

MODEL 2102

BREAKDOWN / HIPOT CALIBRATION ADAPTER



ADJUSTMENT GUIDE



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ADJUSTMENT OVERVIEW

Adjustment of the 2102 Breakdown / Hipot calibration adapter requires the following equipment :

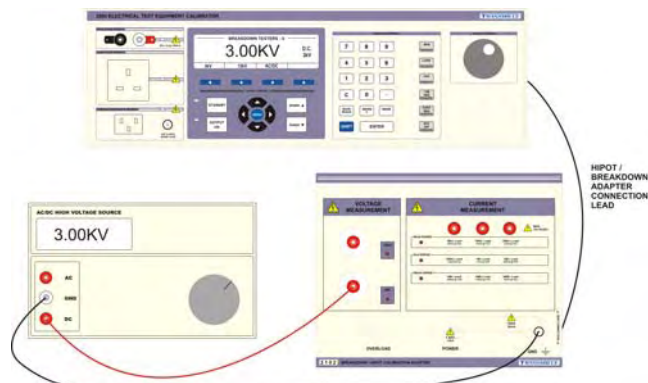
- 3kV / 10kV AC Voltage source
- 3kV / 10kV DC Voltage source
- 200uA / 2mA / 20mA AC/DC Current source (e.g. Transmille 3050 Multi Product Calibrator)
- 3200 Calibration Control Panel Software

Adjustment Sequence

1. 3kV AC Voltage
2. 12kV AC Voltage
3. 3kV DC Voltage
4. 12kV DC Voltage
5. 200uA AC Current
6. 2mA AC Current
7. 20mA AC Current
8. 200uA DC Current
9. 2mA DC Current
10. 20mA DC Current

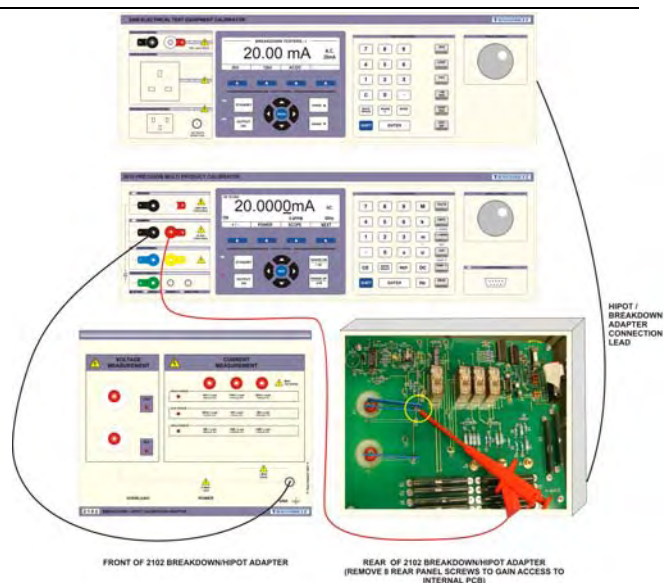
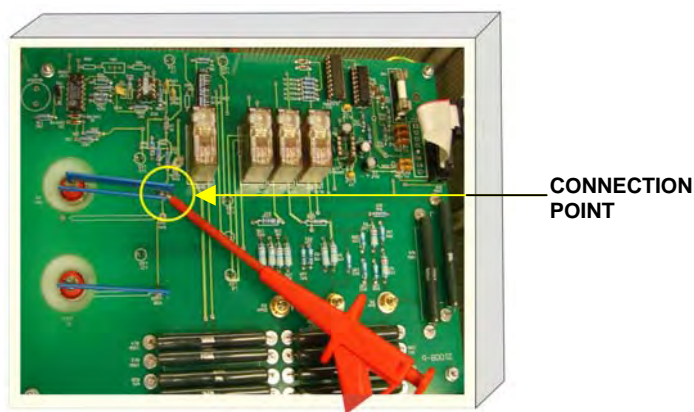
Voltage Measurement Adjustment

Voltage measurement adjustment requires a high voltage source to be connected to the 2102 Breakdown / Hipot adapter as shown below :



Current Measurement Adjustment

Current measurement adjustment requires the rear cover of the 2102 Breakdown / Hipot adapter to be removed and a test probe connected to the resistor as shown below :



2100 / 3200 CALIBRATION CONTROL PANEL

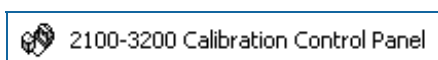
The 2100/3200 Calibration Control Panel provides access to the functions and test modes of the 2100/3200 Electrical Test Equipment Calibrator via an on screen 'virtual' interface.

INSTALLATION

Insert the 2100/3200 CCP CD – installation will start automatically.
To install manually run Setup.exe

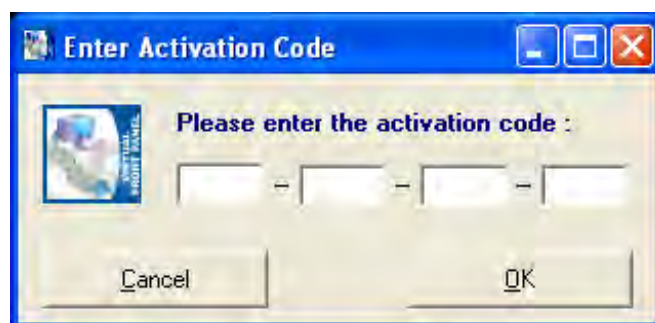
STARTING THE 2100/3200 CALIBRATION CONTROL PANEL

On installation of the program, a shortcut will have been created in the Start → Programs menu. Select the icon as shown below to run the program :



ACTIVATING THE 2100/3200 CALIBRATION CONTROL PANEL

Before the program can be used, the activation code obtained from Transmille Ltd. must be entered. If you do not have this code please contact Transmille Ltd. at the address shown at the end of this document. When the program is started the following dialogue box will be displayed :



Entering the correct unlock code will result in a message stating success. The activation code will only need to be entered once, and once unlocked the program will run for an unlimited period.

USING THE 2100/3200 CALIBRATION CONTROL PANEL

When the program starts for the first time, a window will appear asking for a comm. port to be selected :



Click a COMM button to select a comm. port.

Click Exit to quit the program.

Note : The user will be warned if a Comm. port which is currently in use or is invalid is chosen.

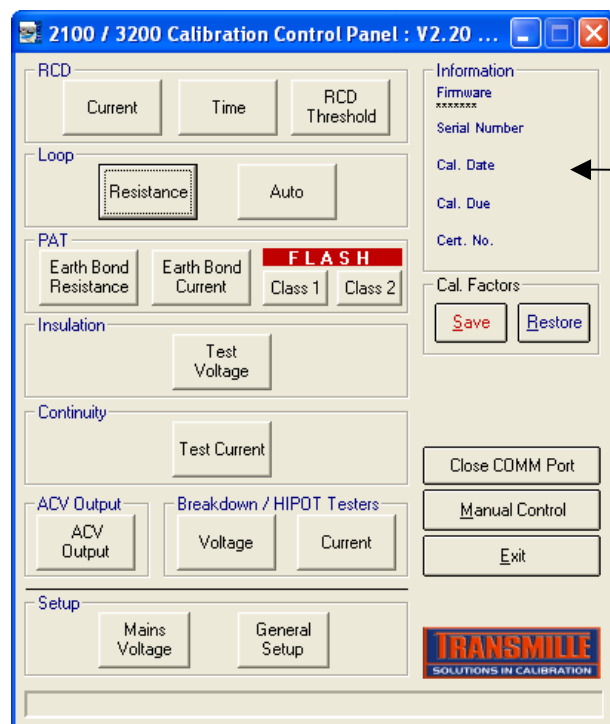
If the program is started without the calibrator connected to the computer, a screen similar to the above screen will be shown. This screen will show the currently selected comm. port highlighted in red. To try to communicate with the calibrator again, simply click on a comm. button :



