

CATALOGUE

 CHAUVIN  
ARNOUX

**metrix**

# PORTABLE TEST & MEASUREMENT INSTRUMENTS



*Measure up*



# About the CHAUVIN ARNOUX GROUP

Founded in Paris, France in 1893, **CHAUVIN ARNOUX** has spent the centuries since then developing its expertise in the design, manufacture and marketing of measuring instruments for professionals.

From handheld instrumentation to fixed electrical equipment and energy performance systems, and from control of the entire thermal process chain to industrial metrology, the **CHAUVIN ARNOUX** Group's offering meets every customer requirement across all the sectors (self-employed electricians, industry, government bodies, etc.).

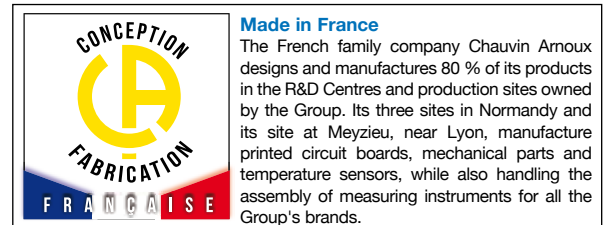
***“ CHAUVIN ARNOUX is a major player in the measurement market in France and internationally. ”***

## A Few Figures

- 10 subsidiaries worldwide
- 1,000 employees
- 8 production sites
- 6 R&D departments worldwide
- 11% of revenues invested in R&D
- Turnover of 100 million euros

Your partner:

- energy performance
- regulatory testing
- environmental measurements
- installation supervision and sizing.



**5 expert measurement  
companies in one Group**



Portable test and measurement instrumentation



Metering, measurement and energy performance



Temperatures in industrial processes

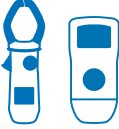












Metrology and regulatory testing



Optical sensors for quality control in the laboratory and on in-line processes

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# MULTIMETERS

## Digital multimeter clamps

1000 V  
CAT IV

IP  
54

True  
*InRush*



**3 series of clamps for 3 measurement ranges:  
discover our range and choose your clamp!**

### F200

600 A<sub>AC</sub> / 900 A<sub>DC</sub>  
Clamping Ø 34 mm

### F400

1,000 A<sub>AC</sub> / 1,500 A<sub>DC</sub>  
Clamping Ø 48 mm

### F600

2,000 A<sub>AC</sub> / 3,000 A<sub>DC</sub>  
Clamping Ø 60 mm

Voltage up to 1,000 V + Resistance, audible continuity  
**+ True *InRush***

### F201 / F401 / F601

**AC applications**

Everything you need  
for installations  
and equipment  
powered by the  
mains supply

### F203 / F403 / F603

**AC or DC  
applications**

DC current  
Temperature  
Adapter function  
ΔREL

### F205 / F405 / F605

**Mixed AC+DC  
applications  
+ testing and  
maintenance**

Power  
THD  
ΔREL  
Min/Max/Peak  
Phase rotation

### F407 / F607

**Mixed AC+DC  
applications  
+ analysis and  
verification**








Power  
Harmonics  
Ripple  
Recording  
PC software

**True *InRush***  
A CHAUVIN ARNOUX innovation

Thanks to the TrueInRush function, the clamp automatically determines the type of signal and the level of current in the installation and then adapts the algorithm and measurement procedure to capture the next current surge.

	F201	F203	F205	F401	F403	F405	F407	F603	F605	F607	
Reference	P01120921	P01120923	P01120925	P01120941	P01120943	P01120945	P01120947	P01120963	P01120965	P01120967	
<b>Specifications</b>											
Clamping diameter	Ø 34 mm			Ø 48 mm			Ø 60 mm				
Display	LCD Backlit LCD			Backlit LCD			Backlit LCD				
Resolution	6,000 counts			10,000 counts			10,000 counts				
Number of values displayed	1			1			3		1		3
Type of acquisition	TRMS [AC]	TRMS [AC]/DC	TRMS [AC, AC+DC]/DC	TRMS [AC]	TRMS [AC]/DC	TRMS [AC, AC+DC]/DC		TRMS [AC]/DC	TRMS [AC, AC+DC]/DC		
Autorange function	Yes			Yes			Yes				
Automatic AC/DC detection	Yes			Yes			Yes				
AAC	0.15 to 600 A (900 A peak)			1,000 A			2,000 A (3,000 A peak)				
ADC	0.15 to 900 A peak			1,500 A peak			3,000 A				
AAC+DC	0.15 to 600 A (900 A peak)			1,000 A (1,500 A peak)			2,000 A (3,000 A peak)				
Best accuracy	1 % R + 3 counts			1 % R + 3 counts			1 % R + 3 counts				
VAC	0.15 to 1,000 A (1,400 A peak)			1,000 V			1,000 V				
VDC	0.15 to 1,400 V			1,400 V			1,400 V				
VAC+DC	0.15 to 1,000 V (1,400 V peak)			1,000 A (1,400 A peak)			1,000 A (1,400 A peak)				
Best accuracy	1% R + 3 cts			1 % R + 3 counts			1 % R + 3 counts				
Frequency of V / I	Yes / Yes			Yes / Yes			Yes / Yes				
Resistance	60 kΩ			100 kΩ			100 kΩ				
Audible continuity	Adjustable from 1 Ω to 599 Ω			Adjustable from 1 Ω to 999 Ω			Adjustable from 1 Ω to 999 Ω				
Diode test (semi-conductor junction)	Yes			Yes			Yes				
Adapter	Yes			Yes			Yes				
Single-phase and total three-phase power values	Yes			Yes			Yes				
temperature (K type)	°C: -60.0 to +1,000.0 °C / °F: -76.0 to +1,832 °F			°C: -60.0 to +1,000.0 °C / °F: -76.0 to +1,832 °F			°C: -60.0 to 1,000.0 °C / °F: -76.0 to +1,832 °F				
active (W)	Yes			Yes			Yes				
reactive Var (Q <sub>r</sub> )	Yes			Yes			Yes				
apparent (VA)	Yes			Yes			Yes				
FP / DPF	Yes / No			Yes / Yes			Yes / -		Yes / Yes		Yes / Yes
Harmonic analysis THD <sub>r</sub> / THD <sub>v</sub>	Yes / Yes			Yes / Yes			Yes / Yes				
Frequency analysis				25th order			25th order				
Phase rotation (2-wire method)	Yes			Yes			Yes				
<b>Functions</b>											
Overcurrent measurement	Yes			Yes			Yes				
Motor Inrush	Yes			Yes			Yes				
Load evolution (TrueInrush)	Yes			Yes			Yes				
Hold	Yes			Yes			Yes				
Min / MAX	Yes			Yes			Yes				
Peak+ / Peak-	Yes			Yes			Yes		Yes		Yes
RElative ΔX	Yes			Yes			Yes				
Differential ΔX / X(%)	Yes			Yes			Yes				
Auto Power Off	Yes			Yes			Yes				
Data recording							Yes				Yes
Communication interface							Bluetooth				Bluetooth
Electrical safety according to IEC 61010	600V CAT IV			1,000 V CAT IV - 1,000 V CAT III			1,000 V CAT IV - 1,000 V CAT III				
Power supply	1 x 9 V LFP22			4 x 1.5 V AA			4 x 1.5 V AA				
Dimensions / Weight	78 x 222 x 42 mm / 340 g			92 x 272 x 41 mm / 600 g			111 x 296 x 41 mm / 640 g				
Warranty							3 years				

## State at delivery

	F201 / F203	F401 / F403 / F601 / F603	F205 / F405 / F605	F407 / F607
 1 set of PVC cables (black/red) with built-in test probes Ø 4 mm isolated elbowed male banana plug	x1			
 1 set of PVC cables (black/red) Ø 4 mm isolated elbowed male banana plug Ø 4 mm isolated straight male banana plug		x1	x1	x1
 2 test probes (black/red) Ø 4 mm isolated female plug		x1	x1	x1
 1 black safety crocodile clip			x1	x2
 1 wire thermocouple with integrated Ø 4 mm isolated banana connections with 19 mm spacing	x1	x1		
 1 x 9 V 6LR61 battery (F200 series) 4 x 1.5V LR03 batteries (F400/F600 series)	x1	x1	x1	x1
 Multifix bag 120 x245 x 60 mm (F200 series) 120 x320 x 60 mm (F400/F600 series)	x1	x1	x1	x1



NEW PRODUCT

## TRMS AC and AC/DC digital multimeters

The B-ASYC MTX 203 and MTX 204 offer high performance while remaining simple to use, even by inexperienced users.



600 V CAT IV IP 54

	MTX 203	MTX 204
<b>Reference</b>	<b>MTX203-Z</b>	<b>MTX204-Z</b>
<b>Display</b>	6000 cts	6000 cts
<b>Acquisition</b>	TRMS AC	TRMS AC /DC
<b>Measurement rate</b>	2 meas./second	
<b>Autorange / Deactivatable</b>	Yes / Yes	
<b>V<sub>DC</sub></b>	6 V / 60 V / 600 V	
Typical accuracy	0,2 % + 2 cts	
Resolution	0.01 V to 1 V	0.001 V
<b>V<sub>AC</sub></b>	6 V / 60 V / 600 V / 750 V	
Resolution	0.001 V to 1V	0.6 to 750 V
Bandwidth	1 kHz	
<b>V<sub>LOW AC</sub></b> (low impedance + low-pass filter)	6 V / 60 V / 600 V / 750 V	
Resolution	0.001 V to 1 V	0.5% + 4 cts
<b>V<sub>AC + DC</sub></b>		
Resolution	1% + 4 cts	
<b>A<sub>DC</sub></b>	600 µA / 6 mA / 60 mA / 600 mA / 6 A / 10 A	
Resolution	0.1 µA to 0,01A	
<b>A<sub>AC</sub></b>	600 µA / 6 mA / 60 mA / 600 mA / 6 A / 10 A	
Resolution	0.1 µA to 0,01A	
<b>A<sub>AC + DC</sub></b>		
Resolution	0.1µA	
<b>Resistance</b>	600 / 6 k / 60 k / 600 k / 6 M / 60 MW	
Resolution	0.1 W to 0.01 MW	
<b>Audible continuity</b>	Yes	
<b>Frequency and duty cycle</b>	2Hz to 1kHz	
<b>Diode test</b>	Yes	
<b>Hz</b>	No	
Resolution	2Hz to 1kHz	
<b>Capacitance</b>	1nF/10nF/100nF/10µF/100µF/1mF/10mF/100mF	
Resolution	0.001 nF to 10 µF	
<b>T°</b>	-55°C to +1200°C	
Resolution	0.1 °C	
<b>Hold</b>	Yes	
<b>Min / Max (100 ms)</b>	No	Yes
<b>Differential (DX) / Relative (DX/X%) measurement</b>	No	Yes
<b>Auto power-off</b>	Yes (deactivatable)	
<b>Power supply</b>	2 x 1.5 V AA	
<b>Dimensions / weight</b>	170 x 80 x 50 mm / 320g	

**Useful :** Backlit screen and torch



**Practical :** Magnetized shockproof sheath with compartment for stowing cables and 3-position stand



### State at delivery

**MTX 203 :** 1 shockproof sheath, 2 x 1.5 m straight cables / test probe, 1 flexible K thermocouple with adapter Ø 4 mm, 1 user's manual on paper, 2 x 1.5 V AA batteries.

**MTX 204 :** 1 shockproof sheath, 2 x 1.5 m straight cables / test probe, 1 user's manual on paper, 2 x 1.5 V AA batteries.

### Accessories

MULTIFIX accessory.....	<b>P01102100Z</b>
SHT40KV voltage probe.....	<b>P01102097</b>
Adapter + TK temperature sensor (MTX 203).....	<b>P01102107Z</b>
CMS clamp.....	<b>HX0064</b>
Set of 2 magnetized test probes.....	<b>P01103058Z</b>
Fuse F1000 V 10 A, 10 x 38 mm (x 5).....	<b>P01297096</b>
F1000 V 0.63 A, 6.3 x 32 mm (x 5).....	<b>P01297098</b>

## TRMS AC, DC and AC+DC digital multimeters

Versatility for use in the field

**600 V  
CAT IV** **IP  
54**



	<b>C.A 5273</b>	<b>C.A 5275</b>	<b>C.A 5277</b>
<b>Reference</b>	<b>P01196773</b>	<b>P01196775</b>	<b>P01196777</b>
<b>Display</b>	2 x 6,000 counts, backlight		
<b>Bargraph</b>	61 + 2 elements, bi-mode (full scale / central zero)		
<b>Acquisition</b>	TRMS AC /DC	TRMS AC / DC / AC+DC	
<b>Measurement rate</b>	5 measurements / second		
<b>Autorange / Deactivatable</b>	Yes / Yes		
<b>Automatic AC /DC detection</b>	Yes	No	
<b>V<sub>DC</sub></b>	Ranges	600 mV / 6 V / 60 V / 600 V / 1,000 V	
	Typical accuracy	0.2 % + 2 cts	0.09 % + 2 cts
	Resolution	0.1 mV to 1 V	0.01 mV to 1 V
<b>V<sub>AC</sub></b>	Ranges	600 mV / 6 V / 60 V / 600 V / 1,000 V	
	Resolution	0.1 mV to 1 V	0.01 mV to 1 V
	Bandwidth	40 Hz to 3 kHz	40 Hz to 10 kHz
<b>V<sub>Low AC</sub></b> ((Low impedance + Low-pass filter)	Ranges	600 mV / 6 V / 60 V / 600 V / 1,000 V	
	Resolution	0.1 mV to 1 V	
<b>V<sub>AC + DC</sub></b>	Ranges	60 mV / 600 mV / 6 V / 60 V / 600 V / 1,000 V	
	Resolution	0.01 mV to 1 V	
<b>A<sub>DC</sub></b>	Ranges	6 A / 10 A (20 A / 30 s)	6,000 µA / 60 mA / 600 mA / 6 A / 10 A (20 A / 30 s)
	Resolution	0.001 A to 0.01 A	1 µA to 0.01 A
<b>A<sub>AC</sub></b>	Ranges	6 A / 10 A	6,000 µA / 60 mA / 600 mA / 6 A / 10 A (20 A / 30 s)
	Resolution	0.001 A to 0.01 A	1 µA to 0.01 A
<b>A<sub>AC + DC</sub></b>	Ranges	6,000 µA / 60 mA / 600 mA / 6 A / 10 A (20 A / 30 s)	
	Resolution	1 µA to 0.01 A	
<b>Resistance</b>	Ranges	600 Ω / 6,000 Ω / 60 kΩ / 600 kΩ / 6 MΩ / 60 MΩ	
	Resolution	0.1 Ω to 0.1 MΩ	
<b>Audible continuity</b>	Yes		
<b>Diode test</b>	Yes		
<b>Hz</b>	Ranges	600 Hz / 6 kHz / 50 kHz	
	Resolution	0.1 Hz to 10 Hz	
<b>Capacitance</b>	Ranges	6 nF / 60 nF / 600 nF / 6 µF / 60 µF / 600 µF / 6 mF / 60 mF	
	Resolution	0.001 nF (1 pF) to 10 µF	
<b>Temperature</b>	Ranges	-59.6 °C to +1,200 °C -4 °F to +2,192 °F	-59.6 °C to +1,200 °C -4 °F to +2,192 °F
	Resolution	0.1° to 1°	0.1° to 1°
<b>Hold</b>	Yes		
<b>Min / Max (100 ms)</b>	Yes		
<b>Peak+ / Peak- (1 ms)</b>	No	Yes	
<b>Differential measurement (ΔX) / Relative (ΔX/X%)</b>	No	Yes	
<b>Automatic power-off</b>	Yes (deactivatable)		
<b>Power supply</b>	1 x 9 V		
<b>Dimensions / weight</b>	90 x 190 x 45 / 400 g		

### State at delivery

**C.A 5270 multimeter delivered with a set of banana leads, a set of test probes, a 9 V battery and a CD containing the user's manual and the startup guide.**

**C.A 5273** : plus a K temperature sensor

**C.A 5275** : plus a bag and a Multifix adapter

**C.A 5277** : plus a K thermocouple temperature sensor, a bag and a Multifix adapter

### Accessories

MULTIFIX accessory.....	<b>P01102100Z</b>
SHT40KV voltage probe.....	<b>P01102097</b>
Adapter + TK temperature probe .....	<b>P01102107Z</b>
CMS clamp .....	<b>HX0064</b>
Set of 2 magnetized test probes .....	<b>P01103058Z</b>
Fuse F1000 V 10 A, 10 x 38 mm (x 5).....	<b>P01297096</b>
F1000 V 0.63 A, 6.3 x 32 mm (x 5).....	<b>P01297098</b>

## ASYC IV digital multimeters range



IP  
67

	MTX 3290	MTX 3291 *
Reference	MTX3290	MTX3291
DC, AC and AC+DC voltages (range)	60 mV to 600 V	
DC accuracy	0.3%	0.05 %
AC and AC+DC bandwidth	20 kHz	100 kHz
DC, AC and AC+DC current (range)	600 µA to 10 A /20 A (30 s max)*	
DC accuracy	1.2%	0.08 %
Frequency (range)	60 Hz to 600 kHz	
Resistance (range)	600 Ω to 60 MΩ	
Audible continuity	600 W SIGNAL < 30 Ω ±5 Ω < 5 V	
Diode test	3 V with 1 mV resolution	
Capacitance (range)	6 nF to 60 mF	
Temperature Pt100/1000	-200 °C to 800 °C	
Temperature TK/TJ		
<b>Other functions</b>		
Monitoring	Time/date-stamped MAX/MIN / AVG or PEAK ±, on all the main positions	
REL	REL relative value + secondary display of measured reference value*	
PWM filter	300 Hz low-pass, 4th order for measurement on asynchronous motor variable speed drive	
Clamp voltage output function with direct reading	Integration of ratio 1/1, 1/10, 1/100, 1/1000 mV/A	
Secondary functions or measurements	dBm and resistive power in VA, duty cycle +/-, and pulse width*	
SPEC		
GRAPH		
Central zero	Selectable or automatic* bargraph for VDC and I DC	
Measurement storage		
<b>General specifications</b>		
Type of display	LCD with backlighting*, digit height 14 mm 60, 000-count* or 6, 000-count double display	
PC interfaces	Optical USB connector and SX-DMM software	
Power supply	4 AA batteries or Ni-MH rechargeable batteries	
Safety	Safety as per IEC61010-1 1000 V CAT III / 600 V CAT IV* or 600V CAT III / 300V CAT IV - Safety as per IEC 61010-2-033	
Environment	Storage -20 °C to +70 °C – Operation -10 °C to +55 °C	
Mechanical specifications	Dimensions (L x W x H): 196 x 90 x 47.1 mm – Weight: 570 g	
Warranty	3 years	

