

Manual Supplement

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This supplement contains information necessary to ensure the accuracy of the above manual. This manual is distributed as an electronic manual on the following CD-ROM:

CD Title:	ESA615
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CD PN:	4105850

FLUKE[®]

Biomedical

Change #1, 62104, 62223

On page 19, prior to **Mains Voltage Test**, add the following Note:

Note

The standard set in the setup menu applies to all manual measurement modes. The Automated tests use the standard set for the selected test sequence.

On page 61, below the first paragraph add the following Note:

Note

The product can show the last 200 test results. All results saved on the instrument can be exported to a PC.

On page 62, replace Table 6 with:

Table 6. Factory Supplied Test Sequences

Test Sequence	Description ^[1]
60601 3rd Patient Monitor	3 rd Ed., Class I, 5 ECG
60601 3rd Defibrillator	3 rd Ed., Class I, 2 Paddles and 3 ECG
60601 3rd Infusion Device	3 rd Ed., Class II, 1 No AP
60601 3rd Ultrasound Device	3 rd Ed., Class I, 1 Probe
60601 3rd Generic Device	3 rd Ed., Class I, No AP
60601 3rd System	3 rd Ed., Class I, No AP
62353-Alt. Patient Monitor	Class I, 5 ECG
62353-Alt. Defibrillator	Class I, 2 Paddles and 3 ECG
62353-Alt. Infusion Device	Class II, 1 No-AP
62353-Alt. Ultrasound Device	Class I, 1 Probe
62353-Alt. Generic Device	Class I, No AP
NFPA99 Patient Monitor	Class I, 5 ECG

Table 6. Factory Supplied Test Sequences (cont.)	
Test Sequence	Description ^[1]
NFPA99 Defibrillator	Class I, 2 Paddles and 3 ECG
NFPA99 Infusion Device	Class II, 1 No AP
NFPA99 Ultrasound Device	Class I, 1 Probe
NFPA99 Generic Device	Class I, No AP
ANSI/AAMI ES-1 Patient Monitor	Class I, 5 ECG
ANSI/AAMI ES-1 Defibrillator	Class I, 2 Paddles and 3 ECG
ANSI/AAMI ES-1 Infusion Device	Class II, 1 No AP
ANSI/AAMI ES-1 Ultrasound Device	Class I, 1 Probe
ANSI/AAMI ES-1 Generic Device	Class I, No AP
[1] Class designations refer to applicable electrical safety standard definitions for devices, not FDA medical device definitions.	

On page 64, under the second step 3, after the 3rd paragraph add the following Note:

Note

A USB keyboard or barcode reader can be used to type in the A.P. name.

On page 65, following step 5 add:

Note

A USB keyboard or barcode reader can be used to edit the test sequence name.

On page 66, replace Table 7 with and add a note after the Table:

Table 7. Test Settings for Test Sequences

Test Setting	Description	Default Value
Pause after power on	If set to yes, delays the start of the test by the time set in the Power on delay parameter when power is applied to the DUT.	No
Pause before power off	If set to yes, delays the start of the test by the time set in the Power off delay parameter when power is removed from the DUT.	No
Power on delay	The time the Product will wait before it does the subsequent step after power is applied to the DUT. The range is 0 to 9999 seconds.	2 sec
Power off delay	The time the Product will wait before it does the subsequent step after power is removed from the DUT. The range is 0 to 9999 seconds.	0 sec
Test Speed	When set to Normal, the Product does a leakage current measurement in 5	Normal

