

# Jamco



## Preliminary checks

### Eagle Tronic Pulse

#### Pulse Technology

*Rev.1 – 2018. Apr*

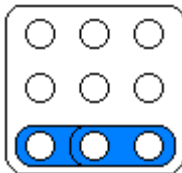




**B. Check if the line is the correct one and if all three phases are present. Be sure none of them is missing;**

**C. Check input settings:**

1. In case of EP4803 and 3x480Vac line, the input settings must be set as below:

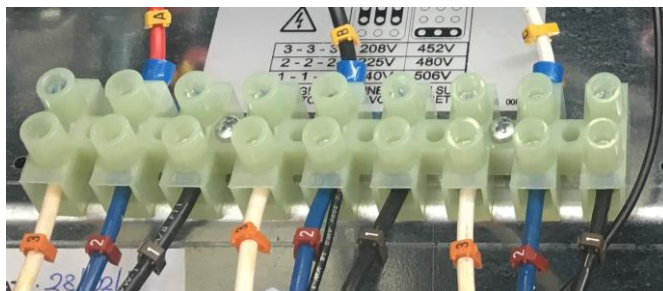


**NOTE**

If the incoming line is closer to 3x480Vac move A, B, C signed wires in the respective position number 2 (Blue wire);  
 If the incoming line is closer to 3x500Vac move A, B, C signed wires in the respective position number 1 (Black wire);  
 If the incoming line is closer to 3x450Vac move A, B, C signed wires in the respective position number 3 (White wire).

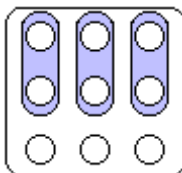


In case of RTC cabinet



In case of E7 or E8 cabinet

2. In case of EP4803 and 3x208Vac or 3x225Vac or 3x240Vac power line the input settings must be set as below:

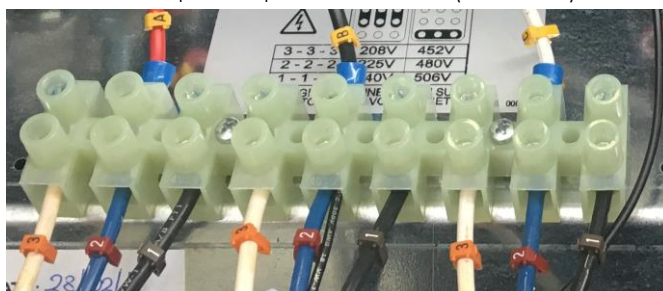


**NOTE**

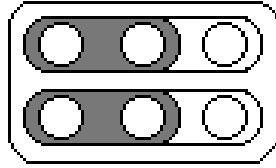
If the incoming line is closer to 225Vac move A, B, C signed wires in the respective position number 2 (Blue wire);  
 If the incoming line is closer to 240Vac move A, B, C signed wires in the respective position number 1 (Black wire);  
 If the incoming line is closer to 208Vac move A, B, C signed wires in the respective position number 3 (White wire).



In case of RTC cabinet

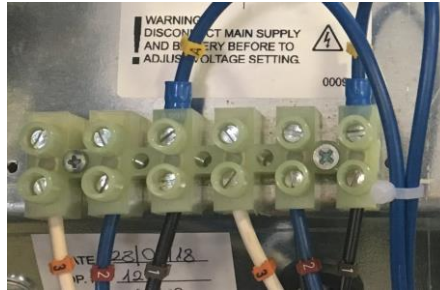


In case of E7 or E8 cabinet

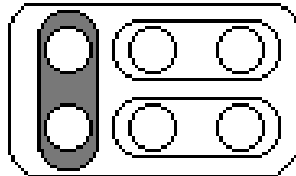


### NOTE

If the incoming line is closer to 1x220Vac move A signed wires in the respective position number 2 (Blue wire);  
If the incoming line is closer to 1x240Vac move A signed wires in the respective position number 1 (Black wire);  
If the incoming line is closer to 1x208Vac move A signed wires in the respective position number 3 (White wire).



4. In case of EP4801 and 1x480Vac power line the input settings must be set as below:



### NOTE

If the incoming line is closer to 1x480Vac move A signed wires in the respective position number 1 (Black wire);  
If the incoming line is closer to 1x440Vac move A signed wires in the respective position number 2 (Blue wire);  
If the incoming line is closer to 1x416Vac move A signed wires in the respective position number 3 (White wire).



