

Calibration Unit für PGT[®]120 -12



Calibration manual for PGT[®] 120 with DIP12 switch

PGT [®] 120	SN. 10000 and above
PGT [®] 120.COM	SN. 1000 and above

2019-05-08

1 Introduction

The Calibration Unit contains resistors to test the limits of the Personal-Grounding-Tester PGT® 120. It works without battery or any external power supply. To measure the PGT® 120 - test voltage you need a DC-voltmeter with an impedance of $\geq 10 \text{ M}\Omega$.



Notice: Remove all connections from the measuring inputs of the PGT® 120!

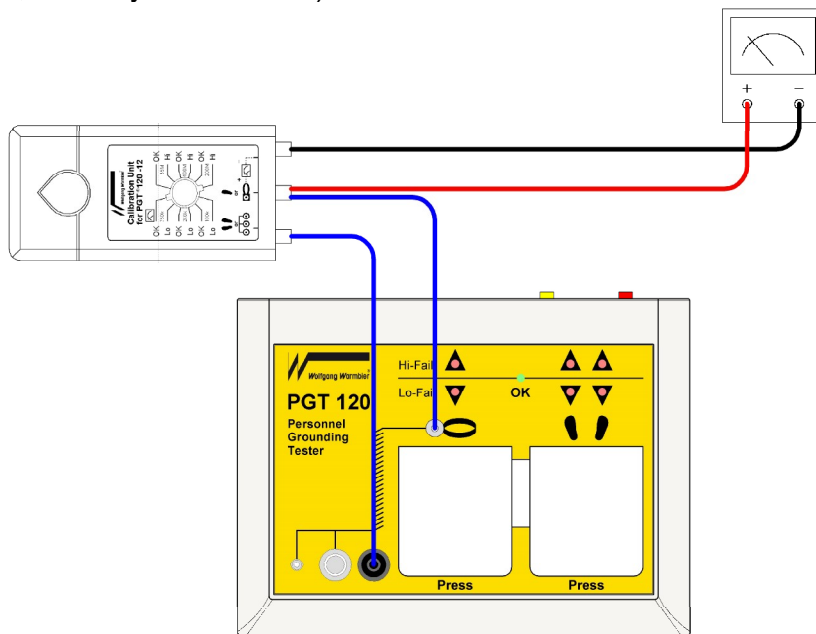
Keep the calibration unit at a dry place.

After taking the Calibration Unit from a cold into a warm environment, let it warm up to prevent from condensation, otherwise it will affect the accuracy.

2 Test voltage measurement

To check the test voltage, set the marked lever of the rotary switch to  and connect:

- the central jack of the calibration unit to the 3 mm snap of the PGT® 120 (same symbols ). Use the DK3-socket adaptor which is included.
- The left jack of the calibration unit to the black 4 mm banana socket of the PGT® 120
- (wrist strap test, same symbols ).



Use a DC-voltmeter with impedance $R_i \geq 10 \text{ M}\Omega$, preferably measuring range 2 V. Connect the right jack of the Calibration Unit also to minus-input of the voltmeter and the central jack of the Calibration Unit to plus-input. Select the test voltage 30 V, 50 V and 100 V with DIP-switches 6 and 7 and press the left contact electrode for each measurement.

DIP-switch settings

Switch 6	Switch 7	Test voltage	Admissible Tolerance
OFF	OFF	30 V	10 %
OFF	ON	50 V	10 %
ON	ON	100 V	10 %

The test voltage is calculated by reading x 100.
 Example: reading = 0,97 V \Rightarrow test voltage = 97,0 V



3 Preparation

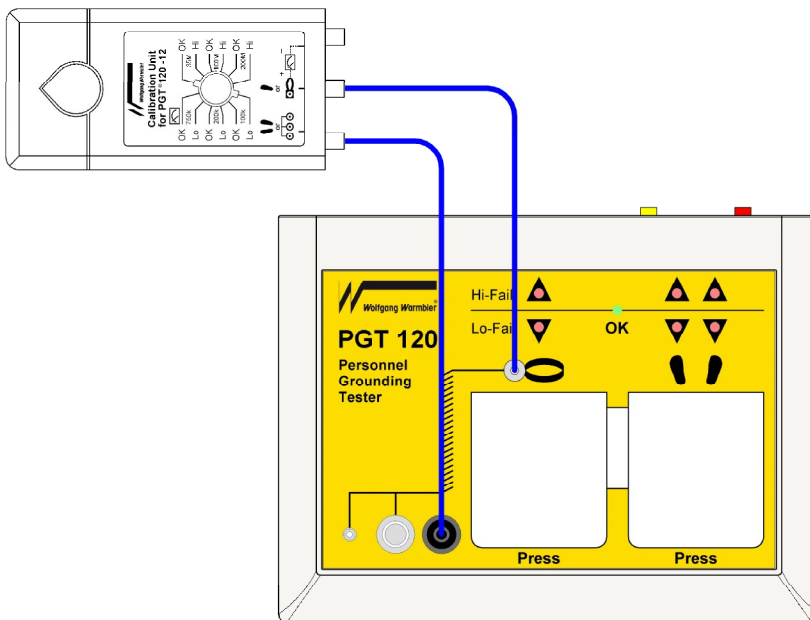
Starting point for all measurements are the following DIP switch settings.
 The calibration is performed with the customers test voltage setting (DIP-switch 4 and 5)
 If desired, the test can be repeated with the other available test voltage settings.