	seconds and an insulation resistance test in 1 minute. When set to Rapid, the Product measures leakage current as fast as possible and an insulation resistance test in 3 seconds.	
Test Mode	When set to Automatic, the Product does each test sequence step automatically. When set to Step-by-Step, you must push the Next Step softkey to move to the subsequent step in the sequence.	Automatic
Halt on Test Failure	When set to Yes, the Product stops the test sequence when a fault is sensed.	Yes
Multiple PE Tests	If set to Yes, the Product prompts you to repeat PE tests or continue.	No
Multiple Non-Earth Leakage	If set to Yes, the Product prompts you to repeat non-earth leakage tests or continue.	No
Patient Lead Records storage ^[1]	When set to Store all, all results are put into the test results. If set to Store worst/last, only the worst measured value is put into the test results. If set to store worst/last and all measured values are the same, then the last value is put into the test results.	Store worst/last
Insulation Test Voltage	Sets the insulation test voltage to 250 V dc or 500 V dc.	500 V dc
Reverse Polarity	If set to No, reverse polarity tests will be skipped.	Yes
[1] Applies to leakage current tests only.		

Note

You can change the Test Speed parameter on a test sequence to decrease the time necessary to do a test sequence.

On page 68, following step 6 add the following Note:

Note

A USB keyboard or barcode reader can be used to edit the test sequence name.

On page 69, following step 3, replace the Note with:

Note

Push softkey F1 to toggle between an A to Z, Z to A or by date sort of the test sequences.

On page 69, replace step 5 with:

5. Push the next **Next** softkey.

On page 69, at the bottom of the page add the following Note:

Note

A USB keyboard or barcode reader can be used to type in the Device Under Test information. You can use a barcode reader to automatically move through each field if it automatically sends a carriage return.

On page 70, replace the third paragraph with the following:

To add comments when a test step ends, push the Add Comments softkey. When you see individual results of a Test Summary, you can push the Add Notes softkey to type in more information about the test step.

On page 70, following step 6 add the following Note:

Note

A USB keyboard or barcode reader can be used to edit the test results name.

On page 76, under **Specifications**, replace the **Altitude** and **Power** with:

Altitude

100 V/115 V ac mains supply voltage. 5000 m
230 V ac mains supply voltage..... 2000 m

Power

100 V/115 V power outlet 90 to 132 V ac rms, 47 to 63 Hz, 20 A maximum
230 V power outlet..... 180 to 264 V ac rms, 47 to 63 Hz, 16 A maximum

On page 77, under **Detailed Specifications**, replace the **Voltage** section with:

Voltage

Ranges (Mains voltage) 90.0 V to 132.0 V ac rms
180.0 V to 264.0 V ac rms

Range (Point-to-point voltage)

5000 m 0.0 V to ≤ 150 V ac rms

2000 m 0.0 V to ≤ 300.0 V ac rms

Accuracy $\pm(2\%$ of reading + 0.2 V)

On page 80, replace **Factory-Supplied Test Sequences** with:

Factory-Supplied Test Sequences

- 60601 3rd Edition Patient Monitor
- 60601 3rd Edition Defibrillator
- 60601 3rd Edition Infusion Pump
- 60601 3rd Edition Ultrasound Device
- 60601 3rd Edition Generic Device
- 60601 3rd Edition System
- 62353-Alt. Patient Monitor
- 62353-Alt. Defibrillator
- 62353-Alt. Infusion Pump
- 62353-Alt. Ultrasound Device
- 62353-Alt Generic Device
- NFPA99 Patient Monitor
- NFPA99 Defibrillator
- NFPA99 Infusion Pump
- NFPA99 Ultrasound Device
- NFPA99 Generic Device
- ANSI/AAMI ES-1 Patient Monitor
- ANSI/AAMI ES-1 Defibrillator
- ANSI/AAMI ES-1 Infusion Pump
- ANSI/AAMI ES-1 Ultrasound Device
- ANSI/AAMI ES-1 Generic Device

Change #2

On page 12, replace Figure 5 with:

