

# AIJGO-22/COMP

PERSONAL GROUNDING TESTER WITH PLATFORM,  
DOUBLE DUAL FOOT ELECTRODE  
AND ENTRANCE GATE WITH TURNSTILE

## INSTRUCTION MANUAL



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## 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 with LED light and sound
- **Selectable test modes:** Footwear system test only, or footwear system and wrist strap/groundable ESD smock system combined test

The AIJGO-22/COMP is an easy-to-use tester for checking personal grounding before entering an ESD protected area (EPA). High load-bearing construction, it may be a good choice if speed and security are important factors due to the large number of entrances. Tester with LIGHT BAR system – such AIJGO products have a steel touch button, the measured results are indicated by LED lights. COMPLEX type – these testers are supplied built-in in an entrance gate with turnstile. The type of test can be changed according to the entrance regulations: only footwear system test or the combined test of the footwear system and wrist strap/groundable ESD smock system. Thanks to the dual foot electrode, the tester simultaneously measures the resistance of the right and left foot relative to the hand. In the event of a power disconnection, the gate automatically drops down its turnstile to allow free passage. The tester is supplied with manufacturer's certificate, platform, double dual foot electrode, and entrance gate with turnstile.

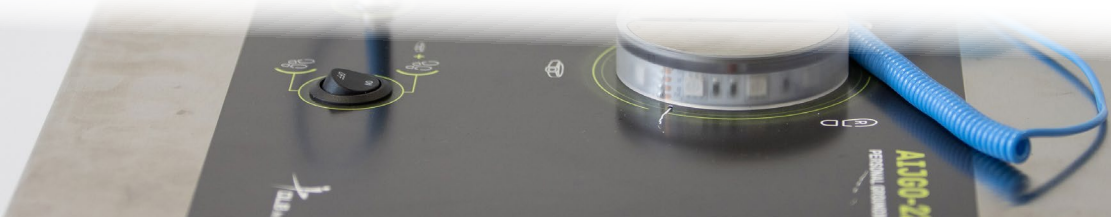
### CE declaration

We declare that the AIJGO-22/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  $\mu$ A 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.**



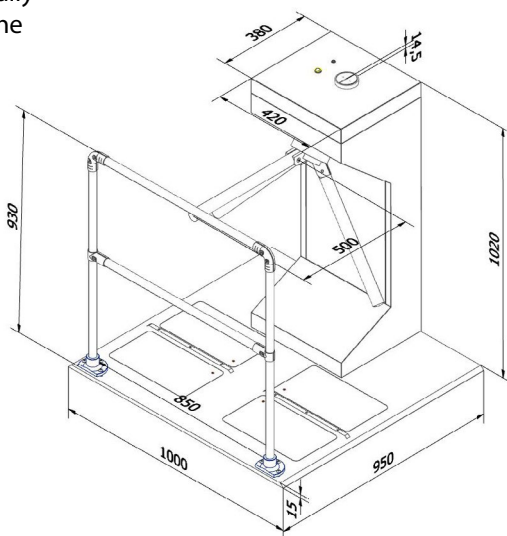
## TECHNICAL INFORMATION

Resistance values indicated as acceptable by the tester	
<b>Default setting when measuring footwear system</b>	100 K $\Omega$ – 100 M $\Omega$
<i>An upper value of 35 M<math>\Omega</math> can also be set by removing the short-circuiting of the TH2 pair of the tester. To do this, remove the short circuit (jumper) from the two points of the TH2 pin pair of the tester, or leave it on only one pin.</i>	
<b>Default setting when measuring wrist strap/groundable ESD smock system</b>	750 K $\Omega$ – 35 M $\Omega$

<b>Test voltage</b>	100 V DC
<b>Wrist strap/groundable ESD smock system connection</b>	With a combined 10 mm snap, 4 mm banana plug socket
<b>Power supply</b>	230 V AC
<b>Sizes</b>	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

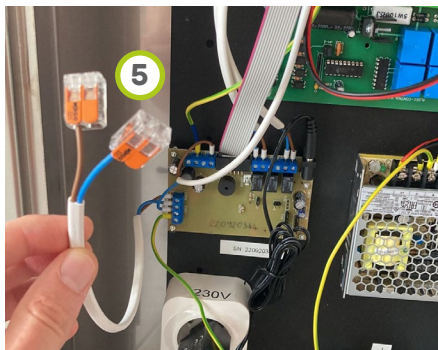
<b>AIJGO-22/COMP</b>	Personal grounding tester with platform, double dual foot electrode and entrance gate with turnstile
<b>AIJGO-BAR1</b>	Barrier for AIJGO-22/COMP or AIJGO-34/COMP tester
<b>AIJGO-OLED</b>	Optional gate opening touch button outwards

