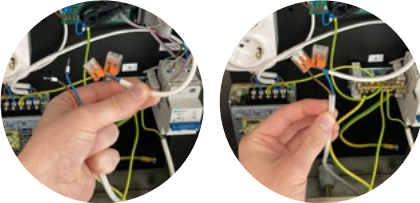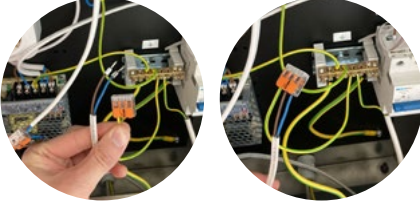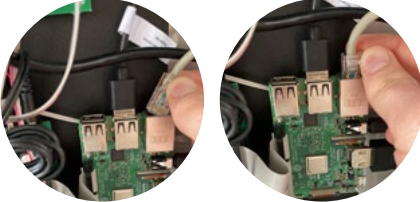
|		
1.	Place the platform to the desired location, then remove the M8 screw nuts and washers (4-4 pieces)	
2.	Open the front cover of the gate with a key and remove it from the gate	
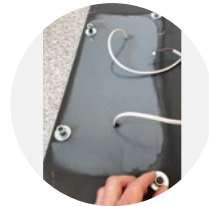
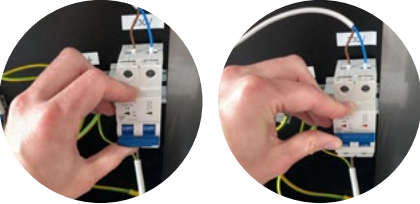|		
3.	Place the gate on the platform (with the cables of the foot electrodes routed through the bottom of the gate)	
4.	Fix the gate to the platform using the screw nuts and washers supplied	
5.	Connect the wires of the foot electrodes to be used to the wires of the gate. Brown wire must be connected to brown, blue to blue	
6.	Connect the wires of the unused foot electrodes to the common grounding point of the gate	
7.	Connect the Raspberry-PI in the entrance gate to the computer network with a LAN cable *Optional: the Raspberry-PI also has a WIFI module. If you use this, you do not need to use a LAN cable (ask your IT specialist for help). From a stability point of view, however, we recommend that you choose a LAN connection.*	

8. Ask a qualified electrician to connect the gate to the EPH network of the building. For information on connecting the fire alarm wiring, see below.
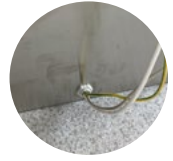
Emergency open wiring guide

The connectors must be short-circuited and not energised, as this will cause the panel to fail.

Emergency open (Input)

Turnstile control system
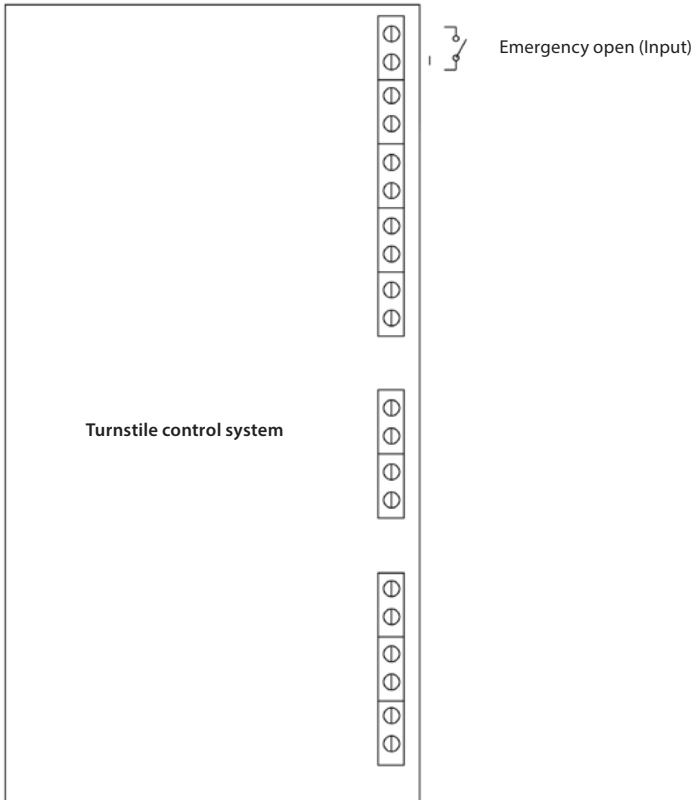
9.	Turn on the circuit breaker	
10.	Put the front cover of the gate back in place and lock it with a key	
11.	AIf you have also purchased a barrier, unscrew the 6 D-head M8 x 20 screws from the platform and secure the barrier to the platform with them	
12.	Remove the protecion foil from the foot electrode plates	
13.	Connect the device to mains voltage	
14.	The tester is ready to use after the turnstile has been folded up	

