

# 7200 Series

# **Configurable Automated Test Set**

**Getting Started Manual** 



# 7200

# 

### Configurable Automated Test Set

# **Getting Started Manual**

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**Revision E0** 

10200 West York / Wichita, Kansas 67215 U.S.A. (316) 522-4981 / FAX (316) 524-2623

This manual contains essential information relating to initial use of the Unit. VIAVI recommends the operator become familiar with the Operation Manual contained on the accompanying CD-ROM.

Test Set software is updated on a routine basis. As a result, user interface examples may show images from earlier software versions. Images are updated when appropriate.

#### Product Warranty

Warranty information for this product is available on the VIAVI website at https://www.viavisolutions.com/en-us/support/warranty-quality-compliance-policies.

#### Electromagnetic Compatibility

Double shielded and properly terminated external interface cables must be used with this equipment when interfacing with the RS-232 and IEEE-488 Connectors.

For continued EMC compliance, all external cables must be shielded and 3 meters or less in length.

#### **Nomenclature Statement**

In this manual, 7200, Test Set or Unit refers to the 7200 Configurable Automated Test Set Series.

#### **Declaration of Conformity**

The Declaration of Conformity Certificate included with the Unit should remain with the Unit.

VIAVI recommends the operator reproduce a copy of the Declaration of Conformity Certificate to be stored with the Operation Manual for future reference.

#### **Software Version**

VIAVI updates Test Set software on a routine basis. As a result, examples may show images from earlier software versions. Images are updated when appropriate.

#### Precautions SAFETY FIRST - TO ALL OPERATIONS PERSONNEL

#### **General Conditions of Use**

This product is designed and tested to comply with the requirements of IEC/EN61010-1 'Safety requirements for electrical equipment for measurement, control and laboratory use' for Class I portable equipment and is for use in a pollution degree 2 environment. The equipment is designed to operate from installation supply Category II.

Equipment should be protected from liquids such as spills, leaks, etc. and precipitation such as rain, snow, etc. When moving the equipment from a cold to hot environment, allow the temperature of the equipment to stabilize before the Unit is connected to an AC power supply to avoid condensation forming. The equipment must only be operated within the environmental conditions specified in the product specifications.

This product is not approved for use in hazardous atmospheres or medical applications. If the equipment is to be used in a safety-related application, such as avionics or military applications, the suitability of the product must be assessed and approved for use by a competent person.

Refer all servicing of Unit to Qualified Technical Personnel.



#### Safety Identification in Technical Manual

This manual uses the following terms to draw attention to possible safety hazards that may exist when operating or servicing this equipment:

IOITUAO	IDENTIFIES CONDITIONS OR ACTIVITIES THAT, IF IGNORED, CAN RESULT IN EQUIPMENT OR PROPERTY DAMAGE, E.G. FIRE.	
WARNING	IDENTIFIES CONDITIONS OR ACTIVITIES THAT, IF IGNORED, CAN RESULT IN PERSONAL INJURY OR DEATH.	
Safety Symb	ools in Manuals and on Units	
(S	AUTION: Refer to accompanying documents. Symbol refers to specific CAUTIONS represented In the Unit and clarified in the text.)	
In In	Indicates a Toxic hazard.	
	Indicates item is static sensitive.	
	<b>C TERMINAL:</b> Terminal that may supply or be upplied with AC or alternating voltage.	
	dicates a fuse (AC or DC).	

#### Case, Cover or Panel Removal



Opening the Case Assembly exposes the operator to electrical hazards that may result in electrical shock or equipment damage. Do not operate this Test Set with the Case Assembly open.

#### **Equipment Grounding Protection**

#### WARNING CAUTION

Improper grounding of equipment can result in electrical shock.

#### **Use of Probes**



Refer to Performance Specifications for the maximum voltage, current and power ratings of any connector on the Test Set before connecting it with a probe from a terminal device. To prevent electrical shock or damage to the equipment verify the terminal device performs within noted specifications before using it for measurements.

#### **DMM Measurement Category**

The Digital Multimeter (DMM) is classified in Measurement Category II. Measurement Category II is designated for equipment which performs measurements on circuits directly connected to low voltage installation.