### State at delivery

- **MTX 3290:** delivered with 4 x 1.5 V alkaline batteries, 1.5 m red straight/straight cable, 1.5 m black straight/straight cable, red CAT IV 1 kV test probe, black CAT IV 1 kV test probe, 1 user's manual on CD and 1 startup guide on paper
- **MTX 3291:** delivered with 4 x 1.5 V alkaline batteries, 1.5 m red straight/straight cable, 1.5 m black straight/straight cable, red CAT IV 1 kV test probe, black CAT IV 1 kV test probe, 1 user's manual on CD and 1 startup guide on paper, plus a bag, a USB cable, an SCPI remote programming manual and the SX-DMM software

### Accessories

- Graphical colour MTX 329X calibration software . . . . . > **HX0059B**
- Kit of 4 Ni-MH batteries. . . . . > **HX0051B**
- MTX 328X and MTX 329X external charger (4 batteries included) . > **HX0053B**
- MTX DMM digital multimeter transport kit . . . . . > **HX0052B**
- Graphical colour DMM transport kit . . . . . > **HX0052C**
- MTX 3290 and MTX 3291 calibration software . . . . . > **P01196770**





IP  
67

	MTX 3292	MTX 3293
Reference	MTX3292	MTX3293
Reference with Bluetooth communication	MTX3292-BT  Bluetooth	MTX3293-BT  Bluetooth
DC, AC and AC+DC voltages (range)	100 mV to 1,000 V	
DC accuracy	0.03 %	0.02 %
AC and AC+DC bandwidth	100 kHz	200 kHz
DC, AC and AC+DC current (range)	1000 µA to 10 A / 20 A (30 s max)	
DC accuracy	0.01 %	
Frequency (range)	10 Hz to 5 MHz	
Resistance (range)	100 Ω to 100 MΩ	
Audible continuity	1,000 Ω SIGNAL < 20 Ω < 3.5 V	
Diode test	Diode 0 -2.6 V < 1 mA + Zener diode or LED 0-20 V < 11 mA	
Capacitance (range)	1 nF to 10 mF	
Temperature Pt100/1000	-200°C to 800°C	
Temperature TK/TJ	-40 to +1,200°C	
<b>Other functions</b>		
Monitoring	Time/date-stamped SURV MAX / MIN / AVG or PEAK ± on all the main positions	
REL	REF-delta unit relative value or on 3 displays + main measurement	
PWM filter	300 Hz low-pass, 4th order for measurement on asynchronous motor variable speed drive	
Clamp voltage output function with direct reading	Settable ratio Ax	
Secondary functions or measurements	3 measurements + main measurement	
SPEC	Display of measurement tolerance +Smin+Smax	
GRAPH	Trend of main measurement < 60 s + Zoom + Cursor	
Central zero	Automatic trend bargraph	
Measurement storage	1,000	6,500
<b>General specifications</b>		
Type of display	Graphical colour display (70 x 52) with backlighting, 4 x 100,000-count displays with black background	
PC interfaces	Optical USB connector or Bluetooth (option) – SX-DMM software	
Power supply	Charger or 4 AA batteries or Ni-MH rechargeable batteries	
Safety	Safety as per IEC61010-1 1000 V CAT III / 600 V CAT IV Safety as per IEC 61010-2-033	
Environment	Storage -20 °C to +70 °C – Operation 0 °C to +40 °C	
Mechanical specifications	Dimensions (L x W x H): 196 x 90 x 47.1 mm – Weight: 570 g	
Warranty	3 years	

## State at delivery

• **MTX 3292 and MTX 3293:** delivered with a bag, 4 x 2400mAh 1.5V Ni-MH rechargeable batteries, a charger, a red 1.5m straight/straight cable, a black 1.5m straight/straight cable, 1 red CAT IV 1 kV test probe, 1 black CAT IV 1kV test probe, 1 USB optical cable + SX-DMM software, user's manual on CD, SCPI programming commands manual and startup guide on paper

## Accessories

- Graphical colour MTX 329X calibration software . . . . . > **HX0059B**
- Kit of 4 Ni-MH batteries . . . . . > **HX0051B**
- MTX 328X and MTX 329X external charger (4 batteries included) . > **HX0053B**
- MTX DMM digital multimeter transport kit . . . . . > **HX0052B**
- Graphical colour DMM transport kit . . . . . > **HX0052C**





# TESTERS



NEW PRODUCT

## Voltage Absence Tester (VAT)

1000 V  
CAT IV

IP  
65

	C.A 773
Reference	P01191773
Display	LEDs + Backlit digital display
Voltage detection	
Voltage	1.0 V to 299.0 VAC/DC 300 V to 1,000 VAC / 1,400 VDC
Frequency	DC, 162/3 to 800 Hz
Impedance	> 500 kΩ
Max. peak current	3.5 mA RMS
Polarity indication	Yes
Redundant hazardous voltage indication	The ELV (Extra Low Voltage) LED indicates a voltage higher than the SELV (Safety Extra-Low Voltage) and its flashing speed is proportional to the voltage
Stray voltage detection	Yes (by low-impedance load switching)
RCD tripping	Yes (by low-impedance load switching) (30 mA approx. at 230 V)
Phase/Neutral identification	Above 50 V (45 - 65 Hz) Above 150 V (162/3 - 45 Hz)
Continuity & Resistance	
Buzzer trigger threshold	100 Ω typical (150 Ω max.)
Extended continuity test (Resistance)	0.5 Ω to 2.999 kΩ
Test current / Open-circuit voltage	≤ 1 mA / ≤ 3.3 V
Phase rotation	2-wire method with microprocessor
Ph/Ph voltage	50 V ≤ U ≤ 1,000 Vac (45 - 400 Hz)
Buzzer	Intermittent beep for voltage detection Continuous beep for continuity
Standards and electrical safety	IEC 61243-3:2009, EN 61243-3:2010, IEC 61010 1000 V CAT IV
Enclosure protection	IP65
Climatic conditions	-15 °C to +45 °C (Class N)
Battery life	> 2,500 x10 s measurements
Dimensions / weight	228 x 60 x 39 mm (without test probe) 350 g approx.

### State at delivery

• **C.A 773** delivered with 1 User's Manual in 5 languages, 2 x 1.5 V LR06/AA batteries, 1 set of removable test probes Ø 2 mm with crystal safety cap, 1 probe protector, 1 Velcro strap.

### Accessories & replacement parts for C.A 773:

CAT IV test probes for VAT .....	P01102123Z
Ø 2 mm test probes for VAT .....	P01102124Z
Ø 4 mm test probes for VAT .....	P01102125Z
Probe protector for VAT .....	P01102126Z
IP2X CAT IV test probes for VAT .....	P01102127Z
IP2X Ø 4 mm test probes for VAT .....	P01102128Z
MultiFix bag, 120 x 320 x 60 mm .....	P01298076

## Digital testers



600 V  
CAT III

IP  
54

	C.A 757
Reference	P01191757
Current testing	
Measurement range via current sensor	500 mA to 300 A (2 ranges)
Resolution	0.01 A to 0.1 A
DC voltage	
Measurement range	3 mV to 1,000 V – 4 ranges
Resolution	1 mV to 1 V
AC voltage	
Measurement range	100 mV to 1,000 V – 4 ranges
Resolution	1 mV to 1 V
Operating frequency	DC and 50/60 Hz
Impedance	10 MW
Non-contact voltage detection	230 V 50/60 Hz at a distance of approx. 5 cm
Audible continuity test	R ≤ 30 W
Resistance testing	
Measurement range	0.3 W to 30 MW – 6 ranges
Resolution	0.1 W to 0.01 MW
Capacitance testing	
Measurement range	400 pF to 30 mF
Resolution	0.001 nF to 0.01 mF
Standards	600 V CAT III, IEC 61010-1, IEC 61010-031, IEC 61010-032, IEC 61010-033
Power supply	2 x 1.5 V LR03 batteries
Battery life	100 hours with alkaline batteries – Automatic standby mode after 10 minutes
Dimensions / weight	180 x 52 x 45 mm / 200 g

### State at delivery

• **C.A 757** delivered with 1 set of CAT III / IV fine-tipped test probes (red/black), 2 x 1.5 V LR03 alkaline batteries, 1 MiniFlex® sensor (loop length 250 mm), 1 Velcro strap

### Replacement parts for C.A 757

CAT III/IV red/black test probes.....	P01102152Z
Ø 2 mm CAT II red/black test probes.....	P01102153Z
Ø 4 mm CAT II red/black test probes.....	P01102154Z
Velcro strap x 5 .....	P01102113
1.5 V LR3/AAA alkaline battery(x 1) .....	P01296032
Bag compatible with MultiFix accessories, 120 x 200 x 60.....	P01298074
MultiFix mounting accessory .....	P01102100Z
MA101-250 current sensor for C.A 757 .....	P01120591



# PHYSICAL MEASUREMENTS

## Logger contact thermometers

- > J, K, T, N, E, R and S thermocouples (C.A 1821 & C.A 1822)
- > Pt100 and Pt1000 resistive probes (C.A 1823)
- > Compact and magnetized for fixed or portable use
- > Can record up to 1 million points



	C.A 1821 P01654821	C.A 1822 P01654822	C.A 1823 P01654823
<b>Reference</b>	P01654821		P01654823
<b>Sensor</b>	J, K, T, N, E, R, S		Pt 100, Pt 1000
<b>No. of inputs</b>	1	2	1
<b>Range</b>	-250 °C to 1,767 °C		-100 °C to 400 °C
<b>Resolution</b>	$\theta < 1,000 \text{ °C}$ : 0.1 °C and $\theta \geq 1,000 \text{ °C}$ : 1 °C		0.1 °C
<b>Accuracy</b>	$\pm (0.1 \% R + 0.6 \text{ °C})$		$\pm (0.4 \% R + 0.3 \text{ °C})$
<b>Functions</b>	Min., Max., HOLD, Alarms		
<b>Recording</b>	Manual start and stop on the product - Programmed recording		
<b>Alarms</b>	Visual alert if the threshold definable via Data Logger Transfer is overrun Recording can be triggered on the alarm threshold		
<b>Battery life</b>	1,000 hrs (portable mode) or 800 hrs (for the C.A 1823) / 3 years when recording (measurement base: 15 minutes)		
<b>Protection</b>	IP54		
<b>Mounting</b>	Casing equipped with a magnet, a wall-mount system and a slot for suspending the product. Compatible with the Multifix accessory.		
<b>Connections</b>	C.A 1821 and C.A 1822: compensated miniature female - C.A 1823: 3-point flat connector		
<b>Dimensions / weight</b>	150 x 72 x 32 mm / 260 g with batteries		

## State at delivery

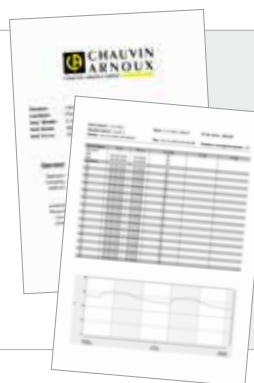
Products delivered with carrying bag, batteries, 1 USB cable, 1 measurement report and quick startup guide (complete user's manual and Data Logger Transfer software available from the Chauvin Arnoux website)



## Accessories and replacement parts

Handle for CK extension.....	P03652912
Connector for K thermocouple .....	P03652925
Temperature sensors for C.A 1800 .....	voir page 34
Shockproof sheath + Multifix .....	P01654252
Multifix.....	P01102100Z
Mains adapter .....	P01651023
Carrying bag.....	P01298075
Metal case.....	P01298071
Dataview software.....	P01102095
BLE / USB Bluetooth modem for PC .....	P01654253
4 x NiMH AA/LR6 batteries + Charger .....	HX0053

## Data Logger Transfer, the software for analysing your data



> Automatic report generation



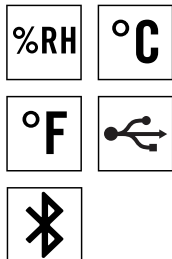
**Exportable in Word format**

This simplifies editing and archiving.



# PHYSICAL MEASUREMENTS

## Thermo-hygrometers



	C.A 1246
<b>Reference</b>	<b>P01654246</b>
<b>Relative Humidity range</b>	3.0 to 98.0 %RH
<b>Relative Humidity accuracy</b>	10 to 90 %RH: ± (2 %RH ± 1 ct) outside that range: ± (4 %RH ± 1 ct)
<b>Temperature range</b>	- 10.0 to +60.0°C
<b>Temperature accuracy</b>	10 to 40°C: ± (0.5°C ± 1 ct) outside that range: ± (0.032 x (T-25) ± 1 ct) / T= temperature in °C
<b>Dew point range and accuracy</b>	Dew point: - 20.0 to +60.0 °Ctd Accuracy: 1.5°C
<b>Functions</b>	Min., Max., HOLD, Alarms
<b>Recording</b>	Manual start/stop on the product Programmed recording
<b>Alarms</b>	Visual alert when threshold definable via Data Logger Transfer is overrun Recording can be triggered on the alarm threshold
<b>Battery life</b>	1,000 hrs (portable mode) / 3 years when recording (measurements every 15 minutes)
<b>Ingress protection</b>	IP54
<b>Mounting</b>	Casing equipped with a magnet, a wall-mount system and a slot for suspending the product. Compatible with the Multifix accessory.
<b>Dimensions / weight</b>	187 x 72 x 32 mm / 260 g

## State at delivery

**C.A 1246**, delivered with carrying bag, batteries, USB cable, measurement report and quick startup guide (complete manual and Data Logger Transfer software available from the Chauvin Arnoux website)



## Accessories and replacement parts



75%RH salt cartridge .....	<b>P01156401</b>
33%RH salt cartridge .....	<b>P01156402</b>
Shockproof sheath + Multifix .....	<b>P01654252</b>
Multifix .....	<b>P01102100Z</b>
Mains adapter .....	<b>P01651023</b>
Carrying bag .....	<b>P01298075</b>
Metal case .....	<b>P01298071</b>
Dataview software .....	<b>P01102095</b>
Bluetooth BLE / USB modem for PC .....	<b>P01654253</b>
4 x NiMH AA/LR6 batteries + Charger .....	<b>HX0053</b>

## CO<sub>2</sub>, Temperature and Humidity Logger



	CO <sub>2</sub>	Temperature	Humidity
<b>Measurement range</b>	0 to 5,000 ppm	-10°C to +60°C	5 to 95% RH
<b>Accuracy</b>	± 50 ppm ±3% R	±0.5°C	± 2% RH
<b>Resolution</b>	1 ppm	0.1° C	0.1% RH



	C.A 1510	C.A 1510 black
<b>Reference</b>	<b>P01651011</b>	<b>P01651010</b>
<b>Recording intervals</b>	Customizable from 1 minute to 2 hours	
<b>Storage</b>	More than 1 million points	
<b>Buzzer and units</b>	Yes / °C or °F	
<b>Backlighting / Hold / Min Max</b>	Yes	
<b>Dimensions / Weight</b>	125 x 65.5 x 32 mm / 190 g with batteries	
<b>Power supply</b>	Batteries: 2 x 1.5V LR6 or rechargeable battery Mains connection possible with mains adapter/ micro USB supplied as standard	
<b>Interfaces</b>	2 possible communication modes: Bluetooth wireless link and USB link. The product is then recognized as a USB key for simple file transfers	
<b>Mounting</b>	C.A 1510 casing equipped with a magnet, a wall-mount system and a slot for suspending the product. A wall-mount with anti-theft protection (padlock not supplied) is available as an accessory. A desktop stand is also available (supplied as standard with the C.A 1510W)	

## State at delivery

**White C.A 1510** delivered in a cardboard box with batteries, 1 USB mains adapter, 1 USB-micro USB cable, desktop stand, quick startup guide, 1 CD-ROM containing the user's manual and data processing software.

**Black C.A 1510** delivered in a case with batteries, USB mains adapter, 1 USB cable, quick startup guide, 1 CD-ROM containing the user's manual and data processing software.

## Accessories and replacement parts

Black wall-mount.....**P01651024**

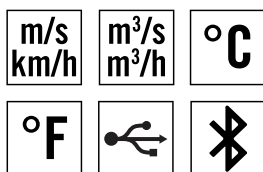


Wall-mount



Calibration kit delivered with calibration software

## Thermo-anemometers



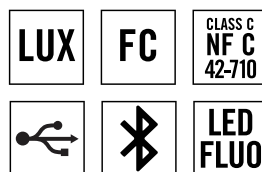
	C.A 1227
<b>Reference</b>	<b>P01654227</b>
<b>Air speed/ flow-rate sensor</b>	Vane with optical detection
<b>Air speed range</b>	0.25 m/s to 35.0 m/s (49.0 to 6890.0 fpm)
<b>Air speed accuracy</b>	± 3 % R ± 4 cts
<b>Air flow-rate range</b>	0 to 2,999 m3/h
<b>Air flow-rate accuracy</b>	± 8 % R
<b>Temp. range °C/°F</b>	- 20 to +50 °C / -4 to +122 °F
<b>Temp. accuracy °C</b>	0 to 50 °C: ± 0.8 °C -20 to 0 °C: ± 1.6 °C
<b>Functions</b>	Min., Max., HOLD, Average
<b>Recording</b>	Manual start and stop on the product Programmed recording
<b>Data storage</b>	More than 1 million points
<b>Power supply</b>	- 3 x 1.5V LR6 alkaline batteries or NiMH rechargeable battery - Mains connection via the mains / micro USB adapter (option)
<b>Battery life</b>	200 hrs (portable mode) / 8 days for recording (15-minute measurement interval)
<b>Dimensions</b>	Casing: 150 x 72 x 32 mm Sensor: 160 x 80 x 38 mm Spiral cable: 24 to 120 cm
<b>Weight</b>	Approx. 400 g
<b>Ingress protection</b>	IP40 casing
<b>Operating temperature / humidity</b>	-10 to +60 °C - 10 to 90 % RH
<b>Standards</b>	IEC 61010-1 - IEC 61326-1

### State at delivery



**C.A 1227** delivered with carrying bag, 3 x 1.5V AA alkaline batteries, USB cable, measurement report and quick startup guide (complete manual and Data Logger Transfer software available from the Chauvin Arnoux website)

## Luxmeters



	C.A 1110
<b>Reference</b>	<b>P01654110</b>
<b>Measurement range</b>	0.1 to 200,000 lx 0.01 to 18,580 fc
<b>Accuracy in standard mode</b>	
<b>Incandescent lamp</b>	± 3 % of reading
<b>LED</b>	± 6 % of reading (3,000 K and 6,000 K)
<b>Fluorescent lamps</b>	± 9 % of the reading
<b>Accuracy in compensation mode</b>	
<b>LED mode</b>	± 4 % of the reading (at 4,000 K)
<b>Fluo mode</b>	± 4 % of the reading (type F11, 4,000 K)
<b>Functions</b>	Min., Max., HOLD, Average
<b>Recording</b>	Manual start and stop on the product Programmed recording
<b>MAP mode</b>	The MAP function can be used to map the lighting on a surface or in a room. The illuminance measurements are thus stored in the same file.
<b>Data storage</b>	More than 1 million points
<b>Power supply</b>	- 3 x 1.5V LR6 batteries or NiMH rechargeable battery - Mains connection via the mains / micro USB adapter (option)
<b>Battery life</b>	500 hrs (portable mode) / 3 years for recording (15-minute measurement interval)
<b>Dimensions</b>	Casing: 150 x 72 x 32 mm Sensor: 67 x 64 x 35 mm (with protective cover) Spiral cable: 24 to 120 cm
<b>Weight</b>	345 g with batteries
<b>Ingress protection</b>	IP50 casing
<b>Operating temperature / humidity</b>	-10 to +60 °C - 10 to 90 % RH
<b>Standards</b>	Class C according to the NF C 42-710 standard

### State at delivery

**C.A 1110** delivered with carrying bag, 3 x 1.5V AA alkaline batteries, USB cable, measurement report and quick startup guide (complete manual and Data Logger Transfer software available on the Chauvin Arnoux website).