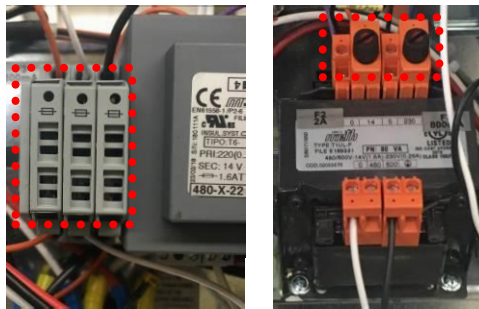


**NOTE**

If the incoming line is closer to 3x600Vac move A signed wires in the respective position number 2 (Blue wire);  
 If the incoming line is closer to 3x575Vac move A signed wires in the respective position number 3 (White wire);  
 If the incoming line is closer to 3x610Vac move A signed wires in the respective position number 1 (Black wire).



D. Check the electric continuity of each fuse located into the fuse holders:

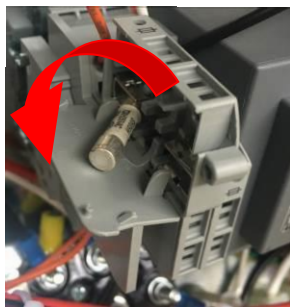


**NOTE**

How to open the fuse holder:



Lift it up



Open the left side



Loose the black holder

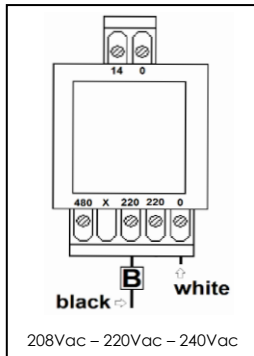


Pull out the fuse holder

In case of bad fuse, replace it with one of the same type, have the same characteristics.



1. In case of 208/220/240Vac single phase, three phase 480Vac, three phase 240/480Vac charger:

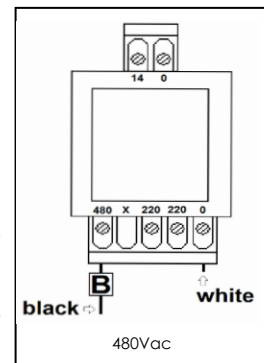


ON THE TOP SIDE (OUTPUT):  
Between 0 and 14, you have to read ~16 Vac

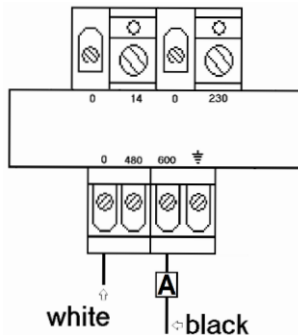
ON THE BUTTOM SIDE (INPUT):  
Between 0 and 480, you have to read ~480 Vac  
Between 0 and 220, you have to read ~220 Vac

If the inputs are correct but the output is not → replace the auxiliary transformer.

If input and output are correct, proceed to next step "F".



2. In case of 600Vac single phase or 600Vac three phase charger:



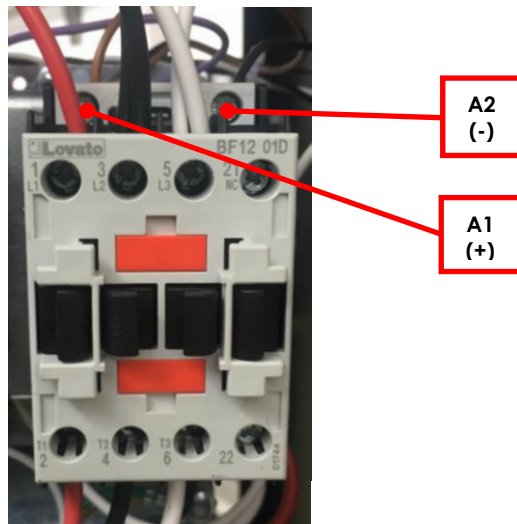
ON THE TOP SIDE (OUTPUT):  
Between 0 and 14, you have to read ~16 Vac  
Between 0 and 220, you have to read ~220 Vac

ON THE BUTTOM SIDE (INPUT):  
Between 0 and 600, you have to read ~600 Vac

If the inputs are correct but the output is not → replace the auxiliary transformer.

If input and output are correct, proceed to next step "F".

