CABLE VERIFICATION & TRACING ANALYZER

Model 6683

SEE WHAT'S HIDDEN.
TRACE IT. VERIFY IT. FIX IT.

Locate, trace, and verify cables, conductors, and metal pipes — powered by precision digital detection

- **Pinpoint faults fast** — find shorts, opens, and breaks with precision and ease
- **Dual operation modes:**
  Unipolar – Trace a single cable quickly using the ground as reference
  Bipolar – Trace two circuits to identify pairs or for more accurate fault location
- **Clear digital and audible feedback** with adjustable sensitivity for accurate tracing
- **Multiple transmitter ID codes** for identifying several lines simultaneously
- **Large backlit LCDs and built-in LED flashlight** for visibility in low-light or confined spaces

Our products are backed by over 130 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Technical Hotline: (800) 343-1391
www.aemc.com

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Cable Verification & Tracing Analyzer
Model 6683

Pinpoint the Problem, Trace the Solution

The Cable Verification & Tracing Analyzer Model 6683 **quickly locates, identifies, and diagnoses electrical wiring, data cables, and metal pipes** — even when buried or hidden in walls. Its transmitter-receiver system combines precision detection, safety, and digital filtering for fast, reliable troubleshooting.

Whether identifying a live line, tracing a circuit back to a breaker, or finding a fault in a buried conductor, the Model 6683 simplifies complex diagnostics into a few intuitive steps.

Key Highlights:

- Detects open circuits and interruptions
- Locates cables in walls, ceilings, or underground
- Identifies presence of voltage via NCV *(non-contact voltage)*
- Works in energized or de-energized systems
- Provides real-time feedback via LCD and audible tone

FEATURES

- Quickly locates and traces electrical or metallic conductors, and identifies cable fault locations such as shorts and open circuits
- **Non-contact voltage detection** (NCV) up to 1000 VAC
- Dual operation modes: **Unipolar** *(de-energized)* and **Bipolar** *(live or de-energized)*
- **Adjustable sensitivity** — **automatic** for quick scans or **manual** for fine detection
- **Clear digital, visual, and audible indicators** with adjustable pitch or optional mute for precise tracing
- **Multiple transmitter ID codes** *(up to 7)* for identifying several lines simultaneously
- Digital filtering technology ensures **reliable detection and strong immunity to interference**
- **Large backlit LCDs** on both transmitter and receiver show transmission power, digital ID, voltage presence indicator, and battery status
- **Built-in LED flashlight** for low-light spaces
- **Auto power-off** on receiver to extend battery life

APPLICATIONS

Data Center & Telecom

- Trace and identify power and communication lines **in cable trays**
- Locate faults or breaks in **network and control wiring**
- Verify circuit continuity and connection points for **rack equipment**
- Detect **energized or de-energized cables** before maintenance or rerouting
- Distinguish **multiple conductors** using multiple transmitter ID codes

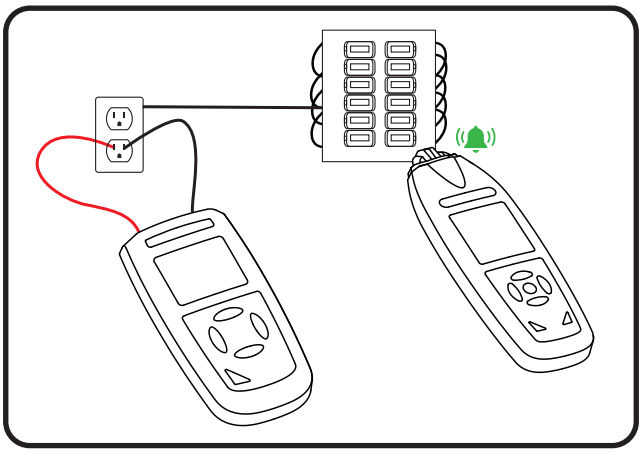
Electrical

- Identify **fuses**, **circuit breakers**, and other **protective devices**
- **Trace cables** concealed in walls or ceilings
- **Locate outlets wired in parallel on branch circuits**
- **Locate hidden junction boxes** behind wall coverings or finishes
- **Detect live power source cables** using non-contact voltage

