

# Manual Supplement

Manual Title: 27 II/28 II Users  
Part Number: Web-Only  
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This supplement contains information necessary to ensure the accuracy of the above manual.

## Change #1

On page 2, under **Warning**, add:

- **Measure a known voltage first to make sure that the Product operates correctly.**
- **Do not exceed the Measurement Category (CAT) rating of the lowest rated individual component of a Product, probe, or accessory.**

On page 5, Table 1, replace CAT III, CAT IV and add CAT II:

|                |                                                                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CAT II</b>  | Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation. |
| <b>CAT III</b> | Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.                               |
| <b>CAT IV</b>  | Measurement Category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.                                           |

## Change #2, 63409, 64064, 64649

On page 5, add the following to the Symbols Table:

|                                                                                   |                                                  |
|-----------------------------------------------------------------------------------|--------------------------------------------------|
|  | Conforms to relevant South Korean EMC Standards. |
|-----------------------------------------------------------------------------------|--------------------------------------------------|

On page 41, delete the Black and Red Alligator clips and the 27II/28II Users Manual and Getting Started Manual entries and replace with:

|                                                                                                                                               |                 |                         |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------|--------------|
| Not shown                                                                                                                                     | Test Leads      | variable <sup>[1]</sup> | 1 (set of 2) |
| Not shown                                                                                                                                     | Alligator Clips | variable <sup>[1]</sup> | 1 (set of 2) |
| Quick Reference Guide                                                                                                                         |                 | 4288093                 | 1            |
| Safety Information                                                                                                                            |                 | 4288087                 | 1            |
| [1] See <a href="http://www.fluke.com">www.fluke.com</a> for more information about test leads and alligator clips available for your region. |                 |                         |              |

On page 42, replace Figure 12:

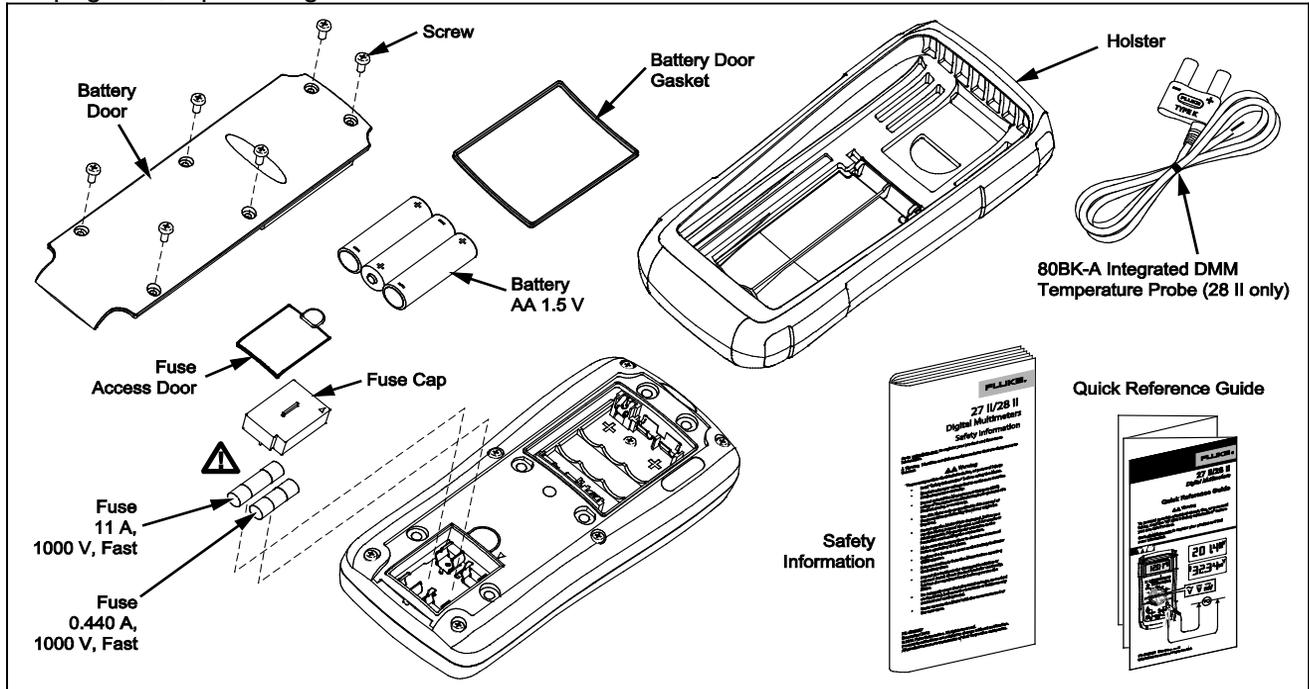


Figure 12. Replacement Parts

gaq111.eps

On page 43, delete the entire Table 10.