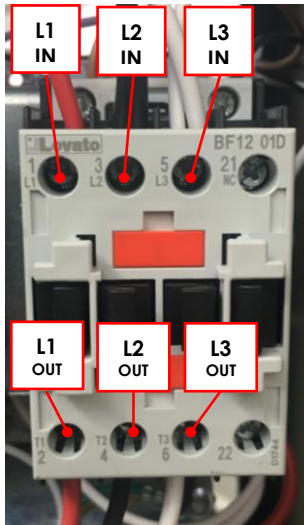
F. The input contactor must be NOT engaged. Check the DC voltage on the contactor coil.



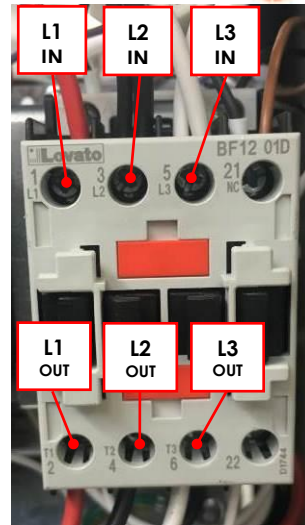
If the reading is:

- Equal to the battery voltage → replace the display board;
- Equal to 0V → proceed to next point "G".

If the contactor remains close, even if the voltage measured between A1 (+) and A2 (-) is equal to 0V, replace the contactor.



In case of 36V charger



In case of 24V and 48V charger

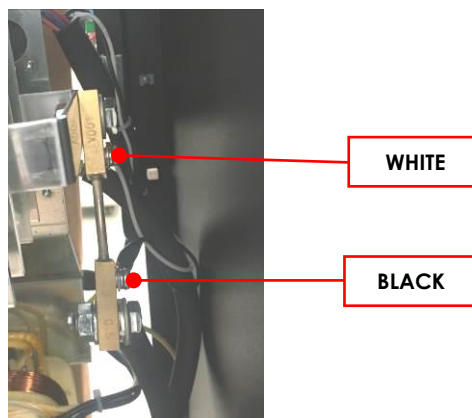
- Vac L1 IN L2 IN = L2 IN L3 IN = L1 IN L3 IN (all input readings must measure the same Ac voltages. If any reading on the input side is different, check the input plug or fuses installed on the AC power line);
- Vac L1 OUT L2 OUT = L2 OUT L3 OUT = L1 OUT L3 OUT = 0V (all output readings have to measure 0V. If any output readings measured different voltages, replace the contactor);
- if the voltage measured between A1 (+) and A2 (-) is 0V0, but the input and the output are equal, replace the contactor.

**H. Check the electric continuity of the output fuse.**



**I. Check the connection of the two wires on the shunt.**

Be sure both of them are tight and the black wire has been bolted below the white one.





1. Switch on the charger through the main switch with battery unplugged;
2. The display firstly shows:

BATTERY CHARGER  
BATTERY CHARGER

3. The second screenshot informs about the charger model: Volts and Amps

BATTERY CHARGER  
XX V XXX A

4. After the power check, the display shows current date and military time:

SYSTEM READY  
DD/MM/YY HH:MM

5. Press and hold the "DOWN" button. After a few seconds, the display prompts for a password.  
Press → **UP UP DW UP UP**

EDIT PASSWORD  
\* \* \* \* \*

6. Plug the battery to the charger.
7. Scroll the menu, using the UP button, and go on the RELAY page.

RELAY  
REL OFF

8. Press and hold ENTER until the dash starts to blink. Change value, using UP button, in REL1 ON.

RELAY  
REL1 ON

9. Confirm changes by pressing and holding ENTER.
10. The system engages the input contactor automatically:
  - If the contactor has not been engaged, proceed to step K;
  - If the input contactor is opening and closing alternately, proceed to step L - 4.3;
  - If the contactor has been engaged, proceed to step M.



1. Measure the voltage between 4<sup>th</sup> wire on the 7 pin green connector (negative) and the 1<sup>st</sup> wire on the 3 pins green connector (positive).



If the reading is:

- Equal to the battery voltage → proceed to next step;
  - 0Vdc → go back on point H and I.
2. Measure the voltage between 4<sup>th</sup> wire on the 7 pin green connector (negative) and the 3<sup>rd</sup> wire on the 3 pins green connector (positive).