SETTING THE OPERATING DIRECTION OF THE TESTER

A tester with turnstile can be used in two directions. When passing through, the tester can be on the left or on the right side. The most commonly used solution is to position the tester right-handed and allow the turnstile to rotate freely backwards.

I. Settings in the case of a tester positioned to the right of the movement direction and the turnstile rotates freely backwards
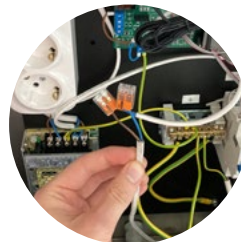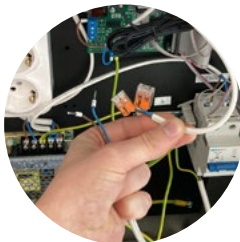
1. RFID reader position

When facing the tester, the RFID reader should be positioned to the right in this case. If it is not, unscrew the two screws that hold the reader and move the reader to the right side. Fix the reader there with the screws.


2. Connection of foot electrodes

When facing the tester, the pair of foot electrodes on the right side should be connected for use. If it is not connected for this, then connect the wires of it to the foot electrode connecting wires of the gate. Brown wire should be connected to brown, blue to blue. Connect the wires of the unused foot electrodes to the common grounding point of the gate if they are not already connected there.

3. Enableing free backwards rotation of the turnstile by suitable connection on the control panel of the gate

Counting from the left side of the gate control panel, leave the eighth quick connector marked JM free, and connect the ninth marked BM if they are not like this.
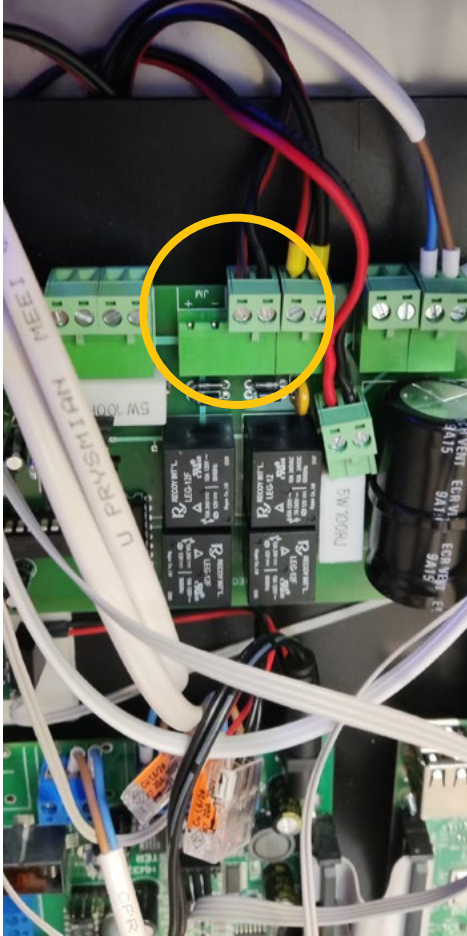
4. Enableing entering in case of a successful test with appropriate connection