#### **Power Cords**

The AC Power Cord included with the unit, or an appropriate replacement, should be used to connect the Test Set to a grounded AC power supply. Failure to ground the Test Set may expose the operator to hazardous voltage levels. To connect the Test Set to a Class II (ungrounded) 2terminal socket outlet, fit the power cord with either a 3-pin Class I plug used in conjunction with an adapter incorporating a ground wire, or fit the power cord with a Class II plug containing an integral ground wire. The ground wire must be securely fastened to ground; grounding one terminal on a 2-terminal socket does not provide adequate protection.

Power cords must be in good operating condition. Power cords must not be frayed or broken, nor expose bare wiring. Using a damaged power cord may expose the operator to hazardous voltage levels.

#### **International Power Requirements**

The AC power cord must meet local regulations and power requirements. Check with local standards and regulations to ensure the power cord being used meets all local safety regulations.

NOTE For use in Switzerland, Type 12 Plug should be used to connect Test Set to a grounded power supply.

#### **Use Recommended Fuses Only**

Use only fuses specifically recommended for the equipment at the specified current and voltage ratings. Refer to Performance Specifications for fuse requirements and specifications.

#### Internal Battery

This Unit contains a Lithium Ion Battery, serviceable only by a qualified technician.

#### EMI (Electromagnetic Interference)

CAUTION	SIGNAL GENERATORS CAN BE A SOURCE OF ELECTROMAGNETIC INTERFERENCE (EMI) TO COMMUNICATION RECEIVERS. SOME TRANSMITTED SIGNALS CAN CAUSE DISRUPTION AND INTERFERENCE TO COMMUNICATION SERVICE OUT TO A DISTANCE OF SEVERAL MILES. USER OF THIS EQUIPMENT SHOULD SCRUTINIZE ANY OPERATION THAT RESULTS IN RADIATION OF A SIGNAL (DIRECTLY OR INDIRECTLY) AND SHOULD TAKE NECESSARY PRECAUTIONS TO AVOID POTENTIAL COMMUNICATION
	INTERFERENCE PROBLEMS.

Electrical Hazards (AC supply voltage)



#### Input Overload



REFER TO PRODUCT SPECIFICATIONS FOR MAXIMUM INPUT RATINGS FOR ANT AND T/R INPUT CONNECTORS.

Fire Hazards	Toxic Hazards (cont)
WARNINGMAKE SURE THAT ONLY FUSES OF THE CORRECT RATING AND TYPE ARE USED FOR REPLACEMENT. IF AN INTEGRALLY FUSED PLUG IS USED ON THE SUPPLY LEAD, ENSURE THAT THE FUSE RATING IS COMMENSURATE WITH THE CURRENT REQUIREMENTS OF THIS EQUIPMENT.Toxic HazardsSOME OF THE COMPONENTS USED IN THIS EQUIPMENT MAY INCLUDE RESINS AND OTHER MATERIALS WHICH GIVE OFF TOXIC FUMES IF INCINERATED. TAKE APPROPRIATE PRECAUTIONS IN THE DISPOSAL OF THESE ITEMS.	INACT HEAD OF THE CONTRUCTION OF SOME OF THE CONSTRUCTION OF SOME OF THE COMPONENTS IN THIS EQUIPMENT.   WARNING   BERYLLIA (BERYLLIUM OXIDE) IS USED IN THE CONSTRUCTION OF SOME OF THE COMPONENTS IN THIS EQUIPMENT.   THIS MATERIAL, WHEN IN THE FORM OF FINE DUST OR VAPOR AND INHALED INTO THE LUNGS, CAN CAUSE A RESPIRATORY DISEASE. IN ITS SOLID FORM, AS USED HERE, IT CAN BE HANDLED SAFELY, HOWEVER, AVOID HANDLING CONDITIONS WHICH PROMOTE DUST FORMATION BY SURFACE ABRASION.   USE CARE WHEN REMOVING AND DISPOSING OF THESE COMPONENTS. DO NOT PUT THEM IN THE GENERAL INDUSTRIAL OR DOMESTIC WASTE OR DISPATCH THEM BY POST. THEY SHOULD BE SEPARATELY AND SECURELY PACKED AND CLEARLY IDENTIFIED TO SHOW THE NATURE OF THE HAZARD AND THEN DISPOSED OF IN A SAFE MANNER BY AN AUTHORIZED TOXIC WASTE CONTRACTOR.

