

# CA 6422 & CA 6424

## 2P & 3P Earth/Ground Testers



**To keep your  
installation safe,  
measure your  
earth connection!**



- 2P resistance/3P earth resistance measurement up to 50 kΩ for highly resistive terrain
- Automatic stabilization of the measurement
- Help with placing the stakes – average and 52%/62%/72% deviation
- Leakage current measurement from 0.5 mA
- Battery recharging via the mains, USB socket or vehicle cigarette lighter

# CA 6422 & CA 6424

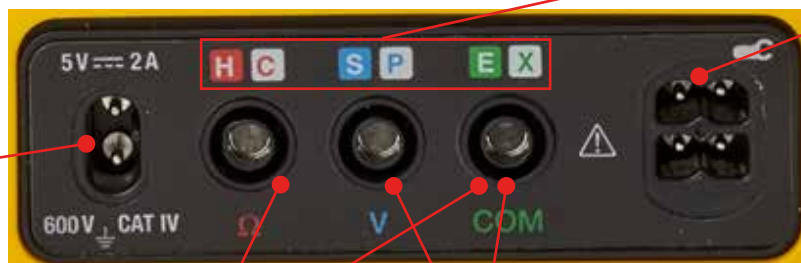
## ERGONOMICS

- A rugged, waterproof casing for intensive, all-terrain use
- Connections with text and coloured markings to avoid any risk of errors
- Detection if a hazardous voltage is present, thus prohibiting measurement
- The CA 6422 & CA 6424 are designed for work in total safety

3 measurement inputs  
3P earth: H, S, E

Current measurement:  
G72 clamp input for CA 6424

Battery charger  
input for CA 6424



2P resistance measurement:  
Ω + COM

Voltage measurement:  
V + COM

672 clamp  
for CA 6424



Direct access  
to all the  
functions, even  
when wearing  
gloves

Hazardous voltage LED

Function keys

Operating help  
indications



Cable  
compensation

On/Off button

The **NOISE** symbol flashes if a noise voltage is present, indicating that the measurement is subject to noise. If the noise level reaches a dangerous value, the symbol ⚡ flashes and measurement is impossible.

Wide backlit LCD screen

Measurement selection

Test activation. Backlit button  
visible in all circumstances

52%

62%

# CA 6422 & CA 6424

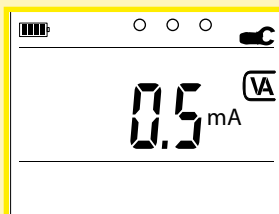
## OPTIMIZED USE

As soon as it is powered up, the instrument automatically performs a resistance measurement in 2P mode. A short press on the TEST button starts measurements in one-shot 3P mode. A long press on TEST can be used to activate the permanent 3P mode. Internal filtering automatically stabilizes the measurement. As soon as it has stabilized, the result is frozen on the display. A LED indicates the presence of a hazardous voltage which prohibits measurement. If the NOISE symbol flashes, it means that a noise voltage is present. In the event of a noise-filled environment, automatic switching from a frequency of 128 Hz to 256 Hz helps to improve measurement accuracy.

## MEASUREMENTS

### Current measurements

As soon as it is connected to the CA 6424, the (optional) G72 clamp is recognized automatically. The CA 6424 then switches to current measurement mode (0.5 mA to 60.00 A).



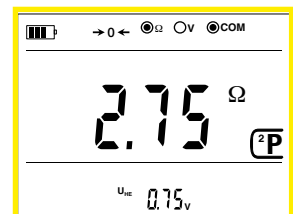
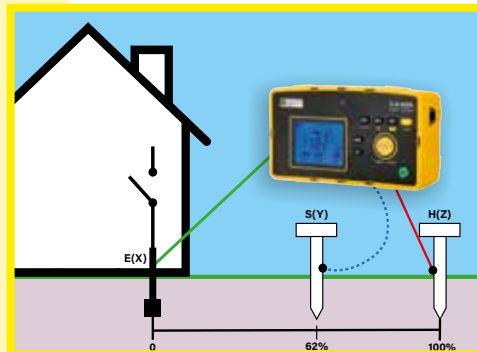
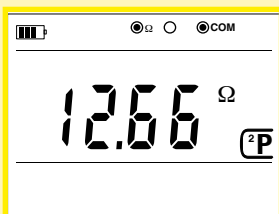
### Voltage measurements

The CA 6424 displays the value of the voltage between the V and COM terminals.



