ENERDIS

ENERDIS offers the electricity industry and service sector all fixed switchboard equipment for measuring, checking, recording, metering and supervising HT/LT electricity systems.
The two Chauvin Arnoux® and Enerdis® brands serve the different players in the electrical industry: switchboard manufacturers, industrial installers, electricity authorities and companies, etc.

PYRO-CONTRÔLE

PYRO-CONTRÔLE designs, makes and markets temperature sensors and industrial temperature measurement and control systems.
From "Tailor-made" to standardized product, the Pyro-Contrôle® and Chauvin Arnoux® brands are recognized in industries as demanding as chemicals, petrochemicals, glass, ceramics, metals as well as nuclear power.

MANUMESURE

With 18 local offices, MANUMESURE repairs, maintains and manages electronic measuring equipment of all makes. Inspection, calibration in COFRAC accredited laboratories, electromagnetic compatibility tests, checking and measuring electrical pollution on-site complete the overall service offered by the Group's "Service" arm.

CHAUVIN ARNOUX

DEUTSCHLAND
CHAUVIN ARNOUX GmbH
Straßburger Str. 34
77694 KEHL/RHEIN
Tel: (07851) 99 26-0 - Fax: (07851) 99 26-60
e-mail: info@chauvin-arnoux.de
www.chauvin-arnoux.de

ESPAÑA
CHAUVIN ARNOUX IBERICA
C/Roger de Flor N° 293 - Planta 1
08025 BARCELONA
Tel: (93) 459 08 11 - Fax: (93) 459 14 43
e-mail: comercial@chauvin-arnoux.es
www.chauvin-arnoux.es

FRANCE
CHAUVIN ARNOUX
190 rue Championnet
75876 PARIS Cedex 18
Tel: (33) 01 44 85 44 86
Fax: (33) 01 46 27 95 59
e-mail: info@chauvin-arnoux.fr
www.chauvin-arnoux.fr

ITALIA
Via Sant'Ambrogio, 23/25
20050 BAREGGIA
DI MACHERIO (MI)
Tel: (039) 245 75 45 - Fax: (039) 481 561
e-mail: info@amra-chauvin-arnoux.it
www.amra-chauvin-arnoux.it

LEBANON
P.O. BOX 60-154
1241 2020 JAL EL DIB - (BEIRUT)
Tel: +961 1 890 425 - Fax: +961 1 890 424
e-mail: camie@chauvin-arnoux.com
www.chauvin-arnoux.com

ÖSTERREICH
CHAUVIN ARNOUX Ges.m.b.H.
Slamastrasse 29/3
A-1230 WIEN
Tel: (1) 61 61 9 61 - Fax: (1) 61 61 9 61 61
e-mail: vie-office@chauvin-arnoux.at
www.chauvin-arnoux.at

SCHWEIZ
CHAUVIN ARNOUX AG
Einsiedlerstrasse 535
8810 HORGEN
Tel: (01) 727 75 55 - Fax: (01) 727 75 56
e-mail: info@chauvin-arnoux.ch
www.chauvin-arnoux.ch

SWEDEN
CA Mätsystem AB
P.O. Box 4501 - SE 183 04 TÄBY
Tel: +46 8 50 52 68 00 - Fax: +46 8 50 52 68 10
e-mail: info@camatsystem.com
www.camatsystem.com

UNITED KINGDOM
CHAUVIN ARNOUX UK Ltd
Waldeck House Waldeck road
MAIDENHEAD SL6 8BR
Tel: 01628 788 888 - Fax: 01628 628 099
e-mail: info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

USA
d.b.a AEMC Instruments
200 Foxborough Blvd,
Foxborough, MA 02035
Tel: (508) 698-2115 - Fax: (508) 698-2118
e-mail: sales@chauvin-arnoux.com
www.aemc.com

06/2004 - Non-contractual document. Specifications must be confirmed before ordering.
www.chronatques.fr • 906 131 088 - Ed.4

FRANCE
Chauvin Arnoux
190, rue Championnet
75876 PARIS Cedex 18
Tel: +33 1 44 85 44 85
Fax: +33 1 46 27 73 89
export@chauvin-arnoux.fr
www.chauvin-arnoux.fr

UNITED KINGDOM
Waldeck House
Waldeck Road
MAIDENHEAD SL6 8BR
Tel: 01628 788 888
Fax: 01628 628 099
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

LEBANON
P.O. BOX 60-154
1241 2020 JAL EL DIB (BEIRUT)
Tel: +961 1 890 425
Fax: +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com

CHAUVIN ARNOUX GROUP

CHAUVIN® ARNOUX
CHAUVIN ARNOUX GROUP

Test and Measurement

HAND-HELD, FIELD,
AND LABORATORY
TEST AND MEASUREMENT
INSTRUMENTS

2004 › 2005 CATALOGUE

CHAUVIN® ARNOUX
CHAUVIN ARNOUX GROUP

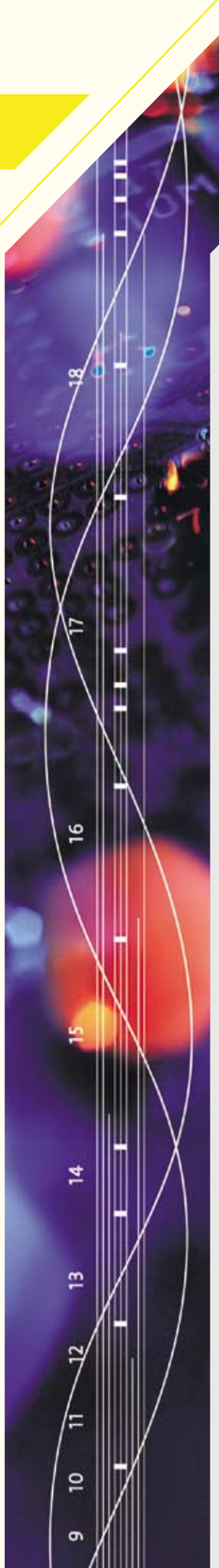
European Leader in Measurement

Chauvin Arnoux Group, the European leader in Measurement, offers a complete product offer in the measurement domain due to its three areas of competence: heat, electricity and portable measurement instruments, provided respectively by three French companies: Pyro-Contrôle, Enerdis, and Chauvin Arnoux Test & Measurement.

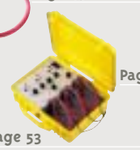
Whether the product be specially adapted to meet the customer's specific needs or a unique and original design created in one of its six R & D centers and manufactured in one of its production sites (4 in France, 1 in the USA, 1 in Italy), Chauvin Arnoux Group offers a range of more than 5000 product references.

To complete this global offer in France, a network of 19 Manumesure agencies assure quality after-sales service (repair, metrological verification, calibration). Internationally, Chauvin Arnoux Group's expertise is provided by locally established subsidiaries and its export teams. Chauvin Arnoux Group is certified ISO 9001 version 2000 by the MOODY international body for all of its sites.

Chauvin Arnoux's international development is accompanied by 10 subsidiaries in Europe, the United States, and China, making its Chauvin Arnoux®, Metrix®, Enerdis®, and Pyro-Contrôle® trademarks available on the five continents. The group invests 11% of its turnover each year to Research & Development so to preserve its technological advance and label as a permanent innovator and engineer in the domain of measurement.



Page 26



Contents

Domestic applications

You use our products for certain applications.
Learn about some of their other applications here.