## PARTS OF THE TESTER

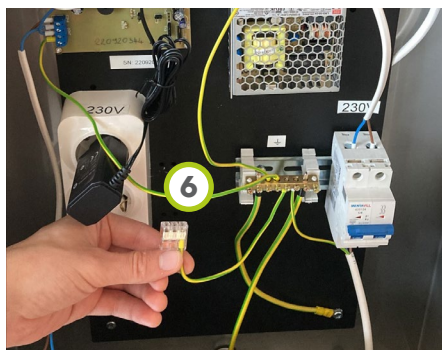
1. Steel touch button with 9 RGB LEDs
2. Combined 4 mm banana plug and 10 mm snap socket for connecting wrist strap/groundable ESD smock
3. Switch for test type selection: if the upper position is selected, the footwear system and wrist strap/groundable ESD smock system are tested, if the lower position is selected, only the footwear system is tested



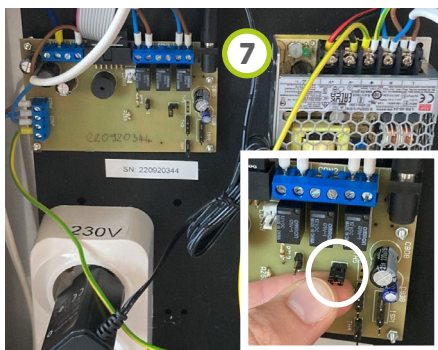
4. Speaker location



5. Cable for connecting foot electrodes



6. Connector to the common grounding point of the gate



7. Pair of TH2 spikes which can be used to set the upper resistance limit of the footwear system measurement. After setting a different limit from the one used previously, the device must be restarted for the change to take effect.



8.

AJGO-OLED - Optional gate opening touch button outwards

# TURNSTILE CONTROL SYSTEM

## Wiring guide

### Turnstile control system

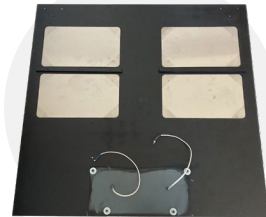
⊖		⎓	Arm dropping (Input)
⊖		⎓	
⊖			Crossing confirmation
⊖			(Output, Normally Open)
⊖			Crossing confirmation (Input)
⊖			
⊖		⎓	Output direction start (Input)
⊖		⎓	
⊖		⎓	Input direction start (Input)
⊖			
⊖			LED (-)
+			LED direction 1 (Output)
+			
+			LED direction 2 (Output)
+			LED Common (Output)
+			
+			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-22/COMP - 1. package	112 x 48 x 45 cm	73 kg
AIJGO-22/COMP - 2. package with barrier	100 x 105 x 14 cm	56 kg
AIJGO-22/COMP - 2. package without barrier	100 x 105 x 14 cm	53 kg

### 1. package



### 2. package



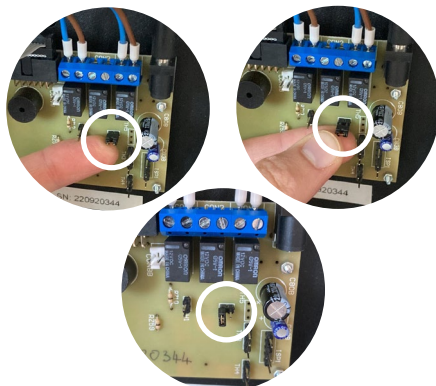


## ASSEMBLY INSTRUCTIONS

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	

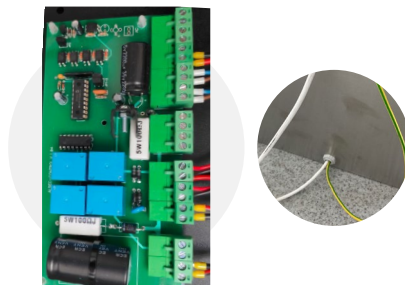
7.

If you want to set an upper resistance limit of 35 MΩ for the measurement of the footwear system, then stop covering and short-circuiting the two points of the TH2 spike pair of the tester with a short circuit (jumper).