Toxic Hazards (cont)	Toxic Hazards (cont)
BERYLLIUM COPPER	
WARNING SOME MECHANICAL COMPONENTS WITHIN THIS INSTRUMENT ARE MANUFACTURED FROM BERYLLIUM COPPER. THIS IS AN ALLOY WITH A BERYLLIUM CONTENT OF APPROXIMATELY 5%. IT REPRESENTS NO RISK IN NORMAL USE. THE MATERIAL SHOULD NOT BE MACHINED, WELDED OR SUBJECTED TO ANY PROCESS WHERE HEAT IS INVOLVED. IT MUST BE DISPOSED OF AS "SPECIAL WASTE." IT MUST NOT BE DISPOSED OF BY INCINERATION.	WARNINGA LITHIUM BATTERY IS USED IN THIS EQUIPMENT. LITHIUM IS A TOXIC SUBSTANCE SO THE BATTERY SHOULD IN NO CIRCUMSTANCES BE CRUSHED, INCINERATED OR DISPOSED OF IN NORMAL WASTE. DO NOT ATTEMPT TO RECHARGE THIS TYPE OF BATTERY. DO NOT SHORT CIRCUIT OR FORCE DISCHARGE SINCE THIS MIGHT CAUSE THE BATTERY TO VENT, OVERHEAT OR EXPLODE.

#### **Static Sensitive Components**

# CAUTION OF



This equipment contains components sensitive to damage by Electrostatic Discharge (ESD). All personnel performing maintenance or calibration procedures should have knowledge of accepted ESD practices and/or be ESD certified.

#### **Table of Contents**

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8.0 Defining Parameters

#### 1.0 SERVICE UPON RECEIPT OF MATERIAL

#### Accessories

#### 1.1 Unpacking

CAUTION DAMAGE TO TEST SET, VIAVI RECOMMENDS TWO PEOPLE UNPAC THE TEST SET.
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Use the following steps to unpack the Test Set: STEP PROCEDURE

- 1. Open shipping container and remove top packing mold.
- 2. Lift Test Set vertically out of shipping container.
- 3. Place Test Set on a flat, clean and dry surface.
- 4. Place packing materials inside shipping container.
- 5. Store shipping container for future use.

#### 1.2 Checking Unpacked Equipment

Inspect equipment for any damage which may have occurred during shipment. If the Test Set has been damaged, report the damage to VIAVI Customer Service.

Contact:	VIAVI
	Attn: Customer Service
	10200 West York Street
	Wichita, Kansas 67215
	Telephone: 800-835-2350
	FAX: 316-524-2623
	email: americas.service@viavisolutions.com

DESCRIPTION	PART	QTY
	NUMBER	
7200		1
BNC to T-Connector Adapter	20339	2
TNC to BNC Adapter	23758	2
BNC F/DBL Banana Plug Adapter/ Connector	23764	1
10A Fast Blo 3AG Fuse	56067	2
AC Power Cord	62302	1
S M BNC/S M BNC Coaxial Cable	63339	4
Scope Probe Kit	67411	2
DMM Probe Set, 7000 Series	88923	1
7200 Series Getting Started Manual (Eng)	86987	1
7200 Series Operation CD (Eng)	86985 or	1
	112801	
* These items are not standard with all	units.	
* Intelligent Cable Assembly	92554	1
* 7200 Operation CD (Korean)	138061	1
* 7200 Getting Started Manual (Korean)	138061	1

7200 CATS	BNC to T-Connector Adapter	TNC to BNC Adapter	BNC F/DBL BN Plug Adapter/ Connector
	Part Number: 20339	Part Number: 23758	Part Number: 23764
Fuse, 10AMP, Fast Blo 3AG	AC Power Cord	S M BNC/S M BNC Coaxial Cable	Scope Probe Kit
Part Number: 56067	Part Number: 62302	Part Number: 63339	Part Number: 67411
			CIEC/CALL

DMM Probe Set,7000 Series	7200 Getting Started Manual	7200 Operation CD (English)
Part Number: 88923	Part Number: 86987	Part Number: 86985 or 112801
R	RURRER	VIEWUN VIEWUN

#### 7200 Getting Started Manual

\*These items are not standard with all units.