New

In each chapter, the selection table will help you choose the instrument and accessories best suited to your needs

Reminders

> The IEE 16th regulation imposes the following tests:

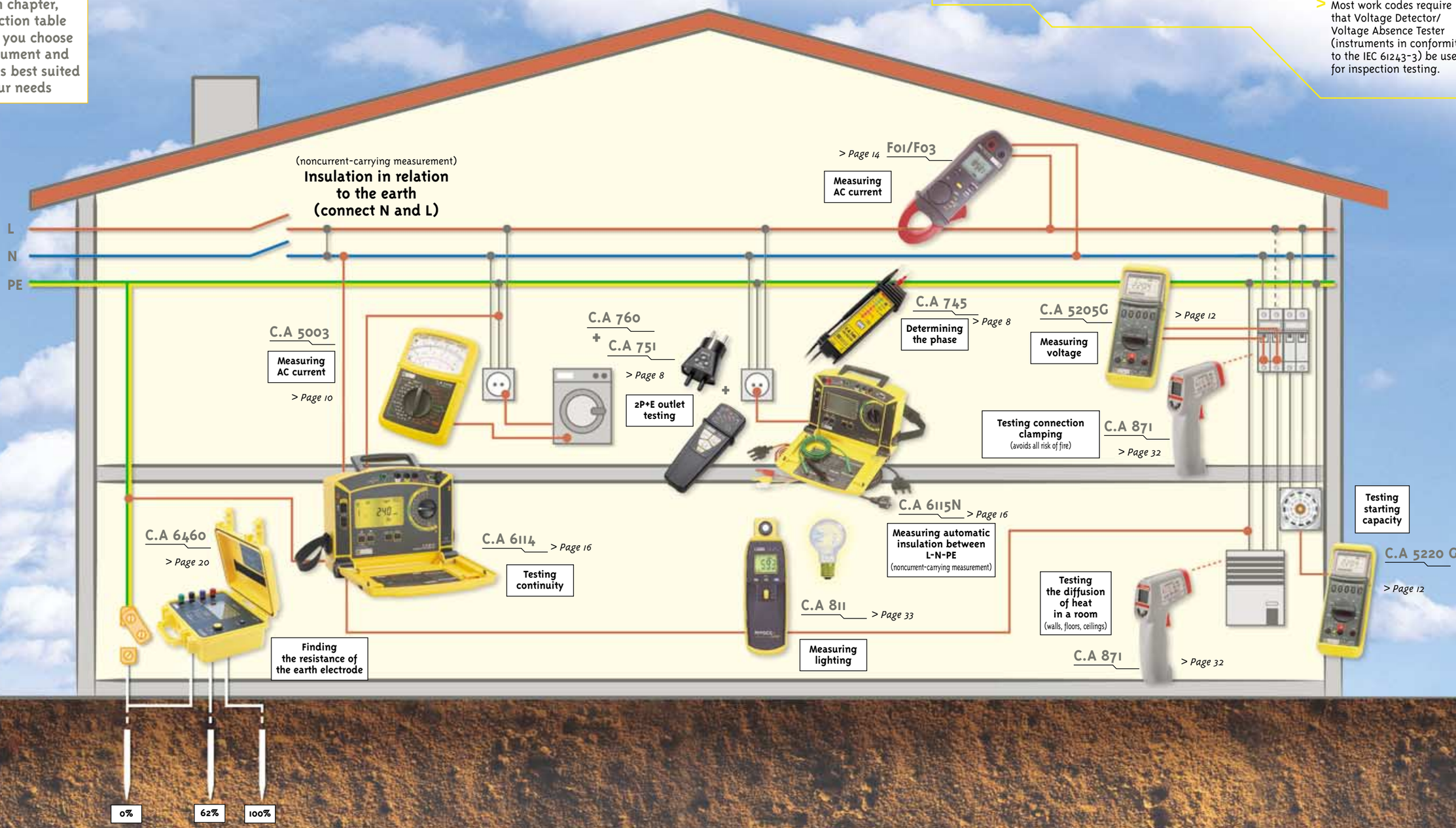
Earth Measurement
The earth rod should have a resistance <100 Ω to allow current to flow to the earth.

Insulation measurement between conductors and of the entire Installation in relation to the earth
For an installation with a nominal voltage of 230 VAC, inject 500 VDC and find the resistance >0.5 MΩ.
This measurement is carried out on noncurrent-carrying installations.

Continuity measurement (test at 200 mA)
Check that the ground conductor is in good condition and connected well to the earth. Find R <2 Ω.

Differentials working correctly
They should trip for a current < their nominal current and within < 300 ms.

> Most work codes require that Voltage Detector/ Voltage Absence Tester (instruments in conformity to the IEC 61243-3) be used for inspection testing.

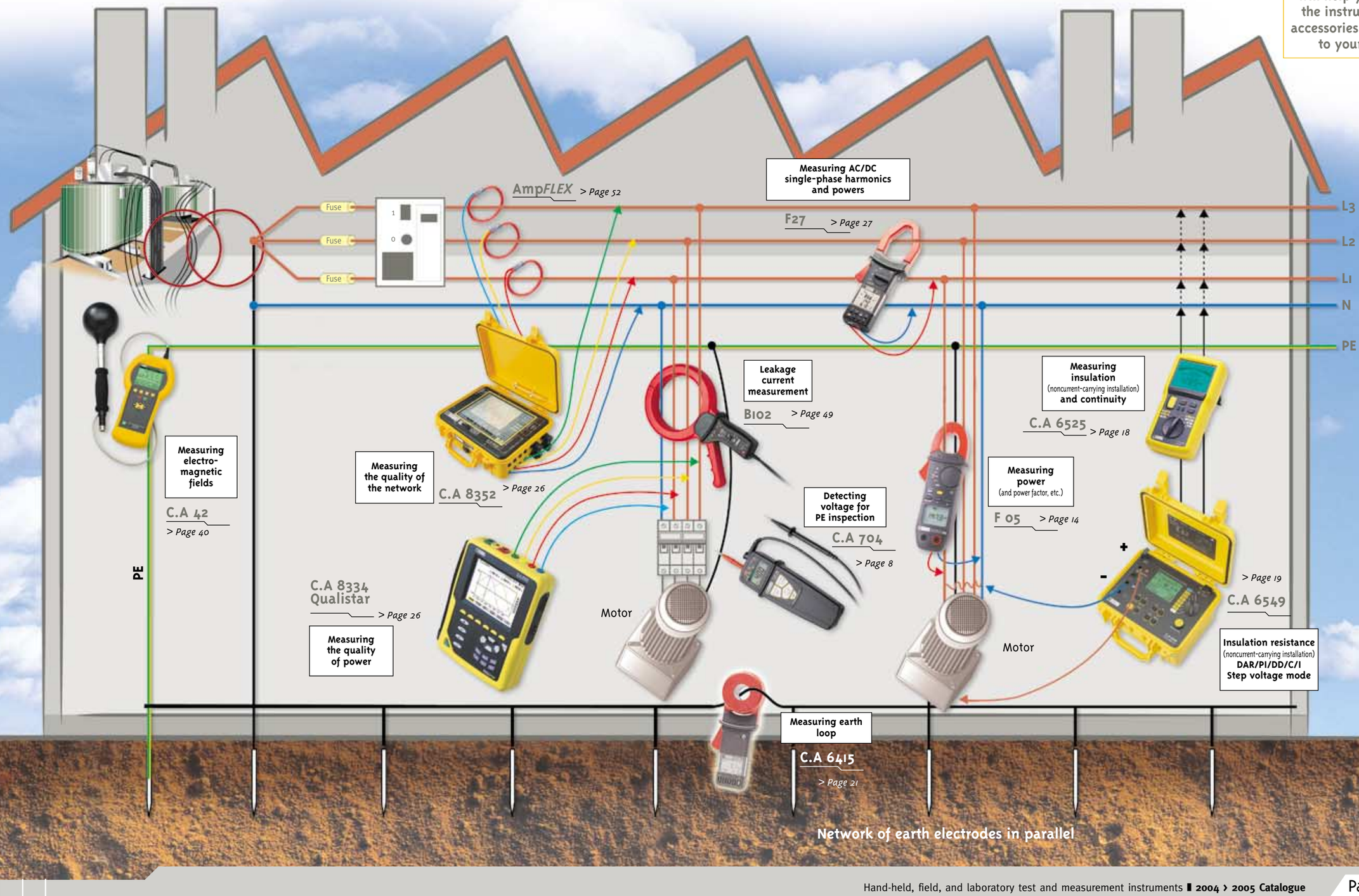


Industrial or tertiary applications

You use our products for certain applications.
Learn about some of their other applications here.