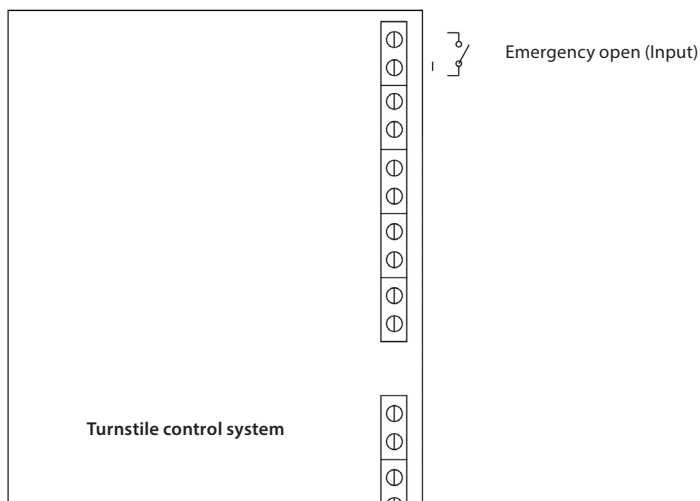
8.

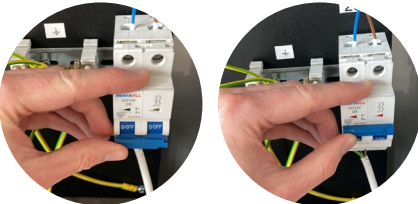



Ask a qualified electrician to connect the gate to the EPH network of the building. For information on connecting the fire alarm wiring, see below.



## Emergency open wiring guide

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



9.	Turn on the circuit breaker	
10.	Put the front cover of the gate back in place and lock it with a key	
11.	If 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 protection 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	

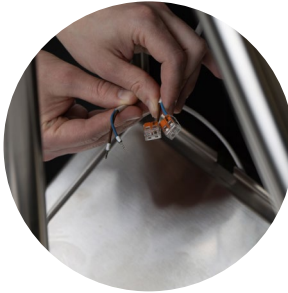
## SETTING THE OPERATING DIRECTION OF THE TESTER

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

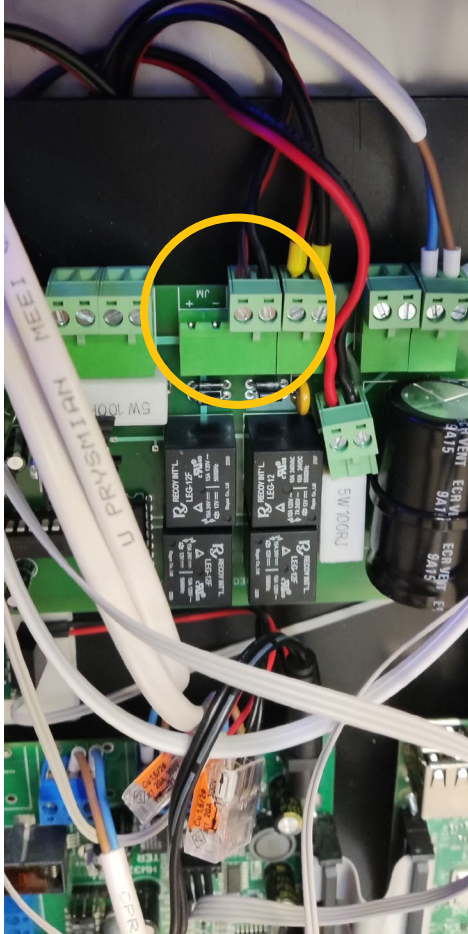
#### 1. Connection of foot electrodes

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.



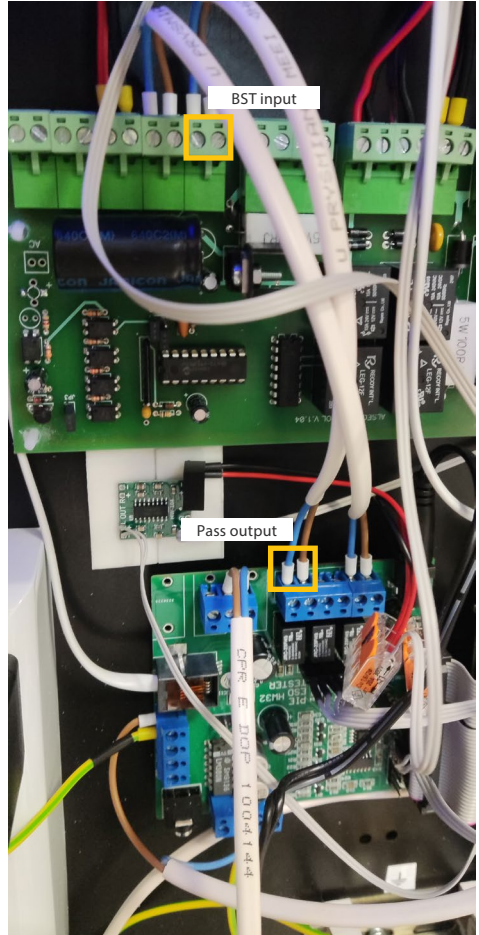
## 2. Enabling free backwards rotation of the turnstile by suitable connection on the control panel of the gate