ON								5	4			
OFF					8					3	2	1

4 Wrist strap verification

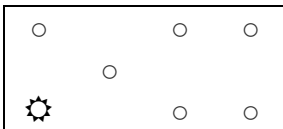
To check the limits of the wrist strap test connect:

- the middle jack of the calibration unit with the 3 mm snap of the PGT[®] 120 (same symbols ). Use the DK3-socket adaptor which is included.
- the left jack of the calibration unit with the black 4 mm banana socket of the PGT[®] 120. (wrist strap test, same symbols ).

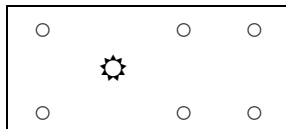


Set the marked lever of the rotary switch in succession to the positions mentioned below. Press the left contact electrode for each measurement.

750k Lo



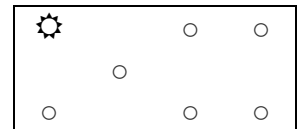
750k OK



35M OK





35M Hi

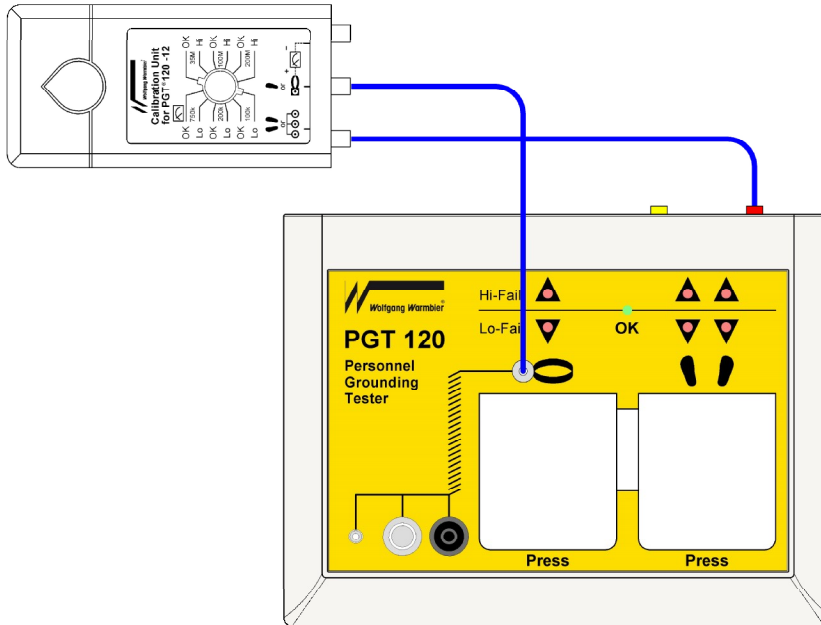


Display LED

5 Footwear test verification (single shoe) - right

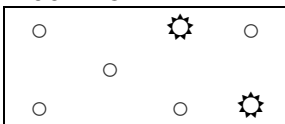
To check the limits of the footwear test connect:

- the middle jack of the calibration unit with the 3 mm snap of the PGT[®] 120 (same symbols ). Use the DK3-socket adaptor which is included.
- the left jack of the calibration unit with the red 4 mm socket on the rear side of the PGT[®] 120 (footwear electrode, same symbols ).

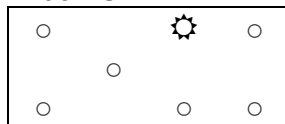


Set the marked lever of the rotary switch in succession to the positions mentioned below. Press the right contact electrode for each measurement.