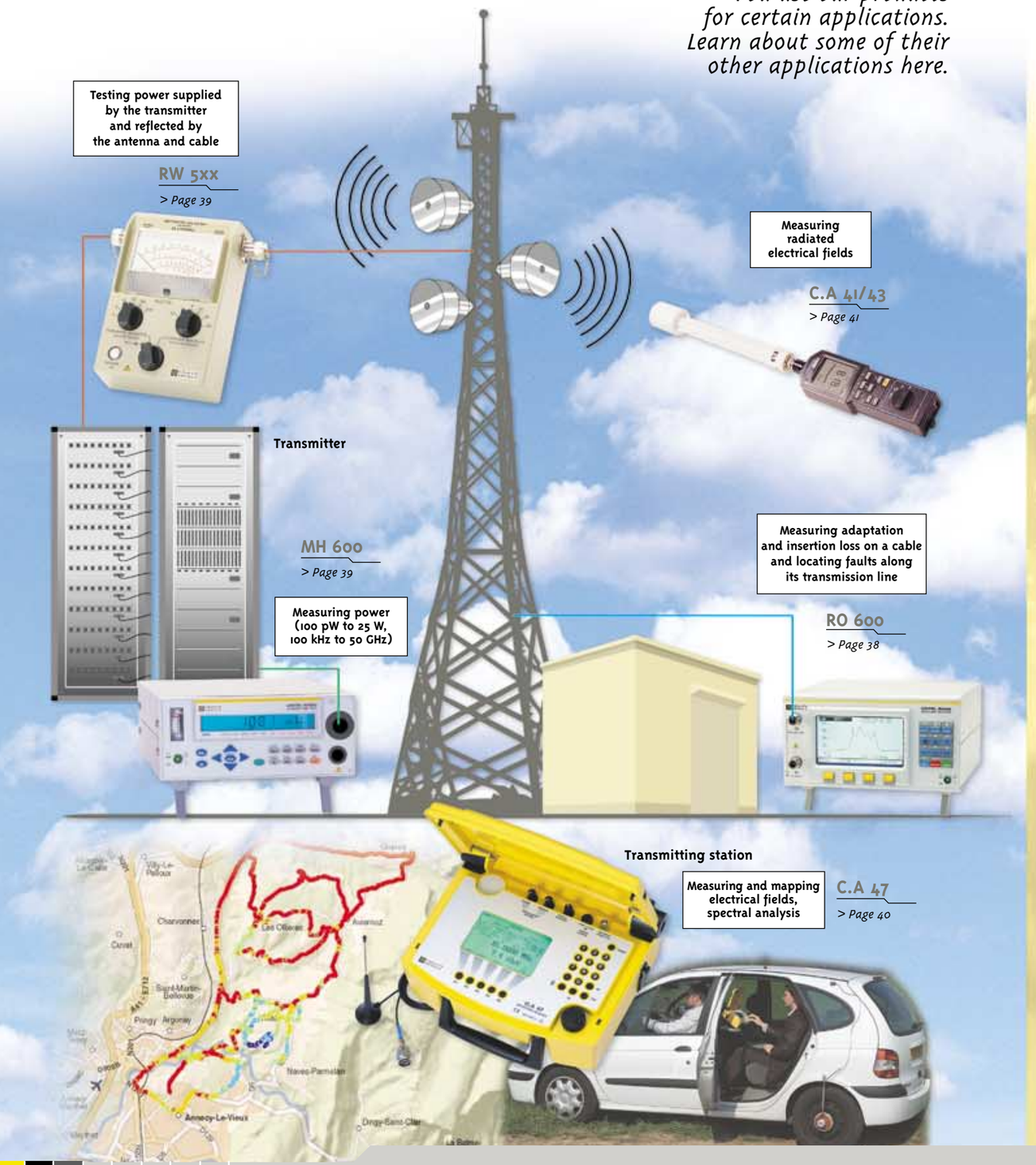
New

In each chapter, the selection table will help you choose the instrument and accessories best suited to your needs

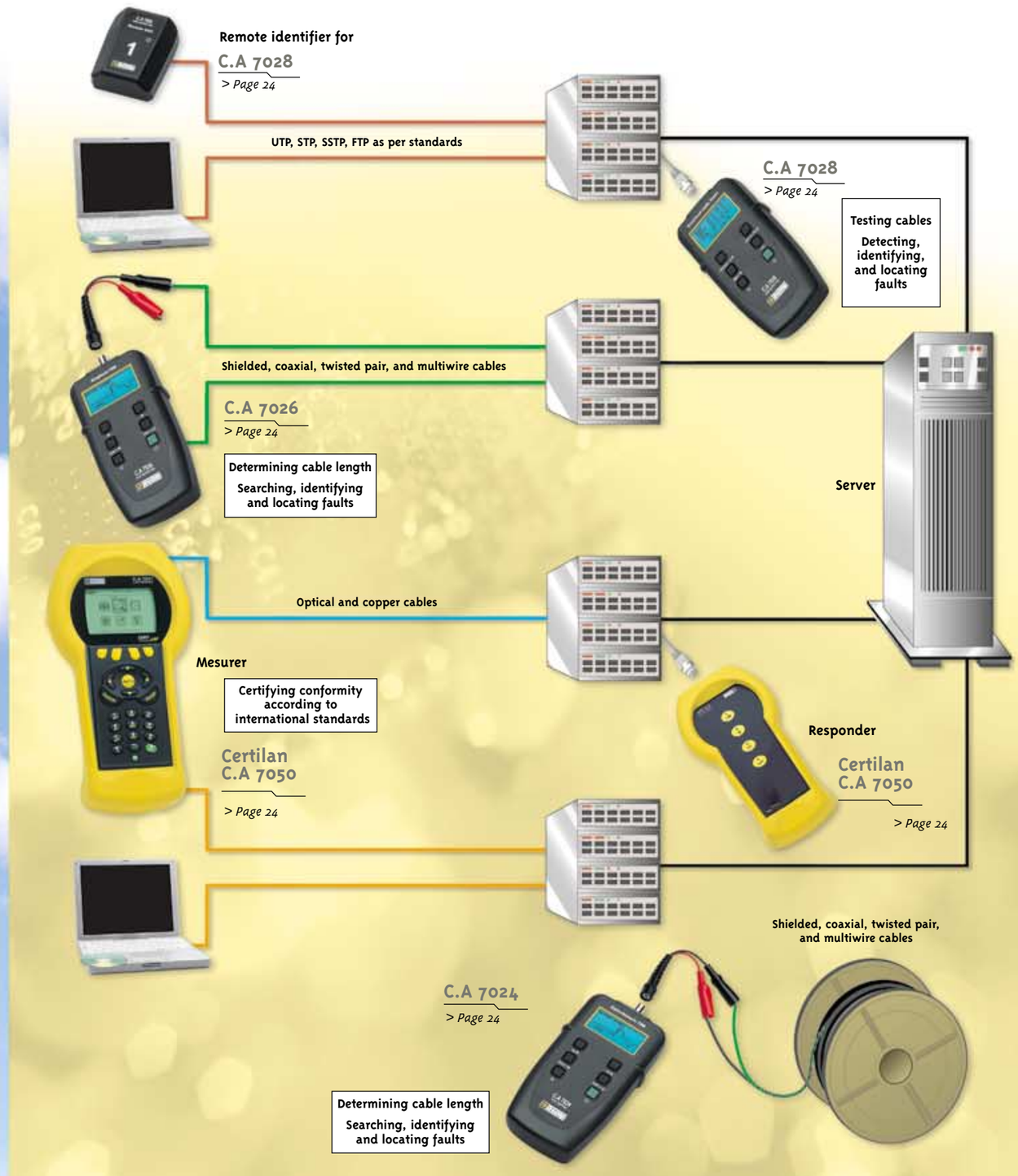


Wireless telecommunications applications

You use our products for certain applications. Learn about some of their other applications here.