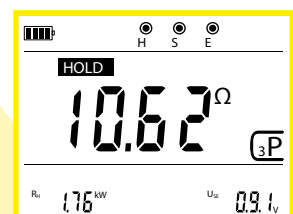
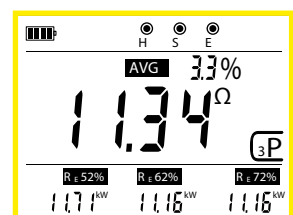
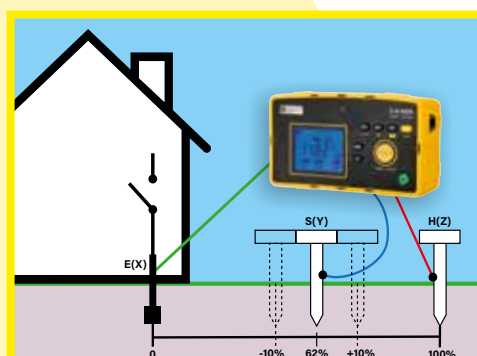
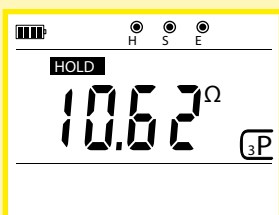
### 2P earth measurements

The automatic startup in 2P resistance mode immediately enables you to test the integrity of the H stake.



### 3P earth measurements

The 3P earth mode memorizes the 52%, 62% and 72% measurement values and calculates the difference in % in relation to the average. If the difference is too great, the percentage value displayed on screen flashes. The CA 6424 can display the resistance of the stake RH and the voltage USE.