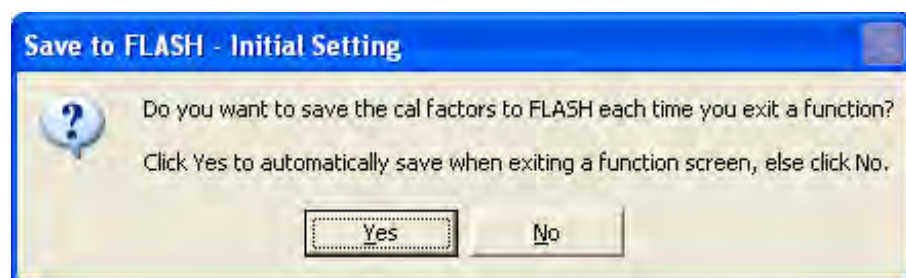
Click a COMM button to try to communicate with the calibrator again (The button highlighted in red is the currently selected comm. port)

Click Exit to quit the program.

Once the COMM port has been selected, the main screen will be displayed as shown below. The functions available for calibration have specific buttons which can be used to perform re-calibration.



Information downloaded from calibrator



Note : Click YES to save the calibration factors automatically

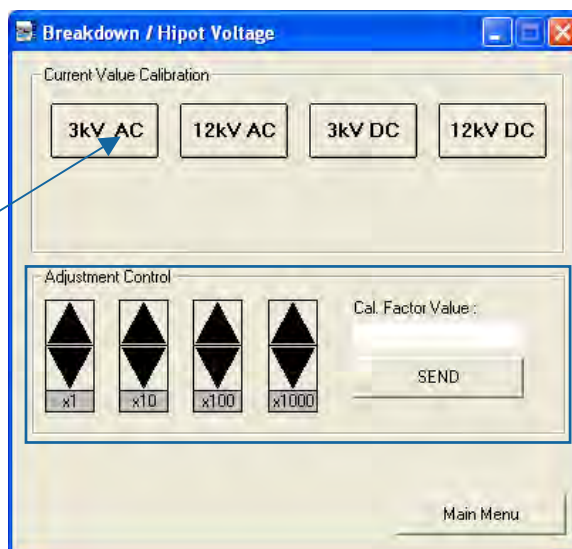
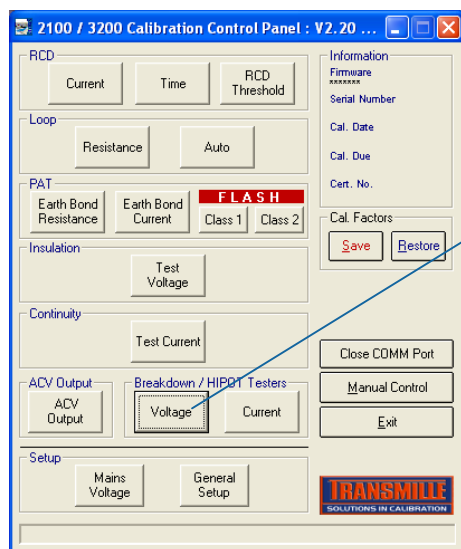
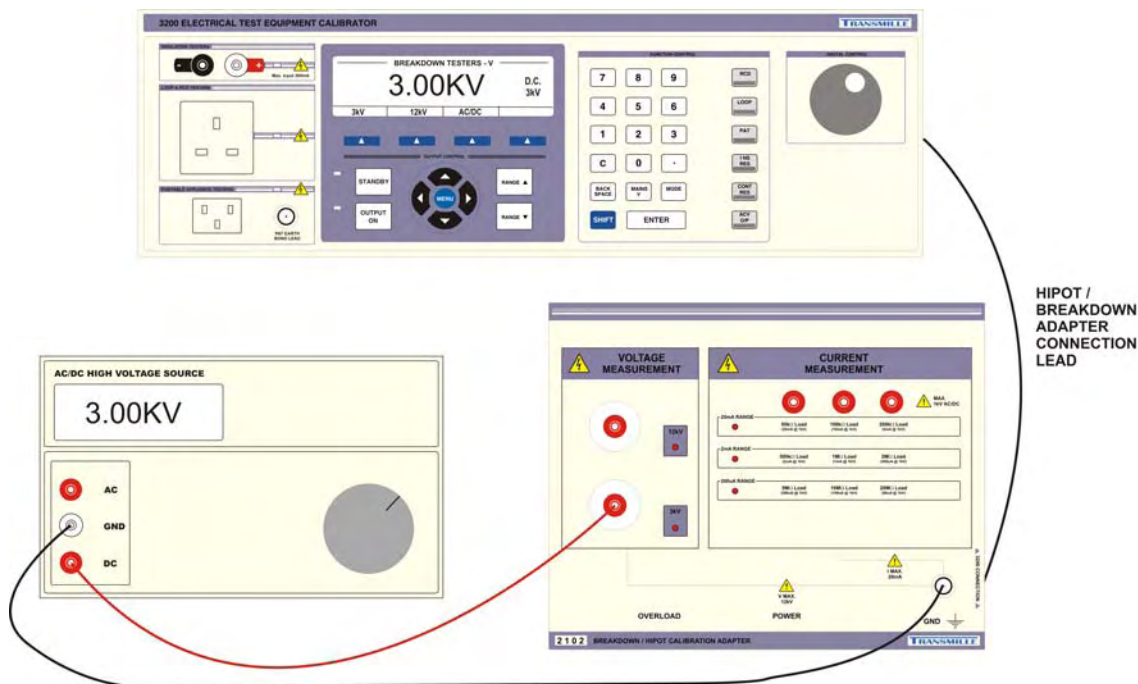
STEP 1 : 3KV DC VOLTAGE MEASUREMENT ADJUSTMENT



WARNING : HIGH VOLTAGE PRESENT ON TERMINALS DURING THIS TEST



The information in this section is intended only for qualified personnel. The user must at all times be adequately protected from electric shock qualified personnel must ensure that operators of the equipment are adequately insulated from connection points.



Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect equipment as per diagram above
2. Select Breakdown / HIPOT tester : Voltage function
3. Select 3kV AC range button - apply 3kV output from HV source observing all precautions
4. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

