501-915

INSTRUCTION MANUAL
Cable Length Meter

- **MEASURES AND DISPLAYS CABLE LENGTH IN FEET OR METERS**
- **USES TDR METHOD TO MEASURE CABLE LENGTH VIA ITS VOP CONSTANT**
- **MEASURES MOST TYPES OF COPPER CABLE INCLUDING DATA, VOICE, VIDEO, LAMP WIRE, SIAMESE, AND NM CABLES**
- **CAPABLE OF MEASURING LENGTH TO OPEN AND SHORT FAULTS**
- **EXTRA-LARGE FULL COLOR BACK-LIT LCD SCREEN**
- **BUILT-IN TONE GENERATOR WITH SELECTABLE TONE CADENCE TO EASILY TRACE CABLES WITH AN ANALOG TONE PROBE (NOT INCLUDED)**
- **CONSERVES POWER ADJUSTABLE AUTO POWER OFF (APO)**

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KLEIN TOOLS

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GENERAL SPECIFICATIONS

The Klein Tools Cable Length Meter is a portable time domain reflectometer (TDR) cable length meter. It measures cable length, calibrates Velocity of Propagation (VoP) values, finds faults in cables, and provides tone generation for cable tracing.

- **Environment:** Indoors
- **Operating Altitude:** 10000 ft. (3050 m)
- **Relative Humidity:** <90% non-condensing
- **Operating Temperature:** 32° to 122°F (0° to 50°C)
- **Storage Temperature:** -4° to 140°F (-20° to 60°C)
- **Input Protection:** 30V peak 50/60Hz AC or DC
- **Common Cable Length Ranges:** **Coax:** 0 to 2000' (0 to 610 m) **Data:** 0 to 1500' (0 to 457 m) **Electrical:** 0 to 1000' (0 to 305 m)
- **Measurement Method:** Time Domain Reflectometry
- **Measurement Units:** Feet, meters
- **VoP Range:** 0 to 99.9%
- **Accuracy:** ± (2% + 3 ft. or 1 m) with known VoP and consistent cable parameters
- **Tone Generation: Constant:** 1200Hz, **Alternating:** 1000/1500 Hz
- **Batteries:** 2× AA alkaline
- **Battery Low Level:** Approx. 2.2V
- **Battery Life: Active:** Approx. 15 hours **Standby:** Approx. 3 years
- **Auto Power Off (APO): Test Mode:** 5 to 20 minutes (default = 10 min.) **Tone Mode:** 60 minutes, not adjustable.
- **Dimensions:** 6.2" × 2.6" × 1.2" (15.7 × 6.6 × 3.0 cm)
- **Weight:** 12.0 oz. (340 grams) with batteries

Specifications subject to change.

⚠ WARNINGS

To ensure safe operation and service of the meter, follow these instructions. Failure to observe these warnings can result in severe injury or death.

- The Cable Length Meter should NOT be used on energized cabling systems.
- Internal components of the Cable Length Meter are protected up to 30V peak AC or DC. Connecting the meter to voltages above this range may pose a safety hazard to the user and the meter.

SYMBOLS ON METER

⚠	**Warning: Potential for personal injury.** **Caution: Potential for damage or destruction to equipment.**	
Always wear approved eye protection	**Do NOT use on energized circuits**	**Read Instructions**
Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations.		
UKCA - United Kingdom Conformity Assessment	**Conformité Européenne. Conforms with European Economic Area directives.**	2 X AA IEC LR6 ANSI/NEDA 15A **Battery type and orientation**

DEFINITIONS

Velocity of Propogation (VoP) Velocity of Propagation (VOP) is the speed of an electrical signal traveling through a cable, measured as a percentage of the speed of light

BNC-Connector A BNC Connector is a common connector for a coax cable, often associated with security systems

Time Domain Reflectometry (TDR) TDR technology, is a technology that uses VoP values to accurately measure cable lengths

FEATURE DETAILS

Front of Meter   *Top of Meter*   *Back of Meter*

NOTE: No user-serviceable parts inside meter.

