



Guardian 6100 Condensed Operating Instructions for Quick Start Example

CAUTION

These Condensed Operating Instructions are for illustrative purposes only. The Guardian 6100 Instruction Manual should be read in its [entirety](#) for full programming and connection instructions.

This example illustrates a Ground Bond (GR) test followed by an AC Hipot (WAC) test and then an Earth Line Leakage Current (LC) test. A Ground Bond test is performed first to ensure good GND connection. The Hipot test is second to ensure the DUT is not shorted. Prior to connecting the device under test to the instrument, program the 3-Step test as follows: **GR test:** $I=25A$, $R_{HIGH}=100m\Omega$ and $T_{TEST}=1.0s$. **WAC test:** $V=1250V$, $I_{HIGH}=10mA$, $I_{LOW}=0$, $T_{TEST}=1.0s$, and $T_{RAMP}=1.0s$. **LC test:** Device=D4 UL2601-1, Line=Normal, $I_{HIGH}=500\mu A$, $I_{LOW}=0\mu A$, Power=Voltage, $V_{HIGH}=0V$, $V_{LOW}=0V$ and $T_{TEST}=10.0s$.

1. Program the Ground Bond (GR) Test:

Press [PROG]

Select Step = 1
1-99 (UP/DOWN)

Select Test STEP. Press UP or DOWN arrow to enter test step =1

Press [ENTER]

Select Mode = GR
Press UP/DOWN

Select Test MODE. Press UP arrow to display GR

Press [ENTER]

Current = 25.00A
1 - 30A

Select CURRENT. Press [2] [5] [.] [0] to enter test current = 25A

Press [ENTER]

High Limit = 100.0m Ω
0.1 - 510m Ω

Select HIGH Limit (m Ω). Press [1] [0] [0] [.] [0] to enter High Limit = 100m Ω

Press [ENTER]

Low Limit = Disable
0.1-510m Ω 0=Disable

Select LOW Limit (m Ω). Press [0] to enter Low Limit = 0m Ω

Press [ENTER]

Test Time = _10.0s
0 -999s 0 = Disable

Select Test TIME (sec). Press [1] [.] [0] to enter Test Time = 1sec

Press [ENTER]

Select Step = 2
1-99 (UP/DOWN)

GR TEST SETUP IS COMPLETE. Select Step = 2. Continue with AC hipot test.



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2. Program the AC Hipot (WAC) Test:

Continued from Previous Page (Step 2 selected):

Press [ENTER]

Select Mode = WAC
Press UP/DOWN

Select Test MODE. Press UP arrow to display WAC

Press [ENTER]

High = 1
Box-1 Channel (1, 3)

Select N-OUT & L-OUT as HIGH Channels.

Press [ENTER]

Low = Disable
Box-1 Channel (3, 3)

Select LOW Channel = Off (Disable)

Press [ENTER]

Voltage = 1.200kV
0.05 - 5.00 kV

Select Test Voltage. Press [1][.][2][0] to enter voltage = 1.2kV

Press [ENTER]

High Limit = 1.500mA
0.001 40 mA

Select High Limit (mA). Press [1][.][5][0] to enter high current limit = 1.5mA

Press [ENTER]

Low Limit = Disable
0-40mA 0=Disable

Select Low Limit (mA)

Press [ENTER]

Arc Limit = Disable
0-40mA 0=Disable

Select Arc Limit. Press [0] to disable arc limit

Press [ENTER]

Test Time = 10.0s
0 - 999s 0=Disable

Select Test Time (sec). Press [3][.][0] to enter time = 3.0sec

Press [ENTER]

Ramp Time = 1.0s
0 - 999s 0=Disable

Select Ramp Time (sec). Press [1][.][0] to enter time = 1.0sec

Press [ENTER]

Select Step = 3
1-99 (UP/DOWN)

AC Hipot TEST SETUP IS COMPLETE. Select Step = 3. Continue with Leakage (LC) Test.



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3. Program the Earth Line Leakage (LC) Test:

Continued from Previous Page (Step 3 selected):

[ENTER]

Select Test Mode

Press UP arrow key to display LC

[ENTER]

Select Human Body Model

Press UP arrow key to display model # = UL2601-1

[ENTER]

Select Line (Fault Simulation)

Press UP arrow key to display line = NORMAL

[ENTER]

Select Ground Switch status

Press UP arrow key to select OFF

[ENTER]

Select Meter connection

[ENTER]

Select Low Channel

[ENTER]

Select High Limit

Press [0][.][5] to enter high current limit = 0.500mA

[ENTER]

Select Low Limit

[ENTER]

Select DUT Power Monitor

Press UP arrow key to display power mode = Voltage

[ENTER]

Select High Limit

Press [0] to enter high power limit = 0V (Disabled)

[ENTER]

Select Low Limit

Press [0] to enter low power limit = 0V (Disabled)

[ENTER]

Select Test Time

Press [1][0][.][0] to enter test time = 10 seconds

[ENTER]

Exit Programming Mode

Press [PROG] to return to measuring function

[PROG]

Select Mode = LC
Press (UP/DOWN)

Device = D1 UL544NP
Select by UP/DOWN

Line = LO NORMAL
Select by UP/DOWN

Ground Switch = Off
Select by UP/DOWN

Meter = M0 L-G
Select by UP/DOWN

Low = Disable
Box -1 Channel (3-3)