*Intelligent Cable Assembly	*7200 Getting Started Manual (Korean)	*7200 Operation CD (Korean)
Part Number: 92554	Part Number: 138062	Part Number: 138061
	<image/>	PURCHARANTER How many many many many many many many many

#### 2.0 SPECIFICATIONS

\*Tested in accordance with MIL-PRF-28800F, Class 3 **Operating Temperature\*:** 

• 0° to 50°C

#### Storage Temperature\*:

-40° to 71°C

#### Warm-up Time:

15 minutes

#### Relative Humidity\*:

- \* 80% up to 31°C decreasing linearly to 50% at 40°C Altitude\*:
  - 4,600 m (15,092 ft)

#### Shock and Vibrations\*:

- 30 G Shock (Functional Shock)
- 5 to 500 Hz Random Vibrations

#### Use:

Pollution Degree 2

#### EMC Emissions:

- EN61326-1: Class A
- EN61000-3-2
- EN61000-3-3

#### Reliability:

>2500 hours

#### AC Voltage:

• 100 to 240 VAC at 50-60 Hz, 1000 W Maximum Mains Supply Voltage Fluctuations:

• ≤10% of the nominal voltage

#### Fuse:

- AC: 10 A, 3AG, Fast Blo
- DC: 20 A, 3AG, Slow-Blo

#### Safety Standards:

- UL 61010B-1
- EN 61010-1
- CSA C22.2 No. 61010-1
- **RF Generator Frequency Range:** 
  - 1.0 MHz to 2.6 GHz

#### RF Generator Output Level:

- T/R: -130.0 to -30.0 dBm
- GEN: -110.0 to +10.0 dBm

#### **RF Receiver Frequency Range:**

• 1.0 MHz to 2.6 GHz

#### RF Receiver Input Level:

- ANT:
  - +10.0 dBm, not to exceed +13.0 dBm
- T/R:
  - 100 W, maximum 90 sec ON, minimum 3 min OFF
  - 150 W, maximum 30 sec ON, minimum 3 min OFF
  - 200 W, maximum 15 sec ON, minimum 3 min OFF

#### 3.0 INSTALLATION

Models in the 7200 Series are Safety Class 1 instruments that must be grounded before use. The Test Set should only be connected to a grounded AC supply outlet.

#### 3.1 Ventilation

The Test Set is air-cooled by two groups of fans that draw air through vents in the case. Do not obstruct the air vents while the instrument is in use. Avoid standing the instrument on or close to other equipment that is hot.

#### 3.2 Safety Precautions

The following safety precautions must be observed during installation and operation. VIAVI assumes no liability for failure to comply with any safety precaution outlined in this manual.

#### 3.2.1 Complying with Instructions

Installation/operating personnel should not attempt to install or operate the Test Set without reading and complying with instructions contained in this manual. All procedures contained in this manual must be performed in exact sequence and manner described.

#### 3.2.2 Grounding Power Cord

Use a 3-prong AC Power Cord to connect the Test Set to a grounded AC Power Supply.

WARNING DO NOT USE A THREE-PRONG TO TWO-PRONG ADAPTER PLUG. DOING SO CREATES A SHOCK HAZARD BETWEEN THE CHASSIS AND ELECTRICAL GROUND.

It is the customer's responsibility to:

- Have a qualified electrician check receptacle(s) for proper grounding.
- Replace any standard two-prong receptacle(s) with properly grounded three-prong receptacle(s).

3.2.3 Operating Safety

#### WARNING

Due to potential for electrical shock within the Test Set, the Case Assembly must be closed when the Test Set is connected to an external power source.

#### 4.0 EXTERNAL CLEANING

The following section contains routine instructions for cleaning the outside of the Test Set.

CAUTION	DISCONNECT POWER FROM TEST SET TO AVOID POSSIBLE DAMAGE TO ELECTRONIC CIRCUITS.
STEP	PROCEDURE

- Clean front panel buttons with soft lint-free cloth. If dirt is difficult to remove, dampen cloth with water and a mild liquid detergent.
- Clean Front Panel display with soft lint-free cloth dampened (not soaked) with non-ammonia based glass cleaner.
- Remove grease, fungus and ground-in dirt from surfaces with soft lint-free cloth dampened (not soaked) with isopropyl alcohol.
- Remove dust and dirt from connectors with softbristled brush.
- Cover connectors, not in use, with suitable dust cover to prevent tarnishing of connector contacts.
- Clean cables with soft lint-free cloth.
- Paint exposed metal surface to avoid corrosion.

#### 5.0 CONTROLS AND CONNECTORS

#### 5.1 Test Set Front Panel Controls/Connectors

Refer to Numerical Reference Charts for connector crossreference. Connectors are listed by numerical reference.



Fig. 1 Test Set Front Panel Controls/Connectors

# REF	Connector	Description
1	Audio I/O Connectors	The Audio 1 and 2 Input/Output Connectors are the primary AF and external modulation input/output connectors.
2	Digital Multimeter (DMM)	The DMM is the connection interface for resistance measurements and AC/DC current and voltage measurements.