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.



## 3. Enabling 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. Connection of foot electrodes

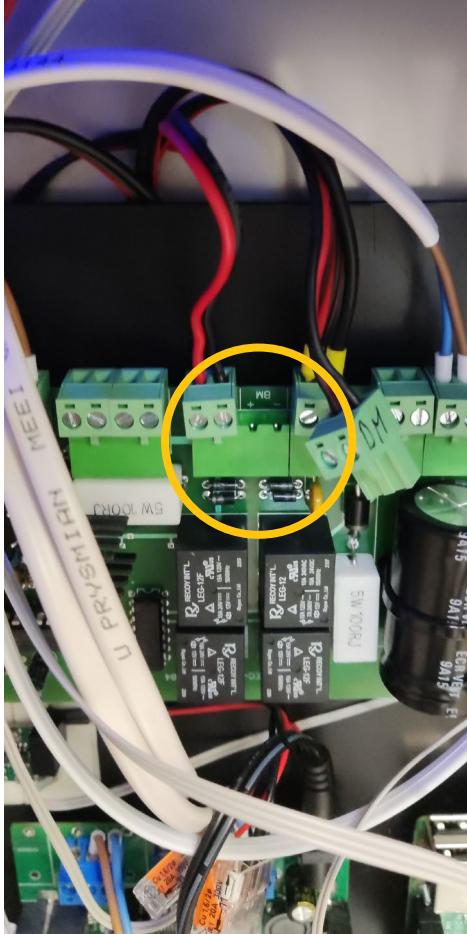
When facing the tester, the pair of foot electrodes on the left side should be connected for use. If it is not connected for this, then connect the wires of it to the foot electrode connecting wires of the gate. Brown wire should be connected to brown, blue to blue. Connect the wires of the unused foot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





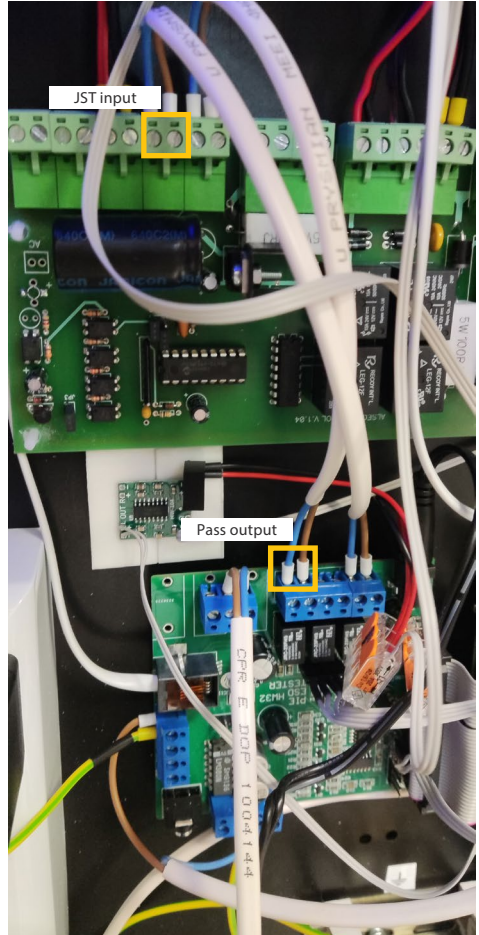
## 2. Enableing free backwards rotation of the turnstile by suitable connection on the control panel of the gate

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.



## 3. 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.





### 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. Touch button position

When facing the tester, the touch button should be positioned to the left in this case.

If it is not there, unscrew the four screws fixing the plexiglass on the left. 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 other 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.