1. LCD Screen
2. RJ45 Port
3. BNC Port
4. Battery Cover
5. Power Button
6. "One Dot" Button: Select, Library, Right Arrow
7. "Two Dot" Button: More, Edit, Cancel, No, On/Off
8. "Three Dot" Button - Type, Return, Home, Left Arrow, Yes
9. Test Button
10. Save Button
11. Arrow Up Button
12. Arrow Down Button
13. Male Coax-BNC to Alligator Clips
14. Male Coax-BNC to Female Coax-F
15. Male Coax-BNC to Male Coax-F
16. CAT-6 RJ45 to CAT-6 RJ45
17. Female Coax-BNC to Male Coax-BNC
18. Female Coax-BNC to Male Coax-F

OPERATING INSTRUCTIONS

POWERING ON/OFF
Power ON: Press the Power Button ⑤ to turn the unit on.

Power OFF: Press the Power Button ⑤ for two seconds to turn the unit off. *NOTE: Screen will display "**Powering Off, Saving Data**" while it powers down.*

Auto Power-OFF (APO): The Meter will automatically turn off after a period of inactivity in order to conserve battery power. The time until auto power off depends on which mode the unit is in:

   Test Mode: User-adjustable from 5 to 20 minutes (default is 10 minutes).

   Tone Mode: 60 minutes, not adjustable.

In either mode, the screen will dim after 1 minute of inactivity to conserve battery power.
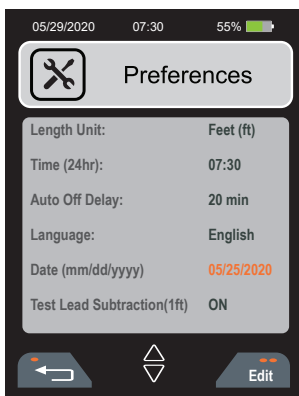
SETTING PREFERENCES
Editable preferences include: Length Display (feet or meters), Time, Auto Power-Off, Language (English, German, French, Spanish), Date, and Test Lead Length Subtraction (when using the included test leads).

05/29/2020	07:30	55%

🛠 Preferences

Length Unit:	Feet (ft)
Time (24hr):	07:30
Auto Off Delay:	20 min
Language:	English
Date (mm/dd/yyyy)	05/25/2020
Test Lead Subtraction(1ft)	ON

⬅ △▽ Edit

1. Press the Power button ⑤ to power-ON the meter.
2. Press the "More" button (two dots) ⑦. The "Preferences" option will be highlighted.
3. Press the "Select" button (three dots) ⑧.
4. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the field you wish to edit. The editable selections will turn orange.
5. Press the "Edit" button (two dots) ⑦.
6. Use the Up ⑪ and Down ⑫ Arrow buttons to make changes. *NOTE: When setting the time or date, use the Right (one dot) ⑥ and Left (three dots) ⑧ arrow buttons to select the parameter you wish to edit (i.e. hour/minute, month/day/year).*
7. Press the Save button ⑩ to save any changes.
8. Press "Return" button (one dot) ⑥ to return to previous screen to perform testing.

NOTE: Turn ON the "Test Lead Subtraction" when using the included test leads.

*NOTE: If changes to clock fail to save, an internal battery needs to be replaced. This is a separate battery from the AA batteries that power the unit and is **NOT** user-servicable. **DO NOT** attempt to replace. Contact Klein Tools at **1-800-553-4676** or **customerservice@kleintools.com** for further details.*
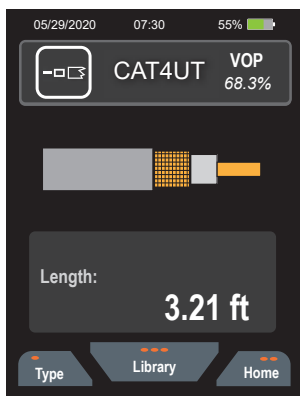
MEASURING CABLES

⚠ Important Safety Information

• The cable to be tested should be evaluated for the presence of voltage with a voltage measurement device by a qualified professional before beginning work with the Cable Length Meter. The cable should be disconnected from any voltage source before beginning work.

• The Cable Length Meter should NOT be used on energized cable systems.

