

Connection of Isolation Transformer to Safety Tester



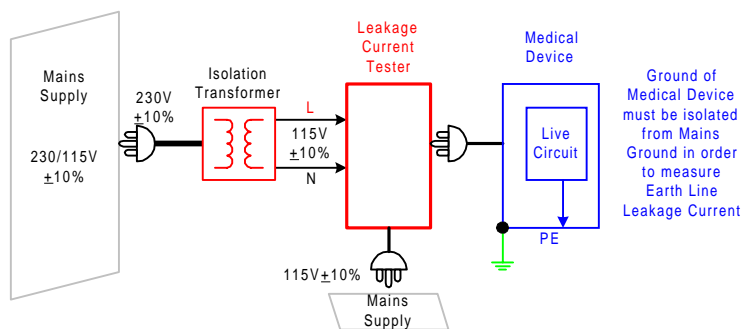
IEC609601-1 specifies the use of an isolation transformer for leakage tests. An isolation transformer (also known as a mains supply transformer) serves to isolate the measuring circuit from potential variations in phase of the AC line voltage (i.e. mains supply voltage). The isolation transformer segregates the neutral line from earth allowing the leakage current to be measured from reference earth not from mains earth.

Figure 1: G31 500VA Isolation Transformer

The Guardian 6100 Electrical Safety Analyzer 5-in-1 Tester is commonly paired with the G31 500VA and G32 1000VA Isolation Transformers for leakage current testing. The isolation transformer is connected between the Mains Voltage (building) and the Electrical Safety Tester. The G31 isolates the power to the DUT from variations in the line (or mains) voltage. The isolation transformer can be used to step down the voltage from 230V AC to 115V AC and keep that constant 115V AC to the G6100 Electrical Safety Analyzer.



Figure 2: G6100 Electrical Safety Analyzer



Since the transformer serves to isolate the DUT power from variations in the line (or mains) voltage, the terms ‘isolating transformer’ and ‘mains supply transformer’ have both been used to describe this device.

Figure 3: Isolation Transformer for Mains Segregation

Connection of G31 to G6100

Figure 4 illustrates the connection of the QuadTech Guardian 6100 Electrical Safety Analyzer (with 6000-04 Leakage Scanner) for an earth leakage current test. Earth Leakage current is the leakage current from all earthed parts of the DUT, i.e. the current flowing from mains supply through or across insulation into the Protective Earth (PE) conductor. The 'Input Select' on the rear of the G31 Isolation Transformer is set to the Mains Voltage into the building (example: 230V AC). The 'Output Select' on the front of the G31 Isolation transformer is set to the voltage the DUT will be powered with (example: 115V AC). Therefore, the G31 Isolation Transformer sits between the incoming 230V Mains Supply to hold the DUT constant at 115V for the leakage current test.

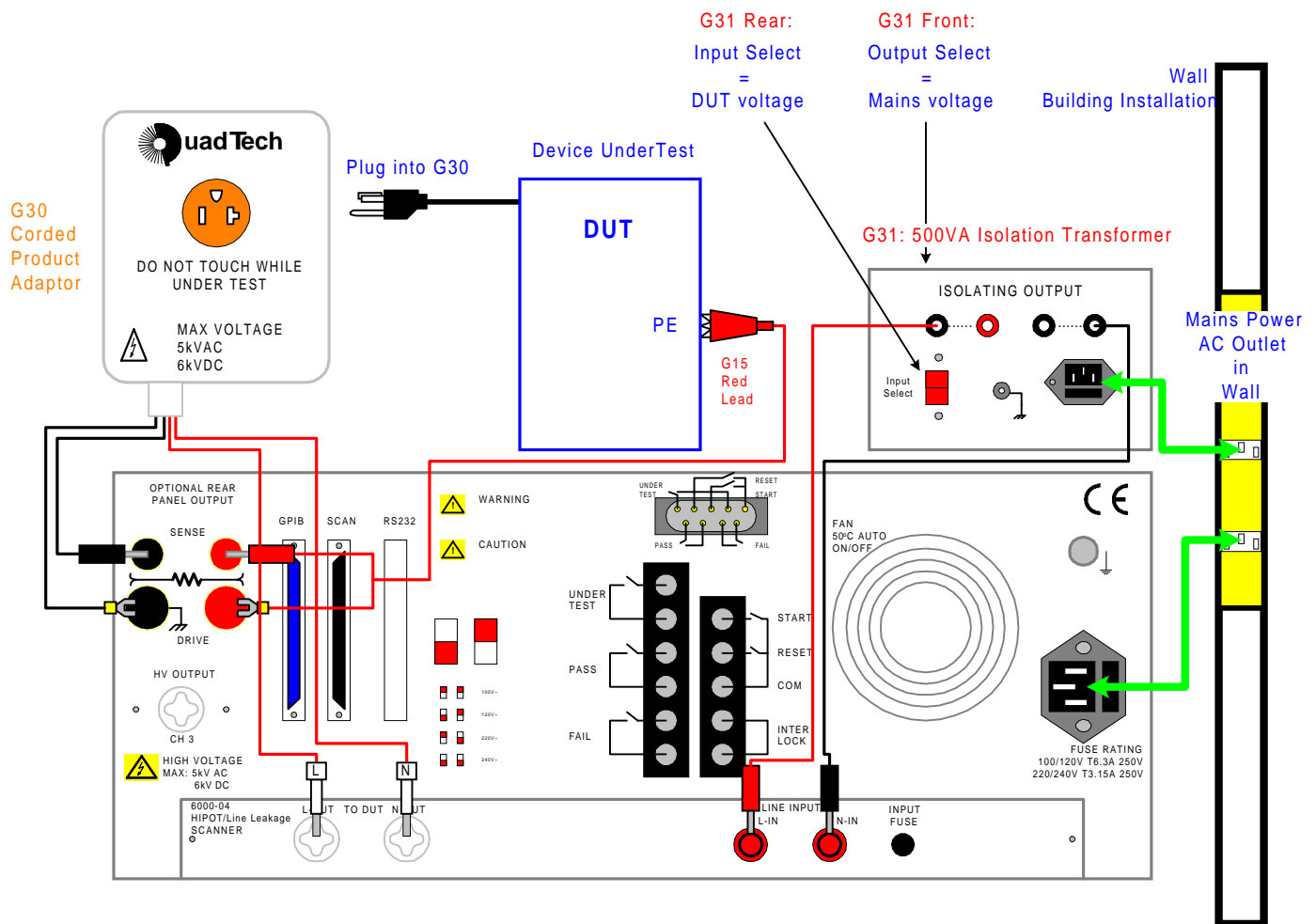


Figure 4: Connection of G31 Isolation Transformer to G6100 Electrical Safety Analyzer

For complete product specifications on the 6000 Series of Electrical Safety Analyzers or any of QuadTech's products, visit us at <http://www.quadtech.com/products>. Call us at 1-800-253-1230 or email your questions to info@quadtech.com.

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