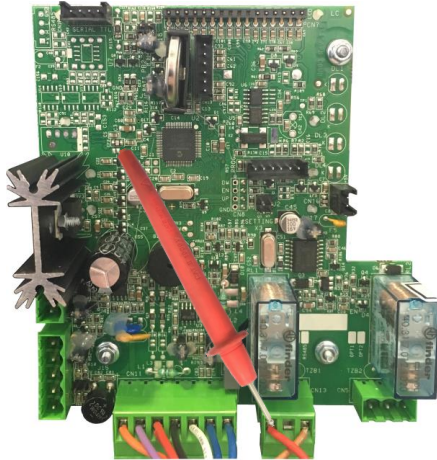
If the reading is:

- Equal to the battery voltage → proceed to next step;
- 0Vdc → check to have confirmed changes as point J-8. If that value has been confirmed correctly, replace the display board.





1. Check the DC voltage between A2 on the input contactor (negative) and the 1<sup>st</sup> wire on the 3 pins green connector located on the display board (positive):



In case of 36V charger



In case of 12/24/48/80V charger

If the reading is:

- Equal to battery voltage → proceed to next point;
- Not equal to battery voltage → the black wire connected on A2 has to come from the negative pole of the rectifier.



2. Check the DC voltage between A2 on the input contactor (negative) and the 3<sup>rd</sup> wire on the 3 pins green connector located on the display board (positive):



In case of 36V charger



In case of 12/24/48/80V charger

If the reading is:

- Equal to battery voltage → proceed to next point (3 in case of 36V charger or point 4 in case of 12V, 24V, 48V or 80V charger);
- Not equal to battery voltage → go back to step K.



Check the DC voltage between A2 (negative) and A1 (positive) on the input contactor:



In case of 36V charger

If the reading is:

- Equal to battery voltage but the contactor is not engaged → replace the contactor;
- Not equal to battery voltage → go back to step K.

4. In case of 12/24/48/72/80V charger:

4.1 Check the DC voltage between A2 (negative) and contact 21 on the input contactor (positive):



In case of 12/24/48/80V charger

4.2 Check the DC voltage between A2 (negative) and A1 (positive) on the input contactor:

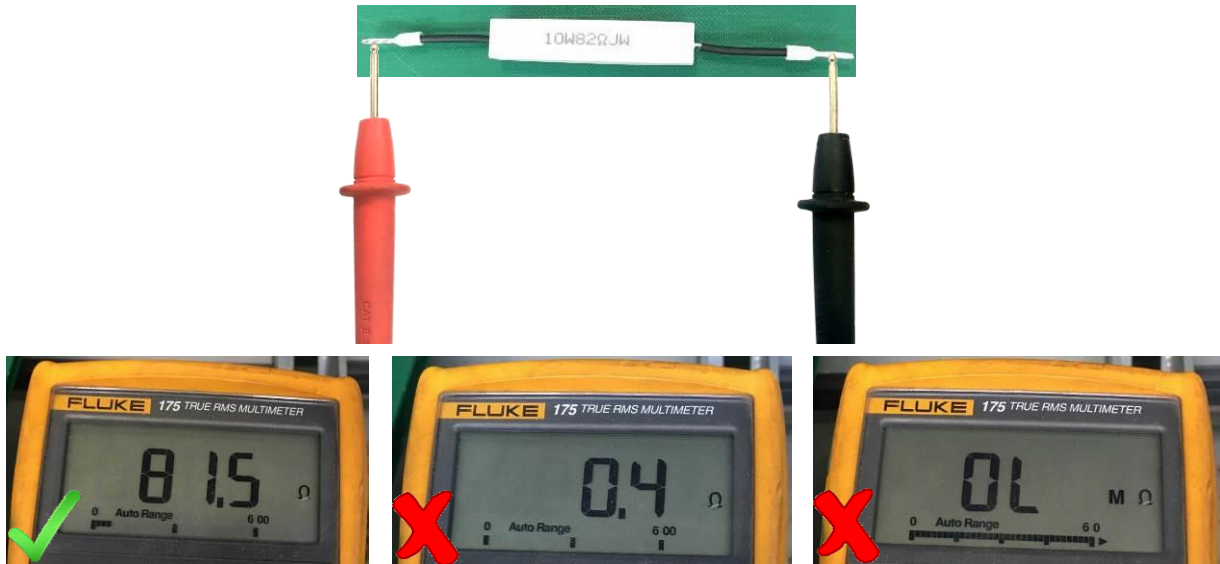




- Equal to each other and also to battery voltage → proceed to next point;
- Not equal each other → replace the contactor.


4.3 Check resistor: unmount the resistor from A1 and 21 and check the resistance value. Compare the reading to the values written below to see if it needs to be replaced.