Plumbing & Heating

- **Locate metallic pipes** *(copper, steel)*
- **Trace non-metallic pipes** by inserting a single-conductor cable from one accessible end

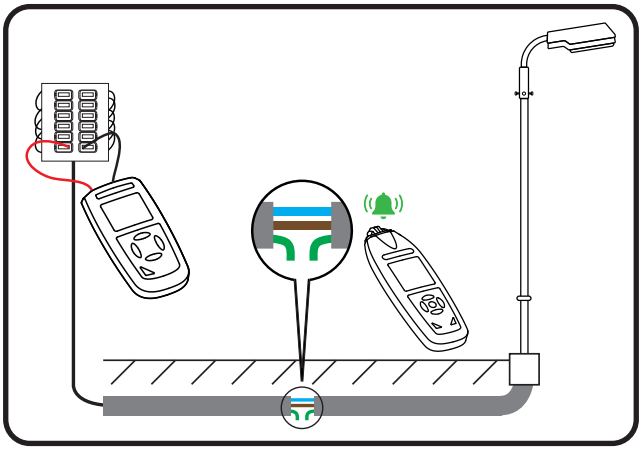
Model 6683
Applications



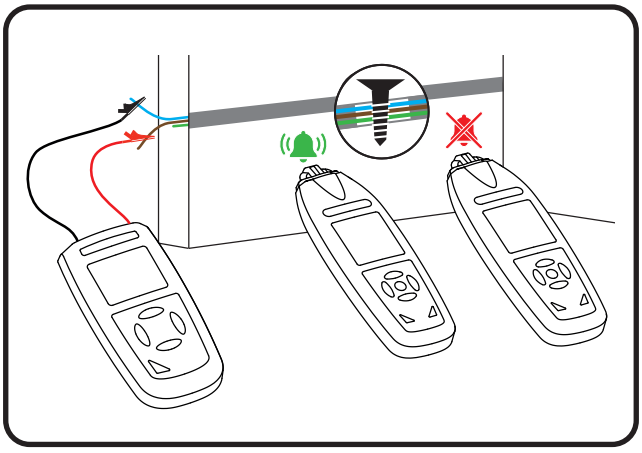
Locate and track lines and sockets

If voltage is present, the **TRANSMITTER signals its presence** and **indicates its value**. The signal emitted is **digitally coded to prevent interference**, and its power can be **adjusted manually** to refine detection. In more complex cases, the **identification code can be configured** to allow **up to 7 transmitters** to be used simultaneously.

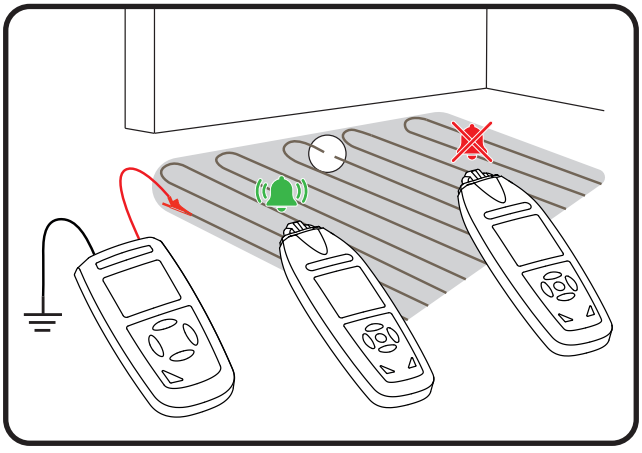
The **RECEIVER** is equipped with a **built-in flashlight, a silent mode** and **automatic or manually adjustable sensitivity** for better selectivity to adapt to all situations on the construction site. Because of its NCV function, the receiver can be **used alone to locate a hot conductor connected to an energized system**.