On the gate control panel, connect the fifth quick connector (counting from the left), the BST input, to the fourth and fifth connectors (Pass output) of the ESD panel, if it is not yet connected this way.
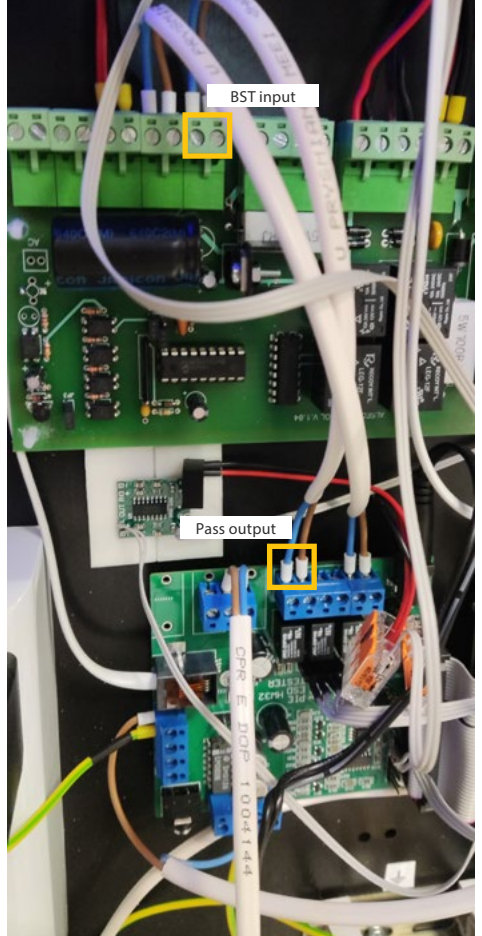
II. Settings in the case of a tester positioned to the left of the movement direction and the turnstile rotates freely backwards
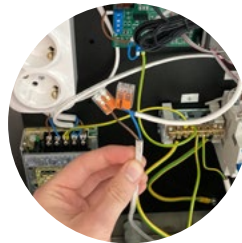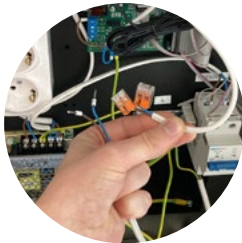
1. RFID reader location

When facing the tester, the RFID reader should be positioned to the left in this case. If it is not, unscrew the two screws that hold the reader and move the reader to the left side. Fix the reader there with the screws.

2. Connection of foot electrodes

When facing the tester, the pair of foot electrodes on the left side should be connected for use. If it is not connected for this, then connect the wires of it to the foot electrode connecting wires of the gate. Brown wire should be connected to brown, blue to blue. Connect the wires of the unused foot electrodes to the common grounding point of the gate if they are not already connected there.

3. Enableing free backwards rotation of the turnstile by suitable connection on the control panel of the gate

Counting from the left side of the gate control panel, leave the ninth quick connector marked BM free, and connect the eighth marked JM if they are not like this.

4. Enableing entering in case of a successful test with appropriate connection

On the gate control panel, connect the fourth quick connector (counting from the left), the JST input, to the fourth and fifth connectors (Pass output) of the ESD panel, if it is not yet connected this way.

JST input

Pass output
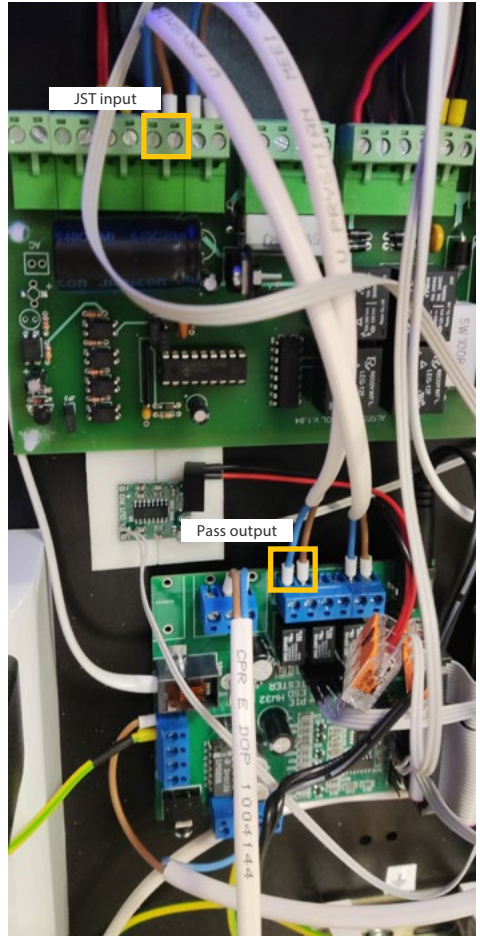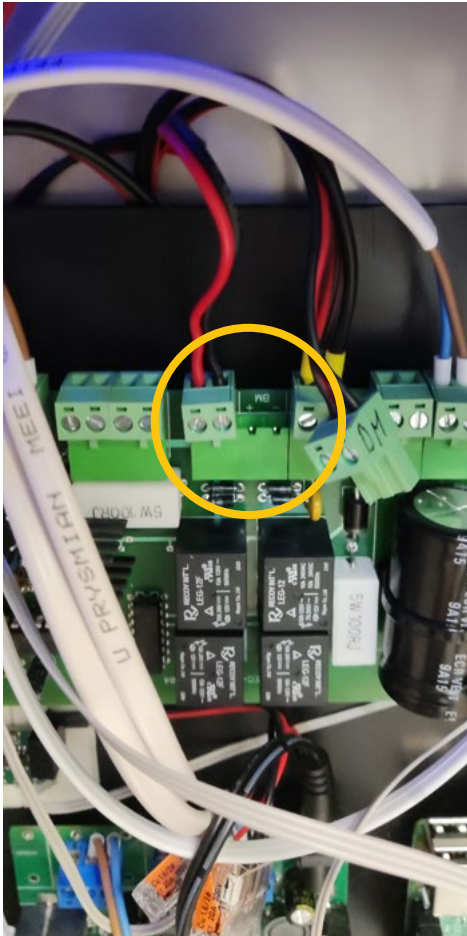
III. Settings in the case of a tester positioned to the right of the movement direction and it is needed to use gate open touch button to move backwards
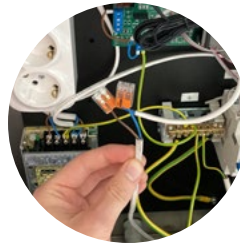
1. RFID reader position