100k Lo



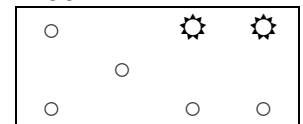
100k OK



35M OK



35M Hi



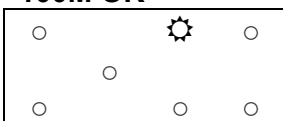
Display LED

5.1 DIP-switch settings for upper limit 100 MΩ

Switch 3	Switch 4	➔	ON							5	4	3		
ON	ON		OFF					8						2

Set the marked lever of the rotary switch in succession to the positions mentioned below. Press the right contact electrode for each measurement.

100M OK





100M Hi

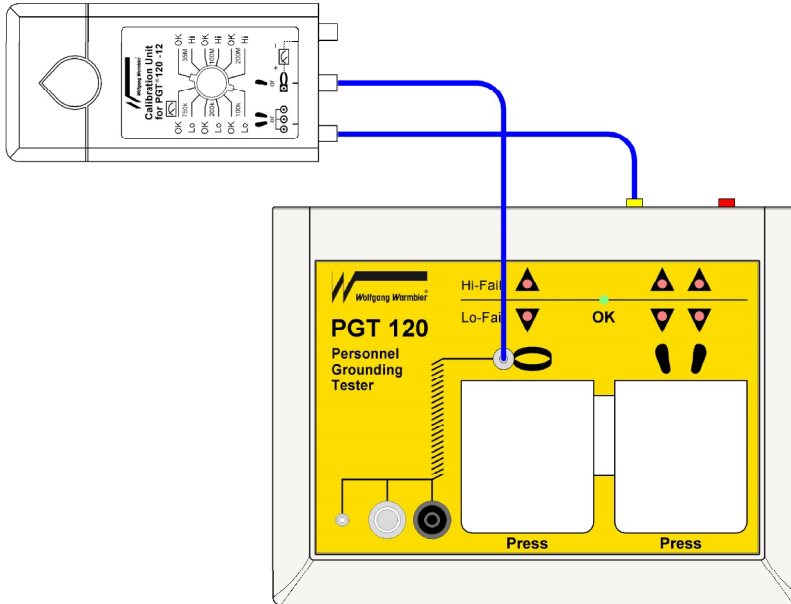


Display LED

6 Footwear test verification (single shoe) - left

To check the limits of the footwear test connect:

- the middle jack of the calibration unit with the 3 mm snap of the PGT[®] 120 (same symbols ). Use the DK3-socket adaptor which is included.
- the left jack of the calibration unit with the yellow 4 mm socket on the rear side of the PGT[®] 120 (footwear electrode, same symbols ).

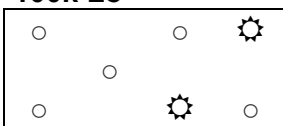


6.1 DIP-switch setting for upper limit 35 MΩ

Switch 3	Switch 4	➔	ON							5	4				
OFF	ON		OFF					8					3	2	1

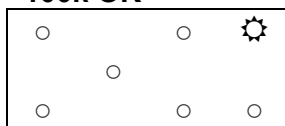
Set the marked lever of the rotary switch in succession to the positions mentioned below. Press the right contact electrode for each measurement.

100k Lo

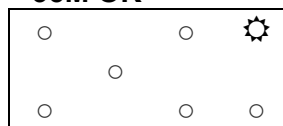


Display LED

100k OK



35M OK



35M Hi

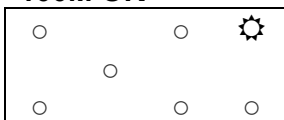


6.2 DIP-switch setting for upper limit 100 MΩ

Switch 3	Switch 4	➔	ON							5	4	3			
ON	ON		OFF					8						2	1

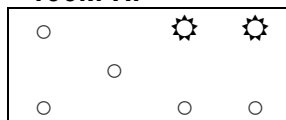
Set the marked lever of the rotary switch in succession to the positions mentioned below. Press the right contact electrode for each measurement.