LAN applications



Testers, voltage detectors, and voltage absence testers

C.A 730

C.A 745

New Ranges

C.A 730

> *Detect phase without contact*

For closed sockets

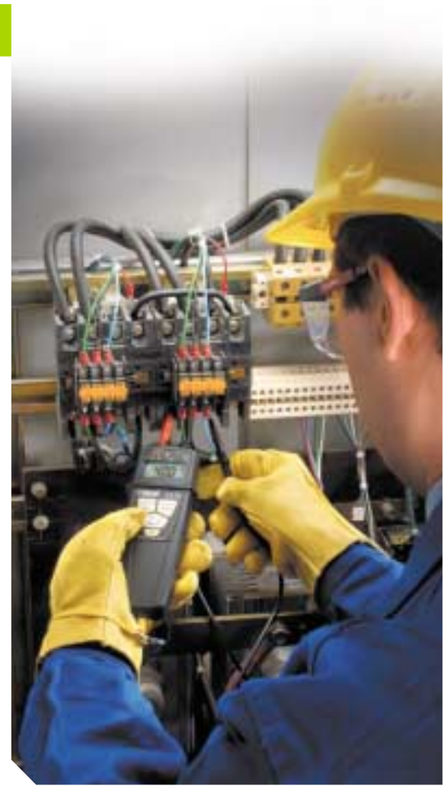
C.A 735

> *Voltage test*

Up to 690 V AC/DC

C.A 745

> *Voltage and Continuity*



C.A 760

Backlit screen

The C.A 751 can be used alone or with the C.A 760 and C.A 704

C.A 760

> *The safety voltage tester (voltage detector/voltage absence tester)*

Phase rotation
Differential circuit breaker load test 30 mA
Resistant if dropped from up to 2 m

C.A 704

> *The safety multimeter (voltage detector/voltage absence tester)*

Resistant if dropped from up to 2 m
IP 65
Guaranteed 2 years
AUTO AC / DC and auto-ranging

C.A 751

> *The 2P+E socket tester*

Phase position
Earth connection test

> Selection table






	C.A 730	C.A 735	C.A 745	C.A 760	C.A 704	C.A 751
Reference	> P01.1917.33Z	> P01.1917.34Z	> P01.1917.36Z	> P01.1917.31Z	> P01.1917.32Z	> P01.1019.97Z
Display	1 LED	9 LED		10 LED	2000-ct LCD with backlighting	3 neons
Voltage test	690 V					
Polarity test	yes					
Phase position	yes		yes			on 2P+E socket
Resistance measurement	2000 Ω					
Voltage absence tester	yes					
Impedance	When high, does not trip the differential circuit breakers					
Continuity with buzzer	yes					
Phase rotation	yes					
Frequency	45 Hz to 400 Hz	DC and 45-65 Hz		DC and 45-65 Hz and 400 Hz		45-65 Hz
Differential circuit breaker test	with the C.A 751					with accessories
Socket test	yes					
IP2X leads	with accessories					
Guarantee	2 years					1 year
Auto-test	yes					
Outdoor use (IP 65)	yes					
Electrical safety	600 V cat. III			600 V cat. III and IEC 61243-3		230 V cat. II
Dimensions	179 x 47 x 32.5 mm	193 x 47 x 36 mm		163 x 63.6 x 40 mm		95 x 50 x 38 mm
Weight	120 g	170 g		210 g		60 g
State of delivery	blister-packed with 9 V battery	blister-packed with 9 V battery and test leads		blister-packed with 9 V battery, test leads and wrist strap		blister-packed, operates without battery

Accessories

> P01.2980.12

> P01.2980.65Z

Carrying cases for C.A 730, 735, 745, 760, 704 (see page 58)

Accessory kit
> P01.1019.98Z

IP2X test leads only for C.A 760, 704
> P01.2952.37Z

Analogue and digital multimeters

C.A 5000
New

> *The economical tool*

- 1 000 VAC/DC

C.A 5001
Garanteed 3 years

> *The complete tool for card troubleshooting*

- 1 000 VAC/DC
- Current measurement up to 5 AAC/DC

C.A 5003
Garanteed 3 years

> *The 1000 V 15 AAC/DC analogue*

- 1 000 VAC/DC
- Current measurement up to 15 AAC/DC

C.A 5005

> *The ideal instrument for electrical installation maintenance*

- 1 000 VAC/DC
- Current measurement up to 200 AAC with its MN89 clamp

Garanteed 3 years

C.A 5001 / 5003 / 5005 / 5011
- Multipurpose fold-away stand
- Open fuse LED
- "Voltest™" function checks for presence of voltage on resistance measurement

Garanteed 3 years

C.A 5011

> *Digital accuracy (2000-ct) combined with analogue speed*

- TRMS AC+DC measurement
- Hold / Max functions
- Backlighting

> Selection Guide

New

	C.A 5000	C.A 5001	C.A 5003	C.A 5005	C.A 5011
Reference	> P01.1965.15	> P01.1965.21E	> P01.1965.22E	> P01.1965.23E (with MN 89 clamp)	> P01.1963.11
in hard case		> P01.1965.21F	> P01.1965.22F	> P01.1965.23F	> P01.1963.11A
Voltage DC	8 cal.: 100 mV / 1 V / 3 V / 10 V / 30 V / 100 V / 300 V / 1000 V				Num. 5 cal.: 400 mV to 1,000 V
Voltage AC	5 cal.: 10 V / 30 V / 100 V / 300 V / 1 000 V				Ana : 5 cal.: 500 mV to 1,000 V
Internal resistance	9 kΩ / V	20 kΩ / V			10 MΩ
Frequency	45 - 400 Hz	10 Hz – 1 kHz to 100 kHz depending on range			20 Hz to 10 kHz
Current DC	5 cal.: 50 µA to 1 A	5 cal.: 50 µA to 5 A	7 cal.: 50 µA to 15 A	6 cal.: 50 µA to 10 A	Num.: 6 cal.: 400 µA to 10 A Ana.: 5 cal.: 500 µA to 10A
Current AC	3 cal.: 3 mA to 3 A	4 cal.: 5 mA to 5 A	5 cal.: 1.5 mA to 15 A	5 cal.: 3 A to 300 A	
Resistance	3 cal.: 1 kΩ / 10 kΩ / 1 MΩ	2 ranges: 10 kΩ and 1 MΩ			Num.: 6 cal.: 400 Ω to 40 MΩ Ana.: 6 cal.: 500 Ω to 50 MΩ
Audible continuity test		R< 50 Ω			R < 400 Ω
Frequency measurement					Num.: 3 cal.: 4 kHz to 400 kHz
Basic accuracy	2.5% in V DC and I DC, 3% in VAC and IAC and in Ω	1.5 % in V DC • 2.5% in V AC and AAC / DC • 10% in Ω			1% in V DC, in Ω and in Hz • 1.5% in VAC and I DC, 2% in ACA
Scale in dB for VAC	yes				
Power supply	1 x 1.5 V battery		1 x 9 V battery		
Operating life	10,000 meas. of 10 s	10,000 meas. of 15 s	10,000 measurements of 10 s		300 h
Electrical safety	IEC 61010-1• 600 V / Cat III pol. 2				IEC 61010-1 • 1000 V / Cat III
Protection	HPC fuses	HPC fuses, 0.5 A and 5 A	HPC fuses, 1.6 A and 16 A	HPC fuses, 1 A and 10 A	HPC fuses, 1 A and 10 A
Dimensions	160 x 105 x 56 mm				
Weight	500 g				