NOTE: It is important that the included accessories be used correctly in order to ensure quick and accurate testing. The length of the included test leads is automatically excluded from the length measurement. If alternate test leads are used, the length must be manually deducted from the length displayed on the Cable Length Meter. See SETTING PREFERENCES section to disable this option.

Measuring Coax Cable

1. The cable to be tested can be terminated with a Coaxial BNC connector or BNC to F test lead, or BNC to F adapter or BNC to alligator clips lead. Connect the cable to be tested to the BNC port on the top of the Cable Length Meter by inserting the connector into the port and turning a quarter turn clockwise to lock in place. The opposite end of the cable to be tested should be left unterminated OR terminated but left unconnected.

2. Press the Power button ⑤ to power-ON the meter.

3. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the Coaxial option and press the "Select" key (three dots) ⑧.

4. Press the "Library" button (three dots) ⑧ to display stored cable manufacturers and styles. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired selection, and press the "Select" button (three dots) ⑧. ***NOTE:*** *If the cable you are measuring is not in the library, refer to the **Changing VoP Value / Adding New Cable Information** section.*

5. Press the Test Button ⑨ to measure the length of the cable. ***NOTE:*** *Turn ON the "Test Lead Subtraction" when using the included test leads.*
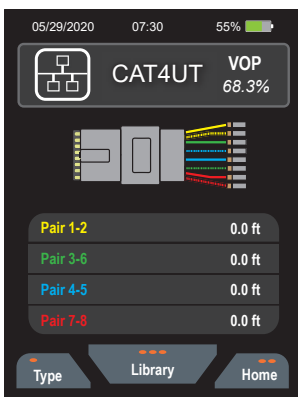
OPERATING INSTRUCTIONS

6. To edit Library entries, use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired selection and press the "Edit" button (two dots) ⑦ to enter the cable information screen. Again, use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired field and press the "Edit" button (two dots) ⑦. Use the "Left Arrow" (one dot) ⑥ and "Right Arrow" (three dots) ⑧ buttons to move the cursor to the desired location and then use the Up ⑪ and Down ⑫ Arrow buttons to select the desired character. Press the Save button ⑩ to save the change or press the "Cancel" button (two dots) ⑦ to discard changes. Use the Up ⑪ and Down ⑫ Arrow buttons to select additional fields or press the "Go Back" button (one dot) ⑥ to return to the Library.

Measuring Twisted Pair (Category, Twisted Pair, Data) Cable

1. The cable to be measured must be terminated with an RJ45 plug on the end that will be attached to the Cable Length Meter. The opposite end of the cable to be tested should be left unterminated, or may be terminated with an RJ45 plug or jack, but left unconnected.

2. Insert the RJ45 plug into the RJ45 port ② in the Cable Length Meter.

3. Press the Power button ⑤ to power-ON the meter.

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CAT4UT	**VOP** *68.3%*
Pair 1-2	0.0 ft
Pair 3-6	0.0 ft
Pair 4-5	0.0 ft
Pair 7-8	0.0 ft
Type	Library	Home

4. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the Data Cable option and press the "Select" button (three dots) ⑧. The default Data cable choice will appear on the screen.

5. Press the "Library" button (three dots) ⑧ to display stored cable manufacturers and styles. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired selection, and press the "Select" button (three dots) ⑧. **NOTE:** *If the cable you are measuring is not in the library, refer to the* **Changing VoP Value / Adding New Cable Information** *section.*

6. To edit Library entries, use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired selection and press the "Edit" button (two dots) ⑦ to enter the cable information screen. Again, use the Up ⑪ and Down ⑫ Arrow buttons to highlight the desired field and press the "Edit" button (two dots) ⑦. Use the "Left Arrow" (one dot) ⑥ and "Right Arrow" (three dots) ⑧ buttons to move the cursor to the desired location, then use the Up ⑪ and Down ⑫ Arrow buttons to select the desired character. Press the Save button ⑩ to save the change or press the "Cancel" button (two dots) ⑦ to discard changes. Use the Up ⑪ and Down ⑫ Arrow buttons to select additional fields or press the "Go Back" button (one dot) ⑥ to return to the Library.