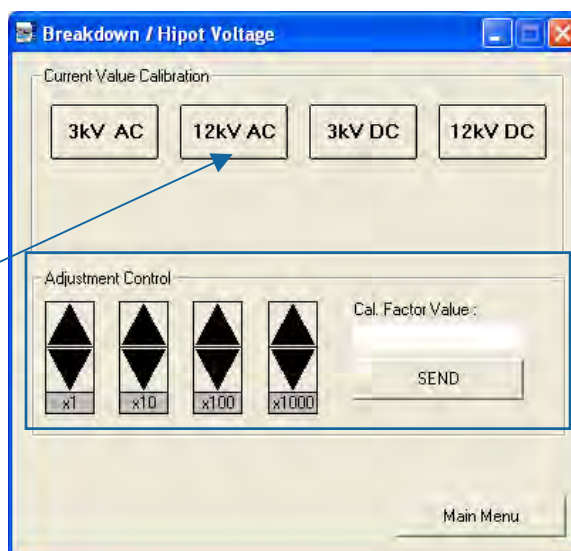
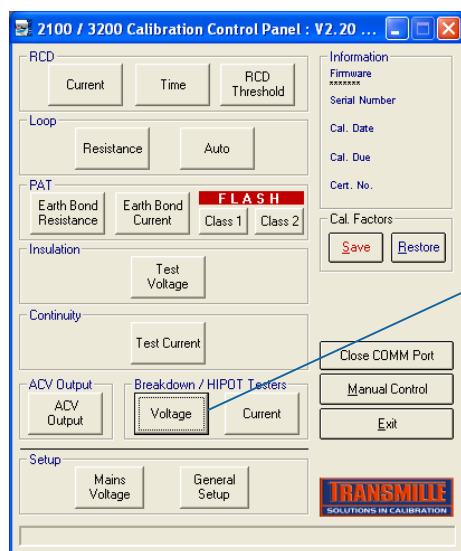
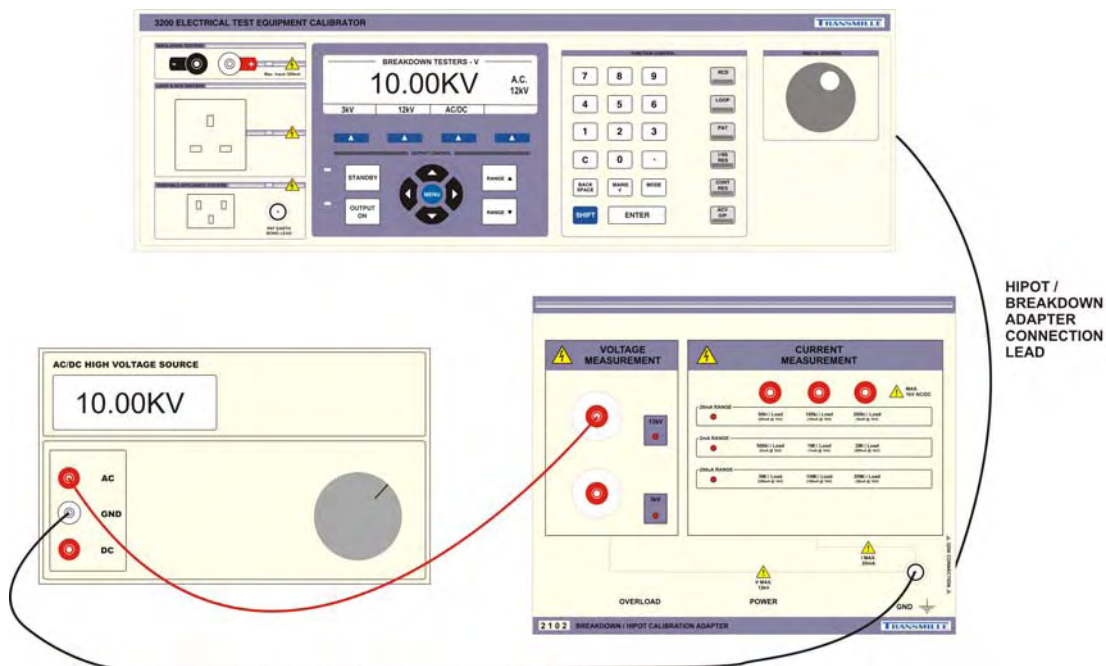
STEP 2 : 12KV AC VOLTAGE MEASUREMENT ADJUSTMENT



WARNING : HIGH VOLTAGE PRESENT ON TERMINALS DURING THIS TEST



The information in this section is intended only for qualified personnel. The user must at all times be adequately protected from electric shock qualified personnel must ensure that operators of the equipment are adequately insulated from connection points.



Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above
2. Select Breakdown / HIPOT tester : Voltage function
3. Select 12kV AC range button - apply 10kV output from HV source observing all precautions
4. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

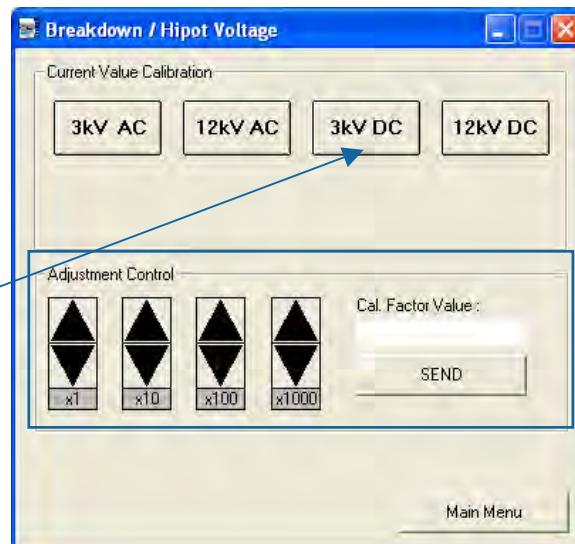
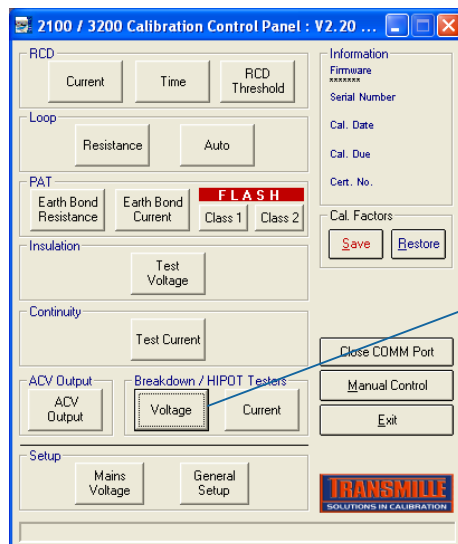
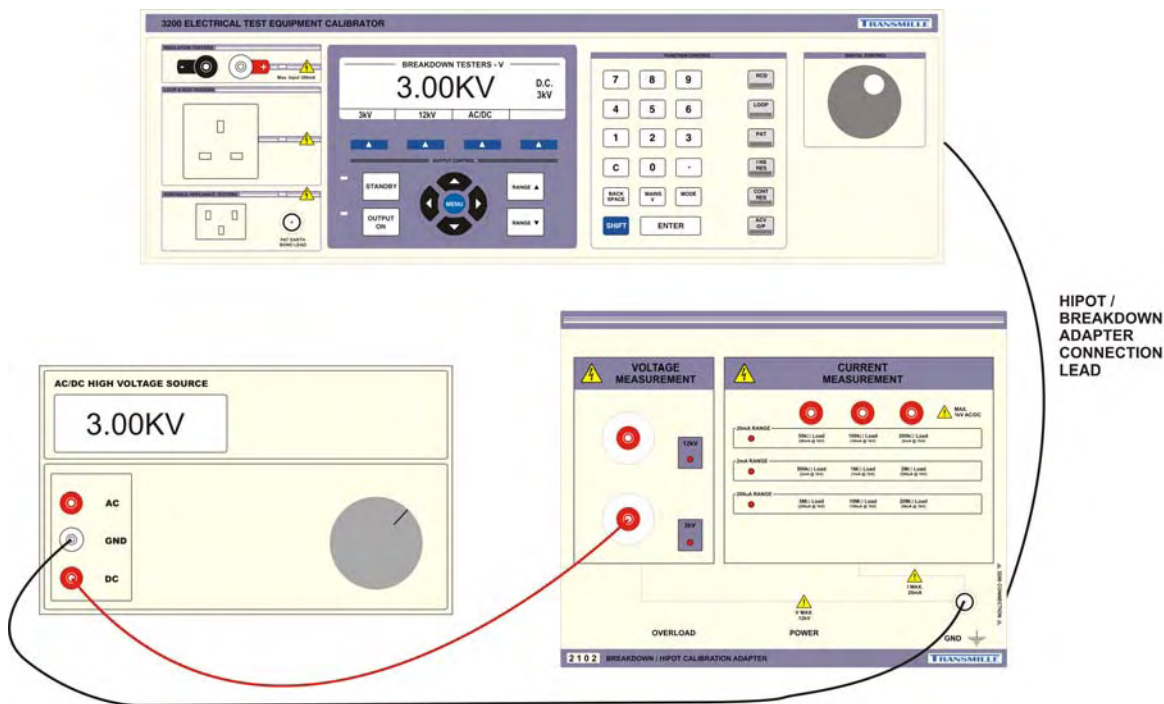
STEP 3 : 3KV DC VOLTAGE MEASUREMENT ADJUSTMENT



WARNING : HIGH VOLTAGE PRESENT ON TERMINALS DURING THIS TEST



The information in this section is intended only for qualified personnel. The user must at all times be adequately protected from electric shock qualified personnel must ensure that operators of the equipment are adequately insulated from connection points.



Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above
2. Select Breakdown / HIPOT tester : Voltage function
3. Select 12kV AC range button - apply 10kV output from HV source observing all precautions
4. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

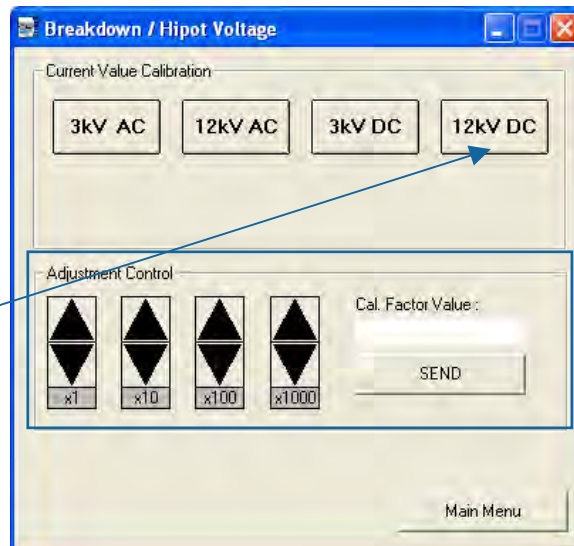
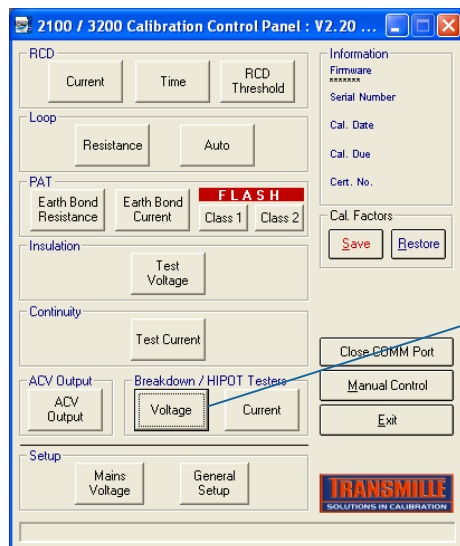
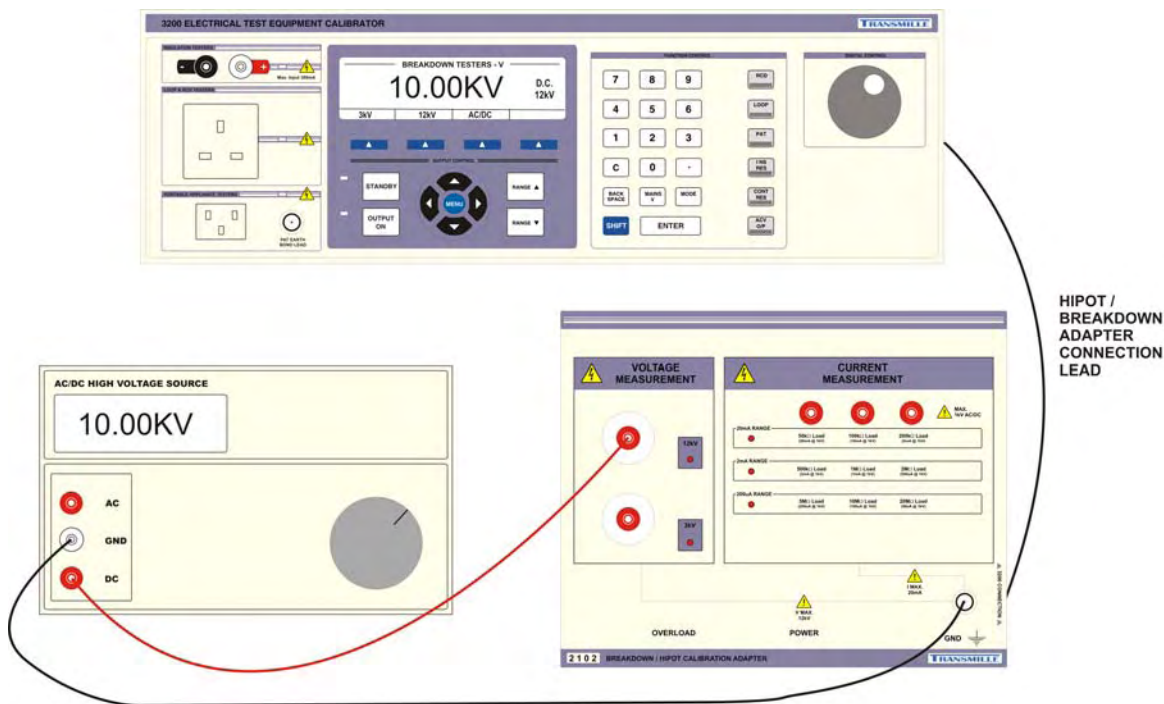
STEP 4 : 12KV DC VOLTAGE MEASUREMENT ADJUSTMENT



WARNING : HIGH VOLTAGE PRESENT ON TERMINALS DURING THIS TEST



The information in this section is intended only for qualified personnel. The user must at all times be adequately protected from electric shock qualified personnel must ensure that operators of the equipment are adequately insulated from connection points.

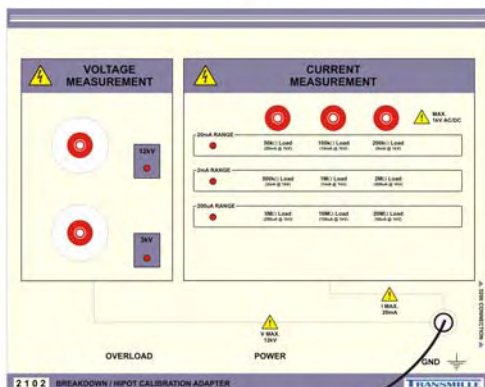
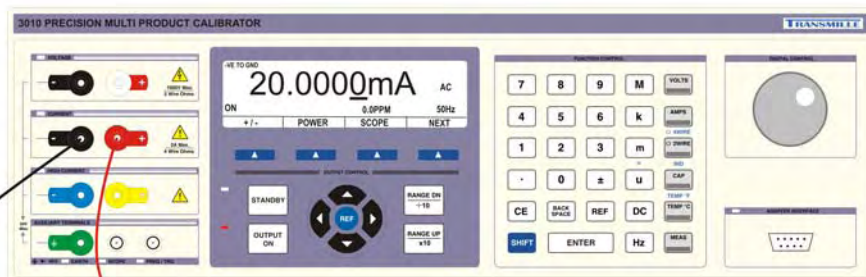
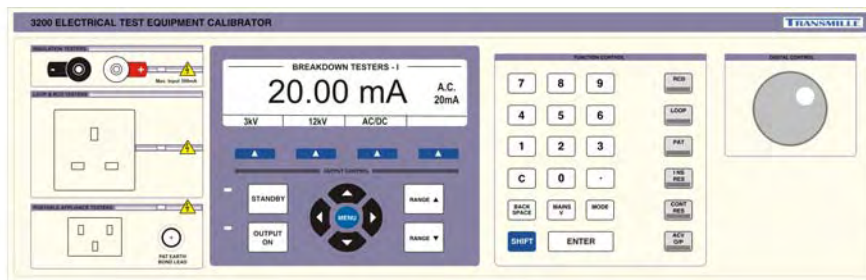


Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

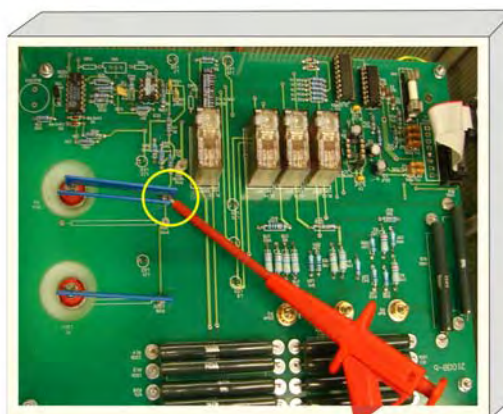
1. Connect as per diagram above
2. Select Breakdown / HIPOT tester : Voltage function
3. Select 12kV AC range button - apply 10kV output from HV source observing all precautions
4. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

STEP 5 : 20mA AC CURRENT MEASUREMENT ADJUSTMENT

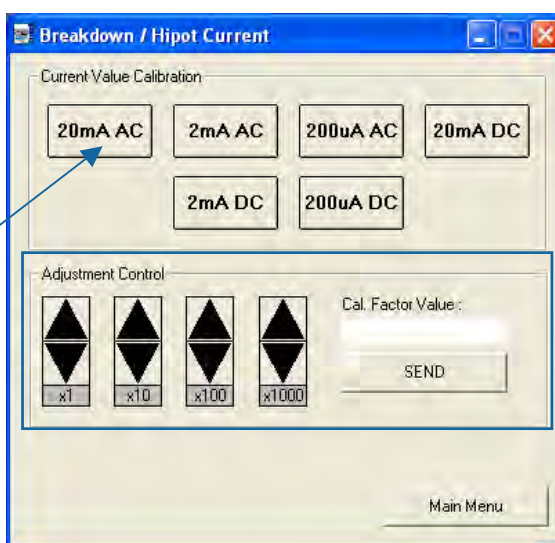
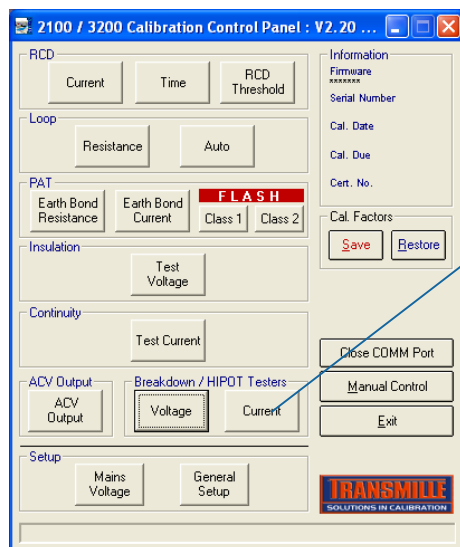


FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER
(REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO
INTERNAL PCB)

HIPOT /
BREAKDOWN
ADAPTER
CONNECTION
LEAD



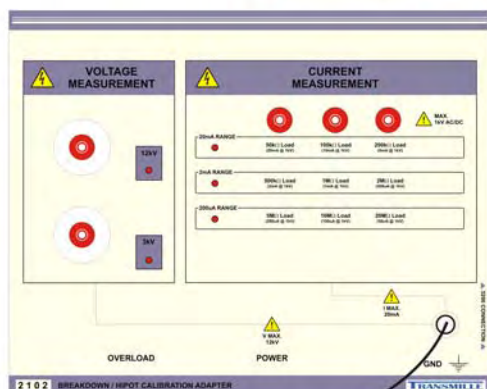
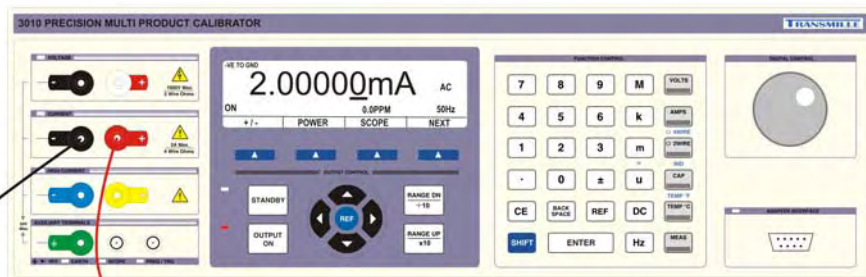
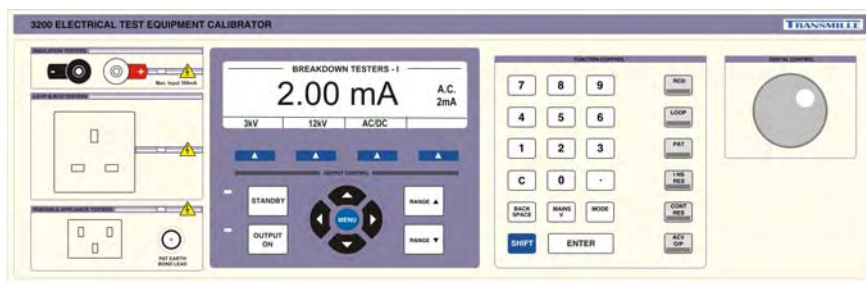
Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 20mA AC range button
4. Apply 20mA AC 50Hz output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

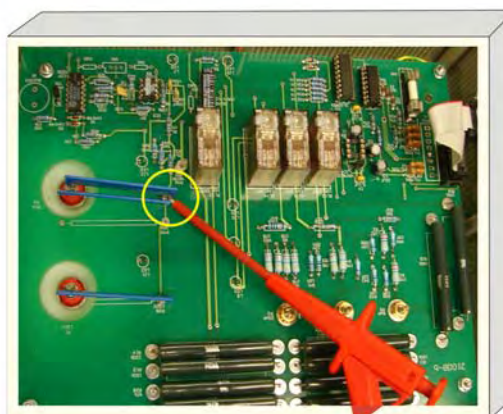
NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.