Accessories

Carrying case
> P01.2980.33

MN 14
> P01.1204.15

Hard case
> P01.2980.37A

C.A 801
Adapter + 1 K sensor for C.A 5011
> P01.6524.01Z

C.A 803
Adapter + 2 K sensors
> P01.6524.11Z

For temperature measurement

C.A 874
Infrared probe for C.A 5011
> P01.6516.01Z

Ø 4 mm test probe leads
> P01.2950.84

Ø 4 mm crocodile clips
> P01.1018.48

Digital multimeters

C.A 5210

Adapter

For heating specialists

C.A 5205G

> *Economical: all-automatic ohmmeter-voltmeter*

- Large 19 mm display
- Auto AC/DC
- Auto-ranging
- Current reading with MN89 clamp

C.A 5240

40,000-count display

C.A 5205

Auto-ranging

C.A 5210G

> *Voltage plus capacitance*

- Range adapter, 400 mV continuous
- Current reading with MN89 clamp
- V_{elec} (1) function

C.A 5230G

> *Ideal for industrial maintenance: TRMS and accuracy*

- Diagnosis tool for use on neutral cables, power supply cables, etc.

C.A 5220G

> *The reference*

- All maintenance and diagnosis measurements
- Ranges: 400 mA and 10 A
- Frequency
- V_{elec} (1) function

C.A 5240G TRMS

> *The TRMS multimeter*

- 40,000-count resolution
- AC+DC TRMS measurement

C.A 5260G

> *The multimeter for heating specialists*

- Designed for flame measurement (400 µA range)
- Temperature measurement (K couple)

> Selection Guide






	C.A 5205G	C.A 5210G	C.A 5220G	C.A 5230G	C.A 5240G	C.A 5260G
Reference	> P01.1967.07Z	> P01.1967.11B	> P01.1967.12B	> P01.1967.21	> P01.1967.22	> P01.1967.32Z
Display	2000 counts	4000 counts bargraph (40 s) backlighting			40,000 counts	4000 counts
Range selection	automatic +manual (RANGE)					
Functions	Hold	Hold, Min/Max			Hold, Min/Max, Peak	Hold, Min/Max
Measurement method	average value			TRMS (RMS)	TRMS AC+DC	average value
Bandwidth	40 Hz-500 Hz		40 Hz-500 Hz (except 400 mV range from 40 to 100 Hz)	40 Hz to 1 000 Hz	40 Hz to 500 Hz	
Voltages (2)	5 cal.: 25mV to 600V					
Basic accuracy	1%		1%	0.25%	0.10%	1%
Low impedance position	yes					
Currents (3)	3 cal.: 0.03 mA to 10 A					
Basic accuracy	1.50%			0.8% except on 10 A: 1.2%	0.5% except on 10 A: 1.5%	2 cal.: 0,2 µA to 3999 µA 1%
Protection	Not required (current measurement with clamp)	HPC fuses: 600 V 0.4 A and 12 A				Not required (current measurement with clamp)
Resistances (4)	6 cal.: 0.2 Ω to 19.99 MΩ	6 cal. : 0.2 Ω to 39.99 MΩ				
Basic accuracy	1.50%			0.50%	0.3% except on 40 MΩ: 1.2%	1.00%
Protection	500 V Eff					
Audible continuity test	R < 700 Ω	R < 40 Ω				R < 35 Ω
Semi-conductor test	yes (threshold voltage: 3 V)					yes
Frequencies (4)	6 cal.: 0.1 Hz to 19.99 kHz		5 cal.: 0.01 Hz to 199.9 kHz	5 cal.: 0.01 Hz to 199.9 kHz kHz except for last 400 kHz range	5 cal.: 0.1 Hz to 500 kHz	
Basic accuracy	1.50%	0.10%				
Capacitances (4)	5 cal.: 0.400 nF to 39.99 µF	5 cal.: 0.400 nF to 39.99 µF				3 cal.: 0.040 nF to 3999 nF
Basic accuracy	1%	3 % on 4 nF and on 40 nF 5 % on 4 µF, 15 % on 40 µF		1.50%	3% on 4 nF and on 40 nF, 5% on 4 µF, except 3.5% on 40 µF	2.00%
Electrical safety	IEC 61010-1 600 V cat.III-2					
Operating life	500 h (LR6 battery)	600 h (LR6 battery)		400 h	400 h (9V 6LF22 battery)	40 h (9V 6LF22 battery)
Auto-shutdown	yes (30 mn)					
Dimensions	64 X 177 X 42 mm					
Weight	350 g					
Guarantee	3 years					1 year
State of delivery	with multi-purpose sheath and test probe leads					

(1) for increased display stability (2) DC, AC et AC+DC voltages (3) DC, AC et AC+DC currents (4) range subtransmission

Accessories

Carrying case
> P01.2980.33

MN 14
> P01.1204.15

Hard case
> P01.2980.38

For temperature measurement

C.A 801
Adapter + 1 K sensor for C.A 5011
> P01.6524.01Z

C.A 803
Adapter + 2 K sensors
> P01.6524.11Z

C.A 874
Infrared probe for C.A 5011
> P01.6516.01Z

"Electricity" accessory kit
> P01.1018.95

Digital multimeter clamps

F01

> *RMS measurement at a small price*

- Auto AC/DC
- Auto-ranging

F03

> *The RMS reference*

- AC/DC current
- Backlighting
- Zero DC in automatic current
- Temperature measurement