## Accessories and replacement parts for the C.A 1227 & C.A 1110

Cones kit for vane flow-rate measurement for C.A 1227 (circular cross section Ø 210 mm and rectangular cross section 346 x 346 mm) ..... **P01654250**  
 Ø 80 mm vane sensor for C.A 1227 ..... **P01654251**  
 Shockproof sheath + Multifix ..... **P01654252**  
 Multifix ..... **P01102100Z**

Mains adapter ..... **P01651023**  
 Carrying bag ..... **P01298075**  
 Metal case ..... **P01298071**  
 Dataview software ..... **P01102095**  
 Bluetooth BLE / USB modem for PC ..... **P01654253**  
 4 x NiMH AA/LR6 batteries + Charger ..... **HX0053**



# THERMOGRAPHY

**C.A 1950 and C.A 1954 thermal cameras,**  
the perfect match between performance and technology!

DiaCAM

IP  
54



120  
X  
160

80  
X  
80



## Strengths

- > Exceptional battery life
- > Rapidity: startup in 3 seconds
- > An emissivity table which can be enhanced as required
- > Possibility of renaming the images and thermograms per site
- > Recording and storage of the configurations according to the applications
- > Voice annotations to record your comments directly on the image
- > Connectivity with current clamps and multimeters: all the measurements necessary simultaneously
- > Bluetooth™ communication
- > CamReport analysis and report creation software
- > Built-in slide-down protective cover

Scan this code  
to watch the  
presentation video



## Voice recording

Voice recording using the Bluetooth earpiece delivered as standard



## Simultaneous recovery via Bluetooth of the measurements made with:

- multimeters or clamp meters (current, etc.)
- thermometers, thermo-hygrometers (ambient temperature, humidity, dew point, etc.)



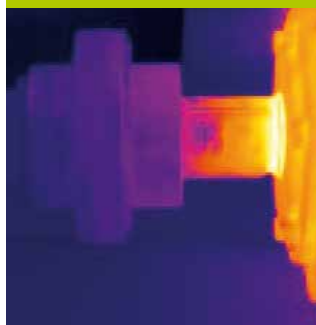
## APPLICATIONS

Detect any thermal faults quickly & simply!

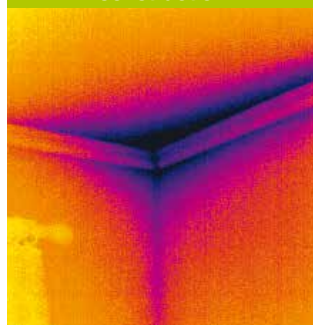
### Electrical inspections



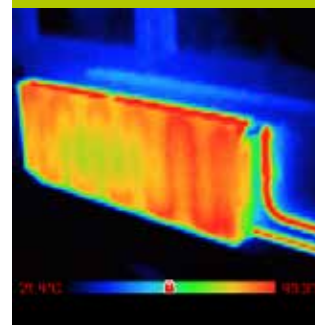
### Thermal inspections



### Mechanical inspections Construction



### Radiator inspections



	C.A 1950	C.A 1954
Reference	P01651901	P01651904
Detector	80 x 80	120 x 160
Sensitivity (NETD)	80 mK @ 30 °C (0.08 °C @ 30 °C)	
Temperature range	-20 °C to +250 °C	
Accuracy	±2 °C or ±2 % of reading	
Field of view	20° x 20°	28° x 38°
IFOV (spatial resolution)	4.4 mrad	4.1 mrad
Focusing	Fixed	
Real image	Yes	
Measurement tools	1 manual cursor, automatic Min-Max detection, temperature profile, isotherm	
Parameter settings	Emissivity, environmental temperature, distance, relative humidity	
Voice comments	Yes by Bluetooth (earpiece supplied)	
Connectivity	F407, F607, MTX 3292 and MTX 3293 clamp meters, environmental measurement products (C.A 1821, C.A 1822, C.A 1823, C.A 1246)	
Data storage	On removable 2 GB micro SD card (approx. 4,000 images), up to 32 GB possible	
Battery life	13 hrs 30 min	9 hrs
Type	NiMH rechargeable batteries with low self-discharge or alkaline batteries	
Ingress protection	IP 54	
Resistance	Fall from 2 metres	
Dimensions and weight	225 x 125 x 83 / 700g with rechargeable batteries	

## State at delivery

**C.A 1950 and C.A 1954** delivered in site-proof case with 4 NiMH batteries and 1 battery charger, 1 micro SD HD card, 1 USB cable, 1 Bluetooth earpiece, the CAMReport software on CD ROM, User's Manuals and a measurement report.



**THE BEST SOFTWARE FOR ANALYSING THERMOGRAMS!**



## CAMReport software included



The CAMReport software is supplied as standard with the C.A 1950 & C.A 1954 cameras.

It offers all the functions needed for reliable analysis of your measurement results:



### Strengths



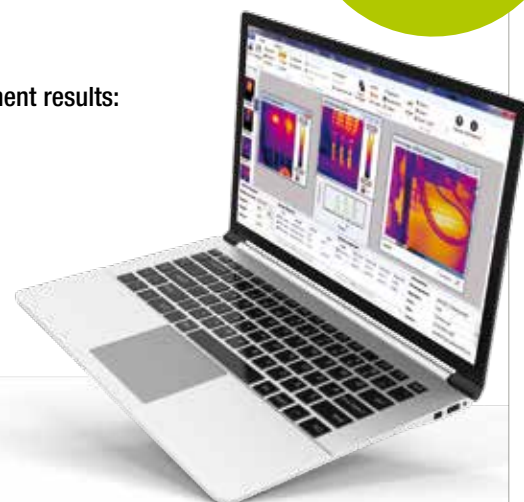
- Cursors (automatic display of the temperature at the chosen point)
- Thermal profile (automatic display of the Min/Max/Avg temperatures of the line)



- A square or circle for zone analysis
- Results tables quickly and automatically display all the information/analytical tools for the thermogram



- Polygons and polylines for more precise analysis of certain zones in the thermogram
- User-enhanceable emissivity table supplied as standard
- Ready-to-use, customizable report templates



*Reports are created automatically using the various templates available*

NEW PRODUCT\*



\*Available soon

## Installation tester

Test the electrical safety of your installations

## Discover our new C.A 6133 electrical installation tester

- > Earth measurement by stake and loop methods
- > Continuity measurement at 0.2A
- > Isolation test
- > RCD test: tripping current and time
- > Automatic test sequences
- > Storage of the tests in memory
- > ANDROID application for report generation
- > Power supply by mains-rechargeable batteries: USB socket or vehicle cigarette lighter



Connected!



The ANDROID IT-Report application can be used to transfer the test results stored in the C.A 6133 onto a tablet or smartphone via Bluetooth. Test reports are generated and then sent automatically by email or simply stored for later processing.

## State at delivery

### • C.A 6133 :

- Delivered with 1 carrying bag containing:
- 1 neck strap
  - 1 EURO 3-pole cable
  - 3 safety leads
  - 3 crocodile clips
  - 1 test probe
  - 1 x 2A USB power supply + 1 USB cable
  - 6 Ni MH batteries (C.A 6133)
  - 1 test report with measurement report



## Reference

- C.A 6133.....P01146013

C.A 6133	
<b>CONTINUITY / RESISTANCE</b>	
Range / Resolution / Accuracy	0.00 to 9.99 Ω — Cable compensation up to 5 Ω; I ≥ 200 mA / 0.01 Ω / ± (2 % R + 2 cts)
Range / Resolution / Accuracy	1 to 9,999 Ω • 10.00 to 99.99 kΩ / 1 Ω • 10 Ω / ± (1 % R + 5 cts)
<b>INSULATION</b>	
Rated voltage	Utest: 250 V / 500 V / 1,000 V
Range / Resolution / Accuracy	0.01 to 999.9 MΩ / 10 kΩ • 100 kΩ / ± (3 % R + 3 cts)
Short-circuit current	≤ 3 mA
<b>3P EARTH</b>	
Range / Resolution / Accuracy	0.50 – 99.99 Ω / 0.01 Ω / ± (2 % R + 10 cts) 100.0 to 999.9 Ω / 0.1 Ω / ± (2 % R + 5 cts) 1,000 to 2,000 Ω / 1 Ω / ± (2 % R + 5 cts)
<b>(Zs (L-PE) and Zi (L-N or L-L) LOOP IMPEDANCE</b>	
Installation voltage / Frequency	90 to 550 V / 45 to 65 Hz
High current mode with TRIP: Zs (L-PE) & Zi (L-N or L-L)	300 mA measurement current; 0.1 to 0.9 Ω • 1.0 to 399.9 Ω / 0.1 Ω / ± (2 cts) • ± (5 % R* + 2 cts)
Range / Resolution / Accuracy	
NO TRIP mode (Zs (L-PE) only)	Measurement current: 12 mA • 1 to 19 Ω • 20 to 39 Ω 40 to 2,000 Ω / 1 Ω / ± (2 cts) • ± (15 % R + 3 cts) • ± (5 % R + 2 cts)
Calculation of Ik short-circuit current (PFC (Zs)) , (I Sc PSCC (Zi))	1 to 999 A, 1 to 9,999 A
<b>TYPE AC and A RCDs</b>	
Installation voltage / Frequency	90 to 450 V ; 45 to 65 Hz
IΔn	30 mA - 100 mA - 300 mA - 500 mA - 650 mA
NO TRIP test	300 ms
Ramp mode (30 mA)	12 mA (Uf) / 0.3 to 1.06 x IΔn per step of 3.3 % x IΔn
Trip time measurement: Range / Resolution / Accuracy	Pulse: 5 to 300 ms / 0.1 ms / ± 2 ms
Automatic test sequence	RCD, Loop-RCD-Isolation
<b>OTHER MEASUREMENTS</b>	
Current via MN73A clamp	2A range: 10.0 mA to 2,400 mA, 200 A range: 1.00 to 200 A
Voltage	2.0 to 550.0 VAC / 0.1 V / ± (1%R+2cts) ; 0.0 to 800.0 VDC / 0.1 V / ± (1%R+2cts)
Range / Resolution / Accuracy	
Frequency	30.0 to 999.9 Hz / 0.1 Hz / ± (0.1 % R + 1 ct)
Range / Resolution / Accuracy	Voltage > 2V
Phase rotation	45 to 550 V / 45 to 65 Hz
<b>GENERAL SPECIFICATIONS</b>	
Display	231-segment LCD with blue backlighting
Storage / Communication	30 sites x 99 tests / Bluetooth Class 1; range > 10m
Power supply / battery life	6 NiMH mains-rechargeable batteries < 6 hrs , USB or cigarette lighter/ 1,700 x 1 Ω continuity measurements
Dimensions / weight	223 x 126 x 70 mm / 700 g approx.
Ingress protection / EMC	IP 54; IEC 04 / EMC: IEC 61326-1
Electrical safety	IEC 61010-1 ; IEC 61010-2-030 ; IEC 61010-2-034, 600V CAT III, 300V CAT II (charger)/ Compliant with IEC 61557 parts 1,2,3,4,5,6,7,10

## Accessories and replacement parts

- Type 4 remote control probe..... P01102157
- MN73A current clamp for C.A 6133..... P01120439

## Installation testers

600 V  
CAT III

IP  
53



	C.A 6116N	C.A 6117
<b>BONDING / RESISTANCE</b>		
I rated / Range / Resolution	I > 200 mA / 39.99 Ω / 0.01 Ω / ± (1.5 % of reading + 2 cts) 12 mA / 39.99 Ω and 399.9 Ω / 0.01 and 0.1 Ω / ± (1.5 % of reading + 5 cts) with buzzer	
Range/ Resolution / Accuracy	4 kΩ / 1 Ω / ±(1.5 % of reading + 5 cts) • 40 kΩ - 400 kΩ / 10 Ω - 100 Ω / ±(1.5 % of reading + 2 cts)	
<b>ISOLATION</b>		
Rated voltage	Utest : 50 / 100 / 250 / 500 / 1,000 V DC	
Range / Basic accuracy	0.01 MΩ to 2 GΩ / 10 kΩ to 1 MΩ / ±(5 % of reading + 3 cts)	
Short-circuit current	≤ 3 mA	
<b>EARTH</b>		
3P earth	0.50 Ω to 40 Ω / 0.01 Ω / ±(2 % of reading + 10 cts) • 40 Ω to 15 kΩ / 0.1 Ω to 1 Ω / ±(2 % of reading + 2 cts) 15 kΩ to 40 kΩ / 10 Ω / ±(10 % of reading + 2 cts)	
Range / Resolution / Accuracy		
Others	Resistance measurement of RH & RS auxiliary stakes (up to 40 kΩ)	
Ufk	Compliant with SEV 3569	
1P SELECTIVE EARTH	0.50 Ω to 39.99 Ω - 40 Ω to 399.9 Ω / 0.01 Ω - 0.1 Ω / ±(10 % of reading + 10 cts) (ISel via clamp)	
Range / Resolution / Accuracy		
<b>LOOP IMPEDANCE (Zs (L-PE) and Zi (L-N or L-L) - 1P LIVE EARTH</b>		
LIVE EARTH	90 to 500 V / 15.8 to 17.5 Hz - 45 to 65 Hz	
Installation voltage / frequency		
High current TRIP mode	Max. test current: 7.5 A	
Zs (L-PE) & Zi (L-N or L-L)	(0.050) 0.100 Ω to 0.5 Ω / 0.001 Ω / ± (10 % of reading + 20 cts) • 0.5 Ω to 3.999 Ω / 0.001 Ω / ± (5% of reading + 20 cts) 3.999 to 39.99 Ω / 0.01 Ω / ± (5 % of reading + 2 cts) • 40.0 Ω to 399.99 Ω / 0.1 Ω / ± (5% of reading + 2 cts)	
Range / Resolution / Accuracy		
NO TRIP mode	Test current: 6 mA - 9 mA - 12 mA (as required) • 0.20 Ω to 0.99 Ω / 0.01 Ω / ± (15 % of reading + 10 cts) 1.00 to 1.99 Ω / 0.01 Ω / ± (15 % of reading + 3 cts) • 2.00 to 39.99 Ω / 0.01 Ω / ± (10 % of reading + 3 cts) 40.00 Ω to 399.9 Ω / 0.1 Ω / ± (5 % of reading + 2 cts) • 400 to 3,999 Ω / 1 Ω / ± (5 % of reading + 2 cts)	
(Zs (L-PE) only)		
Calculation of short-circuit current Ik (PFC (Zs)) , I Sc PSCC (Zi)	Fault and short-circuit current: 0.1 A to 20 kA	
Table of integrated fuses	Yes	
Voltage drop ΔV%(Zi)	-40 % to +40 %	
Others	Measurement of the resistive and inductive components of the impedances Zs and Zi	
<b>TYPE AC and A RCDs</b>		
Installation voltage / Frequency	90 V to 500 V / 15.8 Hz to 17.5 Hz and 45 Hz to 65 Hz	
IΔn	6/30/100/300/500/650/1000 mA (90 V - 280 V) or variable 6/10/30/100/300/500 mA (280 V - 550 V) or variable Ramp and pulse test	
No Trip test	At ½ IΔn - Duration: 1,000 ms or 2,000 ms	
Ramp mode	0.2 to 0.5 x IΔn (Uf) / 0.3 x IΔn to 1.06 x IΔn in increments of 3.3 % x IΔn	
Tripping time measurement: Range / Resolution / Accuracy	0.2 to 0.5 x IΔn (Uf) / 0.5 x IΔn / 2 x IΔn (selective) / 5 x IΔn Pulse: 0 to 500 ms / 0.1 and 1 ms / 2 ms, Ramp mode (10) to 200 ms / 0.1 ms / 2 ms	
<b>TYPE B RCDs</b>		
Installation voltage / frequency	90 V to 280 V / 15.8 Hz to 17.5 Hz and 45 Hz to 65 Hz	
IΔn: ramp / pulse 2 x IΔn pulse 4 x IΔn	6/10/30/100/300/500 mA 6/10/30/100 mA en impulsion 4 IΔn Duration: 150 ms in 4 x IΔn or 300 ms with 2 x IΔn	
Test in ramp mode	0.2 x IΔn to 2.2 x IΔn	
Tripping time: 2 x IΔn 4 x IΔn	IΔN ≤ 200 mA : 2.2 x 2 x IΔn IΔN > 200 mA : 1.1 x 2 x IΔn IΔN ≤ 100 mA : 2.2 x 4 IΔN	
<b>OTHER MEASUREMENTS</b>		
Current via C177A clamp	5.0 mA to 199.9 A (C177A)	
Current via MN77 clamp	(1 mA*) 5.0 mA to 19.99 A	
Voltage	0 to 550 VAC/DC / DC and 15.8 to 450 Hz	
Frequency	15.8 to 500 Hz	
Phase sequence	20 to 500 VAC	
Active power	0 to 110 kW single-phase - 0 to 330 kW three-phase - Simultaneous display of voltage and current waveforms	
Harmonics	Voltage and current / up to 50th order / THD-F / THD-R	
<b>GENERAL SPECIFICATIONS</b>		
Display	Large 5.7" backlit colour graphical LCD screen, 320 x 240 points	
Storage/Communication	1,000 tests / via USB for data transfer and report creation	
Power supply / Battery life	Lithium-ion rechargeable battery rated 10.8 V 5.8 AH / up to 30 hours	
Dimensions / weight	280 x 190 x 128 mm / 2.2 kg	
Ingress protection / EMC	IP 53 / IK04 / IEC 61326-1	
Electrical safety	IEC 61010 -1 - 600 V CAT III - 300 V CAT IV - IEC 61557	

\* if a voltage is connected to the instrument

## State at delivery

### • C.A 6116N • C.A 6117:

1 tester delivered with a carrying bag, 1 type-2 mains power pack / charger, 1 Li-Ion battery pack, 1 USB A/B cable, 1,80 m, with ferrite, 1 three-point cable - 3 safety leads (red, blue and green), 3 test probes, Ø 4mm (red, blue and green), 3 crocodile clips (red, blue and green), 2 elbowed-straight safety leads, 3 m (red and black), 1 three-point Euro mains cable, 1 x 2P EURO mains cable, 1 remote-control probe, 1 wrist strap, 1 scratch-proof film mounted on the instrument, 1 x 4-point hands-free strap, ICT data export software on CD-ROM, 6 operating manuals on CD (one per language), 1 safety datasheet in 20 languages.