STEP 6 : 2mA AC CURRENT MEASUREMENT ADJUSTMENT

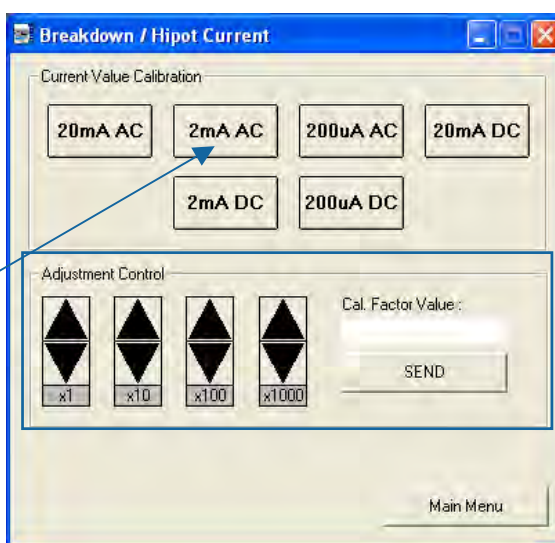
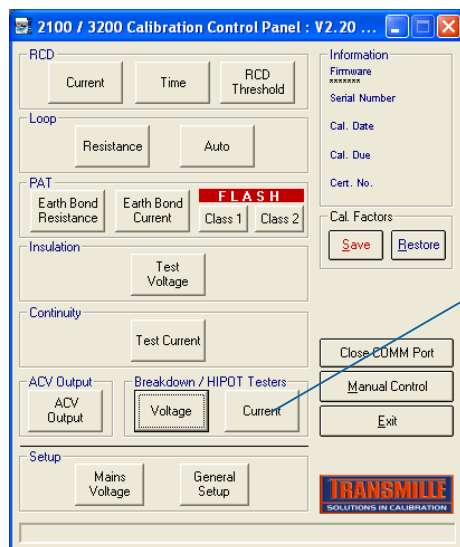


FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER (REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO INTERNAL PCB)

HIPOT / BREAKDOWN ADAPTER CONNECTION LEAD



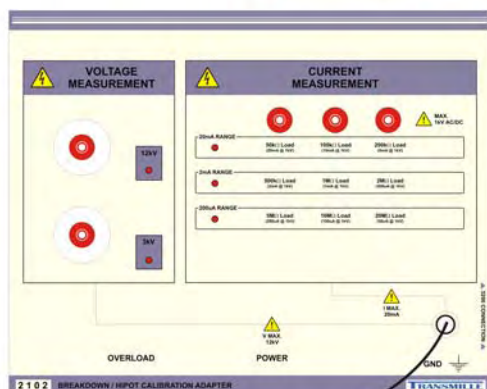
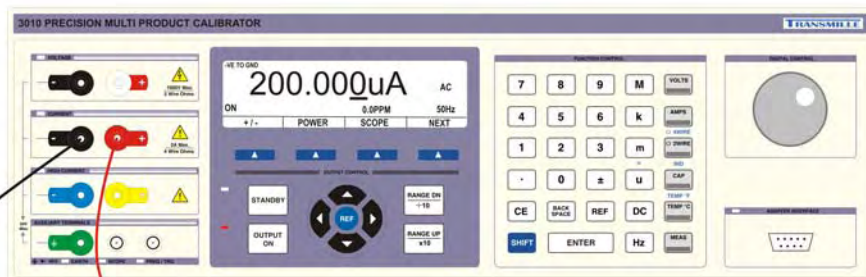
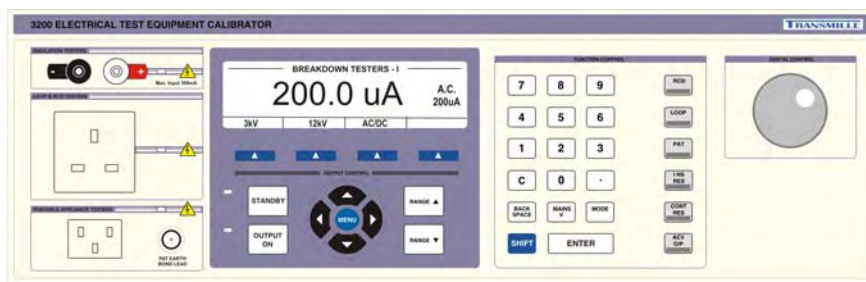
Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 2mA AC range button
4. Apply 2mA AC 50Hz output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

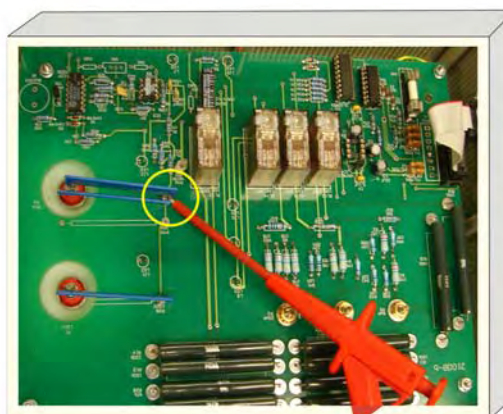
NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.

STEP 7 : 200uA AC CURRENT MEASUREMENT ADJUSTMENT

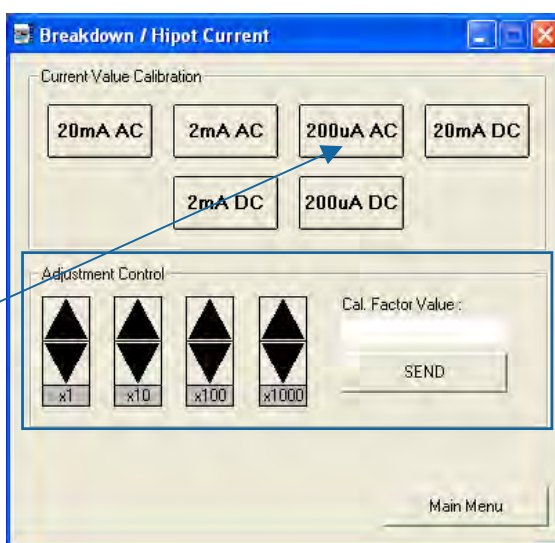
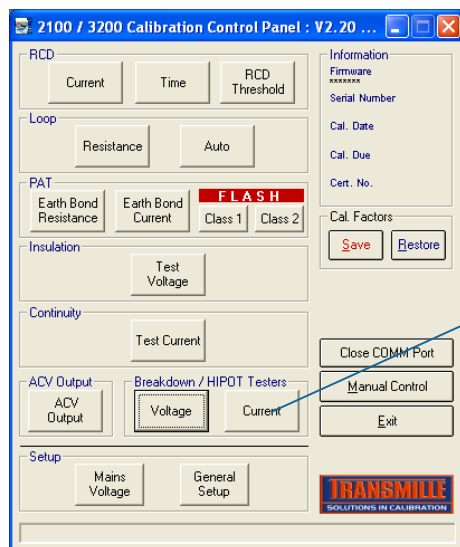


FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER (REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO INTERNAL PCB)

HIPOT / BREAKDOWN ADAPTER CONNECTION LEAD



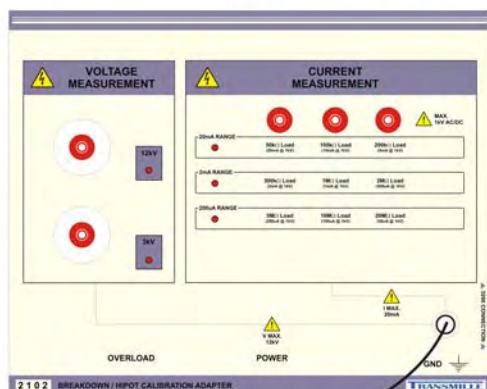
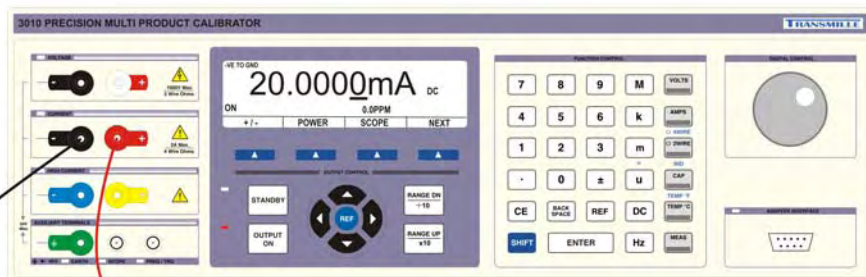
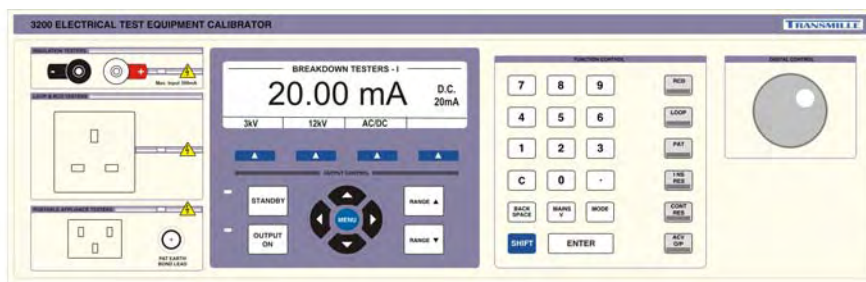
Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 2mA AC range button
4. Apply 2mA AC 50Hz output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