7. Press the Test Button ⑨ to measure the length of the cable. **NOTE:** *Turn ON the "Test Lead Subtraction" when using the included test leads.*
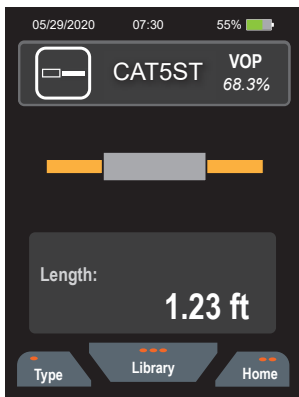
OPERATING INSTRUCTIONS

Measuring Length to Short Faults (Category, Twisted Pair, Data Cable)

1. While measuring a twisted pair cable, if there is a short between twisted pin pairs (i.e. a short between wires 1-2, 3-6, 4-5 or 7-8), the tester will display "**SHORT**", with the distance to the short location.

2. If there is a short between two even numbered wires (i.e. a short between wires 2, 4, 6, or 8), the tester will display "**SHORT**", but distance cannot be measured

3. If there is a short between two odd numbered wires (i.e. a short between wires 1, 3, 5, or 7), the tester cannot detect a short

4. If there is a short between an even and an odd numbered wire that is not a twisted pin pair (for example, a short between wires 1 and 4), the tester will display "**SHORT**", and the distance to the short location for the even wire only

Measuring Two Conductor and Other Cable

1. Connect the BNC-to-Alligator Clips test cable **13** to the BNC port on the top of the Cable length Meter.

2. The cable to be measured should have a pair of exposed conductors that run side-by-side (this includes inner pairs on twisted pair cable). The opposite end of the cable to be tested should be left open (unconnected).

3. Securely attach the alligator clips to the two exposed conductors of the cable to be tested.

4. Press the Power button **5** to power-ON the meter.

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CAT5ST **VOP** *68.3%*

Length:

1.23 ft

Type | **Library** | **Home**

5. Use the Up **11** and Down **12** Arrow buttons to highlight "Other" and press the "Select" button (three dots) **8** . The default cable choice will appear on the screen. ***NOTE:*** *If the cable you are measuring is not in the library, refer to the **Changing VoP Value / Adding New Cable Information** section.*

6. Use the "Library" button (three dots) **8** to select a different cable manufacturer or style with the correct VoP. The VoP value is displayed on the screen in the top description. ***NOTE:*** *If the cable you are measuring is not in the library, refer to the section on calculating VoP.*

7. Press the Test Button **9** to measure the length of the cable. ***NOTE:*** *Turn ON the "Test Lead Subtraction" when using the included test leads.*

8. To edit Library entries, use the Up **11** and Down **12** Arrow buttons to highlight the desired selection and press the "Edit" button (two dots) **7** to enter the cable information screen. Again, use the Up **11** and Down **12** Arrow buttons to highlight the desired field and press the "Edit" button (two dots) **7** . Use the "Left Arrow" (one dot) **6** and "Right Arrow" (three dots) **8** buttons to move the cursor to the desired location and then use the Up **11** and Down **12** Arrow buttons to select the desired character. Press the Save button **10** to save the change or press the "Cancel" button (two dots) **7** to discard changes. Use the Up **11** and Down **12** Arrow buttons to select additional fields or press the back button (one dot) **6** to return to the Library.

OPERATING INSTRUCTIONS

Measuring Length to Short Faults (cables with 3 or more conductor wires)

While measuring a cable with 3 or more conductors, to accurately identify which wires are shorted and the distance to the short location, multiple measurements of different wire combinations should be measured. For example, if measuring NM 14/2 electrical cable, the steps for testing are as follows:

1. Set up the tester as outlined in the **MEASURING TWO CONDUCTOR AND OTHER CABLE** section on previous page.

2. Connect the HOT and NEUTRAL wires to the red alligator clip, and the GROUND wire to the black alligator clip. If "**SHORT**" is displayed, at least one of the HOT and NEUTRAL wires is shorted with GROUND. If "**SHORT**" is not displayed, there is no short between HOT or NEUTRAL and GROUND.