## References

- C.A 6116N EURO Contrôleur.....**P01145455 X\***
- C.A 6117 EURO Contrôleur.....**P01145460 X\***

\* version GB : X = A, version IT : X = B,  
version CH : X = C, version US : X = D



## Insulation and Continuity Testers

### Discover our new range:

- > Test voltage from 10 V to 1,000 V / 200 GΩ
- > Manual, Lock, Timer and PI / DAR Ratios modes
- > Visual Pass / Fail: red / green
- > 200 mA / 20 mA continuity with active protection without fuses
- > Measurement of V (TRMS & DC), F, Ω, kΩ, C and cable length
- > ΔRel mode & configurable alarms
- > Storage of measurements in memory



600 V  
CAT IV

IP  
54

IEC  
61557



TRMS

Choose your tester to match your needs:

C.A 6536	C.A 6532	C.A 6522, C.A 6524, C.A 6526	C.A 6534
<p><b>"Special &amp; ESD" applications</b></p> <p>With a variable test voltage from 10 V to 100 V in 1 V increments, this model is intended for special applications in sectors such as avionics, space and defence, which often require a low test voltage and strict adherence to the programmed value. With appropriate electrodes, the 10 V and 100 V test voltages can also be used for electrostatic discharge applications.</p>	<p><b>"Telecommunications" applications</b></p> <ul style="list-style-type: none"> <li>• Insulation tests at 50 V or 100 V</li> <li>• Specific functions: measurement of resistance, capacitance, leakage current and AC voltage.</li> <li>• Measurement of the difference in resistance between 2 wires in a pair by using the ΔREL function.</li> <li>• Display of the length of the line being tested, thanks to programming of the linear capacitance in nF/km.</li> </ul>	<p><b>"Industrial Maintenance" applications</b></p> <p>Periodic insulation tests on installations and equipment help to prevent incidents by setting up preventive maintenance designed to detect ageing and premature deterioration of their insulation characteristics:</p> <ul style="list-style-type: none"> <li>• Measurement of insulation over a programmed duration</li> <li>• Alarms and Pass/Fail indicator light (C.A 6526)</li> <li>• PI and DAR ratios to determine the quality of the insulation, with the advantage of not being significantly influenced by the temperature</li> <li>• Storage in memory to compare the measurement histories</li> </ul>	<p><b>"Electronics" applications</b></p> <p>Thanks to its wide test-voltage range from 10 V to 500 V, this model covers the specific requirements of the electronics industries, for both low-current applications and power stages. Its measurement range is from 2 kΩ to 50 GΩ.</p>

## Remote control probe

The remote control probe is an accessory specially developed to make your insulation tests in the field simpler and quicker.

- Insulation measurement can be triggered with a single press on the probe's yellow button.
- Equipped with a torch function, this probe effectively lights the point of measurement.
- Thanks to the tester's backlit screen, the measurement results are visible at all times, including in places with poor lighting.



Reference P01102092A

## DataView® software

DataView® software, with its Megohmmeter Transfer module, automatically recognizes the instrument when it is connected to the PC and opens the corresponding menu. This tree-structure menu offers users direct access to the data recorded in the instrument and its configuration.

The other functions available are:

- Activation of remote tests
- Real-time display
- DAR and PI references
- Graphical plot of the tests
- Generation of measurement reports

Reference P01102095





	C.A 6522	C.A 6524	C.A 6526	C.A 6532	C.A 6534	C.A 6536
<b>Reference</b>	<b>P01140822</b>	<b>P01140824</b>	<b>P01140826</b>	<b>P01140832</b>	<b>P01140834</b>	<b>P01140836</b>
<b>Application</b>	Industrial Maintenance			Telecom	Electronics / ESD	Special
<b>Voltage</b>	0.3V - 399.9 V / 0.1 V; 400V-700V / 1V					
<b>Measurement range / Resolution</b>	+/- (3% + 2cts) / 400 kΩ					
<b>Accuracy / Input impedance</b>	DC; 15.3 - 800 Hz					
<b>Operating frequency</b>	"15.3 Hz- 399.9 Hz / 0.1 Hz / +/- (0.5% + 2cts) ; 400-800 Hz / 1 Hz / +/- (1% + 1ct)"					
<b>Frequency</b>						
<b>Measurement range / Resolution / Accuracy</b>						
<b>Insulation</b>						
<b>Test voltage</b>	250-500-1,000V	50 - 100 - 250 - 500 - 1 000 V		50 - 100 V	10- 25 - 100 - 250 - 500 V	10 to 100V in 1V increments
<b>Range at maximum test voltage</b>	40 GΩ	200 GΩ		20 GΩ	50 GΩ	20 GΩ
<b>Compliance with IEC 61557-2 standard</b>		2 GΩ		2 GΩ		2 GΩ
<b>Measurement range: 10 V</b>					2 kΩ - 1 GΩ	2 kΩ - 2 GΩ
<b>25 V</b>					5 kΩ - 2 GΩ	(U <sub>v</sub> /5) kΩ - (U <sub>v</sub> /5) GΩ
<b>50 V</b>		10 kΩ - 10 GΩ		10 kΩ - 10 GΩ		
<b>100 V</b>		20 kΩ - 20 GΩ		20 kΩ - 20 GΩ	20 kΩ - 10 GΩ	20 kΩ - 20 GΩ
<b>250 V</b>	50 kΩ - 10 GΩ	50 kΩ - 50 GΩ			50 kΩ - 25 GΩ	
<b>500 V</b>	100 kΩ - 20 GΩ	100 kΩ - 100 GΩ			100 kΩ - 50 GΩ	
<b>1,000 V</b>	200 kΩ - 40 GΩ	200 kΩ - 200 GΩ				
<b>Variable test voltage</b>						10 V to 100 V
<b>Measurement range / resolution</b>	10 <sup>(1)</sup> - 999 kΩ and 1.000 - 3.999 MΩ / 1 kΩ; 4.00 - 39.99 MΩ / 10 kΩ; 40.0 - 399.9 MΩ / 100 kΩ; 400 - 3999 MΩ / 1 MΩ; 4.00 - 39.99 GΩ / 10 MΩ; 40.0 - 200 GΩ / 100 MΩ					
<b>Accuracy</b>						± (3 % + 2 cts) <sup>(3)</sup>
<b>Test voltage (I &lt; 1 mA)</b>						± 0.5 V
<b>Display of test voltage</b>						± (3 % + 3 cts)
<b>Display of test current / resolution</b>	0.01 µA - 39.99 µA / 10 nA ; 40.0 - 399.9 µA / 100 nA; 0.400 - 2.000 mA/ 1 µA					
<b>Accuracy of test current</b>	± (10 % + 3 cts)					
<b>PI/DAR ratios</b>	10 mn / 1 mn - 1 mn / 30 s					
<b>Timer (min:s)</b>	0:00 - 39:59					
<b>Discharge time (at 25 V)</b>	< 2 s/µF					
<b>Alarms</b>	2 fixed thresholds + 1 programmable threshold					
<b>Continuity</b>						
<b>Range for continuity measurement</b>	0.00 Ω - 10.00 Ω (200 mA)					0.00 Ω - 10.00 Ω (200 mA); 0.0 - 100.0 Ω (20 mA)
<b>Accuracy / Open-circuit voltage</b>	± (2 % + 2 cts) / ≥ 6 V					
<b>Measurement current</b>	-0%+4%					
<b>Continuity thresholds (quick beep)</b>	2 Ω fixed					2 Ω, 1 Ω, 2Ω, 1Ω, programmable threshold up to 9.99 Ω
<b>Compensation of cables</b>						
<b>Resistance</b>						
<b>Measurement range / Resolution / Accuracy</b>	0 - 3999 Ω / 1 Ω; 4.00 kΩ - 39.99 kΩ / 10 Ω / ± (3 % + 2 cts) 40.0 kΩ - 399.9 kΩ / 100 Ω; 400 kΩ - 1000 kΩ / 1 kΩ / ± (3 % + 2 cts)					
<b>Capacitance</b>						
<b>Measurement range / resolution</b>	0.1 nF - 399.9 nF / 0.1 nF 400 nF - 3999 nF / 1 nF 4.00 µF - 10.0 µF / 10 nF ± (3 % + 2 cts)					
<b>Accuracy</b>						
<b>Line length</b>	0 - 100 km					
<b>General specifications</b>						
<b>Display</b>	2 x 4,000 cts + logarithmic bargraph					
<b>Storage</b>	300 measurements			1,300 measurements		
<b>Communication</b>	Bluetooth® Classe II					
<b>Power supply / Automatic shutdown</b>	6 x LR6(AA) batteries / 5 min , deactivatable					
<b>Battery life</b>	1,500/2,500/6,000 measurements <sup>(4)</sup> ; UN x 1 kΩ @ UN (5s ON / 5s OFF); 3,000 continuity measurements (5s ON / 5s OFF)					
<b>Dimensions (h x w x d) / Weight / IP rating</b>	211 x 108 x 60 mm / 850 g / IP 54 / IK 04					
<b>EMC / Electrical safety</b>	IEC 61326-1 / IEC 61010-1 and IEC 61010-2-030, 600V CAT IV					
<b>Compliance with standards</b>	IEC 61557 parts 1, 2, 4 and 10					

(1) : 2 kΩ for C.A 6532 - C.A 6534 - C.A 6536 - (2): to be added: 10 V: 1% per 0.1 GΩ ; 25 V: 0.4% per 0.1GΩ ; 50 V: 2% per GΩ; 100 V: 1% per GΩ; 250 V : 0.4% per GΩ; 500 V: 0.2% per GΩ; 1,000 V: 0.1% per GΩ - (3): 10%/UN is added per 100 MΩ - (4): depending on the model.

## Accessories and replacement parts

Continuity rod . . . . .	<b>P01102084A</b>	2 wire grips (red and black) . . . . .	<b>P01102053Z</b>
C.A 861 thermometer + K thermocouple . . . . .	<b>P01650101Z</b>	Carrying bag for hands-free use . . . . .	<b>P01298049</b>
2 elbowed-straight safety leads (red and black) 1.50 m long. . . . .	<b>P01295453Z</b>		
2 crocodile clips (red and black) . . . . .	<b>P01295457Z</b>		
2 test probes (red and black) . . . . .	<b>P01295454Z</b>		

## State at delivery

- **C.A 6522 et C.A 6524** delivered with a carrying bag for hands-free use, 2 elbowed-straight safety leads (red and black) 1.50 m long, one red crocodile clip, one black test probe, 6 x LR6 or AA batteries, multilingual user's manual on CD, a quick start-up guide, multilingual safety datasheet.
- **C.A 6526**, ditto + a CD containing the Megohmmeter Transfer software.
- **C.A 6532 and C.A 6534**, same as C.A 6526 + 2 wire-grips (red and black).
- **C.A 6536**, same as C.A 6524 + 2 wire-grips (red and black).





# ELECTRICAL TESTING AND SAFETY

IP  
53

## Insulation testers



	C.A 6541	C.A 6543	C.A 6505	C.A 6545	C.A 6547	C.A 6549
	<i>Quantitative and qualitative measurement</i>	<i>Saving of measurements Rechargeable battery</i>	<i>Insulation and leakage current</i>	<i>Insulation, capacitance, current</i>	<i>Storage and communication</i>	<i>For preventive maintenance professionals</i>
Reference	P01138901	P01138902	P01139704	P01139701	P01139702	P01139703
Voltage	1 to 1,000 V <sub>AC/DC</sub>		1 to 5,100 V <sub>AC/DC</sub>			
Insulation	50 / 100 / 250 / 500 / 1,000 V <sub>DC</sub>		500/1,000/ 2,500 / 5,000 V <sub>DC</sub> + variable from 50 V to 5,100 V <sub>DC</sub> (10 or 100 V increments)			
Range	2 kΩ to 4 TΩ		10 kΩ to 10 TΩ			
Continuity	0.01 to 40 Ω (buzzer + cable compensation)					
Resistance	0.01 to 400 kΩ					
Capacitance	0.005 to 4.999 μF		0.001 to 49.99 μF			
Current			0.001 nA to 3,000 μA			
Voltage ramp mode						5 steps
R calcul. (ref. T°)						yes
Alarms	yes					
Smoothed display	yes		no	yes		
Chronometer	yes					
Prog. test time	yes					
Quality ratios	DAR / PI			DAR / PI / DD		
R(t)	storage of samples		no	storage of samples		display on screen
Storage		128 kB		4 kB	128 kB	
Communication		two-way		no	two-way	
Power supply	8 x LR14 batteries		NiMH rechargeable battery			
Safety	IEC 61010-1 Cat. III 600 V IEC 61557		IEC 61010-1 Cat. III 1000 V (Cat. I, 2,500 V)- IEC 61557			
Display	giant LCD + bargraph		giant LCD + bargraph			graphic
Backlighting	yes					
Dimensions	240 x 185 x 110 mm		270 x 250 x 180 mm			
Weight	3.4 kg		4.3 kg			
PC software	no	DataView® (option)	no	no	DataView® (option)	
State at delivery	carrying bag containing: 3 leads 1.5 m long (including one shielded), 3 crocodile clips, 1 test probe + batteries or power cable		carrying bag containing: 3 HV leads 2 m or 3 m long with large crocodile clips (including one shielded), 1 lead with rear connection (35 cm) + 1 power cable			

## DataView® software for C.A 6543, C.A 6547 and C.A 6549

**DataView®:**  
the essential tool for configuring and performing the measurements, viewing the data in real time, recovering the recorded data and creating standard or customized measurement reports..... **P01102095**

## Accessories and replacement parts

C.A 1246 thermo-hygrometer	
for C.A 6505/6545/6547/6549	<b>P01654246</b>
C.A 1821 thermometer	<b>P01654821</b>
Remote-control probe for CA 6541/CA6543	<b>P01101935</b>

## Digital insulation testers

- > Wide measurement range from 10 k $\Omega$  to 30 T $\Omega$ 
  - 5 mA charging current
  - Large backlit LCD screen with digital display, bargraph and R(t)+u(t), i(t) and i(u) graphs
  - Automatic calculation of DAR / PI / DD /  $\Delta R$  (ppm/V) ratios
- > 3 filters to optimize measurement stability



**1000 V  
CAT IV**

**IP  
54**

	C.A 6550	C.A 6555
Reference	P01139705	P01139706
Voltage	10 kV	15 kV
Insulation	500/1,000/2,500/5,000/10,000 V	500/1,000/2,500/5,000/10,000/15,000 V
Range	10 k $\Omega$ to 25 T $\Omega$	10 k $\Omega$ to 30 T $\Omega$
Resistance	Yes	
Capacitance	0.001 - 9.999 $\mu$ F / 10.00 - 49.99 $\mu$ F	
Current	Leakage current from 0 to 10 mA	
Voltage ramp mode	3 pre-configurable ramps	
R calcul. (ref. T°)	Yes	
Alarms	Yes	
Smoothed display	Yes	
Chronometer	Yes	
Prog. test time	Yes	
Quality ratios	DAR / PI / DD / $\Delta R$ (ppm/V)	
R(t)	Display on screen	
R(t) + U(t), I(t), I(u)	Graphic display of curves	
Storage	256 kB, up to 80,000 recordings	
Communication	Optically-isolated port for USB link	
Power supply	NiMH battery rechargeable with external voltage	
Safety	1,000 V Cat. IV - IEC 61010-1 and IEC 61557	
Backlighting	Yes	
Dimensions	340 x 300 x 200 mm	
Weight	6.2 kg	

## State at delivery

Delivered with bag containing :

- 2 safety leads 3m long equipped with an HV connector at each end (red / blue),
- shielded safety lead 3 m long equipped with an HV connector at one end and an HV connector with rear connection (black) at the other end,
- 3 crocodile clips (red, blue, black),
- 2 x CAT IV 1000 V test probes (red, black) for voltage measurement,
- 1 blue lead with rear connection,
- 1 mains power cable 2 m long,
- DataView® software,
- 1 optical / USB communication lead,
- 1 operating manual in 5 languages on CD-ROM

## Accessories

3 HV leads with croc. clips for 10/15 kV . . . . .	<b>P01295466</b>
Blue 8 m HV lead with croc. clips . . . . .	<b>P01295468</b>
Red 8 m HV lead with croc. clips . . . . .	<b>P01295469</b>
Black 8 m HV lead with croc. clips . . . . .	<b>P01295470</b>
Blue 15 m HV lead with croc. clips . . . . .	<b>P01295471</b>
Red 15 m HV lead with croc. clips . . . . .	<b>P01295472</b>
Black 15 m HV lead with croc. clips . . . . .	<b>P01295473</b>
3 x 3 m HV leads for 10/15 kV . . . . .	<b>P01295465</b>
50 cm HV lead with rear connection . . . . .	<b>P01295467</b>
2 red/black test probes . . . . .	<b>P01295454Z</b>
3 crocodile clips: red/blue/black . . . . .	<b>P01103062</b>
Bag . . . . .	<b>P01298066</b>



# ELECTRICAL TESTING AND SAFETY

## Earth and resistivity testers



		C.A 6460	C.A 6462	C.A 6470N	C.A 6471
Reference		P01126501	P01126502	P01126506	P01126505
3P Method	Range	0.01 to 2,000 Ω		0.01 Ω to 99.99 kΩ	
	Resolution	10 mΩ/100 mΩ/1 Ω		0.01 to 100 Ω	
	Measurement frequency	128 Hz		41 to 513 Hz	
	Coupling measurement	Yes		Yes (Automatic)	
4P Method	Range	0.01 to 2,000 Ω		0.001 Ω to 99.99 kΩ	
	Resolution	10 mΩ/100 mΩ/1 Ω		0.001 to 100 Ω	
	4P Selective			Yes	
Earth measurement with 2 clamps	Range			0.01 to 500 Ω	
	Resolution	No		0.01 to 1 Ω	
	Measurement frequency			Auto: 1611 Hz Manual: 128 Hz, 1367 Hz, 1611 Hz, 1758 Hz	
Resistivity	Test method	Wenner and Schlumberger		Wenner and Schlumberger with automatic calculation	
	Range	0.01 to 2,000 kΩ		0.01 to 99.9 kΩ	
	Measurement frequency	128 Hz		41 to 128 Hz	
DC resistance measurement	Type of measurement			2 or 4 wires	
	Range	No		0.12 Ω / 0.020 Ω to 99.9 kΩ	0.12 Ω / 0.020 Ω to 99.9 kΩ
	Measurement current			> 200 mA DC	
Storage	No		512 memory locations		
Communication	No		Optically-isolated USB		
Dimensions / weight	273 x 247 x 127 mm / 2.8 kg / 3.3 kg		272 x 250 x 128 mm / 3 kg / 3.2 kg		
Safety	50 V CAT III, IEC 61010 & IEC 61557		50 V CAT IV, IEC 61010 & IEC 61557		
Power supply	8 x 1.5 V LR6 batteries		NiMH battery		

## State at delivery

- **C.A 6460** : delivered with 8 x 1.5 V LR6 batteries and 1 operating manual in 5 languages
- **C.A 6462**: delivered with 1 mains lead for recharging and 1 operating manual in 5 languages
- **C.A 6470N**: delivered with 1 external mains charger, data export software + optical / USB communication lead, 5 operating manuals (one per language) on CD-ROM, 5 simplified operating manuals, each in a different language, 5 descriptive labels, each in a different language
- **C.A 6471**: delivered with 1 external mains charger, data export software + optical / USB communication lead, 2 C182 clamps with 2 safety leads, 5 operating manuals (one per language) on CD-ROM, 5 simplified operating manuals, each in a different language, 5 descriptive labels, each in a different language, 1 carrying bag.