72%

| CA 6422                                             |                                                                                  | CA 6424                                                                   |
|-----------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Voltage</b>                                      |                                                                                  |                                                                           |
| Range                                               | -                                                                                | 0.1-600 V                                                                 |
| Resolution                                          | -                                                                                | 0.1 V                                                                     |
| Accuracy                                            | -                                                                                | ± (1%R + 1 ct)                                                            |
| <b>2P resistance</b>                                |                                                                                  |                                                                           |
| Range                                               | 0.05-99.99 Ω / 80.0-999.9 Ω / 0.800-9.999 kΩ / 8.00-50.00 kΩ                     |                                                                           |
| Resolution                                          | 0.01 Ω / 1 Ω / 10 Ω / 100 Ω                                                      |                                                                           |
| Accuracy                                            | ± (2%R + 10 cts) / ± (2%R + 2 cts) / ± (2%R + 1 ct) / ± (2%R + 1 ct)             |                                                                           |
| Cable compensation                                  | -                                                                                | up to 5 Ω                                                                 |
| <b>3P earth resistance</b>                          |                                                                                  |                                                                           |
| Range                                               | 0.5 Ω - 2.000 kΩ                                                                 | 0.5 Ω - 50.00 kΩ                                                          |
| Resolution                                          | 0.01 Ω / 0.1 Ω / 1 Ω                                                             | 0.01 Ω / 0.1 Ω / 1 Ω / 10 Ω                                               |
| Accuracy                                            | ± (1%R + 10 cts) / ± (1%R + 2 cts) / ± (1%R + 1 ct)                              |                                                                           |
| Measurement frequency                               | 128 Hz or 256 Hz                                                                 |                                                                           |
| No-load voltage                                     | ±10 V peak                                                                       |                                                                           |
| Measurement mode                                    | One-shot or permanent                                                            |                                                                           |
| Data storage                                        | -                                                                                | Registers: RE @ 62%; RE @ 52%; RE @ 72%                                   |
| Calculation of average                              | -                                                                                | Calculation of the average and the % deviation in relation to the average |
| <b>RH stake resistance measurement</b>              |                                                                                  |                                                                           |
| Range                                               | -                                                                                | 0.05-9.999 kΩ / 8 - 49.99 kΩ                                              |
| Resolution                                          | -                                                                                | 1 Ω / 10 Ω                                                                |
| Accuracy                                            | -                                                                                | ± (10%R + 1 ct)                                                           |
| <b>U<sub>SE</sub> voltage measurement</b>           |                                                                                  |                                                                           |
| Range                                               | -                                                                                | 0.10 - 99.99 VAC / 80.0 - 600 VAC                                         |
| Resolution                                          | -                                                                                | 0.01 V / 0.1 V                                                            |
| Accuracy                                            | -                                                                                | ± (2%R + 2 cts)                                                           |
| <b>Current measurement (via optional G72 clamp)</b> |                                                                                  |                                                                           |
| Range                                               | -                                                                                | 0.5 - 999.9 mA / 0.800-9.999 A / 8.00-60.00 A                             |
| Resolution                                          | -                                                                                | 0.1 / 1 / 10 mA                                                           |
| Accuracy                                            | -                                                                                | ± (1%R + 4 cts) / ± (1%R + 2 cts)                                         |
| <b>General specifications</b>                       |                                                                                  |                                                                           |
| Display                                             | Backlit custom 206-segment LCD                                                   |                                                                           |
| Measurement mode                                    | R 2P (Ω), R 3P (Ω)                                                               | V, I, R 2P (Ω), R 3P (Ω)                                                  |
| Power supply                                        | 6 x LR 6 or AA batteries                                                         | 6 x NiMH rechargeable batteries, charging time approx.. 6 hrs             |
| Charger                                             | -                                                                                | Internal via mains/USB adapter supplied                                   |
| Automatic power-off                                 | -                                                                                | Deactivatable                                                             |
| Battery life                                        | > 2,000 x 3P earth measurements at 100 Ω                                         | > 1,500 x 3P earth measurements at 100 Ω                                  |
| Dimensions / weight                                 | 223 x 126 x 70 mm / 1 kg                                                         |                                                                           |
| Environment                                         | Operation: -10 to +50°C / Storage: -40 to +70°C (without batteries/accumulators) |                                                                           |
| Protection                                          | Up to 600 V on any of the input terminals                                        |                                                                           |
| IP / IK index                                       | IP 65 as per IEC 60529 / IK 04 as per IEC 50102                                  |                                                                           |
| Drop test                                           | 1 metre as per IEC 61010-1                                                       |                                                                           |
| Standards / electrical safety                       | EMC: IEC 61326-1; IEC 61010-2-030 / 600 V CAT IV                                 |                                                                           |
| Compliance with IEC 61557                           | IEC 61557-1 and IEC 61557-5                                                      |                                                                           |

## STATE AT DELIVERY AND REFERENCES

**CA 6422** **P01127012**  
Instrument delivered with 6 x LR6 type AAA batteries, 1 quick start guide, 1 safety datasheet, 1 test report with measurement results, WEB link/QR Code for downloading the manuals.

**CA 6424** **P01127014**  
1 carrying bag, 6 NiMH batteries, 1 USB 2A power supply, 1 USB micro-razor power cable, 1 multilingual quick start guide, 1 safety datasheet, 1 battery datasheet, 1 test report with measurement results, WEB link/QR Code for downloading the manuals.

## ACCESSORIES AND REPLACEMENT PARTS



Carrying bag  
G72 current clamp  
4-point hands-free strap  
15m earth kit  
50m earth kit  
Wrist strap

**P01298006**  
**P01120872**  
**HX0302**  
**P01102017**  
**P01102021**  
**HX0122**

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