

# Manual Supplement

Manual Title: 28 II Ex Users  
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This supplement contains information necessary to ensure the accuracy of the above manual.

## Change #1, 60849 & 60854, 469

On page 1, delete the third paragraph and replace the fourth paragraph with:

**Read the entire Users Manual and the *Safety Instructions* before you use the Product.**

On page 2, delete the first paragraph.

On page 3, remove the **Warnings** and replace with:

- **Do not open the Product while in an Ex-hazardous area.**
- **Change the Product's batteries only outside Ex-hazardous areas.**
- **Do not take spare batteries into Ex-hazardous areas.**
- **Use only type-approved batteries in the Product. See item 5.1 in the *Safety Information* for a list of approved batteries.**
- **Different temperature ranges for  $T_{amb}$  are fixed by the type approved batteries - see item 5.1. in the *Safety Information***
- **Do not replace fuses while in an Ex-hazardous area**
- **Use only fuses approved for Ex-hazardous areas in this Product. See item 5.3: Table - Replacements Parts in the *Safety Information* for a list of approved fuses.**
- **Use the Product only when the specified connection values are met.**
- **After you use the Product on a non-i.s. protected circuit, wait 3 minutes before you take the Product into an Ex-hazardous area.**
- **The Product must be completely and securely fitted in the red holster while it is in an Ex-hazardous area.**
- **Use only approved accessories with this Product in Ex-hazardous areas..**

- Do not use the Product in aggressive acidic or alkaline solutions. For applications requiring Group I equipment, the permanent contact of the Fluke 28 II Ex with oils, hydraulic fluids or greases is to avoid. A fixed installation of the Fluke 28 II EX is not permitted.
- Do not use the Product in Zone 0 or 20, 21, and 22. Measurements on intrinsically safe connections that go into these zones are permitted, if the connection values are met.

### Warning

To prevent personal injury in mining hazardous areas:

- Avoid extreme mechanical burdens. The Product can withstand impacts with an energy of seven joules at 20°C.
- Do not allow the Product to come in permanent contact with oils, hydraulic fluid, or grease.
- Do not install the Product in a fixed installation.

On page 7, delete the entire section, ***Ex-Certification Data*** and see page 5 of the Safety Instructions document.

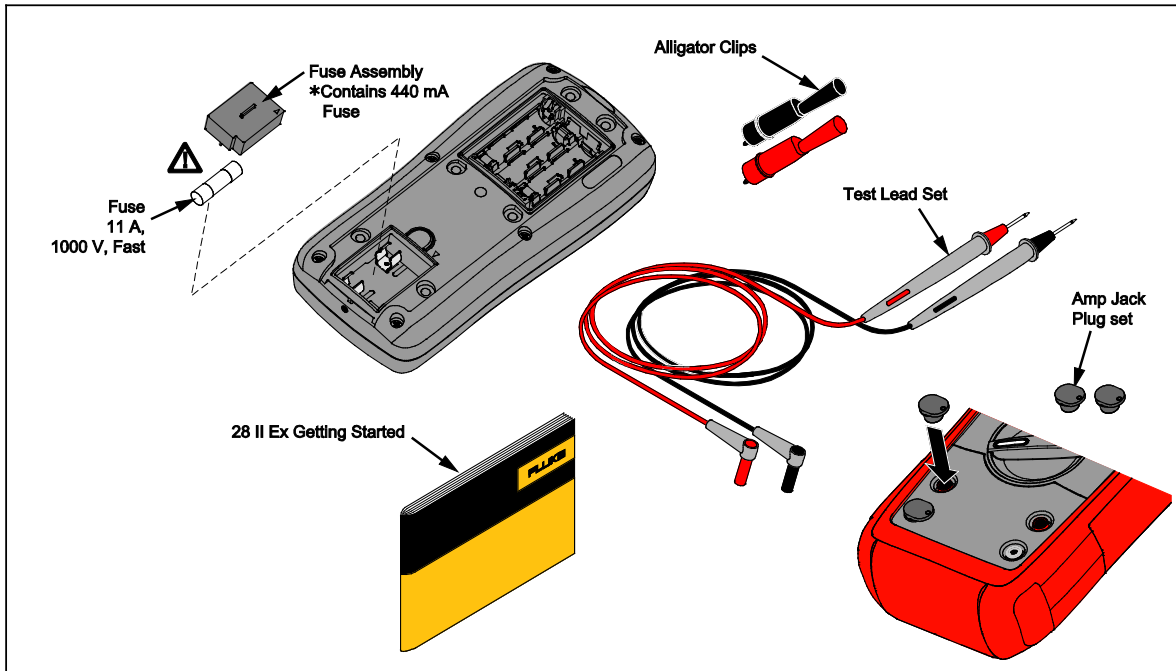
On page 39, replace the fourth paragraph with:

- Use only three AAA 1.5-volt batteries, correctly installed to power the Product. See the table for a list of approved batteries. All batteries are to be replaced at the same time with same part number batteries outside the Ex-hazardous area.

On page 40, delete Table 9, Approved Batteries.

On page 45, delete Table 11, Accessories

On page 44, replace Figure 12:



grt11.eps

Figure 12. Replacement Parts

On page 46:

Under **Temperature** replace:

- Storage      -40 °C to +85 °C (without battery)
- 40 °C to +60 °C (with battery)

From:

**Maximum voltage between any**

- terminal and earth ground** ..... 1000 V rms
- ⚠ **Fuse for mA inputs** ..... 440 mA, 1000 V FAST Fuse
- ⚠ **Fuse for A inputs** ..... 11 A, 1000 V FAST Fuse

To:

**Maximum voltage between any**

- terminal and earth ground** ..... 1000 V
- ⚠ **Fuse for mA inputs** ..... 0.44 A, 1000 V, IR 10 kA
- ⚠ **Fuse for A inputs** ..... 11 A, 1000 V, IR 17 kA

## Change #2, 62942

On page 53, replace ***Duty Cycle (Vdc and mVdc)*** with:

### ***Duty Cycle (Vdc and mVdc)***

Range	Accuracy
0.0 % to 99.9 % <sup>[1]</sup>	Within ± (0.2 % per kHz + 0.1 %) for rise times <1 μs. <sup>[2]</sup>
<p>[1] 0.5 Hz to 200 kHz, pulse width &gt;2 μs. Pulse width range is determined by the frequency by the frequency of the signal.</p> <p>[2] For 6 V dc range accuracy is unspecified.</p>	

On page 54, under **MIN MAX Recording** change:

From:

250 $\mu$ s (peak) <sup>[1]</sup>	Specified accuracy $\pm 100$ counts for changes $>250 \mu$ s in duration (add $\pm 100$ counts for readings over 6000 counts) (add $\pm 100$ counts for readings in Low Pass mode)
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To:

250 $\mu$ s (peak) <sup>[1]</sup>	Specified accuracy $\pm 200$ counts for changes $>250 \mu$ s in duration (add $\pm 100$ counts for readings over 6000 counts) (add $\pm 100$ counts for readings in Low Pass mode)
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### Change #3, 65782, 601

On page 2, under **Safety Information** remove The Product complies with: and all the bullets.

On page 8, in the **Symbols** table, remove CAT III, CAT IV and CSA C1 and add:

	Conforms to relevant North American Safety Standards
	Conforms to relevant South Korean EMC Standards
<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.

On page 46, under **Temperature**, replace Operating with:

Operating.....Different temperature ranges for T<sub>amb</sub> are fixed by type approved batteries, see item 5.1 in the separate *Safety Instruction*.

On page 47, replace **Safety** and **Electromagnetic Compatibility** with the following, and remove **IP Rating, Vibration, Shock, and Certifications**:

**Safety**

- General.....IEC 61010-1: Pollution Degree 2
- Measurement.....IEC 61010-2-033: CAT IV 600V / CAT III 1000V
- Ingress Protection.....IEC 60529: IP67, non-operating

**Electromagnetic Compatibility (EMC)**

- International .....IEC 61326-1: Portable Electromagnetic Environment  
IEC 61326-2-2: CISPR 11: Group 1, Class A

*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.*

*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.*

*Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.*

- Korea (KCC) .....Class A Equipment (Industrial Broadcasting & Communication Equipment)

*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.*

- USA (FCC).....47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Replace the Battery Type with:

**Battery Type**..... 3 AAA Alkaline batteries, NEDA 24A IEC LR03 (see separate *Safety Instructions* for a list of approved batteries)

Remove the **Approved Batteries** list.