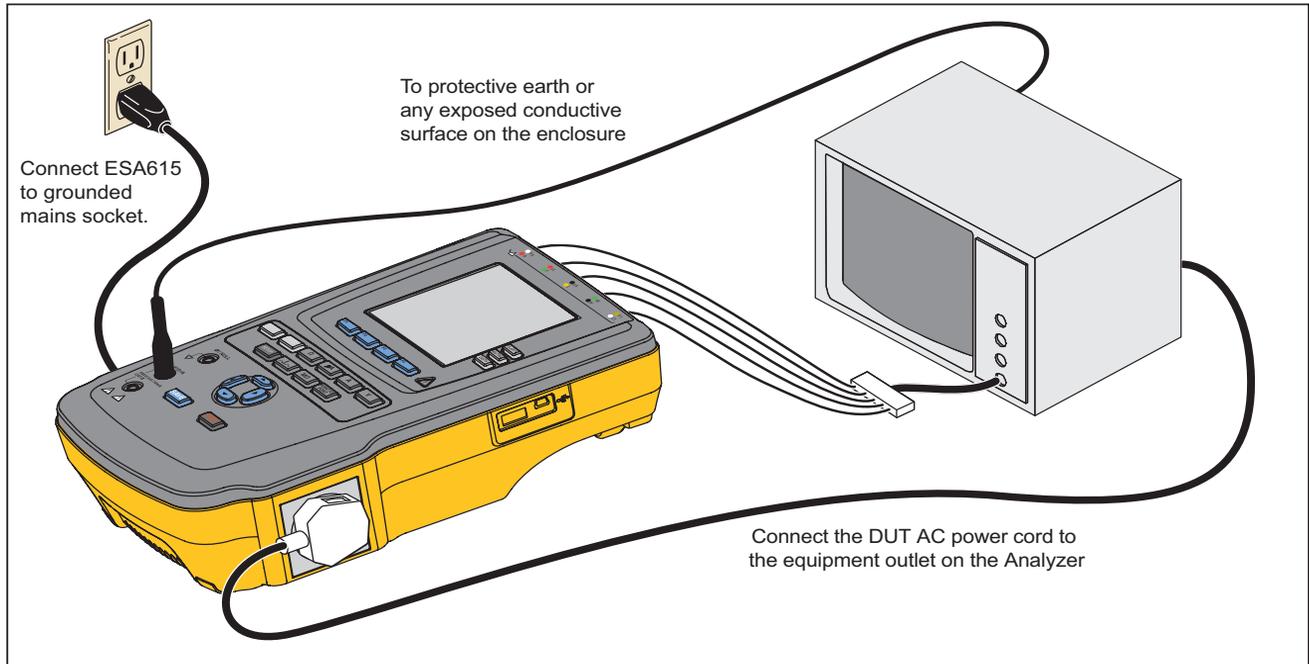


Figure 5. DUT Connections to the Product

On page 14, replace Figure 7 and add the ***How to connect a PC to the Product.***

How to Connect a PC to the Product

To connect the Product to a PC:

Connect a USB port on your PC or laptop to the Mini B USB device port on the Product.

Or

Plug in an XStick wireless USB dongle to your PC USB port. Products available over wireless will be listed by serial number. Connect to a single Product. See Figure 7.