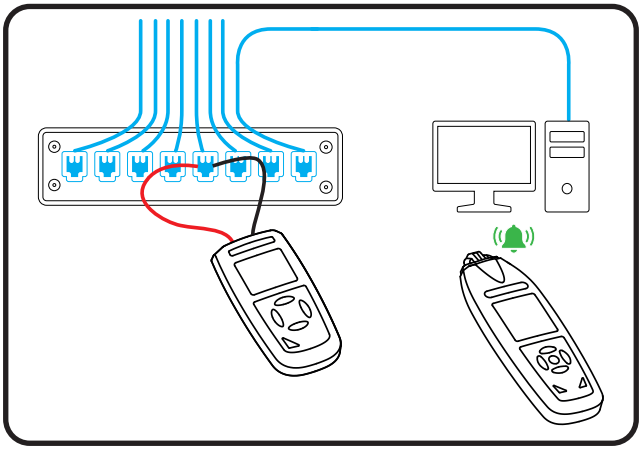
Locate a cable fault



Locate damaged cables



Detect faults in an underfloor heating system (unshielded)



Trace twisted pair and other data cables

Model 6683
User Interface & Buttons

Transmitter (6683E) ***Receiver (6683R)***

TRANSMITTER KEYPAD (6683E)

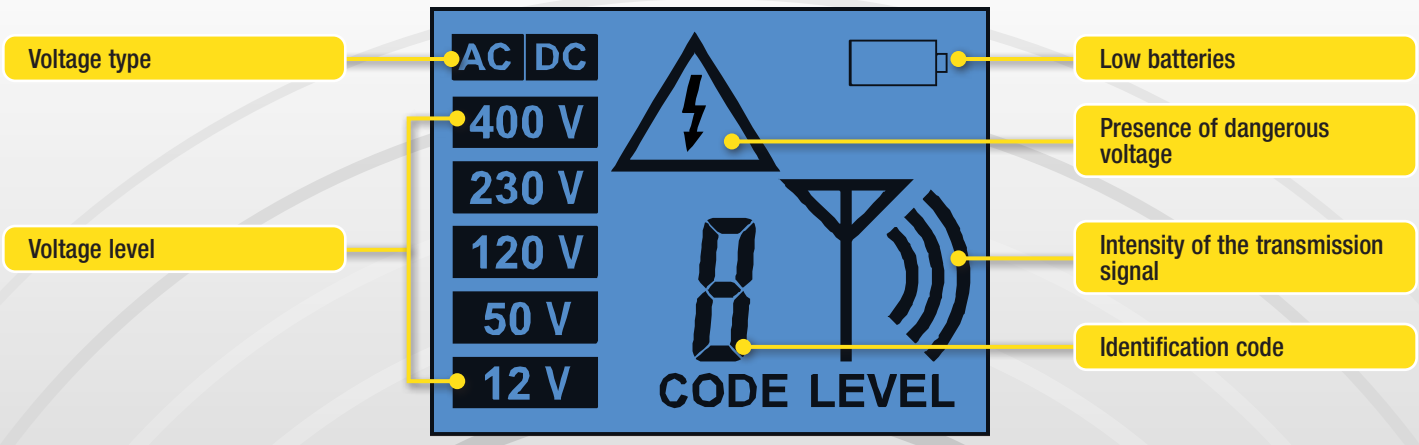
⏻	To turn instrument ON or OFF
▲▼	To increase or decrease the signal transmission strength
CODE SEL	To select the transmitter identification code
☀	To switch the display backlighting ON or OFF

RECEIVER KEYPAD (6683R)