## Accessories

### C.A 6471

- MN82 clamp (diam. 20mm) (delivered with 1 x 2m cable for ES terminal connection) . . **P01120452**
- C182 clamp (diam. 20mm) (delivered with 1 x 2m cable for ES terminal connection) . . **P01120333**

### Earth and resistivity kit (100 m kit)

Ref.: **P01102024**

Compartment bag with space for tester containing: 4 "T"-shaped rods, 4 coils of cable (100 m red, 100 m blue, 100m green, 30 m black), 1 green 10 m cable reeler, 1 mallet, 5 x Ø 4 mm lug/banana plug adapters



### Standard 3P-method earth kit

**50 m kit Ref.: P01102021**

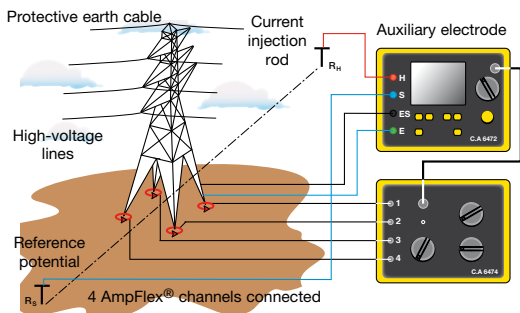
Carrying case containing: 2 "T"-shaped rods, 2 coils of cable (50 m red, 50 m blue), 1 green 10 m cable reeler, 1 mallet, 5 x Ø 4 mm lug/banana plug adapters

**100 m kit Ref.: P01102022**

Carrying case containing: 2 "T"-shaped rodss, 2 coils of cable (100 m red, 100 m blue), 1 green 10 m cable reeler, 1 mallet, 5 x Ø 4 mm lug/banana plug adapters

### For the C.A 6471 and C.A 6470N

- Dataview report generation software . . . . . **P01102095**
- Adapter for recharging on vehicle cigarette lighter. . . . . **P01102036**
- Optical / RS communication cable. . . . . **P01295252**
- GB mains power cable . . . . . **P01295253**
- Set of 10 fuses - F 0.63 A - 250 V - 5x20 mm - 1.5 kA . . **AT0094**
- Adapter for charging battery from the mains . . . . . **P01102035**
- Battery pack . . . . . **P01296021**
- Optical / USB communication cable. . . . . **HX0056-Z**



## Earth and resistivity tester with adapter for pylon earth measurements

The C.A 6472 can be used to carry out a quick but comprehensive survey of all earthing configurations. When used with the C.A 6474 accessory, it allows users to measure the earth resistance of pylons.



	C.A 6472	Accessory C.A 6474
<b>Reference</b>	<b>P01126504</b>	<b>P01126510</b>
<b>Specifications</b>		
<b>Measurements</b>	Earth / Selective earth / Resistivity / Coupling / Continuity / Ground potential / Pylon earth (with C.A 6474)	Overall pylon earth Earth resistance of each pylon footing Overall line impedance Quality of the protective earth cable connection
<b>Type</b>	Methods: 3P / 4P / 4P with clamp / 2 clamps	Active measurement (injection by C.A 6472) Passive measurement (use of disturbance currents)
<b>Measurement range</b>	0.011 to 100 kΩ (automatic ranging)	
<b>No-load voltage</b>	16 V or 32 V (as required)	
<b>Frequency</b>		41 Hz to 5078 Hz
<b>Frequency sweep</b>		Yes
<b>Auxiliary rod resistance measurement</b>	Yes: 0.14 Ω to 100 kΩ	
<b>U disturbance</b>		
<b>Measurement</b>	0,00 to 65,0 V	
<b>Noise rejection</b>	Yes	
<b>Power supply</b>	Rechargeable NiMH battery	Powered by the C.A 6472
<b>Display</b>	3 digital LCD screens	Provided by the C.A 6472
<b>Storage</b>	512 storage locations	Provided by the C.A 6472
<b>Communication output</b>	Optical / USB link	
<b>Safety</b>	IEC 61010 & IEC 61557	
<b>Dimensions / weight</b>	272 x 250 x 128 mm / 3.2 kg	272 x 250 x 128 mm / 2.3 kg

### State at delivery

- **C.A 6472:** delivered with mains adapter + 2P mains plug for battery recharging on mains, data export software + optical / USB communication cable, 2 x C182 clamps, 2 safety leads, 5 operating manuals (one per language) on CD-ROM, 5 simplified operating manuals (one per language), 5 identification labels (one per language), 1 bag.
- **C.A 6474:** delivered with an accessories bag containing 1 connection cable, 6 BNC/BNC cables 15 m long, 4 flexible current sensors (AmpFlex®) 5 m long, 1 set of 12 identification rings for AmpFlex®, 2 cables (5 m green, 5 m black) with safety plugs on winder, 5 spade lug/Ø 4 mm banana plug adapters, 3 clamps, 1 calibration loop, 5 operating manuals and 5 specification labels, each in a different language.

**Earth and Resistivity Kit (100m Kit)**  
see page 16



### Accessories

#### C.A 6472

- MN82 clamp (diam. 20mm) (delivered with 1 x 2m cable for ES terminal connection) . . . **P01120452**
- C182 clamp (diam. 20mm) (delivered with 1 x 2m cable for ES terminal connection) . . . **P01120333**

#### For the C.A6472 and C.A 6474 :

- C.A 6472 – C.A 6474 connection cable . . . . . **P01295271**
- 15 m BNC / BNC cable. . . . . **P01295272**
- 5 m AmpFlex® flexible current sensor for C.A 6474. . . . . **P01120550**

- Set of 12 AmpFlex® identification rings . . . . . **P01102045**
- Set of 3 adjustable clamps . . . . . **P01102046**
- 5 m green cable for C.A 6474 (E terminal connection). . . . . **P01295291**
- 5 m black cable for C.A 6474 (ES terminal connection). . . . . **P01295292**
- Spade lug/Ø 4 mm banana plug adapters . . . . . **P01102028**
- Calibration loop . . . . . **P01295294**
- AmpFlex® flexible current sensors:  
other lengths available on request



## Earth clamps and loop testers

Discover the C.A 6418 oblong-headed earth clamp

**NEW PRODUCT**



IP 40



	C.A 6416	C.A 6417	C.A 6418
Reference	P01122015	P01122016	P01122018
<b>Specifications</b>			
Loop ohmmeter	<b>Measurement ranges (Ω) / Resolution (Ω) / Accuracy</b>		
	<b>Display on 1,500 counts</b>		<b>Display on 1,200 counts</b>
	0.010 to 0.099 / 0.001 / ±1.5 % ±0.01 Ω		0.010 to 0.099 / 0.001 ±1.5% R* ±0.01 Ω
	0.10 to 0.99 / 0.01 / ±1.5 % ±2 r		0.10 to 0.99 / 0.01 / ±1.5 % R ±2 r
	1.0 to 49.9 / 0.1 / ±1.5 % ±r		1.0 to 49.9 / 0.1 / ±1.5 % R ±2r
	50.0 to 99.5 / 0.5 / ±2 % ±r		50.0 to 149 / 1 / ±2.5 % R ±2r
	100 to 199 / 1 / ±3 % ±r		150 to 245 / 5 / ±5 % R ±2r
	200 to 395 / 5 / ±5 % ±r		250 to 440 / 10 / ±10 % R ±2r
	400 to 590 / 10 / ±10 % ±r		450 to 640 / 10 / ±15 % R ±2r
	600 to 1,150 / 50 / Approx. 20 %		650 to 1200 / 50 / ±20 % R ±2r
1,200 to 1,500 / 50 / Approx. 25 %			
Frequency	Measurement frequency 2,083 Hz / Translation frequency 50, 60, 128 or 2,083 Hz		Measurement frequency 2,083 Hz
Loop inductance measurement	<b>Measurement ranges (μH) / Resolution / Accuracy</b>		
	10 to 100 / 1 / ±5 % ±r		
100 to 500 / 1 / ±3 % ±r			
Contact voltage (calculation)	<b>Measurement ranges (V) / Resolution (V)</b>		
	0.1 to 4.9 / 0.1		
	5.0 to 49.5 / 0.5		
50.0 to 75.0 / 1			
Ammeter Measurement ranges (A) / Resolution (A) / Accuracy Display on 4,000 counts	0.200 to 0.999 mA / 1 μA / ±2 % ±50 μA		0.5 to 9.995 mA / 50 μA / ±2 % R ±200 μA
	1.000 to 2.990 mA – 3.00 to 9.99 mA / 10 μA / ±2 % ±50 μA		10.00 to 99.90 mA / 100 μA / ±2 % R ±r
	10.00 to 29.90 mA – 30.0 to 99.9 mA / 100 μA / ±2 % ±r		100.00 to 299.0 mA / 1 mA / ±2 % R ±r
	100.0 to 299.0 mA – 0.300 to 0.990 A / 1 mA / ±2 % ±r		0.300 to 2.990 A / 10 mA / ±2 % R ±r
	1.000 to 2.990 A – 3.00 to 39.99 A / 10 mA / ±2 % ±r		3.00 to 20.00 A / 100 mA / ±2 % ±r
<b>Setup</b>			
Modes	Standard or advanced		Standard
Alarms	Configurable on Z, V and A		Configurable on Z and I
Buzzer	Active		
HOLD	Manual or automatic PRE-HOLD		
Auto power-off	Active / Inactive		
<b>General specifications</b>			
Display	152-segment OLED. Active area 48 x 39 mm		
Max. clamping diameter	Ø 35 mm		Ø 32 mm - LxH : 30 x 40 mm / 20 x 55 mm
Data storage	300 date-stamped measurements	2,000 date-stamped measurements	300 date-stamped measurements
Communication	Bluetooth class 2		
Power supply	4 x 1.5 V, LR6 (AA) alkaline batteries or 4 x Ni-MH batteries		
Battery life	1,440 x 30-second measurements	2,440 x 30-second measurements	
Calibration	Automatic at startup		
Electrical safety	IEC 61010 600 V CAT IV		CEI 61010 100 V CAT IV, 150 V CAT III
Ingress protection	IP40		
Dimensions	55 x 95 x 262 mm		56 x 106 x 300 mm
Weight	Approx. 935 g with batteries		Approx. 1.2 kg with batteries

R = Reading, r = resolution

## State at delivery

- **C.A 6416** : 1 clamp delivered in a carrying case with 4 x 1.5 V batteries, 1 CD-Rom containing the User's Manual in 5 languages, 1 wrist strap
- **C.A 6417** : 1 clamp delivered in a carrying case with 4 x 1.5 V batteries, 1 CD-Rom containing the User's Manual in 5 languages and the GTT software with simplified driver, 1 wrist strap
- **C.A 6418** : 1 clamp delivered in a carrying case with 4 x 1.5 V batteries, 1 CD-Rom containing the User's Manual in 5 languages, 1 wrist strap, 1 quick startup guide, 1 multilingual safety datasheet, 1 inspection certificate

## Accessories

- CL1 calibration loop ..... P01122301
- DataView ..... P01102095
- Hard case ..... P01298080
- Two foam inserts for C.A 6418 ..... **Please contact us**



## Locate hidden cables

### Locate hidden circuits!

Comprising a transmitter and a receiver, the LOCAT-N provides digital, visual and audio indication of the presence of cables or ducts so that you can follow them intuitively.

300 V  
CAT III

Transmitter



Receiver



C.A 6681 LOCAT-N	
Reference	P01141626
C.A 6681E transmitter	
Screen	LCD screen with display of functions and bargraph
Output signal frequency	125 kHz
External voltage measurement range	12 to 600 V <sub>ACDC</sub>
Functions	Digital coding of signals for easy signal identification, selection of transmission signal code, torch function
Power supply	9 V battery
Dimensions	190 x 89 x 42.5 mm
Weight	420 g with battery
Electrical safety	300 V CAT III
C.A 6681R receiver	
Screen	Backlit LCD with display of functions and bargraph, transmission code, receiver and transmitter battery-charge status
Detection Depth	
> Single-pole application	0 to 2 m
> Two-pole application	0 to 0.5 m
> Simple looping line	Up to 2.5 m
Identification of mains voltage	Approximately 0 to 0.4 m
Functions	Automatic shutdown, automatic or manual adjustment of reception sensitivity, torch function
Power supply	6 x 1.5 V AAA batteries
Dimensions	241.5 x 78 x 38.5 mm
Weight	360 g with batteries

## State at delivery

• **C.A 6681 LOCAT-N:** delivered in a hard case with 1 set of red/black 4 mm isolated banana leads (straight male / elbowed male), 1 set of 2 crocodile clips, 1 stake for earthing, 1 x 9 V battery, 6 x 1.5 V AAA batteries, 1 measurement adapter for B22 socket (bayonet), 1 adapter for E14 socket (screw-in), 1 mains socket adapter and 1 operating manual in 5 languages.





# TESTING AND ELECTRICAL SAFETY

## Micro-ohmmeters

- > 4-wire measurement method
- > Test current up to 10 A
- > Resolution 0.1 to 1  $\mu\Omega$



## State at delivery

- **C.A 6420** delivered with a bag, a set of 2 x 10 A Kelvin clamps with 3 m cable, 2P European power cable, data export software, 1 optical / USB communication cable
- **C.A 6255** delivered with a bag, a set of cables 3 m long terminated by Kelvin clamps, 2 m Euro mains power cable, CD-ROM containing the MOT (Micro-Ohmmeter Transfer) data transfer software, RS 232 communication cable, CD-ROM containing the user's manual in 9 languages.

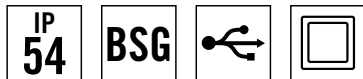
	C.A 6240	C.A 6255
	<i>Low resistance measurement</i>	
<b>Reference</b>	<b>P01143200</b>	<b>P01143221</b>
<b>Measurement method</b>	4-wire measurement	
<b>Resistance</b>	5 $\mu\Omega$ to 400.0 $\Omega$	1 $\mu\Omega$ to 2,500 $\Omega$
<b>Resolution</b>	1 $\mu\Omega$	0.1 $\mu\Omega$
<b>Accuracy</b>	0.25 %	0.05 %
<b>Current</b>	10 mA to 10 A	1 mA to 10 A
<b>Reversal of current direction</b>	Yes	No but automatic compensation of stray currents
<b>Measurement mode</b>	Normal	Inductive, non-inductive, non-inductive with automatic tripping
<b>Temperature compensation</b>	No	Manual or with Pt 100 probe
<b>Power supply</b>	NiMH rechargeable battery	
<b>Safety</b>	IEC 61010-1 / Cat III 50 V	
<b>Dimensions</b>	270 x 250 x 180 mm	
<b>Weight</b>	4.5 kg	4.5 kg
<b>Data storage</b>	100 measurements	1,500 measurements

## Accessories

Double 1 A test probes (x 2).....	<b>P01102056</b>
Mini Kelvin clamp (set of 2).....	<b>P01101783</b>



- > Constant test at 100 A and up to 120 s at 200 A
- > Test current up to 200 A
- > Resistance from 0.1  $\mu\Omega$  to 1  $\Omega$
- > Safe measurements: Both Sides Grounded (BSG) method
- > Storage of up to 8,000 measurement results



	C.A 6292		
<b>Reference</b>	<b>P01143300</b>		
<b>Test current</b>	Programmable from 20 to 200 A		
<b>Resistance</b>	0.1 $\mu\Omega$ to 2 m $\Omega$	2 to 200 m $\Omega$	200 m $\Omega$ to 1 $\Omega$
<b>Resolution</b>	0.1 $\mu\Omega$ (200 A max)	10 $\mu\Omega$ (25 A max to 200 m $\Omega$ )	1 m $\Omega$ (5 A max to 1 $\Omega$ )
<b>Output voltage</b>	10 VAC: 4.2 V @ 200 A / 220 VAC: 8.6 V @ 200 A		
<b>Maximum load resistance</b>	100 VAC: 20 m $\Omega$ @ 200 A / 220 VAC: 42 m $\Omega$ @ 200 A		
<b>Measurement method</b>	4 Kelvin-type connection terminals		
<b>Test mode</b>	Normal or Both Sides Grounded (BSG)		
<b>Test duration</b>	Adjustable from 5 to 120s @200 A / unlimited below 100 A		
<b>Data storage</b>	Up to 8,000 measurement results		
<b>Interface</b>	USB 2.0		
<b>Software</b>	DataView®		
<b>Power supply</b>	100 to 240 VAC – 50/60 Hz		
<b>Dimensions</b>	502 x 394 x 190 mm		
<b>Weight</b>	Approx. 13 kg		
<b>Storage temperature</b>	-10 °C to +70 °C		
<b>Humidity</b>	95% RH		
<b>Protection</b>	Protected against overvoltages, short-circuits and voltage surges on output terminals		
<b>Ingress protection</b>	IP54		
<b>Electrical safety</b>	IEC 61010-1		

## Current measurement with the MR6292 clamp available as an option

	MR6292
<b>Reference</b>	<b>P01120470</b>
<b>Measurement range</b>	1.0 - 50.0 Aac
<b>Resolution</b>	0.1 mA
<b>Intrinsic uncertainty</b>	$\pm$ (1.5% + 2 cts)
<b>Output signal</b>	10 mV / Adc
<b>Load impedance</b>	>100 k $\Omega$ // 100 pF
<b>Influence of conductor position in jaws</b>	0.50%

## State at delivery

**C.A 6292 delivered with:**  
 a case containing 1 set of 2 x 6 m Kelvin leads (red / black) with adjustable-clamp connections, 1 green earth cable 3m long with crocodile clip, 1 USB cable 1.5m long, 1 fuse T 15 A 250V mounted in the instrument, 1 European mains power cable, 1 user's manual in 5 languages on CD-ROM, 1 CD-ROM containing the DataView software.