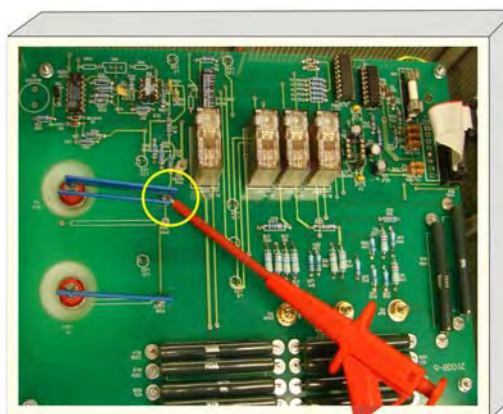
NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.

STEP 8 : 20mA DC CURRENT MEASUREMENT ADJUSTMENT

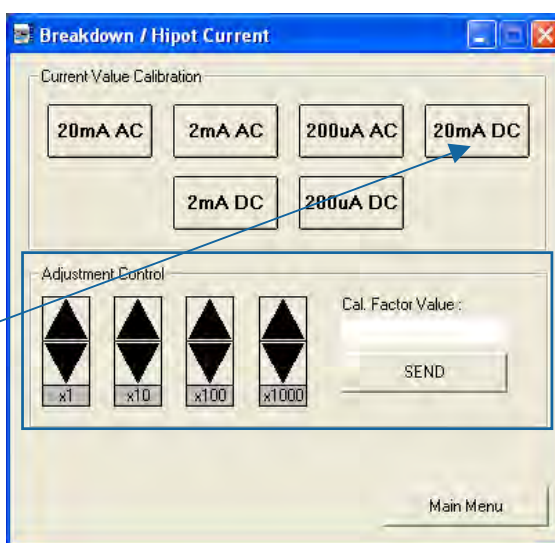
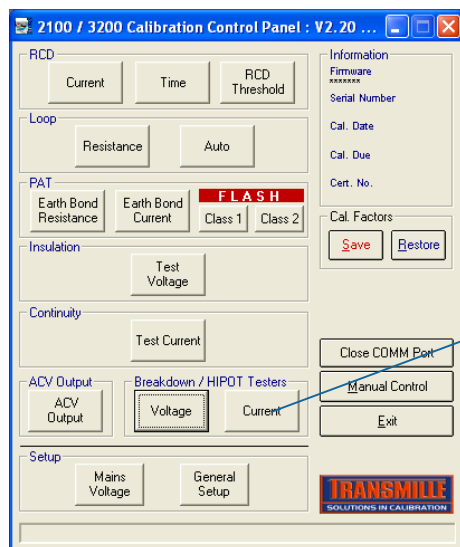


FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER (REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO INTERNAL PCB)

HIPOT / BREAKDOWN ADAPTER CONNECTION LEAD



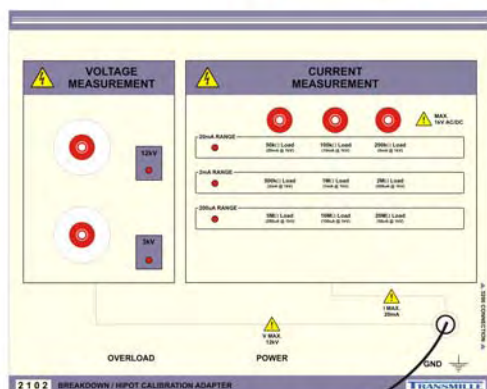
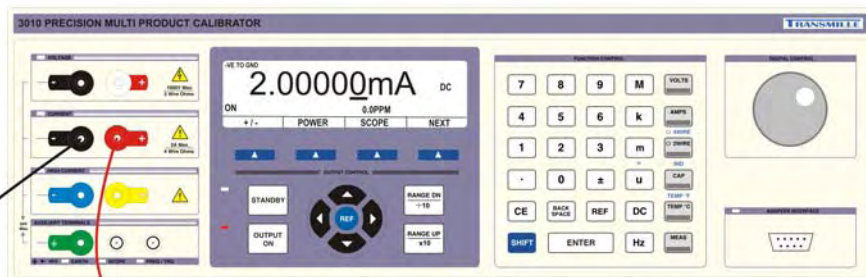
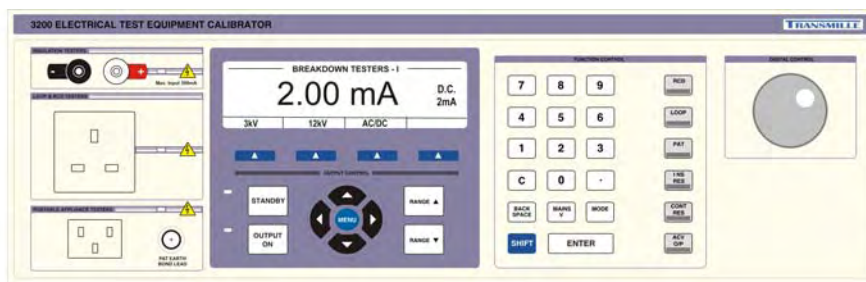
Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 20mA DC range button
4. Apply 20mA DC output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

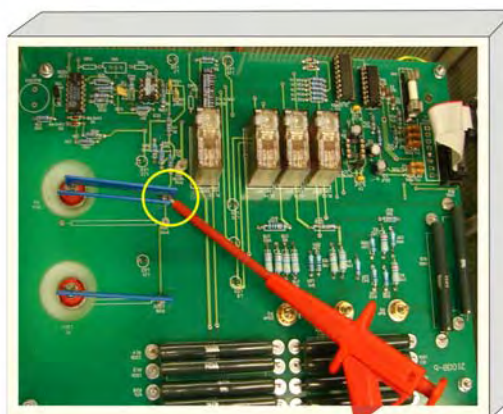
NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.