When facing the tester, the RFID reader should be positioned to the right in this case.

If it is not there and the RFID reader and the touch button slots are in a standard position, unscrew the two screws on the left that hold the reader in place and remove the reader. Also unscrew the four screws fixing the plexiglass. Remove the plexiglass with the four screws and the touch button from the right side of the tester and take it to the left. Fix the reader with the plexiglass what was previously on the left to the right side with the screws.

2. Connection of foot electrodes

When facing the tester, the pair of foot electrodes on the right side should be connected for use. If it is not connected for this, then connect the wires of it to the foot electrode connecting wires of the gate. Brown wire should be connected to brown, blue to blue. Connect the wires of the unused foot electrodes to the common grounding point of the gate if they are not already connected there.
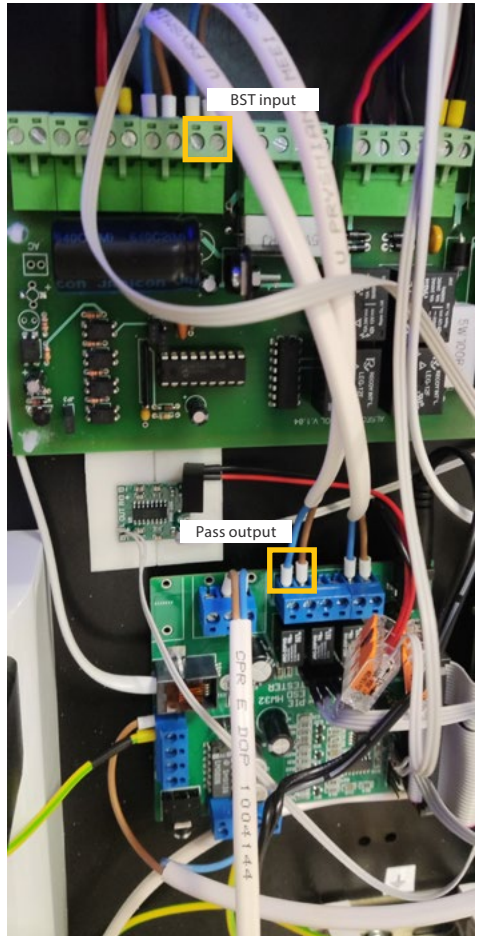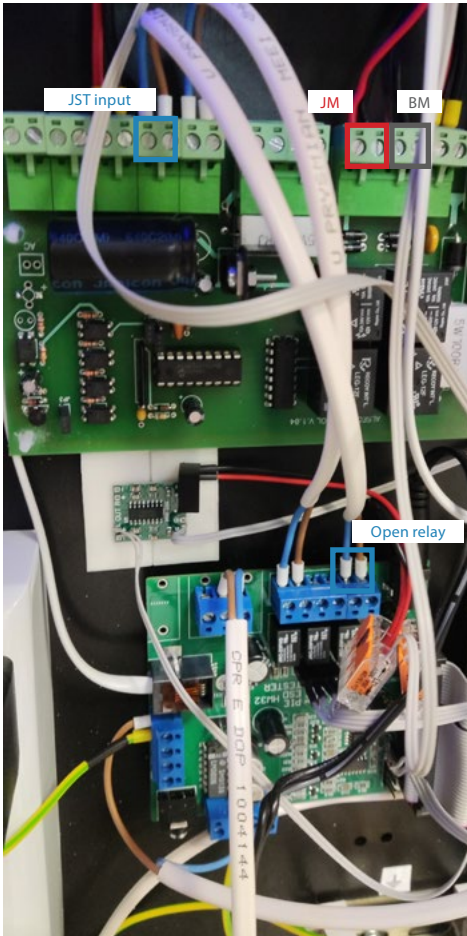
3. Blocking the free backwards rotation of the turnstile and enableing the possibility to go through the gate after using the touch button