High Limit = 9.999mA
0.0001 - 9.999mA

Low Limit = Disable
0.0001 - 9.999mA

POWER = Voltage
Select by Up/DOWN

Voltage High = Disable
0 - 300 V 0=Disable

Voltage Low = Disable
0 - 300 V 0 = Disable

Test Time = 3.0 s
0 - 999 s 0 = Disable

Select Step = 4
1-99 (UP/DOWN)

STEP - 01 1.0 s
25.00A GR 100.0mΩ

D0 OFF
D1 UL544NP
D2 UL544P
D3 UL1563
D4 UL2601-1
D5 UL1950

L0 Normal
L1 Reverse
L2 SF-Normal
L3 SF-Reverse

M0 L-G
M1 L-P2
M2 P1-P2

END TEST SETUP. Connect Device Under Test.

4. Connection to DUT:

Connect the device under test (DUT) to the 6100 instrument as illustrated in Figure 1. The black leads of the G30 Corded Product Adaptor are connected to the black 'Optional Rear Panel Output' Drive and Sense terminals. The red/white leads of the G30 are connected to the 6000-05 Line Leakage Scanner L-OUT and N-OUT terminals. The red G15 spade and banana leads are connected to the red 'Optional Rear Panel Output' Drive and Sense terminals. The red G15 alligator clip is connected to the case of the DUT. The G31 500VA (or G32 1000VA) Isolation Transformer is connected to the 6000-05 Line Input terminals. The DUT is then plugged into the G30 Corded Product Adaptor.

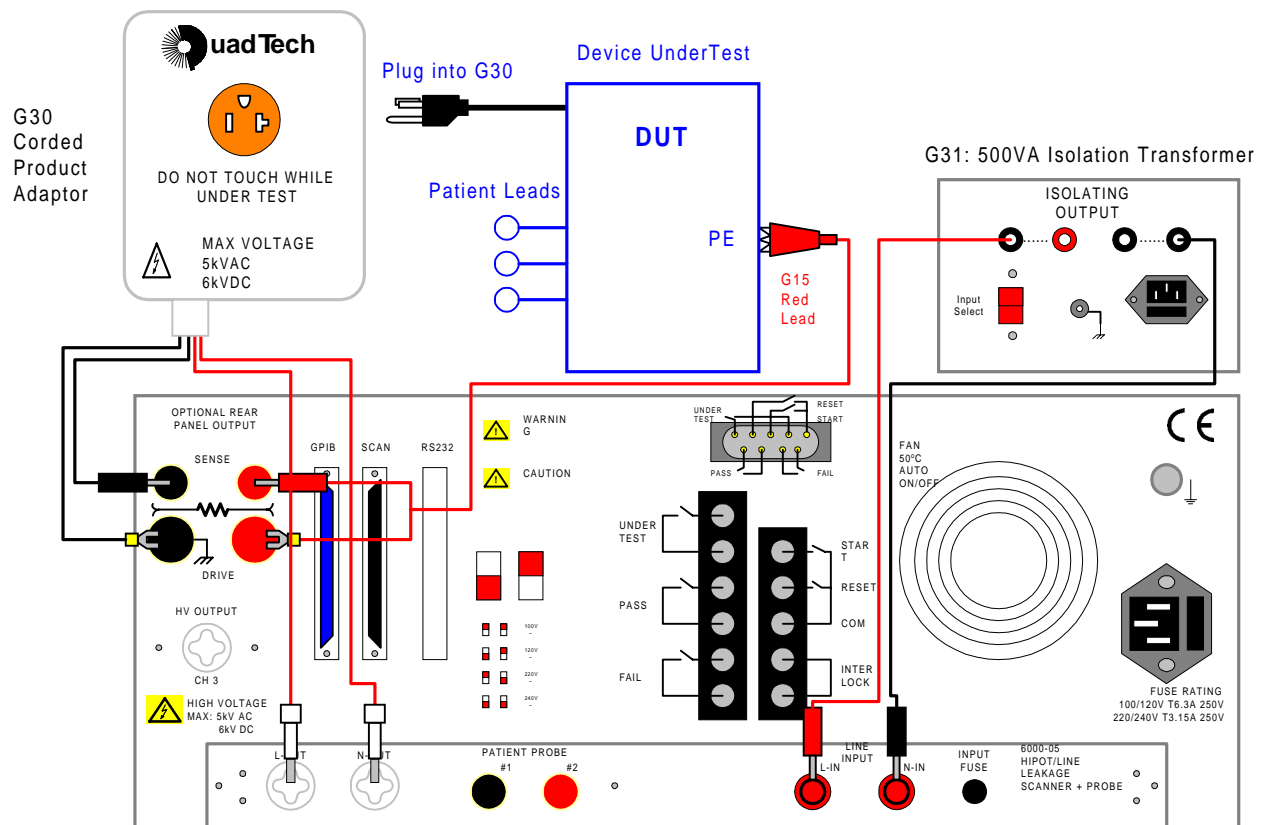


Figure 1: Connection of Guardian 6100 to DUT

5. Initiate Test:



Hands away from DUT, all cables and the 6100 instrument.
 Press **[START]** button.
 Pressing **[STOP]** at any time will terminate the voltage output at the test terminals.