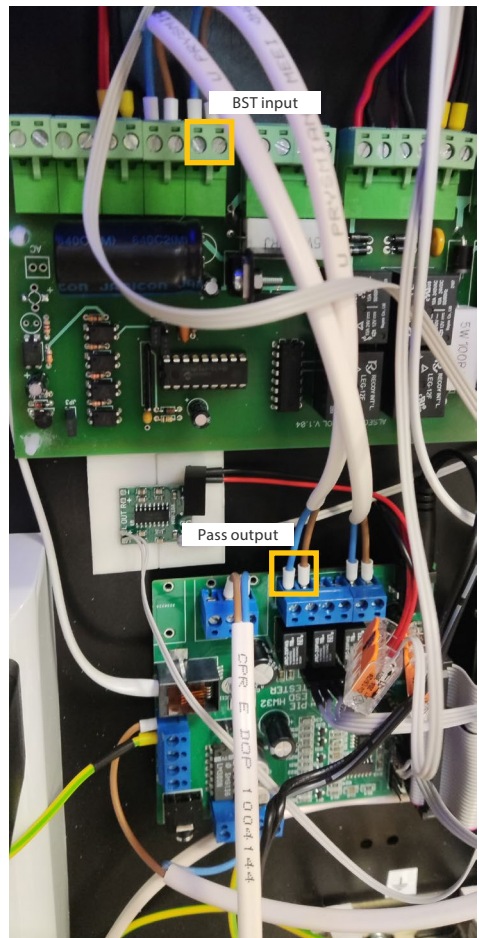
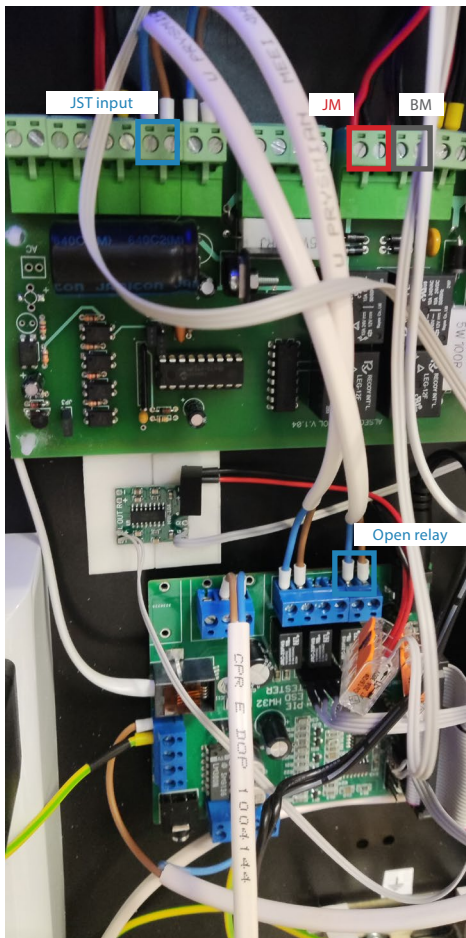
### 3. Blocking the free backwards rotation of the turnstile and enabling the possibility to go through the gate after using the touch button

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. Enabling 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**

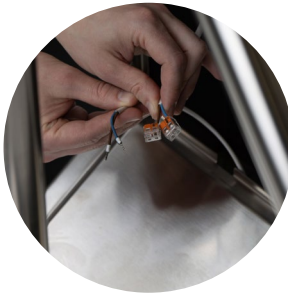
### **1. Touch button position**

When facing the tester, the touch button should be positioned to the right in this case.

If it is not there, unscrew the four screws fixing the plexiglass on the right. 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 other 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.