## Accessories / Replacement Parts

1 set of 2 x 15 m Kelvin leads (red / black) adjustable-clamp connections.....	<b>P01295487</b>
1 MR 6292 current clamp for C.A 6292.....	<b>P01120470</b>
1 set of 2 x 6 m Kelvin leads (red / black) adjustable-clamp connections.....	<b>P01295486</b>
1 green earth cable with crocodile clip.....	<b>P01295488</b>
1 set of 5 fuses T 15A 250V 5x20mm.....	<b>P01297101</b>
1 USB-A USB-B cable 1.5m long.....	<b>P01295293</b>



## Ratiometer

- > Transformation ratio measurement on power, voltage and current transformers
- > Storage of up to 10,000 measurement results

50 V  
CAT IV

IP  
53



### DTR 8510

Digital ratiometer for transformers

Reference	<b>P01143200</b>	
Range of ratios (VT)	Automatic: 0.8000 to 8,000:1	
Accuracy (VT)	Range of ratios	Accuracy (% of reading)
	0.8000 to 9.9999	± 0.2 %
	10.000 to 999.99	± 0.1 %
	1000.0 to 4999.9	± 0.2 %
	5000.0 to 8000.0	± 0.25 %
Range of ratios (TC)	Autoranging: 0.8000 to 1000.0	
Accuracy (TC)	± 0.5 % of reading	
Excitation signal	VT mode: 32 Vrms max CT mode: Auto level 0 to 1 A, 0.1 to 4.5 Vrms	
Excitation current display	Range: 0 to 1,000 mA; Accuracy: ± (2 % R + 2 mA)	
Excitation frequency	70 Hz	
Display	Alphanumeric LCD, 2 lines of 16 characters with adjustment of contrast and backlighting. Easy to read in both daytime and nighttime conditions	
Available languages	French, English, Spanish, Italian, German, Portuguese	
Measurement method	According to IEEE Std C57, 12.90™ standard	
Power supply	Two rechargeable batteries: 12 V, NiMH, 1650 mAh	
Battery life	Up to 10 hrs in continuous operation, low-battery warning	
Battery charger	Universal input (90 to 264 Vrms), smart charger	
Charging time	< 4 hours for full charge	
Storage	10,000 tests	
Date / time	Power supplied by dedicated battery, real-time clock	
Communication	USB 2.0, optical isolation, 115.2 kB	
Software	Delivered with DataView® analytical software	
Dimensions / Weight	272 x 248 x 130 mm / 3.7 kg	
Connection	XLR connectors	
Leads	Screened H and X leads, length 4.6 m (15 ft), equipped with colour-coded crocodile clips	
Casing	Rugged polypropylene casing, UL 90 V0	
Vibrations	IEC 68-2-6 (1.5 mm at 55 Hz)	
Shocks	IEC 68-2-27 (30 G)	
Falls	IEC 68-2-32 (1 m)	
Protection rating	IP 40 with cover open as per EN 60529 IP 53 with cover closed as per EN 60529	
Safety	EN 61010-1, 50 V CAT IV; pollution degree 2	

## State at delivery

### DTR 8510 delivered with:

Delivered with a carrying bag containing 1 set of 4.6 m leads with crocodile clips, 1 external battery charger with mains power cable, 1 USB cable, 1 NiMH battery datasheet, 1 operating manual and DataView software on CD-Rom



# POWER, ENERGY, DISTURBANCES

## Power analysers for three-phase networks

**QUALI STAR+**

- > 5 voltage inputs & 4 current inputs
- > Inrush mode over 10 minutes
- > Calculation of distorting power



1000 V  
CAT III

600 V  
CAT IV

3U  
4I

4U  
4I

IP  
53

CEI  
61000-4-30

EN  
50160

NEW  
PRODUCT

IP  
67



	C.A 8331	C.A 8333	C.A 8336	C.A 8436
Reference	P01160511	P01160541	P01160591	P01160595
Number of channels		3U / 4I		4U / 4I
Number of inputs		4V / 3I		5V / 4I
IEC 61000-4-30				EN50160 reports
Voltage (TRMS AC+DC)			2 V to 1,000 V	
Voltage ratio			Up to 500 kV	
Current (TRMS AC+DC)				
MN clamps		MN93: 500 mA to 200 Aac ; MN93A: 0.005 Aac to 100 Aac		
C193 clamps		1 A to 1,000 Aac		
AmpFlex® or MA clamps		100 mA to 10,000 Aac		
PAC93 clamp		1 A to 1,300 Aac/dc		
E3N clamp		50 mA to 100 Aac/dc		
J93				50 A to 3,500 Aac / 5,000 ADC
Current ratio			Up to 60 kA	
Frequency			40 Hz to 69 Hz	
Power		W (P), VA (S), var (N, Q <sub>1</sub> , D), VAD, PF, DPF, cos φ, tan φ		W (P), VA (S), var (N, Q <sub>1</sub> , D), PF, DPF, cos φ, tan φ
Energy		Wh, varh (Nh, Q <sub>1</sub> h, Dh), VAh		
Harmonics		Yes		
THD		Yes, from 0 to 50th order, phase		
Expert mode			Yes	
Transients		50		210
Flicker (Pst and Plt)		Pst		Pst and Plt
Inrush mode		Yes on 4 periods		Yes > 10 minutes
Unbalance			Yes	
Recording			Yes	
Min/Max of a selection of parameters at max. sampling rate	4 hrs to 2 weeks	A few days to several weeks		2 weeks to several years
Alarms		4,000 of 10 different types		10,000 of 40 different types
Peak			Yes	
Vectorial representation			Automatic	
Display		Colour ¼ VGA TFT screen, 320 x 240, diagonal 148 mm		
Capture of screens and curves	12			50
Electrical safety		IEC 61010 1 000 V CAT III / 600 V CAT IV		
Ingress protection		IP53 / IK08		IP67
Languages		More than 27		
Battery life		Up to 13 hours		
Communication interface		USB		
Power supply		9.6 V NiMH rechargeable battery or mains power supply		
EN50160 report			Yes, with DataView® software	
Dimensions - Weight		240 x 180 x 55 mm - 1.9 kg		270 x 250 x 180 mm / 3.7 kg
Warranty		3 years		

### State at delivery

• **C.A 8336 • C.A 8333 - C.A 8331 - Models without sensors:** Qualistar+ analyser delivered with a bag for accessories, 5 voltage cables 3 m long with 4 mm banana connections, 5 crocodile clips, a set of 12 coloured elements for identifying cables and inputs, an anti-scratch film to protect the screen (mounted), a USB cable, a mains power cable, a mains power pack, a safety datasheet, a CD containing a multilingual user's manual and a CD containing the PC data retrieval software (Power Analyzer Transfer).

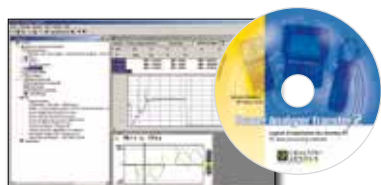
• **C.A 8436** - 1 bag No. 22, 1 IP67 mains cable, 1 USB cable, 5 x 4 mm banana voltage cables 3 m long, 5 crocodile clips, 1 set of colour-coded rings/inserts for identifying the cables and inputs, 1 anti-scratch screen-protection film (mounted), 1 safety datasheet, 1 CD-ROM containing the Power Analyser Transfer PC data recovery software.



## Software

The measurements performed with the Qualistar models can be processed using two software products:

**Power Analyzer Transfer** (standard) and **DataView**® (option).



## Power Analyzer Transfer

For transferring data onto a PC and communicating in real time via USB.

Supplied with the Qualistar+ models



## DataView®

Powerful configuration, transfer and measurement data processing software, with generation of reports according to the voltage quality standards as well as **EN5010** reports (C.A 8333/8230)

**DataView** is compatible with other Chauvin Arnoux® products:

- C.A 8220 & C.A 8230 power analysers
- F407 and F607 multimeter clamps
- and other measuring instruments

Minimum required operating system: Windows® 7, 8 and 10.

Reference	P01102095
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## Complementary accessories

E3N adapter .....	>	P01102081
E3N mains power pack .....	>	P01120047
Battery pack .....	>	P01296024
Qualistar screen film .....	>	P01102059
Set of inserts and rings .....	>	P01102080
Set of 5 IP67 banana leads 3 m long (BB196) .....	>	P01295479
Bag no. 21 .....	>	P01298055
Bag no. 22 .....	>	P01298056
USB-A USB-B cable .....	>	P01295293
5 A casing .....	>	P01101959
Lockable crocodile clips (x 5) .....	>	P01102099
Kit comprising banana leads (x 5), crocodile clips (x 5) and a set of coloured rings .....	>	P01295483
Kit comprising banana leads (x 4), crocodile clips (x 4) and a set of coloured rings .....	>	P01295476
Set of plugs (C.A 8435) .....	>	P01102147
Mains power pack (C.A 8335) .....	>	P01102057

## Accessories for all Qualistar+ models

### Mains adapter

PA31ER adapter for 1,000 V power supply via the phase



Reference	P01102150
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### Storage tool

Reeling Box winder for stowing measurement cables



Reference	P01102149
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## Clamps for Qualistar+



	MA193 -250	MA193 -350	MA196 -350	A193 -450	A193 -800	A196 -450
Reference	P01120580	P01120567	P01120568	P01120526B	P01120531B	P01120554
Indice IP67	-	-	yes	-	-	yes
Measurement range	200 mA to 10 kAac					
Clamping Ø / length	Ø 70 mm / 250 mm	Ø 100 mm / 350 mm	Ø 100 mm / 350 mm	Ø 140 mm / 450 mm	Ø 250 mm / 800 mm	Ø 190 mm / 610 mm
IEC 61010	1,000 V CAT III / 600 V CAT IV					1,000 V CAT IV



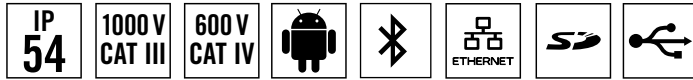
	MN93	MN 93A	PAC93	C193	E3N	J93
Reference	P01120425B	P01120434B	P01120079B	P01120323B	P01120043A	P01120110
Measurement range	500 mA to 200 Aac	0,005 Aac to 100 Aac	1 A to 1,000 Aac 1 A to 1,300 Adc	1 A to 1,000 Aac	50 mA to 10 Aac/dc 100 mA to 100 Aac/dc	50 to 3,500 Aac 50 to 5,000 Adc
Clamping Ø	20 mm		1 x Ø 39 mm 2 x Ø 25 mm	52 mm	11.8 mm	72 mm
IEC 61010	600 V CAT III / 300 V CAT IV		600 V CAT III / 300 V CAT IV	600 V CAT IV	600 V CAT III / 300 V CAT IV	600 V CAT IV / 1,000 V CAT III



# POWER, ENERGY, DISTURBANCES

## Power and Energy Loggers

- > Single-phase, split-phase and three-phase installations
- > Installation without cutting off the mains power supply
- > Bluetooth, Ethernet and USB Communication
- > Automatic recognition of the sensors connected
- > Recording on SD card



	PEL102 (without current sensors)	PEL103 (without current sensors)
<b>Reference</b>	<b>P01157152</b>	<b>P01157153</b>
<b>Display</b>	Without	With triple digital display
<b>Installation types</b>	Single-phase, split-phase, three-phase with or without neutral, and many other specific configurations	
<b>Number of channels</b>	3 Voltage inputs / 3 Current inputs (neutral current calculated)	
<b>Measurements</b>		
<b>Network frequency</b>	DC, 50 Hz, 60 Hz & 400 Hz	
<b>Voltage (Measurement ranges/ Best accuracy)</b>	10.00 to 1000 V <sub>AC/DC</sub> / +/- 0.2 % + 0.5 V	
<b>Current (depending on sensors) (measurement ranges / best accuracy)</b>	from 5 mA <sub>AC</sub> to 10 kA <sub>AC</sub> / 50 mA <sub>DC</sub> to 1,4 kA <sub>DC</sub> / ±0.5 %	
<b>Calculated measurements</b>		
<b>Ratios</b>	Up to 650,000 V / up to 25,000 A	
<b>Power</b>	10 W to 10 GW / 10 var to 10 Gvar / 10 VA to 10 GVA	
<b>Energy</b>	Up to 4 EWh / 4 EVAh / 4 Evarh (E = 1018 )	
<b>Phase</b>	cos φ, tan φ, PF	
<b>Harmonics</b>	Up to 50th order	
<b>Additional functions</b>		
<b>Phase order</b>	Yes	
<b>Min / Max</b>	Yes	
<b>Mounting</b>	Magnet, hook	
<b>Recording</b>		
<b>Sampling / Acquisition rate / Aggregation</b>	128 samples/period - 1 measurement/s – from 1 min to 60 min	
<b>Storage</b>	SD Card, 8 GB (SD-HC Card up to 32 GB)	
<b>Communication</b>	Ethernet & Bluetooth	
<b>Power supply</b>	110 V - 250 V (+10 %, -15 %) @ 50-60 Hz & 400 Hz	
<b>Safety</b>	IEC 61010 600 V CAT IV – 1,000 V CAT III	
<b>Mechanical specifications</b>		
<b>Dimensions</b>	256 x 125 x 37 mm without sensor	
<b>Weight</b>	900 g	950 g
<b>Casing</b>	IP54 , ETL	

## Accessories

DataVIEW® software	P01102095
Bag No 23	P01298078
Leads/clamps kit	P01295476
Set of id. rings/inserts	P01102080
5 A box	P01101959
PEL100 mains adapter	P01102134
Mains power cable	P01295174
Reeling Box	P01102149

## State at delivery

- **PEL102** and **PEL103**: 4 measurement leads (straight banana / straight banana – 3 m long – black), 4 crocodile clips (black), 1 SD card (8 GB), 1 set of rings and inserts (for ends of leads and current sensors), 1 mains cable, 1 USB cable (Type A / Type B), 1 operating manual (on CD), 1 bag, 1 safety datasheet, PEL Transfer PC software, 1 quick start-up guide, 1 SD MN adapter (depending on model).



**PEL100 mains adapter**  
To self-power the PEL via the voltage measurement channel

## Clamps for PEL



	MA193 -250	MA193 -350	MA196 -350	A193 -450	A193 -800	A196 -450
<b>Reference</b>	P01120580	P01120567	P01120568	P01120526B	P01120531B	P01120554
<b>Indice IP67</b>	-	-	yes	-	-	yes
<b>Measurement range</b>	200 mA to 10 kA <sub>AC</sub>					
<b>Clamping Ø / length</b>	Ø 70 mm / 250 mm	Ø 100 mm / 350 mm	Ø 100 mm / 350 mm	Ø 140 mm / 450 mm	Ø 250 mm / 800 mm	Ø 190 mm / 610 mm
<b>IEC 61010</b>	1,000 V CAT III / 600 V CAT IV					1,000 V CAT IV



	MN93	MN 93A	PAC93	C193	E3N	J93
<b>Reference</b>	P01120425B	P01120434B	P01120079B	P01120323B	P01120043A	P01120110
<b>Measurement range</b>	500 mA to 200 A <sub>AC</sub>	0.005 A <sub>AC</sub> to 100 A <sub>AC</sub>	1 A to 1,000 A <sub>AC</sub> 1 A to 1,300 A <sub>DC</sub>	1 A to 1,000 A <sub>AC</sub>	50 mA to 10 A <sub>AC/DC</sub> 100 mA to 100 A <sub>AC/DC</sub>	50 to 3,500 A <sub>AC</sub> 50 to 5,000 A <sub>DC</sub>
<b>Clamping Ø</b>	20 mm		1 x Ø 39 mm 2 x Ø 25 mm	52 mm	11.8 mm	72 mm
<b>IEC 61010</b>	600 V CAT III / 300 V CAT IV		600 V CAT III / 300 V CAT IV	600 V CAT IV	600 V CAT III / 300 V CAT IV	600 V CAT IV / 1,000 V CAT III

## Power and energy logger

- > Ideal for mounting on electricity poles
- > All-terrain shockproof casing resistant to UV light and high temperatures
- > Self-powered by its voltage inputs up to 1,000 V
- > Continuous recording at 200 ms intervals
- > Measurements in compliance with IEEE 1459



	<b>PEL 105</b> <b>P01157155</b>
<b>Reference</b>	<b>P01157155</b>
<b>Display</b>	With backlit triple digital display
<b>Type of installation</b>	Single-phase, split-phase, three-phase with or without neutral and many other specific configurations
<b>Number of inputs</b>	5 voltage inputs, 4 current inputs
<b>Number of channels</b>	4 voltage channels, 4 current channels
<b>Measurements</b>	
<b>Network frequency</b>	DC, 50 Hz, 60 Hz and 400 Hz
<b>Voltage (measurement ranges / best accuracy)</b>	10.00 V to 1,000 VAC @ 50/60 Hz, or 600 VAC @ 400 Hz / 1,000 VDC
<b>Current (depending on sensors) (measurement ranges / best accuracy)</b>	5 mAAC to 10 kAAC / 50 mADC to 1.4 kADC
<b>Calculated measurements</b>	
<b>Ratio</b>	Up to 650,000 V / up to 25,000 A
<b>Power</b>	20 W to 10 GW / 20 var to 10 Gvar / 20 VA to 10 GVA
<b>Energy</b>	Up to 4 EWh / 4 EVAh / 4 Evarh (E = 1018)
<b>Phase</b>	cos $\phi$ , tan $\phi$ , PF
<b>Phase sequence</b>	Automatic selection of the phase sequence
<b>Harmonics</b>	Up to the 50th order
<b>Additional functions</b>	
<b>Phase sequence</b>	Indication of valid connection
<b>Min / Max</b>	On all quantities
<b>Recording</b>	
<b>Sampling rate/ Acquisition rate / Aggregation</b>	128 samples/period - 5 measurements/s - from 1 min to 1 hr
<b>Storage</b>	SD card, 8 GB (up to 32 GB with SD-HC card)
<b>Communication</b>	Ethernet, Bluetooth, Wifi and USB
<b>Power supply</b>	Self-powered internally from 94 to 1,000 V @ 50-60 Hz & 400 Hz / DC
<b>Safety</b>	IEC 61010 1,000 V CAT IV
<b>Mechanical specifications</b>	
<b>Dimensions</b>	245 x 270 x 180 mm
<b>Weight</b>	< 4 kg
<b>Protection</b>	IP 67

## Clamps for PEL

see page 26

### Reeling Box

for stowing the measurement leads of your PEL



**Reference**    **P01102149**

## State at delivery

### PEL 105 delivered with:

- 5 x 3 m black silicone cables, straight banana / straight banana, 5 black 1,000 V CAT IV crocodile clips, 1 set of inserts/rings, 4 AmpFLEX® IP67 A196 3 m long, 1 set of waterproof plugs, 1 SD card, 1 USB cable, 1 bag, 1 safety datasheet, USB key containing 1 quick start-up guide and 1 user manual.