Counting from the left side of the gate control panel, connect the eighth and ninth quick connectors marked JM and BM if they are not like this.

On the gate control panel, connect the fourth quick connector from the left, the JST input, to the eighth and ninth connectors of the ESD panel (Open relay), if it is not like this.

4. Enableing entering in case of a successful test with appropriate connection

On the gate control panel, connect the fifth quick connector (counting from the left), the BST input, to the fourth and fifth connectors (Pass output) of the ESD panel, if it is not yet connected this way.

IV. Settings in the case of a tester positioned to the left of the movement direction and it is needed to use gate open touch button to move backwards

1. RFID reader position

When facing the tester, the RFID reader should be positioned to the left in this case.

If it is not there and the RFID reader and the touch button slots are in a standard position, unscrew the two screws on the right that hold the reader in place and remove the reader. Also unscrew the four screws fixing the plexiglass. Remove the plexiglass with the four screws and the touch button from the left side of the tester and take it to the right. Fix the reader with the plexiglass what was previously on the right to the left side with the screws.

2. Connection of foot electrodes

When facing the tester, the pair of foot electrodes on the left side should be connected for use. If it is not connected for this, then connect the wires of it to the foot electrode connecting wires of the gate. Brown wire should be connected to brown, blue to blue. Connect the wires of the unused foot electrodes to the common grounding point of the gate if they are not already connected there.
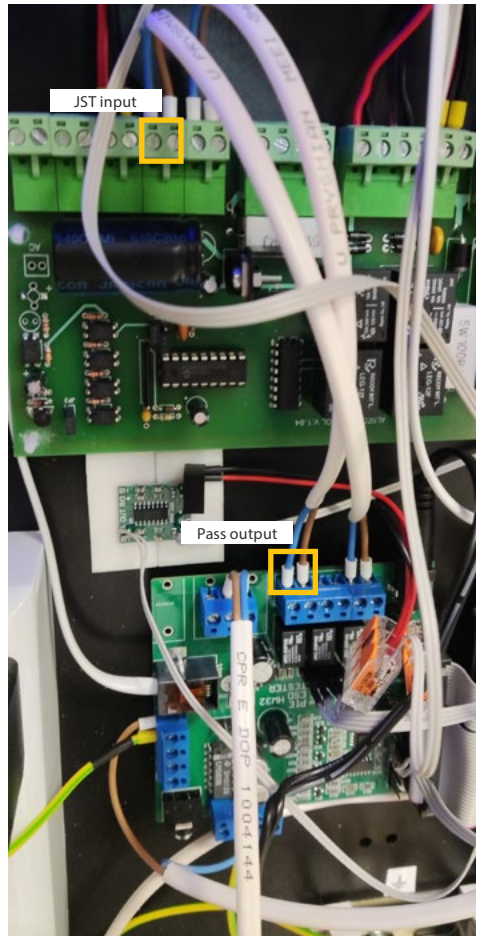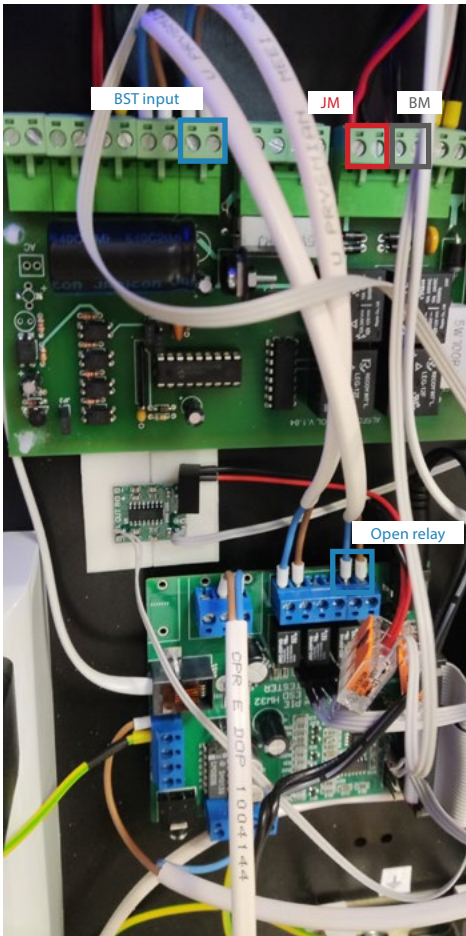
3. Blocking the free backwards rotation of the turnstile and enableing the possibility to go through the gate after using the touch button