Example with 82Ω 10W resistor:

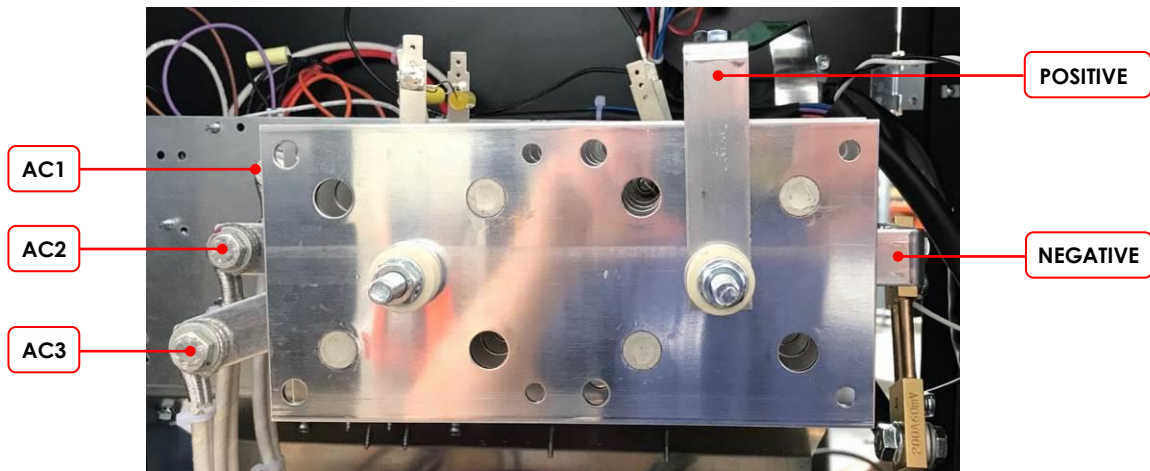


- 12V charger mounting 2 x 27Ω 5 Watts resistor (0202397\_IS);
- 24V charger mounting 27Ω 5 Watts resistor (0202397\_IS);
- 48V charger mounting 82Ω 10 Watts resistor (02024052\_IS);
- 72V charger mounting 270Ω 10 Watts resistor (0202404\_IS);
- 80V charger mounting 330Ω 10 Watts resistor (0202407\_IS).



1. In case of three phase charger, unplug the AC power, set the voltmeter in "DIODE MODE" (  ) and check the drop putting:

- |   |  |   |
|---|--|---|
| 1 | <ul style="list-style-type: none"><li>• Negative terminal on negative tap and positive terminal AC1;</li><li>• Negative terminal on negative tap and positive terminal AC2;</li><li>• Negative terminal on negative tap and positive terminal AC3;</li></ul> | All readings have to measure an open circuit. |
| 2 | <ul style="list-style-type: none"><li>• Negative terminal on positive tap and positive terminal AC1;</li><li>• Negative terminal on positive tap and positive terminal AC2;</li><li>• Negative terminal on positive tap and positive terminal AC3;</li></ul> | All readings have to be equal to each other.  |
| 3 | <ul style="list-style-type: none"><li>• Positive terminal on negative tap and negative terminal AC1;</li><li>• Positive terminal on negative tap and negative terminal AC2;</li><li>• Positive terminal on negative tap and negative terminal AC3;</li></ul> | All readings have to be equal to each other.  |
| 4 | <ul style="list-style-type: none"><li>• Positive terminal on positive tap and negative terminal AC1;</li><li>• Positive terminal on positive tap and negative terminal AC2;</li><li>• Positive terminal on positive tap and negative terminal AC3;</li></ul> | All readings have to measure an open circuit. |
| 5 | <ul style="list-style-type: none"><li>• Positive terminal on positive tap and negative terminal on negative tap;</li></ul>   | The reading has to measure an open circuit.   |