## Accessories

### Clamps for PEL - see page 24

Set of waterproof plugs .....	<b>P01102147</b>
Pole-mounting kit .....	<b>P01102146</b>
DataView® software .....	<b>P01102095</b>
Crocodile clips kit (x 5) .....	<b>P01102099</b>
Set of inserts/rings .....	<b>P01102080</b>
5 A adapter .....	<b>P01101959</b>
Leads kit (x 5) BB196 .....	<b>P01295479</b>
Reeling Box .....	<b>P01102149</b>
E3N adapter .....	<b>P01102081</b>
PA30 mains power pack .....	<b>P01102057</b>



# PORTABLE OSCILLOSCOPES

## Portable oscilloscopes with isolated channels

600 V  
CAT III

IP  
54



	OX 5022	OX 5042
Bandwidth	20 and 40 MHz	
Channels (number / type)	2 isolated	
IEC61010 safety	1 000V CAT II - 600V CAT III	
Analogue display or equivalent	No	
One-shot digital sampling rate	50 MS/s	
Repetitive mode	2 GS/s	
Vertical resolution	9 bits	
Transient detection (Glitch)	> 20ns	
Scaling / physical unit	•/•	
PC communication / Ethernet USB	•	
Mains power supply / Battery	•/•	
Integrated mode	Harmonics and multimeter	
<b>"Oscilloscope" specifications</b>		
Max. input sensitivity	5 mV/div	
Max. input amplitude	200 V/div	
Analogue filter	1.5 MHz, 5 kHz	
Time base (per division)	25 ns - 200 s	
Roll mode / XY mode	•/•	
Memory depth	2.5 k/channel	
Acquisition memory	2 MB memory	
No. of reference or math curves on screen	2	
Envelope / Averaging modes	•/•	
SPO (Smart Persistence Oscilloscope)	-	
Automatic measurements / cursors	19/•	
Calculation functions: + - / x / : / Advanced	•/•/•	
Autoset with channel selection	•	
<b>Other functions</b>		
TRMS multimeters	50 kHz	
Harmonic analysis	31 orders	
Threshold recorders (number of channels)	2	
Measurement of power / power harmonics	•	
<b>General specifications</b>		
Colour screen	3.5"	

### State at delivery

**Version C:** 1 oscilloscope delivered with 1 probe (1/10, 1000 V), 1 BNC/Banana adapter, 1 set of banana leads, 1 mains adapter, 1 set of 6 AA NiMH batteries, 1 "hands-free" bag, 1 CD-Rom containing 1 operating manual and 1 programming manual

**Version CK:** same as version C plus 1 optical USB communication cable and 1 CD containing the SX-METRO/P software and USB cable drivers

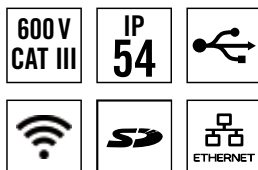
### References

- OX5022-C:** 1 oscilloscope 2 x 20 MHz
- OX5022-CK:** 1 oscilloscope, 2 x 20 MHz + USB communication
- OX5042-C:** 1 oscilloscope 2 x 40 MHz
- OX5042-CK:** 1 oscilloscope 2 x 40 MHz + USB communication

## On-site oscilloscopes with isolated channels

### Scopix IV - 5 instruments in 1:

- > oscilloscope
- > FFT
- > multimeter
- > logger & harmonic analyser
- > wattmeter



#### Scan this code

To find out more about the Scopix® offering:



### Scopix bus - OX9302-BUS:

- > 2 isolated channels, 300 MHz bandwidth
- > For physical integrity tests on field buses



	OX9302-BUS	OX9304	OX9104 / OX9102	OX9062
<b>Family</b>	<b>Field buses</b>	<b>Electronics</b>	<b>Electricity</b>	<b>Industry</b>
<b>References</b>	<b>OX9302-BUS</b>	<b>OX9304</b>	<b>OX9104 / OX9102</b>	<b>OX9062</b>
<b>Bandwidth</b>	300 MHz	300 MHz	100 MHz	60 MHz
<b>Channels (number/type)</b>	2 isolated	4 isolated	2 or 4 / isolated	2 / isolated
<b>IEC61010 safety</b>	CATII 1000V/CATIII 600V			
<b>One-shot digital sampling</b>	2.5 GS/s	2.5 GS/s	2.5 GS/s	2.5 GS/s
<b>Max. sampling rate in repetitive mode</b>	100 GS/s	100 GS/s	100 GS/s	100 GS/s
<b>Vertical resolution</b>	12 bits	12 bits	12 bits	12 bits
<b>Scaling/physical unit</b>	•/•	•/•	•/•	•/•
<b>PC communication via Ethernet/Wifi</b>	•/-	•/•	•/•	•/•
<b>ScopeNet PC web server</b>	•	•	•	•
<b>Ni-MH/LI-ION battery</b>	•/-	-/•	-/•	-/•
<b>"Oscilloscope" specifications</b>				
<b>Min. input sensitivity</b>	156 µV/div	156 µV/div	156 µV/div	156 µV/div
<b>Max. input amplitude</b>	200 V/div	200 V/div	200 V/div	200 V/div
<b>Analogue filters</b>	15 MHz, 1.5 MHz, 5 kHz	15 MHz, 1.5 MHz, 5 kHz	15 MHz, 1.5 MHz, 5 kHz	15 MHz, 1.5 MHz, 5 kHz
<b>Time base (per division)</b>	1 ns-200 s	1 ns-200 s	1 ns-200 s	1 ns-200 s
<b>Roll mode / XY mode</b>	•/•	•/•	•/•	•/•
<b>Memory depth</b>	100 k / channel	100 k / channel	100 k / channel	100 k / channel
<b>Acquisition memory</b>	> 2 GB on SD Card (all formats)	> 2 GB on SD Card (all formats)	> 2 GB on SD Card (all formats)	> 2 GB on SD Card (all formats)
<b>No. Of reference curves or math curves on screen</b>	4	4	4	4
<b>Automatic measurements/Cursors</b>	20/•			
<b>Pulse triggering width/number</b>	•/•	•/•	•/•	•/•
<b>Hold-Off / adjustable delay</b>	•/•	•/•	•/•	•/•
<b>+ - / x / : / advanced calculation functions</b>	•/•/•/•	•/•/•/•	•/•/•/•	•/•/•/•
<b>Autoset with channel selection</b>	•	•	•	•
<b>Other functions</b>				
<b>Spectral analysis, FFT Lin &amp; Log</b>	112 bits / 72 dB+ waveform	12 bits / 72 dB+ waveform	12 bits / 72 dB+ waveform	12 bits / 72 dB+ waveform
<b>TRMS multimeters</b>	200 kHz	200 kHz	200 kHz	200 kHz
<b>Logger</b>	Recording in MULTIMETER mode, file: 100 kpts			
<b>Harmonic analysis</b>	63 orders	63 orders	63 orders	63 orders
<b>Threshold loggers (number of channels)</b>	2	4	2 or 4	2
<b>Power / Power Harmonics measurement</b>	•/-	•/-	•/-	•/-
<b>General specifications</b>				
<b>LCD colour screen 5.7/7/3.5"</b>	7"	7"	7"	7"
<b>Soft calibration with 100% "closed casing"</b>	•	•	•	•

## State at delivery SCOPIX IV

1 SCOPIX IV oscilloscope delivered in a carrying bag, 1 PA40W-2 power pack / charger and one 2P EURO mains cable, 1 Li-Ion battery pack, 1 stylus, 1 Ethernet cable, 1 USB cable, 2 safety cables (red, black), 2 x Ø 4 mm test probes (red, black), 2 or 4 voltage probes depending on models, 1 µSD card (8 GB), 1 USB/ µSD adapter, 1 hand strap, 1 PROBIX BANANA, 1 USB installation procedure for use of the ScopeNet data export software on CD-ROM, 1 pdf User's Manual on CD (>5 languages), 1 startup guide on paper and 1 safety datasheet in 20 languages.

## State at delivery SCOPIX BUS

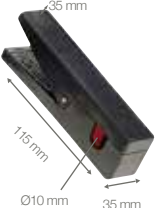

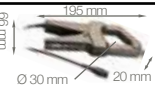

SCOPIX BUS delivered in a bag with 1 mains adapter/charger, 1 LI-ION battery pack, 1 stylus, 2 x 1/10 Probix HX0130 probes, 1 x Ø4 mm Probix banana adapter, 1 set of cables + Ø4 mm banana test probe, 1 Ethernet cable, 1 USB cable, 1 µSd card (8 GB) with SD Card adapter, HX0190 and HX0191 bus connection boards, 1 CD-Rom containing the User's Manual, Programming Manual and SX-BUS 2.0 software.



# CURRENT MEASUREMENT

## AC and AC/DC current measurement



Series	Model	Input <sup>(1)</sup>						Output / Connections			Specific features					To order				
		Very low current	Low current	Medium current	High current	~ AC	~ DC	Current	Voltage	Leads + safety plug $\varnothing$ 4 mm <sup>(2)</sup>	Female sockets $\varnothing$ 4 mm	BNC connector (oscilloscope)	Transformation ratio (input/output)	Output protected against overvoltage	Automatic DC zero		Power measurement (low phase shift)	Bandwidth (frequency in Hz)	Typical accuracy	
AC	 Dimensions: 35 mm, 115 mm, $\varnothing$ 10 mm	MINI 01		2 to 150 A			•		0.15 A AC			•		1,000/1	•			48 Hz... 500 Hz	$\leq$ 2.5 %	P01051101Z
		MINI 02	50 mA to 100 A				•		0.1 A AC			•		1,000/1	•	•		48 Hz... 10 kHz	$\leq$ 1 %	P01051102Z
		MINI 03		1 to 100 A			•		0.1 V AC			•		1 A / 1 mV				48 Hz... 500 Hz	$\leq$ 2 %	P01051103Z
		MINI 05	5 mA to 10 A 1 to 100 A				•		10 V A AC 0.1 V AC			•		1 mA/1 mV 1 A/1 mV					$\leq$ 3 % $\leq$ 2 %	P01051105Z
		MINI 09		1 to 150 A			•		15 V DC			•		1 A/100 mV					$\leq$ 4 %	P01051109Z
	MINI 102	 Dimensions: 34 mm, 130.4 mm, $\varnothing$ 16 mm		0.05 A - 200 A			•		0.2 A AC			•		1,000/1				48 Hz... 10 kHz	$\leq$ 1 %	P01106102
	MINI 103			0.1 A - 200 A			•		0.2 V AC			•		1 A / 1 mV				48 Hz... 10 kHz	$\leq$ 1.5 %	P01106103
	MN08			0.5 to 240 A			•		0.2 A AC			•		1,000/1				40 Hz... 10 kHz	$\leq$ 1 %	P01120401
	MN09			0.5 to 240 A			•		0.2 A AC			•		1,000/1				40 Hz... 10 kHz	$\leq$ 1 %	P01120402
	MN11			0.5 to 240 A			•		0.2 A AC			•		1,000/1	•			40 Hz... 10 kHz	$\leq$ 2 %	P01120404
	MN12			0.5 to 240 A			•		2 V AC			•		1 A/10 mV				40 Hz... 10 kHz	$\leq$ 1 %	P01120405
	MN13			0.5 to 240 A			•		2 V AC			•		1 A/10 mV				40 Hz... 10 kHz	$\leq$ 1 %	P01120406
	MN14			0.5 to 240 A			•		0.2 V AC			•		1 A/1 mV				40 Hz... 10 kHz	$\leq$ 1 %	P01120416
	MN39			0.1 to 24 A 0.5 to 240 A			•		2 V AC 2 V AC			•		1 A/100 mV 1 A/10 mV				40 Hz... 10 kHz	$\leq$ 1 %	P01120408
	MN73			10 mA to 2.4 A 100 mA to 240 A			•		2 V AC 2 V AC			•		1 mA/1 mV 1 A/10 mV				40 Hz... 10 kHz	$\leq$ 1 % $\leq$ 2 %	P01120421
	MN89			0.5 to 240 A			•		20 V DC <sup>(3)</sup>			•		1 A/100 mV				40 Hz... 10 kHz	$\leq$ 2 %	P01120415
	Y1N	 Dimensions: 135 mm, 100 mm, $\varnothing$ 30 mm, 20 mm		4 A to 600 A			•		0.5 A AC			•		1,000/1	•			48 Hz... 1 kHz	$\leq$ 3 %	P01120001A
	C100			0.1 A to 1,200 A			•		1 A AC			•		1,000/1				30 Hz... 10 kHz	$\leq$ 0.5 %	P01120301
	C103			0.1 A to 1,200 A			•		1 A AC			•		1,000/1	•			30 Hz... 10 kHz	$\leq$ 0.5 %	P01120303
C122			1 A to 1,200 A			•		5 A AC			•		1,000/5	•			30 Hz... 10 kHz	$\leq$ 1 %	P01120306	
C148			1 to 300 A 1 to 600 A 1 to 1,200 A			•		5 A AC			•		250/5 500/5 1,000/5	•			48 Hz... 1 kHz	$\leq$ 2 % $\leq$ 1 % $\leq$ 1 %	P01120307	
C173			1 mA to 1.2 A 0.01 to 12 A 0.1 to 120 A 1 to 1,200 A			•		1 V AC			•		1 A/1 V 10 A/1 V 100 A/1 V 1,000 A/1 V				10 Hz... 3 kHz	$\leq$ 0.7 % $\leq$ 0.5 % $\leq$ 0.3 % $\leq$ 0.2 %	P01120309	
D30CN			1 to 3,600 A			•		1 A AC			•		3,000/1	•	•		30 Hz... 5 kHz	$\leq$ 0.5 %	P01120064	
D36N			1 to 3,600 A			•		3 A AC			•		3,000/3	•	•		30 Hz... 5 kHz	$\leq$ 0.5 %	P01120055A	
AC/DC	 Dimensions: 11 mm, 15 mm, $\varnothing$ 3.9 mm, 25 mm	K1		1 mA to 4.5 A DC 1 mA to 3 A RMS 1 mA to 4.5 A peak			•	•	4.5 V DC 3 V RMS 4.5 V peak			•					DC... 2 kHz	$\leq$ 1 %	P01120067A	
		K2		100 $\mu$ A to 450 mA DC 100 $\mu$ A to 300 mA RMS 100 $\mu$ A to 450 A peak			•	•	4.5 V DC 3 V RMS 4.5 V peak			•		1 mA/10 mV				DC... 1.5 kHz	$\leq$ 1 %	P01120074A
	E1N		0.05 to 2 A DC 0.05 to 1.5 A AC 0.5 to 150 A AC/DC			•	•		2 V DC 1.5 V AC 150 mV AC/DC			•		1 A/1 V 1 A/1 mV			DC... 2 kHz DC... 8 kHz	$\leq$ 2 % $\leq$ 1.5 %	P01120030A	
	E6N		5 mA to 2 A DC 5 mA to 1.5 A AC 20 mA to 80 A AC/DC			•	•		2 V AC 1.5 V AC 0.8 V AC/DC			•		1 A/1 V 1 A/10 mV			DC... 2 kHz DC... 8 kHz	$\leq$ 2 % $\leq$ 4 %	P01120040A	

(1) The higher value corresponds to 120% of the max. rated value (2) Reshaping of AC signal by diodes (3) Lead + electronic unit with  $\varnothing$  4 mm safety plugs, 19 mm spacing, for K series

## AC/DC current measurement



\*Available soon

	Series	Model	Input <sup>(1)</sup>						Output / Connections				Specific features				To order		
			Very low current	Low current	Medium current	High current	~ AC	DC	Current	Voltage	Cables + ø 4 mm safety plug	ø 4 mm female sockets	BNC connector (oscilloscope)	Transformation ratio (input/output)	Output protected against overvoltages	Automatic zero DC		Power measurements (low phase shift)	Bandwidth (frequency in Hz)
AC/DC		PAC15	0.5 to 400 A AC 0.5 to 600 A DC						600 mV AC/DC	•			1 A/1 mV		•		DC... 30 kHz	≤ 2 %	Please contact us
		PAC16	0.5 to 40 A AC 0.5 to 60 A DC 0.5 to 400 A AC 0.5 to 600 A DC			•	•	•	600 mV AC/DC 600 mV AC/DC	•			1 A/10 mV 1 A/1 mV		•		DC... 30 kHz	≤ 1.5 % ≤ 2 %	Please contact us
		PAC17	0.5 to 40 A AC 0.5 to 60 A DC 0.5 to 400 A AC 0.5 to 600 A DC			•	•	•	600 mV crête 600 mV crête			•	1 A/10 mV 1 A/1 mV		•		DC... 30 kHz	≤ 1.5 % ≤ 2 %	Please contact us
		PAC25	0.5 to 1000 A AC 0.5 to 1400 A DC						1.4 V AC/DC	•			1 A/10 mV		•		DC... 30 kHz	≤ 4 %	Please contact us
		PAC26	0.5 to 100 A AC 0.5 to 150 A DC 0.5 to 1000 A AC 0.5 to 1400 A DC						1.5 V AC/DC 1.4 V AC/DC	•			1 A/10 mV 1 A/1 mV		•		DC... 30 kHz	≤ 1.5 % ≤ 4 %	Please contact us
		PAC27	0.5 to 100 A AC 0.5 to 150 A DC 0.5 to 1000 A AC 0.5 to 1400 A DC						1.5 V peak 1.4 V peak			•	1 A/10 mV 1 A/1 mV		•		DC... 30 kHz	≤ 1.5 % ≤ 4 %	Please contact us