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# REF	Connector	Description
3	Oscilloscope CH1/CH2 Input Connectors	The CH1 and CH2 Connectors are the dedicated input channels for the Oscilloscope.
4	ZIF Connector	The ZIF I/O Connector is an interface for testing specific UUT devices.
5	Trigger Input Connector	The Trigger Input Connector is the external trigger input for the Oscilloscope.
6	Timing Input Connector	Reserved for future development.
7	Generator (GEN) Connector	The RF Gen output provides the maximum RF output level from the RF Generator.
8	T/R Connector	The T/R Connector is a Duplexed connector that provides an RF Gen output connection and an RF Receiver input connection.
9	Antenna (ANT) Connector	The ANT Connector provides maximum sensitivity input to the Test Set RF Receiver.
10	Home Button	Pressing the Home Button accesses Help and System Reset functions.

# REF	Connector	Description
11		The USB Connectors are standard USB connections that allow connection of USB 2.0 devices.
12		LAN Indicator shows an active Network Connection to 7200. The 1588 Indicator shows when an active 1588 signal is present.
13	Power On/ Standby Button	The Power On/Standby Button is used to power the Test Set on and off and to place Unit in Standby mode.

#### 5.2 Test Set Rear Panel Controls/Connectors

Refer to Numerical Reference Charts for connector crossreference. Connectors are listed by numerical reference.

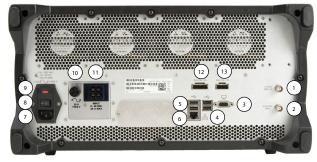


Fig. 2 Test Set Rear Panel Controls/Connectors

# REF	Connector	Description
1	External Reference I/O	The 10 MHz External Reference I/O Connector is used to connect the Test Set to an external frequency standard, or to output the internal frequency standard from the Test Set to other equipment.
2	System Trigger Connector	The System Trigger Input Connector is the external trigger input for System functions.

# REF	Connector	Description
3	VGA Connector	The VGA Output Connector allows a VGA monitor or video projector to duplicate the Test Set's screen display. To ensure proper operation, the VGA Monitor must be connected to the output connector before the Test Set is turned ON.
4	USB Connectors	The USB Connectors are USB standard connections that allows connection of USB 2.0 devices.
5	USB Connectors	The USB Connectors are USB standard connections that allows connection of USB 2.0 devices.
6	Ethernet Connectors	The Ethernet Connector is a standard Base T RJ45 connection which can be used for System Updates, remote operation and for connecting external devices (i.e., External Power Supply).
7	AC Power Connector	The AC Power Connector accepts an IEC 320 connector.

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# REF	Connector	Description
8	AC Power Switch	The AC Power Supply Switch isolates the 7200 from the AC power supply. The On/Standby Key initiates a power-down procedure which saves all current settings and test results and should be used for routine power down of Unit.
9	AC Power Fuse	The AC Power Supply fuse holder.
10	External Power Supply Fuse	The External Power Supply Connector fuse holder.
11	External Power Supply Connector	The External Power Supply Connector is the interface connector for the External Power Supply accessory.
12	PCle Connector (Digital I/O)	The Peripheral Expansion Connector is used to connect add- in external devices.
13	sRIO Connector (Digital I/O)	The sRIO Connector is a high speed data communication connector used to transfer high speed data to external devices.

#### 6.0 POWER ON/OFF PROCEDURES

6.1 Power ON Test Set

#### STEP PROCEDURE

- 1. Connect Test Set to a grounded AC Power Supply.
- 2. Place Rear Panel AC Power Switch to ON position.
- 3. Press Front Panel Power On/Standby Button to power ON Test Set.
- 4. Wait while Test Set completes boot-up procedure.

#### 6.2 Power OFF Test Set

During standard power-down sequence (documented below) the Test Set automatically stores Test Set settings and data that are active when the power-down sequence is initiated. If the Test Set is powered down using the AC Power Supply Switch, active UI and Test Set data is lost. STEP PROCEDURE

1.	Press Front Panel Power On/Standby Button to initiate
	power-down sequence.

- 2. At prompt confirm Test Set shutdown.
- 3. Wait while Test Set completes power down sequence.
- 4. Test Set is now in Standby Mode.
- Place Rear Panel AC Power Switch to OFF position for extended storage or to disconnect from AC Power Supply.