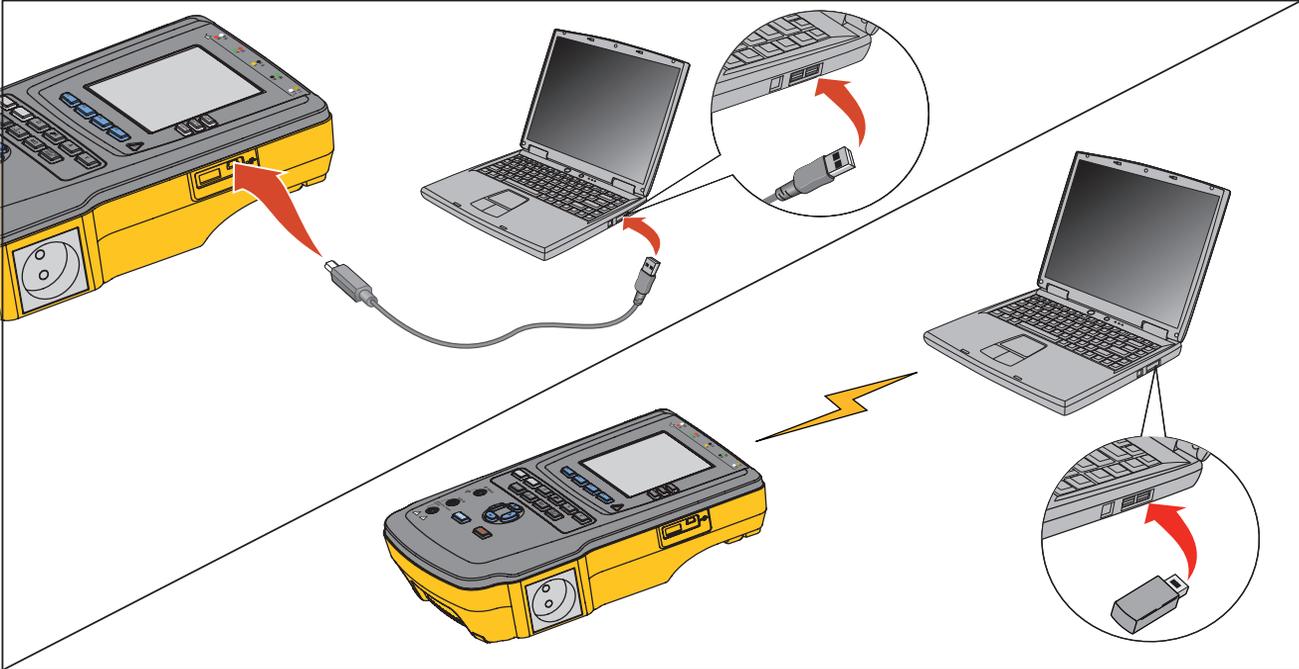
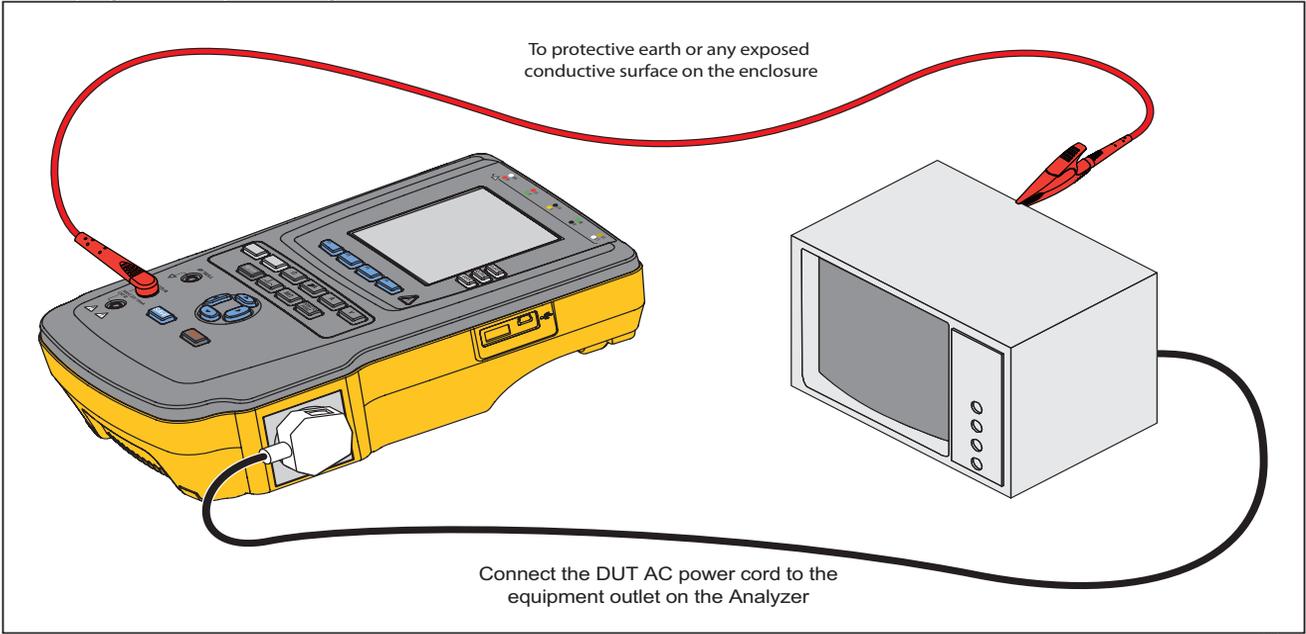