## Measurement on oscilloscope

	Series	Model	Input						Output / Connections				Specific features				To order			
			Measurement range <sup>(1)</sup>						Current	Voltage	Leads + safety plug ø 4 mm <sup>(2)</sup>	Female sockets ø 4 mm	BNC connector (oscilloscope)	Transformation ratio (input/output)	Output protected against overvoltage	Automatic DC zero		Power measurement (low phase shift)	Bandwidth (frequency in Hz)	Typical accuracy
AC		MN60	0.1 A to 60 A peak 0.5 A to 600 A peak						6 V peak				•	1 A / 100 mV 1 A / 10 mV				40 Hz to 40 kHz	≤ 2 % ≤ 1.5 %	P01120409
		Y7N	1 A to 1,200 A peak						1.2 V peak				•	1 mA / 1 mV				5 Hz to 10 kHz	≤ 2 %	P01120075
		C160	0.1 A to 30 A peak 1 A to 300 A peak 1 A to 2,000 A peak						3 V peak 3 V peak 2 V peak				•	10 A / 1 V 100 A / 1 V 1000 A / 1 V				10 Hz to 100 kHz	≤ 3 % ≤ 2 % ≤ 1 %	P01120308
		D38N	1 A to 90 A peak 1 A to 900 A peak 1 A to 9,000 A peak						10 V A AC 0.1 V AC				•	1 A / 10 V 1 A / 1 mV 1 A / 0,1 mV				30 Hz to 50 kHz	≤ 2 %	P01120057A
		MA200 30-300/3 (17 cm)	0.5 A ... 45 A peak 0.5 A ... 450 A peak						4.5 V peak				•	100 mV/A 10 mV/A				5 Hz to 1 MHz phase shift at 1 kHz ≤ 1.5°	≤ 1 % + 0.3 A	P01120570
		MA200 30-300/3 (25 cm)	0.5 A ... 45 A peak 0.5 A ... 450 A peak						4.5 V peak				•	100 mV/A 10 mV/A				5 Hz to 1 MHz phase shift at 1 kHz ≤ 1.5°	≤ 1 % + 0.3 A	P01120571
AC/DC		MA200 30-300/3 (35 cm)	5 A ... 4,500 A peak					4.5 V peak				•	1 mV/A				5 Hz to 1 MHz phase shift at 1 kHz ≤ 1.5°	≤ 1 % + 0.3 A	P01120572	
		E3N	0.05 A to 10 A peak 1 A to 100 A peak						1 V peak				•	1 A / 10 mV 1 A / 1 mV				DC to 100 kHz	≤ 3 % ≤ 4 %	P01120043A
		MH60	0.01 A - 140A peak						0.01 A - 140A peak				•	10 mV/A	•			DC to 1 MHz	≤ 1.5 %	P01120612

(1) The higher value corresponds to 120 % of the max. rated value (2) Lead + electronic unit with Ø 4 mm safety plugs with 19 mm spacing for the AmpFLEX series

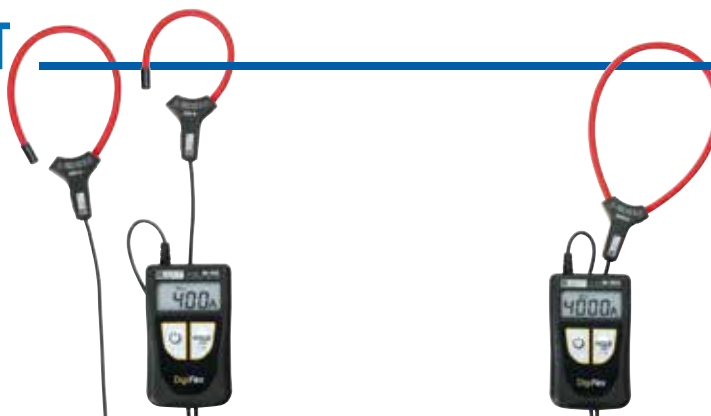


# CURRENT MEASUREMENT

## AC current measurement

MA400D, MA4000D

600 V CAT IV	TRMS	20 mA	MAX Hold
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References	MA400D-170 / MA400D-250			MA4000D-350		
	P01120575Z / P01120567Z			P01120577Z		
Display range	4 A AC	40 A AC	400 A AC	40 A AC	400 A AC	4,000 A AC
Measurement range	0.020 A... 3.999 A	4.00 A... 39.99 A	40.0 A... 399.9 A	0.01 A... 39.99 A	40.0 A... 399.9 A	400 A... 3,999 A
Resolution	1 mA	10 mA	100 mA	10 mA	100 mA	1 A
Accuracy	± (2 % + 10 cts)	± (1.5 % + 2 cts)	± (1.5 % + 2 cts)	± (2 % + 10 cts)	± (1.5 % + 2 cts)	± (1.5 % + 2 cts)
Sensor clamping diam. / length	MA400D-170: Ø 45 mm / 170 mm MA400D-250: Ø 70 mm / 250 mm			MA4000D-350: Ø 100 mm / 350 mm		
Bandwidth	10 Hz ... 3 kHz					
Power supply	2 x 1.5 V AAA/LR3 batteries					
Safety	IEC 61010 CAT IV 600V					
Operating temperature	0°C to +50°C					
Instrument weight	Approx. 130 g					
Casing dimensions	100 x 60 x 20 mm					
Length of connection cable	0.8 m					

### State at Delivery

1 DigiFLEX sensor delivered in a blister pack with 2 x 1.5V AAA batteries,  
1 elastic strap and an operating manual in 5 languages



### Accessories & Replacement Parts

Bag 120 x 200 x 60 .....	P01298074
MULTIFIX accessories .....	P01102100Z
Elastic strap .....	P01102113

## AmpFlex® flexible probes for AC current

1000 V CAT IV	80 mA	30000 AAC	IP 67	4 calibres
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Other dimensions:  
contact us

Series	Model	Input					Output - Connections			Specific features					Reference			
		Very low current	Low current	Medium current	High current	Alternating current	Direct current	Current	Voltage	Lead + safety plugs ø 4 mm	Female sockets ø 4 mm	BNC connector (coaxial)	Transformation ratio (input/output)	Output protected against overvoltages		Automatic DC zero	Power measurement (low phase shift)	Bandwidth (frequency in Hz)
 A110, A130	A110 3-30-300-3000/3 (45 cm / Ø 14 cm)	0.08 A - 3 A 0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				1 V/A 100 mV/A 10 mV/A 1 mV/A				10 Hz .. 10 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120630
	A110 3-30-300-3000/3 (80 cm / Ø 25 cm)	0.08 A - 3 A 0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				1 V/A 100 mV/A 10 mV/A 1 mV/A				10 Hz .. 10 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120631
	A110 30-300-3000-30000/3 (120 cm / Ø 38 cm)	0.05 A - 30 A 0.5 A .. 300 A 0.5 A .. 3000 A 0.5 A .. 30,000 A						3 VAC					100 mV/A 10 mV/A 1 mV/A 0,1 mV/A				10 Hz .. 5 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%
 A130	A130 30-300-3000/3 (80 cm / Ø 25 cm)	0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				100 mV/A 10 mV/A 1 mV/A				10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120633

# MiniFlex® flexible probes for AC current

## MA110, MA130

600 V CAT IV	1000 V CAT III	80 mA	3000 A <sub>AC</sub>	4 calibres	IP 67
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## MA200

600 V CAT IV	1000 V CAT III	1 MHz
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### MA110 model

Measurement from 20 mA.  
Can be connected to the AC voltage input (mVAC / VAC) of any multimeter or measuring instrument equipped with Ø 4 mm female banana plugs.

### Three-phase MA130 model

Can be connected to the AC voltage inputs (mVAC / VAC) of any power analyser, logger or measuring instrument equipped with BNC plugs.

### MA200 model

Equipped with a BNC output and can be connected to all types of oscilloscopes. Offers high bandwidth.

Series	Model	Input						Output - Connections			Specific features					Reference		
		Measurement range						Current	Voltage	Lead + safety plugs ø 4 mm	Female sockets ø 4 mm	BNC connector (coaxial)	Transformation ratio (input/output)	Output protected against overvoltages	Automatic DC zero		Power measurement (low phase shift)	Bandwidth (frequency in Hz)
Very low current	Low current	Medium current	High current	Alternating current	Direct current													
	MA110 3-30-300-3000/3 (17 cm / Ø 4.5 cm)	0.08 A - 3 A 0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				1 V/A 100 mV/A 10 mV/A 1 mV/A				10 Hz .. 10 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120660
	MA110 3-30-300-3000/3 (25 cm / Ø 7 cm)	0.08 A - 3 A 0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				1 V/A 100 mV/A 10 mV/A 1 mV/A				10 Hz .. 10 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120661
	MA110 3-30-300-3000/3 (35 cm / Ø 10 cm)	0.08 A - 3 A 0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A						3 VAC				1 V/A 100 mV/A 10 mV/A 1 mV/A				10 Hz .. 10 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120662
	MA130 30-300-3000/3 (25 cm / Ø 7 cm)		0.5 A .. 30 A 0.5 A .. 300 A 0.5 A .. 3,000 A					3 VAC				100 mV/A 10 mV/A 1 mV/A				10 Hz .. 20 kHz 10 Hz .. 20 kHz 10 Hz .. 20 kHz	≤ 1%	P01120663
	MA200 30-300/3 (17 cm / Ø 4.5 cm)		0.5 A...45 A <sub>PEAK</sub> 0.5 A...450 A <sub>PEAK</sub>					4,5 V <sub>PEAK</sub>				100 mV/A 10 mV/A					≤ 1% + 0.3 A	P01120570
	MA200 30-300/3 (25 cm / Ø 7 cm)		0.5 A...45 A <sub>PEAK</sub> 0.5 A...450 A <sub>PEAK</sub>					4,5 V <sub>PEAK</sub>				100 mV/A 10 mV/A			5 Hz...1 MHz		≤ 1% + 0.3 A	P01120571
	MA200 3000 /3 (35 cm / Ø 10 cm)		5 A...4,500 A <sub>PEAK</sub>					4,5 V <sub>PEAK</sub>				1 mV/A					≤ 1% + 0.3 A	P01120572

## Power quality & installation supervision

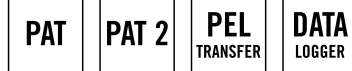
### Functions

- > Configuration of all the functions of instruments connected to a PC or via Bluetooth
- > Recovery of the recorded measurement data
- > Backup of measurement files
- > Opening of saved files
- > Processing and creation of reports (EN50160)
- > Export into an Excel spreadsheet
- > Export in .pdf format
- > Database management

### Additional info

The DataView® software

- > Automatically recognizes the instrument connected when it is connected to the PC and opens the corresponding menu. Users then have direct access to the configuration and to the saved data
- > Includes a large number of predefined report templates for quick generation in compliance with the applicable standards. Users can create their own models to fit their needs and add their own comments directly



Scan this code to find out more about DataView's performance features



Reference	P01102095
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## TEST AND MEASUREMENT ACCESSORIES

### Selection of Chauvin Arnoux accessories

- > Ø 4 mm banana connection accessories
- > Temperature measurement
- > Electrical installation testing
- > Protection, storage and transport

Scan this code to find out more about the selection of Chauvin Arnoux accessories



## ... by function

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# ELECTROCHEMISTRY

## Discover the C.A 10001 waterproof pH/ temperature tester

1 click to calibrate,  
1 click to measure!



\*Available soon

IP  
65

- > Automatic, extremely easy calibration at 3 points: saves time!
- > Detection of temperature-compensated pH values (ATC)

TECHNICAL SPECIFICATIONS	pH	Temperature
<b>Reference</b>	<b>P01710015</b>	
<b>Measurement range</b>	0.00 – 14.00 pH	0.0 – 60.0 °C 32.0 – 140.0 °F
<b>Resolution</b>	0.01 pH	0.1 °C / 0.1 °F
<b>Error</b>	± 0.1 pH	± 1 °C / ± 2 °F
<b>Calibration</b>	Automatic; 1, 2 or 3 points ; stored buffers	
<b>Interchangeable electrode</b>	No	
<b>Power supply /Life span</b>	2 x CR2032 3V batteries / >100 hours	
<b>Auto power-off</b>	After 20 min without activity	
<b>Dimensions/weight</b>	227 x 36 x 20 mm / 65 g	
<b>Environment</b>	Operating range / 0 to +50°C, max. Relative Humidity 80% Storage range -10 to +50°C, max. Relative Humidity 90%	
<b>Warranty</b>	1 year	

### ACCESSORIES

pH 1.68 buffer solution (NIST)*, 125 mL.....	<b>P01700105</b>
pH 4.01 buffer solution (NIST), 125 mL.....	<b>P01700106</b>
pH 7.00 buffer solution (NIST), 125 mL.....	<b>P01700107</b>
pH 9.18 buffer solution (NIST), 125 mL.....	<b>P01700108</b>
pH 10.01 buffer solution (NIST), 125 mL.....	<b>P01700109</b>
Set of 3 plastic beakers <b>P01710056</b>	

\* Delivered with a quality certificate guaranteeing compliance with the NIST (National Institute of Standards and Technology) and DIN 19266 standards

### State at delivery

Two CR2032 3V batteries, one electrode storage flask, one multilingual User's Manual, one verification certificate.

NEW PRODUCTS\*

## Discover our C.A 10101 portable waterproof pH-meter

The C.A 10101's extra-wide, multi-display LCD screen makes it particularly comfortable to read and it offers storage on request of more than 100,000 time/date-stamped measurements (PC software included)

IP  
67

DATA  
LOGGER



\*Available soon

SPECIFICATIONS	Measurement parameters	
<b>Reference</b>	<b>P01710010</b>	
<b>Measurement range (instrument only)</b>	pH	-2.00 to 16.00 pH*
	Redox	±199.9 mV -1999 to -200 and +200 to +1999 mV
	Temperature	-10.0 to +120.0°C / 14.0 to 248.0°F
<b>Resolution (R)</b>	pH	0.01 pH
	Redox	0.1 mV 1 mV
	Temperature	0.1 °C / 0.1 °F
<b>Intrinsic uncertainty of the instrument (without the electrode)</b>	pH	± 0.01 pH ± r
	Redox	± 0.1 mV ± r ± 1 mV ± r
	Temperature	< 0.4°C / < 0.7°F
<b>Calibration</b>	pH	Automatic, up to 3 points, 3 groups of predefined reference solutions (modifiable)
	Redox	Automatic, 1 point, two predefined reference solution values (modifiable)
<b>Temperature compensation</b>	Automatic (ATC) or manual (MTC), -10°C to +120°C (14°F to 248°F)	
<b>Electrode</b>	pH	XRGST1 (supplied): pH combination electrode with built-in temperature sensor (P11000) and 8-pin DIN connector
	Redox	XRPST1 (option): ORP combination electrode with built-in temperature sensor (P11000) and 8-pin DIN connector
<b>Data storage</b>	Date and time	Yes
	Data storage	> 100,000 measurements
<b>Connectors</b>	Sensor input	8-pin DIN (adapters for BNC, S7 and Jack available as options)
	Communication interface	Type B Micro-USB (USB peripheral)
<b>Batteries / Life span</b>	4 x 1.5 V AA or LR6 alkaline batteries / Approx. 300 hours of continuous use Auto power-off after 3, 10 or 15 min of inactivity (adjustable)	
<b>Ingress protection</b>	IP67	
<b>Environmental conditions</b>	Storage range (excluding batteries, electrodes and buffer solutions)	-20 to +70°C
	Operating range	-10 to +55 °C
<b>Dimensions (with sheath)</b>	211 x 127 x 54 mm	
<b>Weight (without electrode)</b>	600 g	
<b>Warranty (instrument only)</b>	2 years	

\* Instrument + XRGST1 pH electrode: 1.00 to 12.00 pH

### ACCESSORIES AND REPLACEMENT PARTS

XRGST1 pH combination electrode with built-in temperature sensor.....	<b>P01710051</b>
XRPST1 ORP combination electrode with built-in temperature sensor.....	<b>P01710052</b>
pH 1.68 buffer solution (NIST)*, 125 mL.....	<b>P01700105</b>
pH 4.01 buffer solution (NIST), 125 mL.....	<b>P01700106</b>
pH 7.00 buffer solution (NIST), 125 mL.....	<b>P01700107</b>
pH 9.18 buffer solution (NIST), 125 mL.....	<b>P01700108</b>
pH 10.01 buffer solution (NIST), 125 mL.....	<b>P01700109</b>
220 mV ORP buffer solution, 125 mL.....	<b>P01700114</b>

468 mV ORP buffer solution, 125 mL.....	<b>P01700115</b>
Shockproof sheath.....	<b>P01710050</b>
Set of 3 beakers.....	<b>P01710056</b>
8-pin DIN to BNC & Jack adapter***.....	<b>P01295501</b>
8-pin DIN to S7 & Jack adapter.....	<b>P01295502</b>

\*\* Delivered with a quality certificate guaranteeing compliance with the NIST (National Institute of Standards and Technology) and DIN 19266 standards

\*\*\* Connection adapters for Chauvin Arnoux pH/redox and temperature sensors

### State at delivery

1 C.A 10101 pH-meter delivered in a site-proof case with 1 XRGST1 pH combination electrode with built-in temperature sensor, 4 AA or LR6 alkaline batteries, 1 protective sheath mounted on the instrument, 2 ready-to-use buffer solutions (compliant with NIST/DIN) with pH 4.01 and 7.00, 2 plastic beakers, 1 USB - micro USB cable, 1 wrist strap, quick start-up guides (one per language).



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