

## Continuity and Voltage Testers



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### 1. Scope

This standard covers the requirements for digital continuity and voltage testers.  
This standard applies to Seattle City Light (SCL) Stock No. 014329.

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### 2. Application

This instrument is the modern-day, digital replacement for spring-loaded, solenoid testers, commonly known as Wiggys, invented nearly 100 years ago by George P. Wigginton.

This instrument is for field personnel who require an easy-to-use, but sophisticated, continuity and voltage tester that mimics the function, form, and durability of the traditional Wiggy.

For voltages between 240 V and 600 V the duty cycle is limited to 30 s on / 300 s off. For voltages above 240 V the tester must connect to a voltage source only for a MAXIMUM of 30 s and then disconnect for a MINIMUM of 300 s.



### 3. Requirements

#### 3.1 Features

Digital continuity and voltage testers shall include the following features:

- Three forms of ac/dc voltage indication: light, sound, and vibration
- Detect live voltage even when the battery is dead
- Extra heavy-duty, replaceable test leads
- Continuity beeper
- Bright LED flashlight for working in poorly lit areas
- Hazardous voltage warning light
- ac/dc voltage: 12 V–600 V on LED bar, 10.2 V–600 V on LCD
- Auto-off to conserve battery power
- Backlit LCD display for easier viewing
- Display resolution of 0.1 V
- Resistance (Ohms) to 9.99 k $\Omega$
- Display hold

#### 3.2 Electrical

**Voltage range, ac/dc**

Maximum measurable	600 V
Maximum working	1000 V

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**Accuracy, voltage**

ac	$\pm$ (3% of reading + 2 digits)
dc	$\pm$ (2% of reading + 2 digits)

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**Accuracy, resistance**

$\pm$  (5% of reading + 3 digits)

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**Input impedance, nominal<sup>1</sup>**

10 V	20 k $\Omega$
600 V	240 k $\Omega$

<sup>1</sup>Varies with applied voltage

#### 3.3 Environmental

**Operating temperature** -10 degrees C to 55 degrees C

#### 3.4 Safety

**Overvoltage category** CAT IV 600 V, CAT III 1000 V ac/dc (UL 61010-1)

#### 3.5 Mechanical

**Battery type** 2 x AAA

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### 4. Packaging

Testers shall be individually packaged with their accessories and marked with the following information:

- Manufacturer identification
- Product description
- Seattle City Light stock number

Each shipping container shall be legibly marked with the following information:

- Manufacturer identification
- Product description
- Seattle City Light purchase order number

**5. Issuance**

Stock Unit: EA

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**6. Approved Manufacturer**

<b>Manufacturer</b>	<b>Catalog No.</b>
Fluke	T+PRO

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**7. Sources**

**Shipek, John**; SCL Standards Supervisor, originator, and subject matter expert for 7659.35 (john.shipek@seattle.gov)

**Fluke Technical Data Sheet, T+ and T+PRO Electrical Testers**; 2812661B\_EN 5/2014

**UL 61010-1**; Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements, 2012-05-11