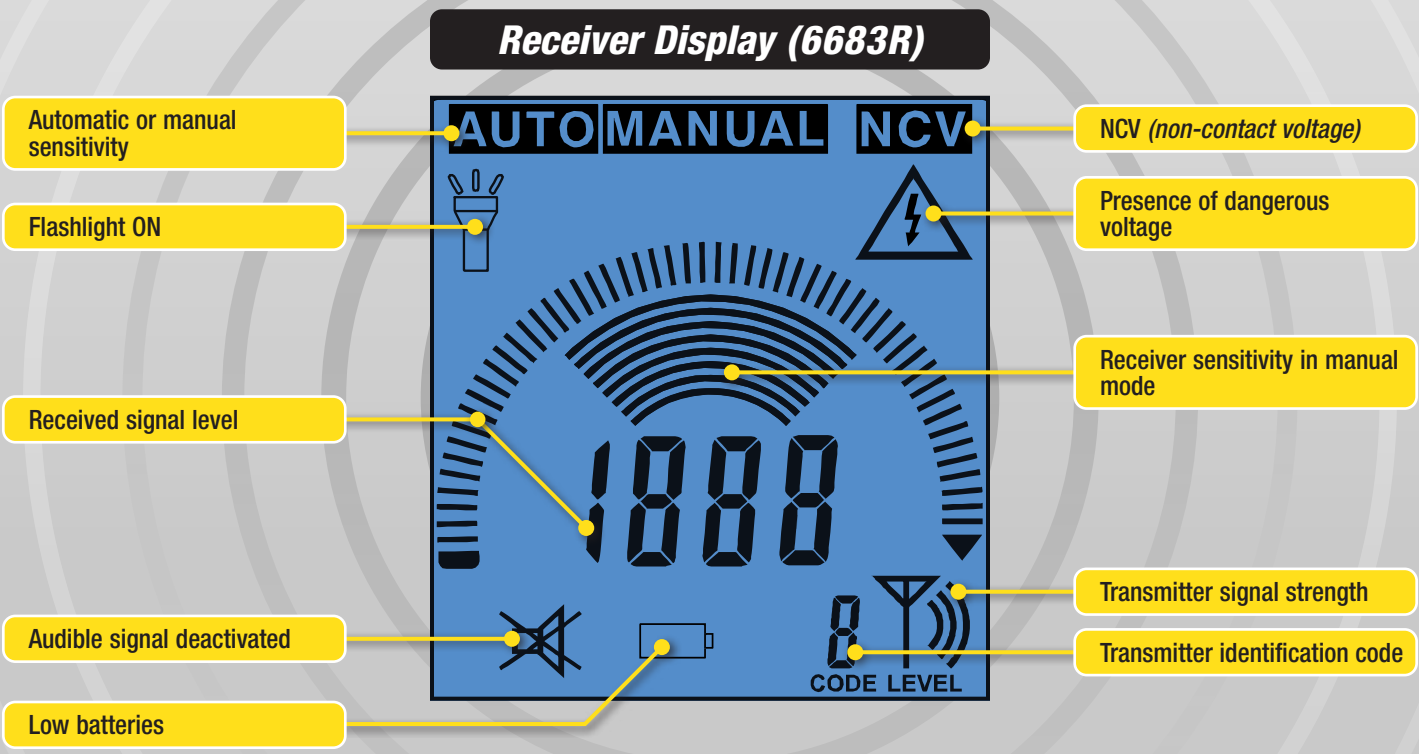
⏻	To turn instrument ON or OFF
🔦	To turn flashlight ON or OFF
▲▼	To increase or decrease signal reception sensitivity in manual mode
NCV	To activate or deactivate the NCV *(non-contact voltage)* function
☀	**Short press:** To switch the display backlighting ON or OFF
🔇	**Long press:** To activate or deactivate the sound signal
MODE	To switch detection sensitivity level from automatic to manual mode. In this case, the setting is made using the ▲▼ buttons. If the NCV function is active, it can be deactivated to switch in the transmitter signal detection function.

Model 6683
Screen Displays

Transmitter Display (6683E)



Receiver Display (6683R)