On page 44 and 45, replace the entire **General Specifications** with:

### **General Specifications**

#### **Maximum voltage between any**

**terminal and earth ground**.....1000 V rms

**Fuse for mA inputs** .....440 mA, 1000 V, IR 10 kA

**Fuse for A inputs**.....11 A, 1000 V, IR 17 kA

#### **Display**

Digital.....6000 counts, updates 4/sec (Model 28 II also has 19,999 counts in high-resolution mode).

Bargraph.....33 segments; updates 40/sec

#### **Altitude**

Operating.....2,000 meters

Storage.....10,000 meters

#### **Temperature**

Operating.....-15 °C to +55 °C, to -40 °C for 20 minutes when taken from 20 °C

Storage.....-55 °C to +85 °C (without battery)

-55 °C to +60 °C (with battery)

#### **Temperature coefficient**

28 II .....0.05 X (specified accuracy) / °C (< 18 °C or > 28 °C)

27 II .....0.1 X (specified accuracy) / °C (< 18 °C or > 28 °C)

**Electromagnetic Compatibility** .....In an RF field of 3 V/m, accuracy = specified accuracy +20 counts, except 600  $\mu$ A dc range total accuracy = specified accuracy +60 counts. Temperature not specified

**Electromagnetic Compatibility (EMC)**

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| International.....             | IEC 61326-1: Portable, Electromagnetic Environment<br>CISPR 11: Group 1, Class A<br><i>Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.</i><br><i>Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.</i><br><i>Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.</i><br><i>Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.</i> |
| Korea (KCC).....               | Class A Equipment (Industrial Broadcasting & Communication Equipment)<br><i>Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| USA (FCC).....                 | 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Relative Humidity</b> ..... | 0 % to 95 % (0 °C to 35 °C)<br>0 % to 70 % (35 °C to 55 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Battery Type</b> .....      | 3 AA Alkaline batteries, NEDA 15A IEC LR6, MSHA approved for use with three Energizer P/N E91 or three Duracell P/N MN1500 1.5 Volt, AA alkaline batteries only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                 |                                                                |
|-------------------------------------------------|----------------------------------------------------------------|
| <b>Battery Life</b> .....                       | 800 hrs typical without backlight (Alkaline)                   |
| <b>Vibration</b> .....                          | Per MIL-PRF-28800 for a Class 2 instrument                     |
| <b>Size (H x W x L)</b> .....                   | 1.80 in x 3.95 in x 8.40 in (4.57 cm x 10.0 cm x 21.33 cm)     |
| <b>Size with Holster</b> .....                  | 2.50 in x 3.95 in x 7.80 in (6.35 cm x 10.0 cm x 19.81 cm)     |
| <b>Weight</b> .....                             | 1.14 lb (517.1 g)                                              |
| <b>Weight with Holster and Flex-Stand</b> ..... | 1.54 lb (698.5 g)                                              |
| <b>IP Rating</b> .....                          | IP 67                                                          |
| <b>Safety</b> .....                             | IEC 61010-1: 600 V CAT IV / 1000 V CAT III, Pollution Degree 2 |
| <b>Electromagnetic Environment</b> .....        | IEC 61326-1: Portable                                          |
| <b>MSHA Approval</b> .....                      | 18-A100015-0                                                   |

On page 52, in the *Input Characteristics* table, add the following footnote to the **Overload Protection** column:

|                              |
|------------------------------|
| [1] 10 <sup>6</sup> V Hz Max |
|------------------------------|

### Change #3, 548, 564, 603

On page 44, replace the **Fuse** section with:

|                                                      |                          |
|------------------------------------------------------|--------------------------|
| <b>Fuse for mA or <math>\mu</math>A inputs</b> ..... | 0.44 A, 1000 V, IR 10 kA |
| <b>Fuse for A inputs</b> .....                       | 11 A, 1000 V, IR 17 kA   |

On page 47, replace note 1 with:

[1] Below 30 Hz, use the smoothing function. Below 20 Hz add 0.6 %.