Refer to the 7200 Operation Manual for additional information pertaining to powering down the unit.

#### 7.0 USER INTERFACE (UI) COMPONENTS

The Test Set UI is a touch screen control panel that provides a flexible working environment for all users. The UI is designed to allow users to open and close, drag and drop, and maximize/minimize screen components to create custom display configurations.

The Test Set UI is navigated locally using the Front Panel Touch Screen or a USB mouse and/or keyboard. The Touch Screen is still operational when a mouse and/or keyboard is connected to the Test Set.

#### 7.1 Launch Bar

The Launch Bar is a horizontal scrolling menu located at the top of the UI.

The Launch Bar is opened and closed by touching or clicking on the light gray bar at the bottom of the menu.

The Launch Bar is moved from left to right by "dragging" the launch bar or by pressing the left or right arrows.

#### 7.2 Function Icons

The Launch Bar consists of icons that identify functions installed in the Test Set. The Function Icons displayed depend on the options installed in the Test Set. Pressing a Function Icon opens the Function Window on the UI or brings an opened Function Window to the forefront of the UI.

#### 7.3 Function Windows

Function Windows provide visual access to the Test Set's operating parameters and measurement data.

#### 7.3.1 Open/Close Function Windows

Function Windows are opened by selecting the Function Icon from the Launch Bar. Function Windows are closed by selecting the Minimize icon at the bottom of the Function Window.

#### 7.3.2 Function Window Viewing States

#### **Standard View**

Standard view occupies a pre-defined portion of the display. When in Standard View windows can be moved anywhere on the display area.

#### Full Screen View

When a Function Window is maximized, the window occupies the full display area and provides access to function parameters which may not be visible when a window is in Standard view.

#### Minimized

Function Windows can be minimized to the Launch Bar where they remain active but not visible on the display.

#### 7.3.3 Move Function Windows

Function Windows can be moved anywhere on the display area. To move a window, touch or click on the Function Window's title block or background and drag the window to a new location on the display.

#### 7.3.4 Function Window Positioning

When Function Windows are opened they are positioned from left to right in unoccupied display space in the order in which they are opened. When the display is filled, Function Windows are opened and positioned in the center of the display on top of open windows.

When an active Function Window is closed and reopened, the Test Set positions the Function Window in it's last active state and position on the display.

#### 7.3.5 Function Window Icons

Function Windows contain the following icons:

lcon	Function	Description
$\bigcirc$	Maximize	This icon changes the Function Window to Full Screen (maximized) view.
0	Restore	This icon changes the Function Window to Standard (default) view.
	Minimize	This icon minimizes the Function Window to the Launch Bar. Function remains active but not displayed on the UI.

Table 1-1 Function Window Icons

#### 8.0 DEFINING PARAMETERS

Test Set parameters are defined using the following:

#### 8.1 Numeric Entry Window

The Numeric Entry Window is displayed when a numeric data field is selected for editing. The Numeric Entry Window contains a Numeric Keypad, a Slider Bar and a Spinner Knob. The type of numeric entry tool being displayed is changed by pressing the "flip" icon in the bottom right corner of the window. The window defaults to display the Numeric Keypad when it is opened.

#### 8.1.1 Numeric Keypad

The Numeric Keypad allows the user to enter a specific numeric value. Values are enabled by pressing Enter or by selecting a unit of measurement when applicable.



Fig. 3 Numeric Keypad

#### 8.1.2 Slider Bar

The Slider Bar allows the user to select and change a range of values. The value range is selected using the x10 and /10 buttons. The selected values are changed by dragging the slider bar left or right or by using the up/down arrows.



Fig. 4 Single Slider Bar

#### 8.1.3 Spinner Knob

The Spinner Knob allows the user to increase (clock-wise) or decrease (counter clock-wise) a numeric value.



Fig. 5 Spinner Knob

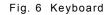
#### 8.2 Drop-down Menus

Drop-down Menus are used to select pre-defined variables. If an opened Drop-down menu extends off of the UI it can be moved up or down on the UI to access menu contents.

#### 8.3 Keyboard

When a Text Data Field is selected, a keyboard is displayed on the UI. The keyboard allows the user to enter alphanumeric content. Data is enabled by pressing the Enter key.

qwertyuio	p 🛛
asdfghjkl	Enter
shift z x c v b n m	Clear
.?123 Eng Spacebar #+=	Cancel





86987 Rev. E0

#### 

January 2020

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