Model 6683
Specifications

300 V CAT III

MODEL	6683E (TRANSMITTER)
Display	Backlit LCD display
Information Displayed	Measured voltage level, type *(AC or DC)*, transmitted signal power, battery status, identification code, voltage presence
Output Signal Frequency	125 kHz
External Voltage Identification Range	(12, 50, 120, 230) V and 400 V (50/60) Hz or DC ± 2.5 %
Signal Power	Adjustable *(3 levels)*
Transmitter Identification	Digital signal coding allowing the use of 7 transmitters simultaneously
Power Supply	(6) 1.5 V AAA batteries
Safety	IEC/EN 61010-2-030 300 V CAT III
Operating / Storage Temperature	Operating Temperature: (32 to 104) °F (0 to 40) °C Storage Temperature: (-4 to 140) °F (-20 to 60) °C
Dimensions / Weight	Dimensions: (6.3 x 3.30 x 1.57) in (160 x 84 x 40) mm; Weight: 12.34 oz (350 g)
MODEL	**6683R (RECEIVER)**
Display	Backlit LCD display
Information Displayed	Signal amplitude, detection sensitivity, transmitter identification code and transmitted signal strength, battery status, voltage presence
Detection Depth With Transmitter	Unipolar application: (0 to 6) ft (0 to 2) m Bipolar application: (0 to 1.6) ft (0 to 0.5) m Single loopback line: Up to 8.2 ft (2.5 m)
Detection Sensitivity	Automatic or manual adjustment *(7 levels)*
Non-Contact Voltage (NCV) Function	(12 to 1000) VAC
Other Functions	Flashlight; audible signal deactivation
Power Supply	(6) 1.5 V AAA batteries
Safety	Type F sensor compliant with IEC/EN 61010-031 300 V CAT III
Operating / Storage Temperature	Operating Temperature: (32 to 104) °F (0 to 40) °C Storage Temperature: (-4 to 140) °F (-20 to 60) °C
Dimensions / Weight	Dimensions: (7.8 x 2.63 x 1.42) in (198 x 67 x 36) mm; Weight: 10.93 oz (310 g)

Consult factory for NIST Calibration prices.

Model 6683
Ordering Information

PRODUCT INCLUDES

Cable Verification & Tracing Analyzer Model 6683. . . . . Cat. #2127.89

- Transmitter and Receiver
- Soft carrying case
- Set of (2) 5 ft silicone color-coded (red/black) safety leads with 4 mm straight/right angle banana plugs
- (2) Alligator clips (red/black)
- 110 V outlet adapter with banana plugs
- Mini ground rod
- E14 bulb adapter
- (6) 1.5 V AAA (LR03) batteries
- Multilingual user manual

ACCESSORIES

- Probe – Black test probe (Rated 1000 V, CAT IV, 15 A, UL V2). . . .**Cat. #5000.97**
- Probe – Red test probe (Rated 1000 V, CAT IV, 15 A, UL V2) . . . . .**Cat. #5000.98**

REPLACEMENT PARTS

- Adapter – 110 V outlet with 4 mm banana plugs . . . . . .**Cat. #2118.49**
- Lead – Set of (2) 5 ft silicone color-coded (red/black) with 4 mm straight/right angle banana plugs (Rated 1000 V, CAT IV, UL). . . . . .**Cat. #5000.94**
- Clip – Safety alligator – Black (1000 V, CAT IV, 15 A, UL V2) . . . . .**Cat. #5000.99**
- Clip – Safety alligator – Red (1000 V, CAT IV, 15 A, UL V2) . . . . . .**Cat. #5100.00**
- Mini ground rod for use with Models 6681 & 6683 . . . . . .**Cat. #5100.22**
- Adapter – E14 Bulb adapter for use with Model 6683 . . . . . .**Cat. #5100.23**
- Case – Replacement soft carrying case for Model 6683 . . . . . .**Cat. #5100.24**

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UNITED STATES & CANADA

Chauvin Arnoux®, Inc.
d.b.a. AEMC® Instruments
15 Faraday Drive
Dover, NH 03820 USA
(603) 749-6434

Customer Support
Place orders, obtain prices and delivery options
(800) 343-1391
customerservice@aemc.com

Sales & Marketing Department
sales@aemc.com
marketing@aemc.com

Repair & Calibration Service
repair@aemc.com

Technical & Product Application Support
(800) 343-1391
techsupport@aemc.com

INTERNATIONAL SUPPORT

South America, Central America, Mexico & the Caribbean, Australia & New Zealand

Chauvin Arnoux®, Inc.
d.b.a. AEMC® Instruments
15 Faraday Drive
Dover, NH 03820 USA
export@aemc.com

All other countries

Chauvin Arnoux®
12-16 Rue Sarah Bernhardt
92600 Asnières-Sur-Seine, FR
+1 33 1 44 85 45 85
info@chauvin-arnoux.com
www.chauvin-arnoux.com

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