100M OK



Display LED

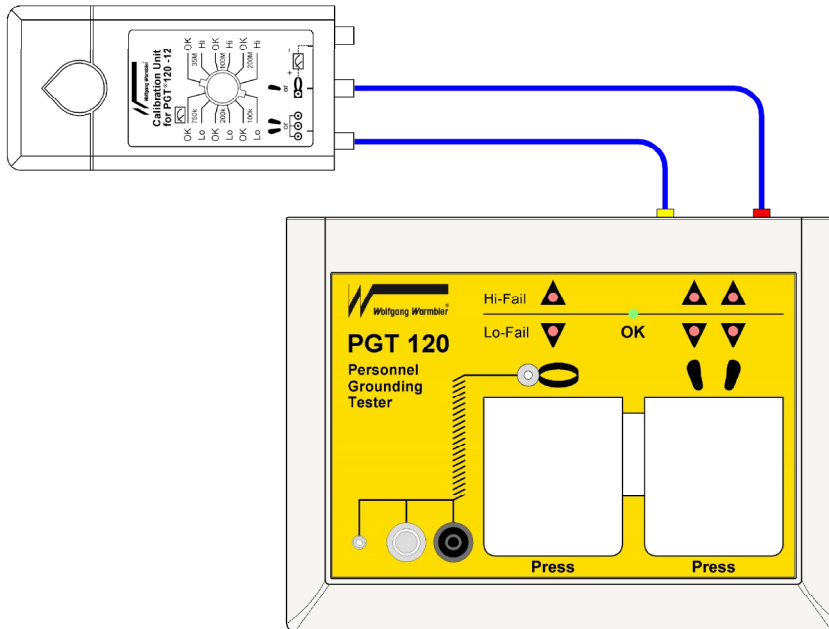
100M Hi



7 Footwear test in series

To check the limits of the footwear test connect:

- the middle jack of the calibration unit with the red 4 mm socket on the rear side of the PGT® 120
- the left jack of the calibration unit with the yellow 4 mm socket on the rear side of the PGT® 120



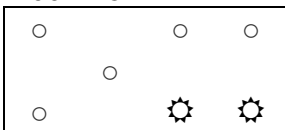
7.1 DIP-switch setting for upper limit 200 MΩ for series

Switch 8	➔	ON					8			5	4	3		
ON		OFF											2	1

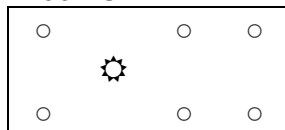
Set the marked lever of the rotary switch in succession to the positions mentioned below. Reset the instrument after each measurement by disconnecting the left wire:

The contact electrode must not be pressed at these positions!

200k Lo



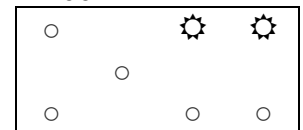
200k OK



200M OK





200M Hi



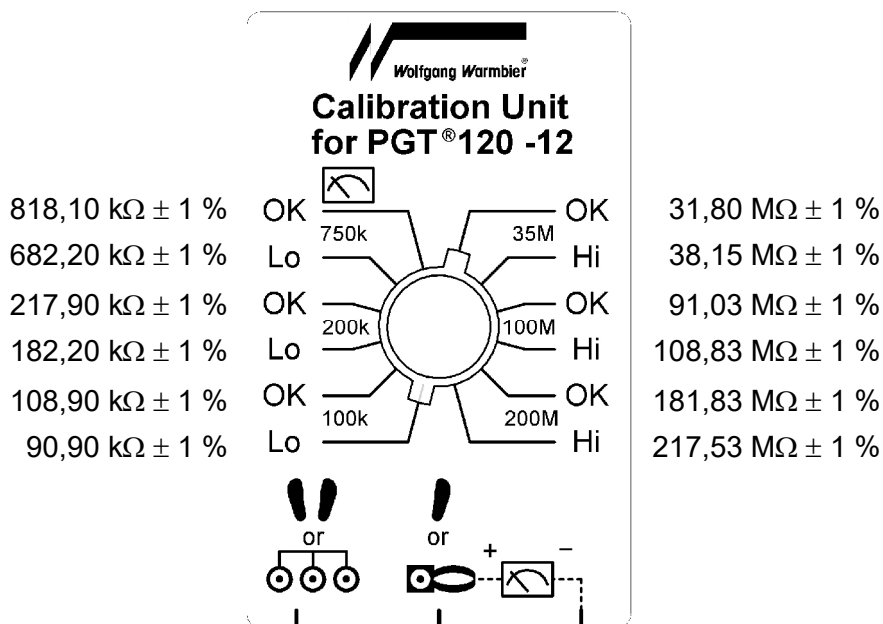
Display LED

8 Calibration Unit verification

Recommended calibration cycle: 3 years

To check the resistors, connect a suitable Ohmmeter to the central jack  and the left jack  of the Calibration Unit and set the **marked** lever of the rotary switch in succession to the marked positions. The corresponding resistor values and tolerances can be taken from the drawing below.

Also connect the Ohmmeter to the central  and right jack of the Calibration Unit. Nominal value must be: 24,4 kΩ ± 1 %



9 Device Return and Environmentally Compatible Disposal

We identify our electrical and electronic devices (as of August 2005) in accordance with WEEE and ElektroG in actual version with the symbol shown to the right per DIN EN 50419.



These devices may not be disposed of with the trash.

Please contact our service department regarding the return of old devices.

Subject to change without notice

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