3. Connect the HOT and GROUND wires to the red alligator clip, and the NEUTRAL wire to the black alligator clip. Similarly, if "**SHORT**" is displayed, at least one of the HOT and GROUND wires is shorted with NEUTAL. If "**SHORT**" is not displayed, there is no short between HOT or GROUND and NEUTRAL.

4. Connect the NEUTRAL and GROUND wires to the red alligator clip, and the HOT wire to the black alligator clip. Similarly, if "**SHORT**" is displayed, at least one of the NEUTRAL and GROUND wires is shorted with HOT. If "**SHORT**" is not displayed, there is no short between NEUTRAL or GROUND and HOT.

**Changing VoP Value /
Adding New Cable Information**
Always verify that the VoP of the cable you are measuring is stored in the Cable Length Meter. If it is not, check the cable box for the information or check the manufacturer's website. If the VoP can not be located, a value can be found using a known length of the cable in question (see **Obtaining VoP Values** section).

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VOP ⚠ *Cable Must Be Connected*

Type: Coax
Pair: 1
VOP: **70%**
Length: 5
Name: _____
Manufacturer: _____

Cancel

1. Press the Power button ⑤ to power-ON the meter.
2. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the cable type to be measured and press the "Select" button (three dots) ⑧.
3. Press the "Library" button (three dots) ⑧ and use the Up ⑪ and Down ⑫ Arrow buttons to highlight the row to be corrected. At the end of the list, "Add New" allows you to add a new cable without changing any of the existing default known cable values.
4. Press the "Edit" button (two dots) ⑦.
5. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight the VoP and press the "Edit" button (two dots) ⑦.
6. Use the "Left Arrow" (one dot) ⑥ and "Right Arrow" (three dots) ⑧ to highlight the numbers to be changed, and use the Up ⑪ and Down ⑫ Arrow buttons to increase or decrease the numbers until they display the value you have obtained.
7. Enter/edit the Name, Manufacturer, and Impedance values as needed.
8. Press the Save button ⑩ to save changes. "Save successful" will display on the screen.
9. Press the "Return" button (three dots) ⑧ to return to testing.

Obtaining VoP Values
There are three ways to obtain VoP values for a cable:
1. VoP values for the most common cable types are included in the Cable Length Meter. They can be estimated based on these values or using the chart on page 11.
2. The VoP can usually be obtained by checking the cable specifications or contacting the manufacturer.
3. The VoP can be found using a known length of the cable that will be used during testing (see **Determining an Unknown VoP Value** section).
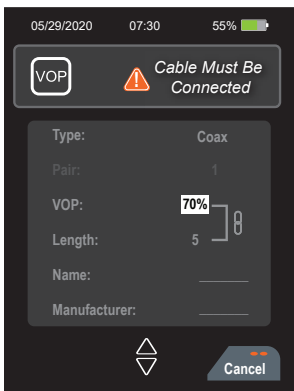
OPERATING INSTRUCTIONS

Determining an Unknown VoP Value

Follow these instructions to set the Length Constant based on a sample cable of known length. The Cable Length Meter can calculate a VoP from a test cable length of 25 to 1000 ft. (10 to 300 m). Longer cable lengths will give more accurate results. It is recommended to use at least 50' (20 m).

1. Prepare a length of the same type of cable for which you need to determine the VoP.
2. Determine the actual length of the test cable length using the markings on the cable, a tape measure, laser distance meter, etc.
3. Connect the test cable length to the Cable Length Meter as described in "**MEASURING CABLES**" section.
4. Press the Power button ⑤ to power-ON the meter.
5. Press the "More" button (two dots) ⑦.
6. Use the Up ⑪ and Down ⑫ Arrow buttons to highlight "Calibrate VoP/Length" and press the "Select button" (three dots) ⑧.
7. Press the "Select" button (three dots) ⑧.
8. Press the "Edit" button (two dots) ⑦ and use the Up ⑪ and Down ⑫ Arrow buttons to select the cable type to be edited, and press the "Save" button ⑩.
9. If testing data cable, use the Up ⑪ and Down ⑫ Arrow buttons to select the wire pair to be used for the test. Press the "Edit" button (two dots) ⑦ to change the pin pairs, then press the Save button ⑩ to complete the change. *NOTE: For all other cable types, skip this step.*
10. Use the Up ⑪ and Down ⑫ Arrow buttons to select the VoP percentage value. Press the "Edit" button (two dots) ⑦ and the first digit will blink, indicating that is able to be changed. Change the VoP percentage value by using the Up ⑪, Down ⑫, Left (three dots) ⑨, and Right (one dot) ⑦ Arrow buttons until the value for the Length is the correct value. then press the Save button ⑩ to complete the change.
11. Use the Up ⑪ and Down ⑫ Arrow buttons to select the Name and Manufacturer selections. Press the "Edit" button (two dots) ⑦ to create a name and assign a manufacturer to the new known VoP, then press the Save button ⑩ to complete the change.