F05

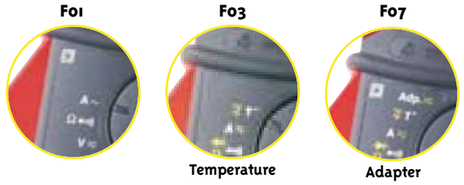
> *Single-phase power measurement*

- Power factor
- Phase rotation order

F07 TRMS

> *The hand-held (AC+DC) TRMS clamp*

- Adapter position for more measurements



F11N

> *The economical clamp*

- For measuring on U1000 R02V 1 x 2402 cables or 50 x 5 mm bars

F13N

> *RMS measurement*

F15 TRMS

> *The (AC+DC) TRMS clamp*

> Selection Guide

	F01	F03	F05	F07	F11N	F13N	F15
Reference	> P01.1209.01Z	> P01.1209.13Z	> P01.1209.05Z	> P01.1209.07Z	> P01.1207.51C	> P01.1207.53C	> P01.1207.55
Clamping diameter	26 mm				42 mm		
Display	4000 counts						
Backlighting		yes					
AC/DC auto selection	yes						
Auto ranging selection	yes				yes		yes and manual
Measurement method	RMS (True RMS AC)			TRMS (AC+DC)	Average value	RMS	TRMS (AC+DC)
Bandwidth	40 Hz to 2 kHz / 5 kHz	40 Hz to 1 kHz / 2 kHz			45 to 450 Hz		
Crest factor	3.5 to full scale				1.5 to 5		
Current AC	0.20 to 40 - 400 - 600 A peak				0.5 to 400 - 700 A		0.5 to 400 - 1 000 A
Current DC	0.20 to 40 - 400 - 600 A peak						0.2 to 400 - 1 400 A
Basic Accuracy	1.50%				2.50%		
Zero DC (1)	yes						yes
Voltage DC	0.2 to 40 – 400 – 600 V				400 V - 600 V		200 mV to 400 mV – 4 V – 40 V – 400 V – 600 V
Voltage AC	0.2 to 40 – 400 – 600 V				400 V - 600 V		200 mV to 400 mV – 4 V – 40 V – 400 V – 600 V
Basic accuracy	1%				1% DC, 1.5% AC		
Input impedance	1 M Ω						10 MΩ
Resistance	400 Ω	400 Ω – 4 000 Ω	400 Ω - 4.00 kΩ – 40 kΩ		400 Ω – 4 kΩ		400 Ω – 4 kΩ – 40 kΩ – 400 kΩ – 4 MΩ
Basic accuracy	1%						1.5%
Continuity (buzzer)	R<40 Ω adjustable				R < 40 Ω		
Semi-conductor test	yes						
Protection	500 VAC 750 VDC				600 V eff		
Frequency	10.00 to 40.0 – 400 – 4000 Hz – 20 kHz				4 kHz		100 Hz / 1 kHz / 4 kHz
Basic accuracy	0.40%				0.10%		
Power measurement (single-phase) with power factor	5 to 4 000 W – 40 kW – 240 kW (2%)						
Phase rotation order	yes						
Temperature		yes		yes		yes	
Functions	Hold						
	Min/Max (100 ms) Peak (500 µs)				Max		Min/Max
				adapter			
	V live(2)						
Electrical safety	IEC 61010-1,600 V cat. III						
Guarantee	1 year						
Operating life	100 h	75 h	60 h	75 h	180 h	100 h	60 h
Dimensions	193 x 70 x 37 mm				254 x 97 x 46 mm		
Weight	260 g				600 g		
State of delivery	with carrying case, test probe leads and battery (+ 1 K couple adapter for F07 + 1 crocodile clip for F05)				with carrying case, test probe leads and battery		

(1) automatic Zero adjustment in IDC (2) hazardous voltage indication

Accessories

Carrying case (For F01, F03, F05, F07)
> P01.2980.48

Carrying case
> P01.2980.65Z

For temperature measurement
C.A 801
Adapter + 1 K sensor for C.A 5011
> P01.6524.01Z

C.A 803
Adapter + 2 K sensors
> P01.6524.11Z

C.A 874
Infrared probe for C.A 5011
> P01.6516.01Z

"Electricity" accessory kit
> P01.1018.95

Installation testers

New **C.A 6114**

> *Everything needed for making IEE 16th tests in a single instrument and with a simple power plug*

C.A 6115N

> *Everything needed for making IEE 16th tests in a single instrument*

- Current clamp connection
- Differentials: 6 to 1000 mA

New

	C.A 6114	C.A 6115N
Reference	> P01.1454.32 (GB)	> P01.1454.12B (GB)
Voltage measurement	10 to 440 VAC / DC upon connection	
Frequency measurement	15.3 to 450 Hz upon connection	
Insulation		
Method	bipolar	bipolar + automatic L-N-PE
U^{test}	100 / 250 / 500 V	
R	5 kΩ to 600 MΩ	
Differentials test	10 / 30 / 100 / 300 / 500 mA	
IΔN	+ variable between 6 mA and 1000 mA	
Trip failure test	½IΔN	
Tripping time	IΔN, 2 x IΔN, 5 x IΔN, 150 mA, 250 mA + step mode	
Tripping current	step mode	
Earth	1P method: 0.15 Ω to 10 kΩ	
Selective Earth	with current clamp (optional)	
Loops (without diff. trip 30 mA)	L-PE, L-N and L-L loops impedance and resistance: 0.08 to 200 Ω	
Selective L-PE loop	with current clamp (optional)	
Continuity	0.16 Ω to 2 kΩ at 200 mA (audible beep)	
Phase rotation	if 20 VAC < voltage present < 440 VAC	
Current/leakage current	with current clamp (optional)	
Alarms	in each function	
Memory	800 measurements	
RS 232	yes	
Power supply	NiMH battery with built-in charger	
Electrical safety	IEC 61010-1 Cat.III 300 V	
Dimensions	295 x 230 x 108 mm	
Weight	2.1 kg	
State of delivery	Accessory case containing: 1 measurement / recharge mains plug cable, 1 measurement cable with 3 leads, 3 crocodile clips, 3 test probes, 1 lead + 1 test probe (for 1P measurement)	

Accessories

Serial printer
> P01.1029.03

PC software
> P01.1019.02

MN21 clamp
> P01.1204.18

C103 clamp
> P01.1203.03

Earth option (large carrying case + 1 rod-earth kit)
> P01.1019.99

Remote control probe
> P01.1019.42

Analogue insulation testers

> *Always ready thanks to their magneto power supply*
> *Robust housing for work in all conditions*

IMEG 500N

- Insulation 500 V, continuity and resistance

IMEG 1000N

- Insulation 1000 V

C.A 6511

> *Simple, economic and shockproof*

- Analogue
- Insulation 500 V, continuity and resistance

C.A 6513

> *Simple, economic and shockproof*

- Analogue
- Insulation 1000 V, continuity and resistance

	IMEG 500N	IMEG 1000N	C.A 6511	C.A 6513
Reference	> P01.1325.01A	> P01.1325.02A	> P01.1402.01	> P01.1403.01
Voltage	0 to 600 VAC			
Insulation	500 VDC	250 / 500 / 1000 VDC	500 V	500 / 1000 VDC
Range	0.5 to 200 MΩ	1 to 5000 MΩ	0.1 to 1000 MΩ	
Continuity	0 to 100 Ω		-10 Ω to +10 Ω	
Current reversal			yes	
Resistance	0 to 500 kΩ			0 to 1000 Ω
Display	analogue			
Power supply	magneto		4 x 1.5 V batteries	
Electrical safety	600 V as per IEC 414		IEC 61010 Cat. III 600 V	
Dimensions	120 x 120 x 130 mm		167 x 106 x 55 mm	
Weight	1500 g		500 g	
State of delivery			2 leads, 1 crocodile clip, 1 test probe	
Dedicated accessories	Pouch containing IPA 2 test accessories			

Accessories

C.A 861 K-type couple thermometer
> P01.6501.01Z

Insulation varies according to temperature and hygrometry

C.A 846 Thermo-hygrometer
> P01.1563.01Z

Digital insulation testers

C.A 6521
> *Insulation 500 V, continuity*

> *Wide LCD screen*

C.A 6523
> *Insulation 1000 V, continuity*

C.A 6525
> *Insulation 1000 V, continuity, resistance*

- Chronometer
- Alarms

C.A 6531
> *Suitable for low currents (Telecommunications, etc.)*

- Fault locating (capacitance)
- Insulation 100 V, continuity, current

C.A 6533
> *Suitable for low currents (Telecommunications, etc.)*

- Insulation 500 V, resistance





	C.A 6521	C.A 6523	C.A 6525	C.A 6531	C.A 6533
Reference	> P01.1408.01D	> P01.1408.02D	> P01.1408.03D	> P01.1408.04B	> P01.1408.05
Voltage	0 to 600 VAC/DC				
Insulation Range	250 / 500 VDC 50 kΩ to 2 GΩ	500 / 1000 VDC 100 kΩ to 2 GΩ	250 / 500 / 1000 VDC 50 kΩ to 2 GΩ	50 / 100 VDC 10 kΩ to 400 MΩ	50 / 100 / 250 / 500 VDC 10 kΩ to 20 GΩ
Continuity	-20 Ω to 20 Ω				
Current reversal	yes				
Audible beep	yes				
Lead compensation	yes				
Resistance	0 to 400 kΩ			0 to 40 kΩ	0 to 400 kΩ
Capacitance	0 to 4000 nF*				
AC/DC current	0 to 400 mA				
Alarms	yes				
Chronometer	0 to 15 min				
Relative measurement	yes				
Display	LCD + bargraph				
Backlighting	yes				
Power supply	6 x 1.5 V batteries				
Electrical safety	IEC 1010 Cat.III 600 V	IEC 1010 Cat.II 300 V		IEC 1010 Cat.III 600 V	IEC 1010 Cat.III 300 V
Dimensions	211 x 108 x 60 mm				
Weight	830 g				
State of delivery	"hands-free" operator's carrying case containing 2 leads, 1 crocodile clip, 1 test probe			+ 2 wire grips	1 guarded lead, 1 crocodile clip, 2 wire grips, triple banana plug