Counting from the left side of the gate control panel, connect the eighth and ninth quick connectors marked JM and BM if they are not like this.

On the gate control panel, connect the fifth quick connector from the left, the BST input, to the eighth and ninth connectors of the ESD panel (Open relay), if it is not like this.

4. Enableing entering in case of a successful test with appropriate connection

On the gate control panel, connect the fourth quick connector (counting from the left), the JST input, to the fourth and fifth connectors (Pass output) of the ESD panel, if it is not yet connected this way.

OPERATION INSTRUCTIONS

1.	Step with both feet on the middle of the foot electrode plates	
2.	When testing a wrist strap/groundable ESD smock system, connect the wrist strap/ groundable ESD smock to the tester socket	
3.	Place the RFID card you want to use on the RFID reader	
4.	Touch both halves of the steel touch button at the same time and keep your hand on it while testing is in progress	
5.	The tester will give a light and sound signal. If the test values are correct, the whole touch button flashes green, if even one value is incorrect, it flashes red. You can read the details on the LCD display, which also shows the test result.	
6.	If the test results in acceptable values for the tester, you can pass through the gate by turning the turnstile forward	

7.	An upper resistance limit of 35 MΩ can be set for the measurement of a footwear system, see the PieManager management software description

CALIBRATION / VERIFICATION GUIDE

Foot electrode calibration / verification

1.	Place a measuring electrode on the foot electrode you want to measure and connect it to a resistance decade	
2.	Place a hand electrode on the right side of the tester's touch button and connect it to the resistance decade	
3.	To calibrate / verificate, adjust the knobs on the resistance decade	
4.	Read your RFID card at the RFID reader of the tester	
5.	Start testing by touching both parts of the touch button simultaneously	

Wrist strap/groundable ESD smock connection calibration / verification

1.	Connect the wrist strap/groundable ESD smock connection to a resistance decade	
2.	Place a hand electrode on the right side of the tester's touch button and connect it to the resistance decade	
3.	To calibrate / verificate, adjust the knobs on the resistance decade	
4.	Read your RFID card at the RFID reader of the tester	
5.	Start testing by touching both parts of the touch button simultaneously	

Table to evaluate the results

Calibration / verification parameters	Accepted maximum deviation downwards from expected value	Lower limit value	Expected value	Upper limit value	Accepted maximum deviation upwards from expected value
Footwear system test *(lower limit)*	- 20%	80 KΩ	100 KΩ	120 KΩ	+ 20%
Footwear system test *(upper limit)*	- 10%	90 MΩ	100 MΩ	110 MΩ	+ 10%
Footwear system test *(upper limit value can be set)*	- 10%	31,5 MΩ	35 MΩ	38,5 MΩ	+ 10%
Footwear system test in case of touchless testing *(upper limit)*	- 10%	180 MΩ	200 MΩ	220 MΩ	+ 10%
Wrist strap/groundable ESD smock system test *(lower limit)*	- 20%	600 KΩ	750 KΩ	900 KΩ	+ 20%
Wrist strap/groundable ESD smock system test *(upper limit)*	- 10%	31,5 MΩ	35 MΩ	38,5 MΩ	+ 10%

If any of the measured values is out of the limit values above, please contact our colleagues.

The images in this document are for information only. We reserve the right to change the design, accessories, technical specifications and various details of the product without notice. In case of improper use other than as described in this documentation or in case of modification of the product which D és Tsa. Bt. has not given its written consent, our company may reject any warranty claims.

AiJ **GO** »

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