Figure 7. Product to PC Connection

gtv129.eps

On page 22, replace Figure 11 with:



gtv112.eps

Figure 11. Ground Wire (Protective Earth) Resistance Measurement Connections

On page 53, replace How to Use the **1210 Adapter** with:

How to Use the 1-to-10 Adapter

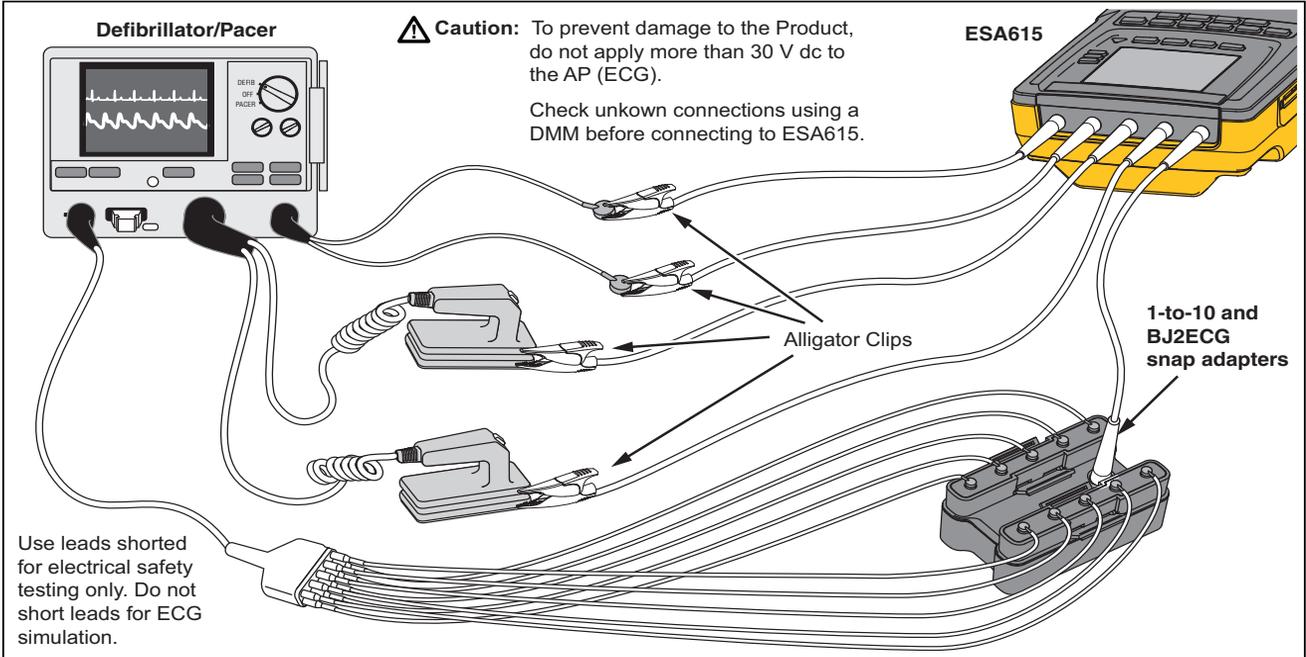
The 1-to-10 Adapter, an optional accessory, increases the number of lead or applied parts connections to the Product from 5 to 14. The adapter connects a maximum of 10 leads together into a one lead that is connected to one of the input jacks of the Product. The other four Product input jacks can also be used in conjunction with the Adapter.