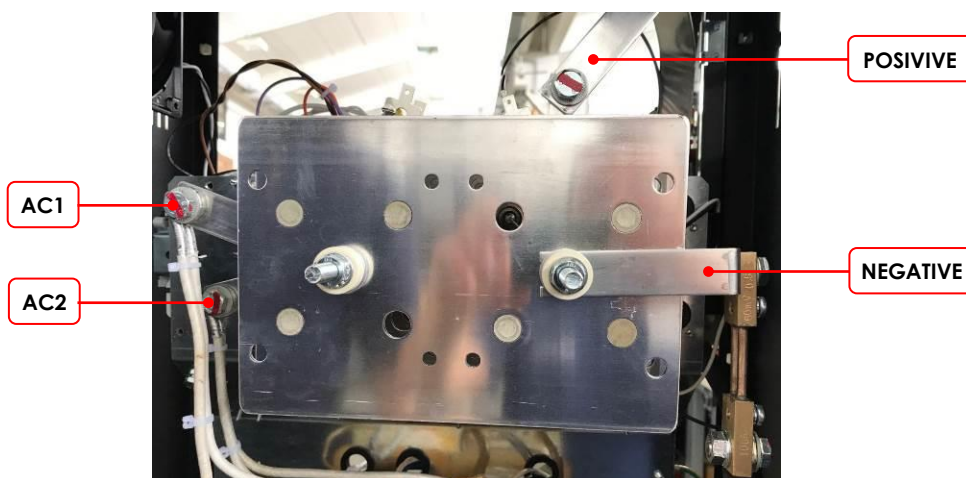


Three phase charger



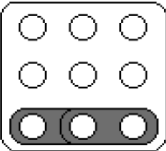
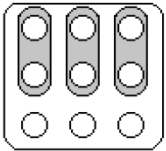
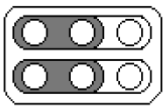
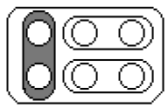
and check the drop settings.

- |   |   |   |
|---|---|---|
| 1 | { <ul style="list-style-type: none"><li>• Negative terminal on negative tap and positive terminal AC1;</li><li>• Negative terminal on negative tap and positive terminal AC2;</li></ul> } | All readings have to measure an open circuit. |
| 2 | { <ul style="list-style-type: none"><li>• Negative terminal on positive tap and positive terminal AC1;</li><li>• Negative terminal on positive tap and positive terminal AC2;</li></ul> } | All readings have to be equal to each other.  |
| 3 | { <ul style="list-style-type: none"><li>• Positive terminal on negative tap and negative terminal AC1;</li><li>• Positive terminal on negative tap and negative terminal AC2;</li></ul> } | All readings have to be equal to each other.  |
| 4 | { <ul style="list-style-type: none"><li>• Positive terminal on positive tap and negative terminal AC1;</li><li>• Positive terminal on positive tap and negative terminal AC2;</li></ul> } | All readings have to measure an open circuit. |
| 5 | { <ul style="list-style-type: none"><li>• Positive terminal on positive tap and negative terminal on negative tap;</li></ul> }  | The reading has to measure an open circuit.   |



Single phase charger



Charger serial number				Charger nominal voltage/output	___ V / ___ A
input settings	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	<b>Note:</b>
Fine adjustment settings	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	<b>Note:</b>	
Auxiliary transformer input	INPUT ___ Vac	INPUT ___ Vac	INPUT ___ Vac	<b>Note:</b>	
Auxiliary transformer output	OUTPUT ___ Vac	OUTPUT ___ Vac	<b>Note:</b>		
Real battery voltage	___ Vdc	<b>Note:</b>			
CONTACTOR INPUT	L1_IN-L3_IN: ___ Vac	L1_IN-L2_IN: ___ Vac	L2_IN-L3_IN: ___ Vac	<b>Note:</b>	
CONTACTOR OUTPUT	L1_OUT-L3_OUT: ___ Vac	L1_OUT-L2_OUT: ___ Vac	L2_OUT-L3_OUT: ___ Vac	<b>Note:</b>	
<b>LOGIN INTO MANUFACTURER MODE</b>					
Check point K.1= ___ Vdc	<b>Note:</b>				
Check point K.2= ___ Vdc	<b>Note:</b>				
Check point L.1= ___ Vdc	<b>Note:</b>				
Check point L.2= ___ Vdc	<b>Note:</b>				
Check point L.3= ___ Vdc	<b>Note:</b>				
Check point L.4= ___ Vdc	<b>Note:</b>				

- continue -



Check N.L4.1= ___Vdc				
Check point L.4.2= ___Vdc	<b>Note:</b>			
Check point L.4.3= ___Ω	<b>Note:</b>			
Check point M.1	Group measures 1			<b>Note:</b>
	Group measures 2			<b>Note:</b>
	Group measures 3			<b>Note:</b>
	Group measures 4			<b>Note:</b>
	Group measures 5			<b>Note:</b>
Check point M.2	Group measures 1			<b>Note:</b>
	Group measures 2			<b>Note:</b>
	Group measures 3			<b>Note:</b>
	Group measures 4			<b>Note:</b>
	Group measures 5			<b>Note:</b>