Toning Data Cable

1. Insert RJ45 cable into RJ45 Port ② or use Alligator Clips ⑬ to connect to wires in cable to be toned.
2. Press the Power button ⑤ to power-ON the meter.
3. Use the Up ⑪ and Down ⑫ Arrow buttons to select "Tone".
4. Press the "Select" button (three dots) ⑧.
5. Use the Up ⑪ and Down ⑫ Arrow buttons to select "Data" and press the "Select" button (three dots) ⑧.
6. Toning will default to "OFF" for each of the pairs. Use the Up ⑪ and Down ⑫ Arrow buttons to select the desired pair(s) and press the "Edit" button (two dots) ⑦ to scroll through OFF, 1200, 1000/1500Hz warble for each pair (multiple pairs can be toned at the same time by selecting a tone frequency for each pair to be tested).
7. With toning turned on, use the Up ⑪ and Down ⑫ Arrow buttons to select 1200Hz or 1000/1500 Hz warble for each pair (multiple pairs can have tone enabled simultaneously; select desired tone frequency as described above).

Toning Coax and Other Cable

1. Press the Power button ⑤ to power-ON the meter.
2. Use the Up ⑪ and Down ⑫ Arrow buttons to select "Tone".
3. Press the "Select" button (three dots) ⑧.
4. Use the Up ⑪ and Down ⑫ Arrow buttons to select "Coaxial" or "Other", and press the "Select" button (three dots) ⑧.
5. Toning will default to "OFF". Press the "Edit" button (two dots) ⑦ to scroll through OFF, 1200Hz or 1000/1500 Hz warble.