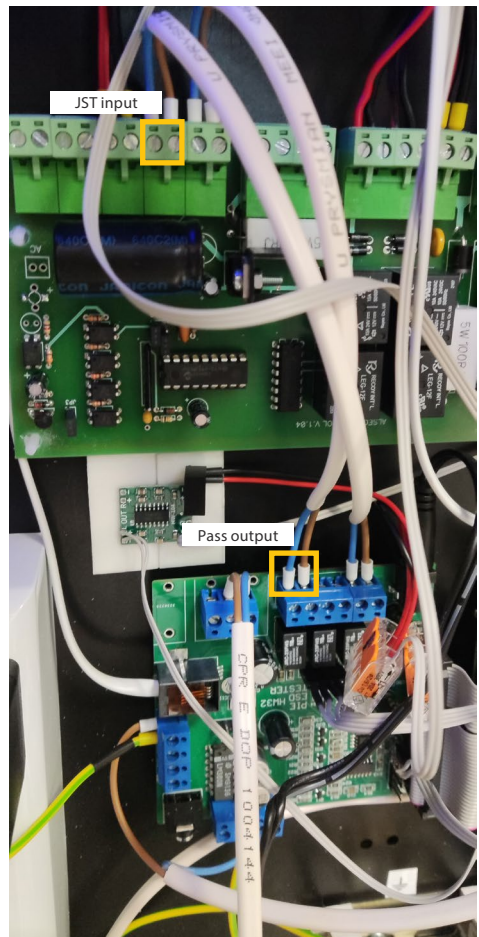
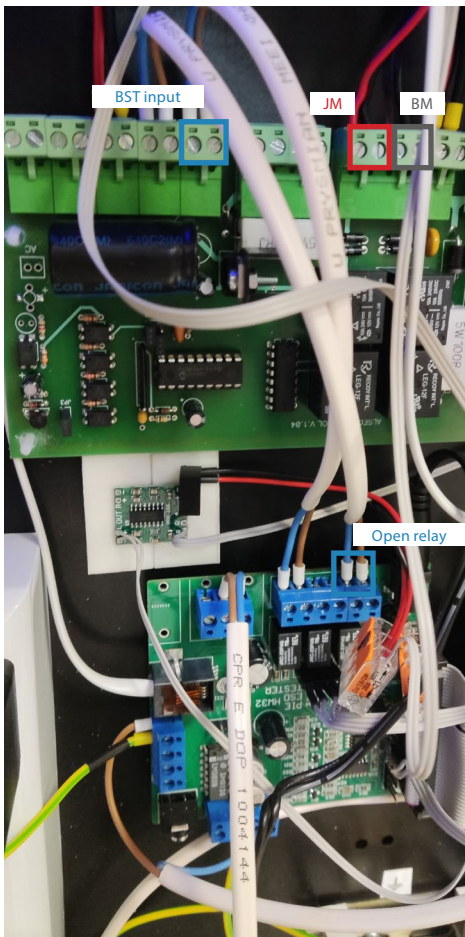
### 3. Blocking the free backwards rotation of the turnstile and enabling the possibility to go through the gate after using the touch button

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. Enabling 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, connect the wrist strap/groundable ESD smock to the tester socket	
3.	Touch both halves of the steel touch button at the same time and keep your hand on it while testing is in progress	
4.	The tester gives light and sound signal about the result	
5.	If the test results in acceptable values for the tester, you can pass through the gate by turning the turnstile forward	

## Interpreting the colour coding of the touch button

(WS: wrist strap/groundable ESD smock system, LF: footwear system – left foot  
RF: footwear system – right foot):

WS: <b>OK</b>	WS: <b>FAIL</b>	WS: <b>OK</b>	WS: <b>OK</b>	WS: <b>FAIL</b>	WS: <b>OK</b>	WS: <b>FAIL</b>	WS: <b>FAIL</b>
LF: <b>OK</b>	LF: <b>OK</b>	LF: <b>FAIL</b>	LF: <b>OK</b>	LF: <b>FAIL</b>	LF: <b>FAIL</b>	LF: <b>OK</b>	LF: <b>FAIL</b>
RF: <b>OK</b>	RF: <b>OK</b>	RF: <b>OK</b>	RF: <b>FAIL</b>	RF: <b>FAIL</b>	RF: <b>FAIL</b>	RF: <b>FAIL</b>	RF: <b>OK</b>
							

## CALIBRATION / VERIFICATION GUIDE

### Foot electrode calibration / verification

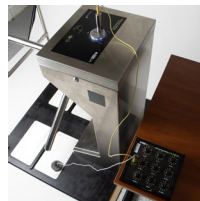
1.

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.

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.	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
<b>Footwear system test</b> (lower limit)	- 20%	80 K $\Omega$	100 K $\Omega$	120 K $\Omega$	+ 20%
<b>Footwear system test</b> (upper limit)	- 10%	90 M $\Omega$	100 M $\Omega$	110 M $\Omega$	+ 10%
<b>Footwear system test</b> (upper limit value can be set)	- 10%	31,5 M $\Omega$	35 M $\Omega$	38,5 M $\Omega$	+ 10%
<b>Wrist strap/groundable ESD smock system test</b> (lower limit)	- 20%	600 K $\Omega$	750 K $\Omega$	900 K $\Omega$	+ 20%
<b>Wrist strap/groundable ESD smock system test</b> (upper limit)	- 10%	31,5 M $\Omega$	35 M $\Omega$	38,5 M $\Omega$	+ 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.*





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