More leads can be added with multiple 1-to-10 Adapters.

The example in Figure shows one application of the Adapter. The Defibrillator/Monitor in the example has 10 ECG leads, two pacer leads, and two defibrillator paddles which must be connected together, and in groups if single function, for current leakage per IEC62353. The example shows the ECG leads to be snap type connectors and two BJ2ECG adapters are shown connected to the Adapter. If the ECG leads do not have snap connectors, then the Universal Snap to Banana Adapter can be used to make the connections to the Adapter.

The common lead from the Adapter is plugged into the RA jack (1st jack) of the Product. Using four sheathed test leads with alligator clips, connect the two defibrillator paddles into the LL and LA Product jacks and the two pacer leads into the RL and V1 jacks. Set the connection that ties all five Product jacks together. This will measure leakage current in all fourteen leads. The applied part group of 1, 2, and 2 lets you test groups of applied parts of one function.

On page 54, replace Figure 31 with:



gtv120.eps

Figure 31. 1 to 10 Adapter Connections

On page 56, replace Figure 32 with:

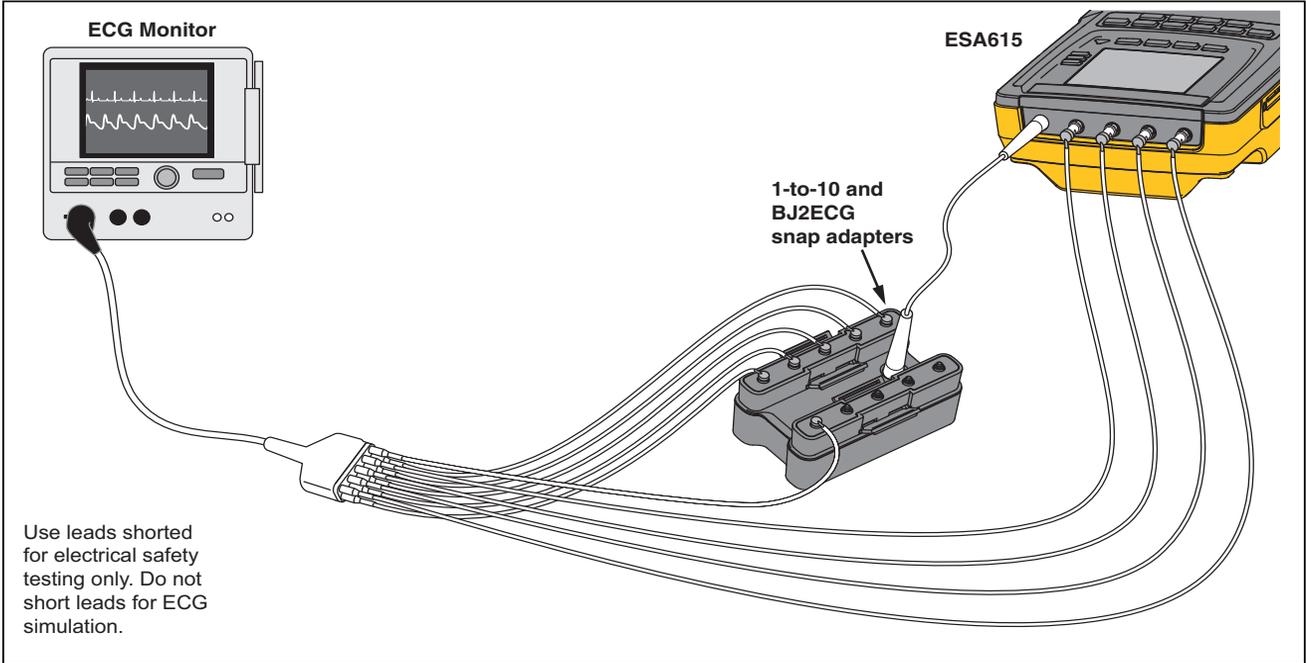


Figure 32. ECG Lead Connection with 1 to 10 Adapter