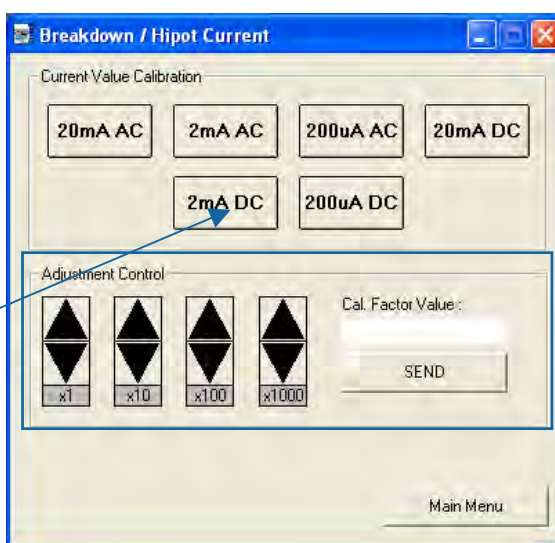
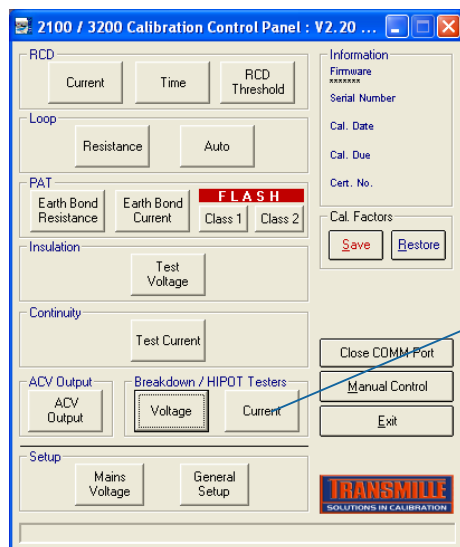
STEP 9 : 2mA DC CURRENT MEASUREMENT ADJUSTMENT



FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER (REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO INTERNAL PCB)



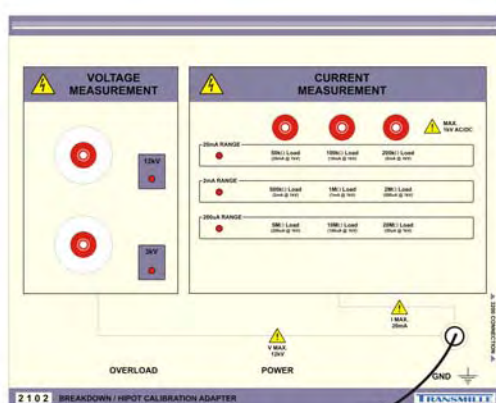
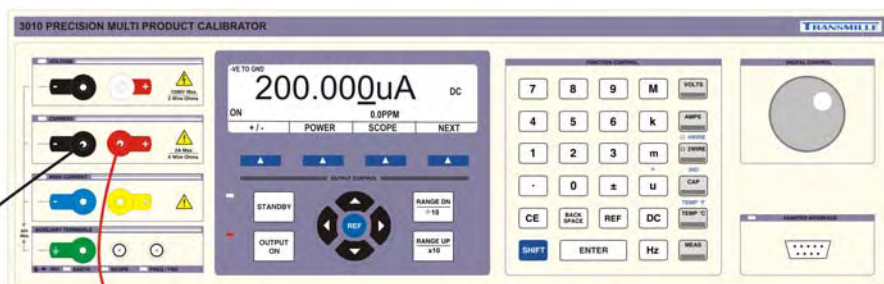
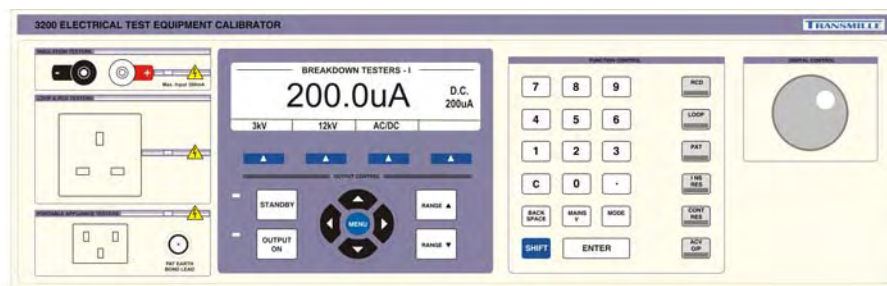
Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 2mA DC range button
4. Apply 2mA DC output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

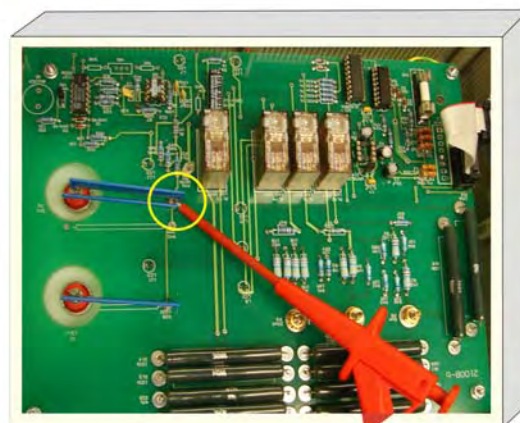
NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.

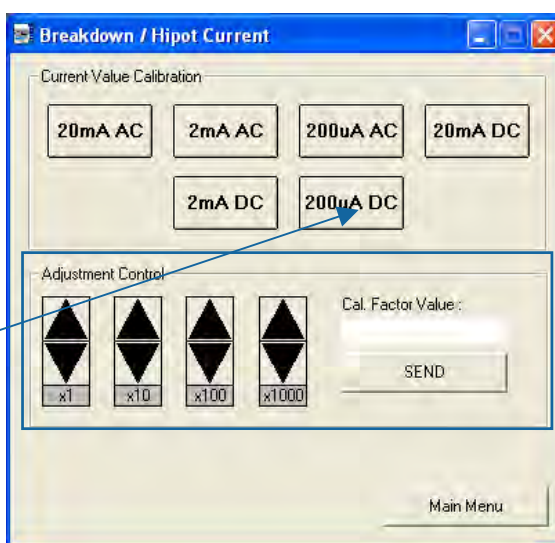
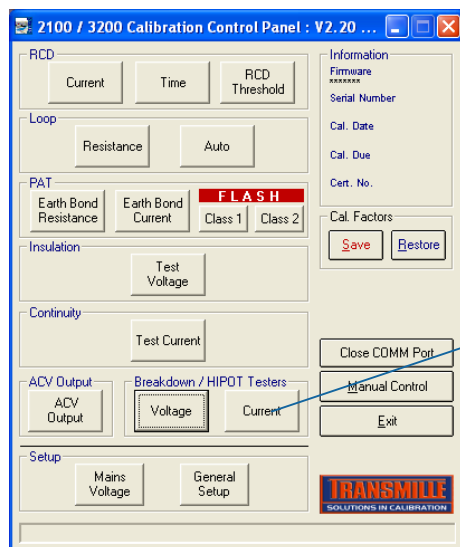
STEP 10 : 200uA DC CURRENT MEASUREMENT ADJUSTMENT



FRONT OF 2102 BREAKDOWN/HIPOT ADAPTER



REAR OF 2102 BREAKDOWN/HIPOT ADAPTER
(REMOVE 8 REAR PANEL SCREWS TO GAIN ACCESS TO INTERNAL PCB)



Adjust reading on 3200 using the up/down controls in the adjustment control section – adjustment is not applied until the SEND button is pressed.

1. Connect as per diagram above, using probe to connect to resistor inside rear cover of adapter as shown
2. Select Breakdown / HIPOT tester : Current function on the calibration control panel software
3. Select 200uA DC range button
4. Apply 200uA DC output from calibrator and press OUTPUT ON
5. Adjust reading on 3200 using the adjustment control up/down buttons – note the adjustment will not be applied until the SEND button is pressed

NOTE : When the send button is pressed, the 3200 will return to the *main menu* to store the calibration factor, then return back to the high voltage measurement function – this is normal operation.

The calibrator will return to standby when the SEND button is pressed – to continue checking / adjusting the 3200 it is necessary to press the OUTPUT ON button on the calibrator after the SEND button on the software is pressed.