*also calculates line length with its capacitance per unit length

Accessories

K-type couple thermometer C.A 861 > P01.6501.01Z

Insulation varies according to temperature and hygrometry

Thermo-hygrometer C.A 846 > P01.1563.01Z

Remote control probe > P01.1019.35

Digital insulation testers

New

> *Experts in insulation at 1 kV*

C.A 6541
> *Quantitative and qualitative measurement*

C.A 6543
- Measurement storage
- Rechargeable battery

> *Experts in insulation at 5 kV*

C.A 6545
- Insulation, capacitance, current

C.A 6547
- Storage and communication

C.A 6549 New
> *The "Pro" in preventive maintenance*

- Storage
- Graphic screen
- R calcul (t° ref.)
- Step voltage





	C.A 6541	C.A 6543	C.A 6545	C.A 6547	C.A6549
Reference	> P01.1389.01	> P01.1389.02	> P01.1397.01	> P01.1397.02	> P01.1397.03
Voltage	1 to 1 000 V AC/DC		1 to 5 100 V AC/DC		
Insulation Range	50 / 100 / 250 / 500 / 1000 VDC 2 kΩ to 4 TΩ		500 / 1 000 / 2 500 / 5 000 VDC + variable of 50 V to 5100 VDC (by 10 or 100 V increments) 10 kΩ to 10 TΩ		
Continuity	0.01 to 40 Ω (audible beep + comp. leads)				
Resistance	0.01 à 400 kΩ				
Capacitance	0.005 to 4.999 µF				
Current	0.0001 nA to 3000 µA				
Step voltage mode	5 steps				
R calcul (t° ref.)	yes				
Alarms	yes				
Smooth display	yes				
Chronometer	yes				
Programmable test run times	yes				
Quality ratios	DAR / PI		DAR / PI / DD		
R(t)	sample storage				display on the screen
Memory	128 kbytes		128 ko		
RS 232	bi-directional		bi-directional		
Power supply	8 x LR14 batteries	NiMH battery			
Electrical safety	IEC 61010-1 Cat. III 600 V - IEC 61557		IEC 61010-1 Cat.III 1 000 V (Cat.I 2500 V)- IEC 61557		
Display	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		
State of delivery	carrying case containing: 3 HV leads 3m in length with large crocodile clips (one guarded), 1 rear hook-up lead (35 cm) + power supply lead		carrying case containing: 3 leads 2.5 m in length (one guarded), 3 crocodile clips, 1 test probe + batteries or power supply lead		

Accessories

C.A 861 K-type couple thermometer > P01.6501.01Z and C.A 846 Thermo-hygrometer > P01.1563.01Z (insulation varies according to temperature and hygrometry)

MN73 clamp > P01.1204.21 and C173 clamp > P01.1203.09
If the system being tested can not be powered off, any insulation faults are revealed with leakage current measurement

AN1 neutral box > P01.1972.01

Serial printer > P01.1029.01

Dataviewer software (C.A 6543, 6547,6549) > P01.1020.06 (see page 26)

Remote control probe (C.A 6541 and 6543) > P01.1019.35

Earth and resistivity testers

C.A 6421

> *Economic*

- Earth measurement, 3 rods
- Analogue

C.A 6423

> *Display clear and easy-to-read*

- Earth measurement 3 rods
- Digital

C.A 6460

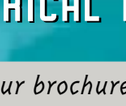
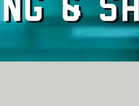
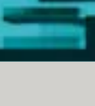
> *3 in 1: earth, resistivity, coupling*

- Site-adapted casing

C.A 6462

> *3 in 1: earth, resistivity, coupling*

- Site-adapted casing
- Rechargeable NiMH battery


	C.A 6421	C.A 6423	C.A 6460	C.A 6462
Reference	> P01.1230.11	> P01.1270.13	> P01.1265.01	> P01.1265.02
Measurement	earth		earth / resistivity / coupling	
Range	0.5 to 1000 Ω (logarithmic scale)	0.00 to 2000 Ω (3 automatic ranges)		
Methods	3 rods / 2 rods (terminal bar between H&S)		4 rods / 3 rods (terminal bar between E&ES)	
Frequency	128 Hz			
Voltage circuit (ES-S)	LED if noise ≥ 13 V peak			
Current circuit (E-H)	LED if R ≥ 50 kΩ			
Voltage circuit resistance (ES-S)	LED if R ≥ 50 kΩ			
Power supply	8 x 1.5 V batteries			rechargeable NiMH battery
Electrical safety	EN 61010 and IEC 61557			
Display	analogue	LCD digital 2000 counts		
Backlighting	yes			
Dimensions	238 x 136 x 150 mm		273 x 247 x 127 mm	
Weight	1.3 kg		2.8 kg	3.3 kg
State of delivery	with strap		with batteries	with mains lead for recharge

Accessories

Prestige earth kit > P01.1018.24
Reinforced case with compartment for the tester: 2 T rods, 3 reels (100 m red, 60 m blue, 10 m green) and 1 mallet.
Prestige earth / resistivity kit > P01.1018.25
The same as above plus 2 T rods and 1 x 20 m black reel.

Standard earth kit > P01.1018.22
Soft carrying case: 2 straight rods + 2 extractors, 2 reels (30 m red, 30 m blue), 3 m green cable and 1 mallet.

Standard earth / resistivity kit > P01.1018.23
The same as above plus 2 straight rods and 3 m black cable.

Earth clamps and loop testers

C.A 6410

- Earth loop

C.A 6412

- Leakage current

C.A 6415

- Swift testing of earth loops
- Configurable alarm function leakage current
- Result storage

> *Swift testing of earth loops*



	C.A 6410	C.A 6412	C.A 6415
Reference	> P01.1220.11	> P01.1220.12	> P01.1220.13
Clamping diameter	32 mm		
Loop resistance	0.10 to 1200 Ω (7 automatic ranges)		
Frequency	2400 Hz		
Current / Leakage current		1 mA to 30.00 A (3 automatic ranges)	
Indication of interference current and clamp closed incorrectly	by symbol		
Alarm			configurable
Memory			99 measurements
Power supply	1 x 9 V battery		
Electrical safety	EN 61010 Cat.III 150 V		
Display	LCD 3000 counts		
Dimensions	55 x 100 x 240 mm		
Weight	1000 g		
State of delivery	in hard case		

Accessories

CL1 Calibration loop > P01.1223.01

Storing case > P01.2980.11

Phase and motor rotation testers

New

C.A 6605

> *Phase rotation*

- Easy to operate

New

C.A 6607

> *Phase & motor rotation*

- Simplified connections

New

New

	C.A 6605	C.A 6607
Reference	> P01.1913.02Z	> P01.1913.01Z
Phase rotation direction indication (live installation)	ABC or BAC LED	
Motor rotation direction indication (power off)		LED ABC or BAC
Phase rupture indication	LED	
Input voltage	100 to 600 VAC max	
Frequency	45 to 70 Hz	
Power supply		1 x 9 V battery
Electrical safety	EN 61010 Cat.III 600 V	
Dimensions	102 x 78 x 32.5 mm	153 x 72 x 35 mm
Weight	95 g	180 g
State of delivery	blister-packed with carrying case and 3 test leads with crocodile clips	