PRE-LOADED CABLE VALUES

	CABLE TYPE	6-DIGIT NAME	NVP	MANUFACTURER	6-DIGIT MFG
	COAXIAL CABLE				
	CNT-195	CNT195	75.0	Commscope	COMSCP
	RG58	RG58	66.0	Belden	BELDEN
	RG59	RG59	66.0	Belden	BELDEN
	RG59	RG59	78.0	Southwire	STHWRE
-□□	RG6/U	RG6	82.0	Belden	BELDEN
	RG6/U	RG6	80.0	Southwire	STHWRE
	RG6/U	RG6	82.0	Commscope	COMSCP
	RG6 Quad Shield	RG6Q	83.0	Belden	BELDEN
	RG6 Quad Shield	RG6Q	84.0	Commscope	COMSCP
	RG11	RG11	82.0	Commscope	COMSCP
	PHONE CABLE				
	CAT3 4-Pair	CAT3	67.3	Southwire	STHWRE
	CAT3 25,50,100 pair	CAT3	69.0	Panduit	PNDUIT
	24/25 Pair CAT3	CAT3	64.0	Commscope	COMSCP
	DATA CABLE				
	CAT5	CAT5	75.0	Farnell	FRNELL
	CAT5e CMR	CAT5ER	70.0	Hitachi	HTACHI
	CAT5e CMP	CAT5EP	68.0	Hitachi	HTACHI
	CAT5e U/UTP	CAT5E	70.0	Mayflex	MAYFLX
	CAT5e CMP	CAT5EP	66.0	Panduit	PNDUIT
	CAT5e CMR	CAT5ER	70.0	Panduit	PNDUIT
	CAT5e	CAT5E	73.1	Commscope	COMSCP
	24/25 Pair CAT5e	CAT5E	71.0	Commscope	COMSCP
	CAT6 F/UTP	CAT6_F	70.0	Hitachi	HTACHI
	CAT6 U/UTP	CAT6	65.0	Panduit	PNDUIT
品	CAT6	CAT6	69.0	Commscope	COMSCP
	CAT6 CMP	CAT6_P	72.0	Panduit	PNDUIT
	CAT6 CMR	CAT6_R	70.0	Panduit	PNDUIT
	CAT6	CAT6	65.0	Panduit	PNDUIT
	CAT6 CMR	CAT6_R	68.0	Nextspeed	NXTSPD
	CAT6 CMP	CAT6_P	70.0	Nextspeed	NXTSPD
	CAT6A	CAT6A	64.0	Belden	BELDEN
	CAT6A LSZH	CAT6A	65.0	Panduit	PNDUIT
	CAT6A CMR	CAT6AR	70.0	Panduit	PNDUIT
	CAT6A CMR	CAT6AR	68.0	Hitachi	HTACHI
	CAT6A CMP	CAT6AP	70.0	Hitachi	HTACHI
	CAT6A	CAT6A	64.0	Commscope	COMSCP
	CAT6E CMP	CAT6EP	70.0	Nextspeed	NXTSPD
	ELECTRICAL CABLE				
	10/2 NM Coiled	10/2_C	68.8	Southwire	STHWRE
	10/2 NM Uncoiled	10/2_U	71.2	Southwire	STHWRE
	12/2 NM Coiled	12/2_C	67.1	Southwire	STHWRE
	12/2 NM Uncoiled	12/2_U	73.2	Southwire	STHWRE
	12/3 NM Coiled	12/3_C	63.7	Southwire	STHWRE
□	12/3 NM Uncoiled	12/3_U	70.6	Southwire	STHWRE
	12/3 NM Twisted Coiled	12/3TC	68.4	Southwire	STHWRE
	12/3 NM Twisted Uncoiled	12/3TU	68.4	Southwire	STHWRE
	14/2 NM Coiled	14/2_C	66.4	Southwire	STHWRE
	14/2 NM Uncoiled	14/2_U	71.9	Southwire	STHWRE
	14/3 NM Uncoiled	14/3_U	68.6	Southwire	STHWRE
	SECURITY CABLE				
	12/2 Fire	12/2_F	59.9	Southwire	STHWRE
	16/2 Fire	16/2_F	65.9	Southwire	STHWRE
□	18/4 Fire	18/4_F	60.4	Southwire	STHWRE
	18/6 Fire	18/6_F	61.6	Southwire	STHWRE
	14/2 Audio Cable	14/2_A	71.0	Southwire	STHWRE
	OTHER CABLE				
	CAT5e	CAT5E	73.1	Commscope	COMSCP
	CAT6	CAT6	69.0	Commscope	COMSCP
	CAT6A	CAT6A	64.0	Commscope	COMSCP
□	CAT6A	CAT6A	64.0	Belden	BELDEN
	RG59	RG59	66.0	Belden	BELDEN
	RG6/U	RG6	82.0	Belden	BELDEN
	RG7	RG7	85.0	Belden	BELDEN
	RG11	RG11	82.0	Commscope	COMSCP

BATTERY REPLACEMENT

1. Loosen screw in Battery Cover ⑤ with #2 Phillips screwdriver and remove Battery Cover. **NOTE:** Screw is not removable from Battery Cover.
2. Remove and recycle exhausted batteries.
3. Install two new AA alkaline batteries into battery compartment, observing polarity marked inside case.
4. Replace battery door and fasten screw. DO NOT OVERTIGHTEN.

CLEANING

Be sure meter is turned off and wipe with a clean, dry lint-free cloth. **Do not use abrasive cleaners or solvents.**

STORAGE

Remove the batteries when meter is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the Specifications section, allow the meter to return to normal operating conditions before using.

WARRANTY

www.kleintools.com/warranty

FCC AND IC COMPLIANCE

See this product's page at **www.kleintools.com** for FCC compliance information.

Canada ICES-003 (B) / NMB-003 (B)

DISPOSAL / RECYCLE

Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. Please see **www.epa.gov/recycle** for additional information.

CUSTOMER SERVICE

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