

# Manual Supplement

Manual Title: 434-II/435-II/437-II Users Supplement Issue: **6**  
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This supplement contains information necessary to ensure the accuracy of the above manual.



## Change #1

On page 1-4, under **Safety Information: Read First.**

Change: IEC/EN61010-1-2001

To: IEC 61010-1

On page 24-9, Table 24-1, Power

Change: Classic, Unified

To: Classic, Unified, IEEE

On page 24-10, in ⑬ replace the second sentence with:

Parameters to be set are: four different tariff rates, cable data (length in meters/feet, Area in square millimeter or acc. to AWG/American Wire Gauge and Material Cu or Al).

On page 26-2, under **Standard Accessories:**

Change: i430-FLEXI-TF (-4PK)

To: i430-FLEXI-TF-II (-4PK)

On pages 27-5 and 27-6, replace **i430-FLEX-TF** with **i430-FLEXI-TF-II** in all occurrences.

On page 27-12, under **SAFETY** Compliance:

Change: IEC/EN61010-1-2001

To: IEC 61010-1

On page A-2, under **The Unified Method** add:

- Power method IEEE uses calculations according to IEEE 1459

## Change #2, 127

On page 1-7, under **Safe Use of Li-ion Battery Pack**, remove the last sentence in the paragraph:

As a result they can be shipped unrestricted internationally by any means.

## Change #3, 508

On page 1-5, add the following to the **Safety** table:

<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 27-12, under **Safety**, replace Compliance with:

General Measurement	IEC 61010-1: Pollution Degree 2 IEC 61010-2-030: 600V CAT IV / 1000V CAT III
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Under **Electro Magnetic Compatibility (EMC)**, replace the table with:

<b>Electromagnetic Compatibility (EMC)</b> International	IEC 61326-1: Controlled Electromagnetic Environment CISPR 11: Group 1, Class A <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> <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> <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) <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.

On page 9-1, after the 2nd paragraph add:

The Dips and Swell function is a tool to identify low or high RMS values while trending at a high resolution. Due to the high RMS trend resolution, measurements that last more than 24 hours can create a large database file. For long recordings it is advised to adjust the interval.

To adjust:

1. Restart the measurement with .
2. Select TIMED.

Timed mode allows adjustment to the interval setting for an optimized RMS trend resolution.

3. Adjust the interval.

For example, use a 10 s interval for 1 week and 1 minute interval for 30 days of recording.

The instrument continues to capture RMS values each half cycle and display trend data with maximum, minimum, and average RMS values for each interval. The Event Capture feature remains active and triggers on the same events with the same captured data results.

## Change #4, 278

Throughout the user interface of the instrument HOLD/RUN soft key has been replaced with STOP/START. Functionality of the key has not changed.

On page 3-1, add the following table at the end of the **Introduction** section:

Default Functions firmware 5.0	Fluke 434-II	Fluke 435-II	Fluke 437-II	Fluke 438-II
Volt/Amp/Hertz	•	•	•	•
Dips & Swells	•	•	•	•
Harmonics	•	•	•	•
Power & Energy	•	•	•	•
Energy Loss Calculator	•	•	•	•
Power Inverter Efficiency	•	•	•	•
Unbalance	•	•	•	•

Inrush	•	•	•	•
Monitor	•	•	•	•
Flicker		•	•	•
Transients		•	•	•
Power Wave		•	•	•
Mains Signaling		•	•	•
Shipboard V/A/HZ			•	
Motor Analyzer				•
Event Capture		•	•	•
400 Hz			•	

For instructions on the Motor Analyzer, see the Fluke 438-II Users Manual

On page 12-1, add the following at the end of paragraph 7:

With firmware 5.0 the Analyzer will show losses due to load current and losses due to source voltage unbalance and distortion on separate pages to help identify the source of the energy losses.

On page 12-2, add the following after the menu navigation for the Energy Loss Calculator screen:

With firmware 5.0 the up/down arrow keys can be used to view energy loss due to load current or due to source voltage

On page 12-2, change section **Available function keys** as follows:

- F1 Access to SETUP menu to view the settings used for Energy Loss Calculator. To change the settings, stop and save the current measurement, and select the Setup Function Preference menu (see chapter 24)
- F2 Access to ANALYZER screen that indicates Losses relative to industry standards. The up down keys select between a performance graph or a pie chart that indicates the relative size of the Line losses.
- F3 Access to Meter screen. For description see below.
- F4 No Function
- F5 Access to STOP and START of screen update.

On page 12-3, remove the 4<sup>th</sup> bullet.

On page 24-6, replace steps 8 and 9 with:

The Setup Function Preference menu has selection items for setting up: Trend, Harmonics, Dips & Swells and Flicker, Rapid Voltage Change, Wave Capture, Inrush, Energy Loss, Generic, and Motor Analyzer.

On page 24-9, bullet 10 change:

From: (available under Function key F1)

To: (available under the Setup Function Preference menu)

On page 24-9, bullet 11 change:

From: (available under Function key F2)

To (available under the Setup Function Preference menu)

On page 24-9, bullet 12 change:

From: (available under Function key F3)

To (available under the Setup Function Preference menu)

On page 24-10, bullet 13 change:

From: (available under Function key F3)

To: (available under the Setup Function Preference menu)

On page 24-10, bullet 13 add:

With firmware V5.0 and later the Energy Loss calculator automatic mode for determining line resistance is replaced with "Fuse Value". The Fuse Value (Amps) is used to determine the line resistance that matches the specified Loss Ratio (default 3 %) when a nominal resistive load is applied to the system. Alternatively the user can use Cable Size or Resistance if this information is known.

## Change #5, 360

On page 27-12, below the notes, add:

With firmware revision V05.02 and later, the operating range of the optional Motor Analyzer function to support voltage distortion is up to THD >3 % (also see Fluke 438-II Users Manual). Accuracy specification for the Mechanical Motor Power, Torque, rpm, and efficiency measurements in Motor Analyzer mode are met only if Voltage THD is <8 %.

**Change #6, 598**

On page 27-5, replace the last row with:

**ACCURACY, RESOLUTION, AND RANGE**

<b>Volt/Amps/Hertz</b>	<b>Measurement Range</b>	<b>Resolution</b>	<b>Accuracy</b>
Hz Fluke 435-II /437-II @ 50 Hz nominal	42.5 Hz to 57.5 Hz	0.001 Hz	±0.005 Hz
Fluke 435-II /437-II @ 60 Hz nominal	51 Hz to 69 Hz	0.001 Hz	±0.005 Hz
Fluke 437-II @ 400 Hz nominal	340 Hz to 460 Hz	0.01 Hz	±0.1 Hz

On page 27-6, replace the first row with:

<b>Volt/Amps/Hertz</b>	<b>Measurement Range</b>	<b>Resolution</b>	<b>Accuracy</b>
Fluke 434-II @ 50 Hz nominal	42.5 Hz to 57.5 Hz	0.01 Hz	±0.02 Hz
Fluke 434-II @ 60 Hz nominal	51 Hz to 69 Hz	0.01 Hz	±0.02 Hz