State of delivery

Differential circuit-breaker testers

CDA 10

> *Small casing*

> *Very easy to use*

	CDA 10
Reference	> P03.1915.01
IΔn	10 / 30 / 100 / 300 / 500 / 650 mA
Test current	IΔn
Installation voltage	230 V ± 10%
Electrical safety	EN 61010 - Cat. II 300 V
Power supply	2 x 1.5 V battery
Dimensions	140 x 115 x 70 mm
Weight	450 g
State of delivery	in carrying case with 2 leads, 1 test probe, 1 crocodile clip

Micro-ohmmeters

C.A 10

> *Measurement of low resistances*

- µ resolution
- Current reversal
- 4-wire method

	C.A 10
Reference	> P01.1430.01
Measurement method	4-wire method
Resistance	2 µΩ to 200.0 Ω (6 automatic ranges)
Max current measurement	10 A on 2000 µΩ rating
Reversal current direction	manual
Power supply	Cd/Ni battery with built-in charger 110 / 230 V
Electrical safety	IEC 61010 - Cat.II 30 V
Dimensions	390 x 260 x 250 mm
Weight	8 kg
State of delivery	1 carrying case, 2 x 10 A clamps, 1 mains lead, 1 allen key

Accessories

2 Kelvin clamps
> P01.1017.83

2 double test probes
> P01.1017.82

Electrical equipment testers

DTR 8500

> *Single-phase ratiometer*

- Voltage, power, current transformer testing

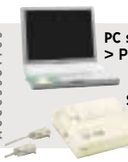
	DTR 8500
Reference	> P01.1577.01
Type of transformers	VT / PT / CT
Transformation ratio	0.8000 to 1500.0:1
Test current measurement	0 to 1000 mA + polarity indication
Pre-tests	connections and H/X reversal
Continuity, cuts and short-circuit	shown
Power supply	batteryNiCd
Electrical safety	IEC 61010-1 Cat.III 300 V
Dimensions	330 x 305 x 152 mm
Weight	6.4 kg
State of delivery	accessory case containing: 2 measurement leads (H and X) with crocodile clip, 1 power supply lead

C.A 6121

> *"Industrial machine" tester as per EN 60204*

	C.A 6121
Reference	> P01.1456.01 (Euro)/P01.1456.02 (GB)
Insulation	500 / 1000 V 0 to 500 MΩ
Dielectric	1 000 / 1 250 / 1 500 VAC at 500 VA
Continuity	0 to 2 Ω (I >10 A)
ΔU Voltage drop	0 to 10 V at 10 A
Memory / RS 232	yes
Power supply	mains 230 V / 50 Hz
Electrical safety	IEC 61010-1 Cat.III 600 V
Dimensions	400 x 260 x 250 mm
Weight	11 kg
State of delivery	accessory case containing: 2 HV guns, 2 insulation leads, 2 continuity leads, 2 crocodile clips, 1 test probe, 1 discharge cable

Accessories



PC software
> P01.1019.15

Remote control pedal
> P01.1019.16

Serial printer
> P01.1029.01

Warning lamps
> P01.1019.17

LAN cable testers

C.A 7010

> *Simple and easy*

- For testing both already installed and free cables
- For cable testing on Ethernet and Token Ring networks

Certification LAN testers

C.A 7050 Certilan

> *Certification for LAN networks up to Cat. 6 / Class E*

- Verifies conformity of LAN with international standards
- Testing functions as per international certification standards
- Software measurement processing
- Built-in headphones

LAN & cable testers

> *Detect, identify and locate faults*

C.A 7024

> *Alphanumeric TDR (time-domain reflectometer)*

- Detects opens and shorts up to 2000 m
- Built-in cable library
- Automatic cable impedance compensation

C.A 7026

> *Graphical TDR (time-domain reflectometer)*

- Detects all types of faults up to 3500 m
- Impedances: 50, 75 and 100 Ω

C.A 7028

> *Graphical LAN tester*

- Numerous types of cables
- All types of faults up to 150 m

> Selection Guide

	C.A 7010	C.A 7024	C.A 7026	C.A 7028	C.A 7050
Reference	> P01.2531.01Z	> P01.1296.01	> P01.1297.01	> P01.1295.01	> P01.1293.01B
Types of cables	twisted pair, multi-pair, RJ45, RJ11, coaxial, sheathed				
Optical fiber					mono and multimode
Length measurement		2000 m	3500 m	150 m	30 m
Tests	CC, CO, crossing	CC, CO	Shorts, opens, taps, degradations	Cut wires, short-circuit, crossed, split, reversed pairs, shielding faults	Faults, cabling, NEXT, ELFLEX, ACR, Return loss, Power sum
Display	LED	alphanumeric	alphanumeric or graphical		
Distant unit	1 receiver (LED)			remote identifiers (numbers 1 through 9)	responder(s)
Standards				TIA 568, ISO, EN, USOC and RNIS	TIA/EIA 568 ISO 11801 EN 50173 IEEE 802.3 - 5 Ethernet Token Ring AS/NZS 3080 ATM 155
Conformity certification					graphic tables on PC
Dimensions	120 x 63 x 32 mm and 100 x 30 x 26 mm	165 x 90 x 37 mm		165 x 90 x 37 mm 65 x 52 x 25 mm	260 x 144 x 60 mm
Weight	215 g	350 g		350 g / 40 g	each module 1.4 kg
State of delivery	tester and receiver blister-packed with storing bag, 9V battery, male RJ45/BNC lead, female RJ45/BNC lead, BNC male/BNC female adapter	comes with BNC adapter lead / crocodile clips and carrying case		comes with 2 RJ 45 leads, remote identifier number 1 and carrying case	measuring unit and responder in storing case, 2 mains chargers, 2 universal leads RJ45 cat.6, intercalibration cable, 2 female RJ45 adapters, RS232 cable, and Certisoft processing software

Accessories

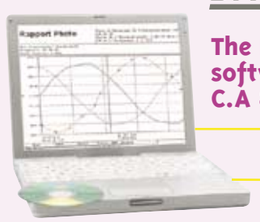
Set of 4 identifiers (for C.A 7028)

Number 2 to 5 > P01.1019.94

Number 6 to 9 > P01.1019.95

Numerous accessories available for C.A 7050 Certilan (BNC coupler, headphones, measurement leads, RJ45 adapters, etc.): please ask for details.

Energy analyzers for three-phase electrical networks



DATA VIEWER Pro

The PC processing software for Qualistar C.A 8332 and C.A 8334

New

- Complete instrument configuration
- Measured values and waveforms displayed in real-time
- Automatic qualitative measurement analysis
- Selective parameter display
- Pre-defined measurement reports (EN 50160) or customized models

Data*Viewer* Pro is also compatible with other Chauvin Arnoux instruments: C.A 6543, C.A 6547 and C.A 6549 megohmmeters - and others to come soon...

C.A 8332 / C.A 8334 QUALISTAR

> *Compact and portable*

- Color LCD screen for graphic display
- 3 display modes: observation, diagnosis, monitoring
- DataViewer processing software

EN50160

New

C.A 8352

> *Creates analysis reports*

- Complete three-phase analysis
- Monitors network disturbances, energies and powers
- Environmental data acquisition

> Selection Guide

New

	C.A 8332	C.A 8334	C.A 8352
Reference	Upgradable products, please ask for details When ordering, please specify: - MN, C or PAC clamp sensor, Amp*FLEX*™, adapter 5 A		
P-N voltage	600 Veff		500 Veff
Accuracy	+/- 0.5% R + 2 counts		+/- 0.5%
Current	3 current input channels up to 3000 A AC + DC clamp		4 current input channels up to 3000 A
Sampling frequency	12.8 kHz		9.6 kHz
Frequency	45-65 Hz		47-63 Hz
Power measurements	V, A, Min, Max, W, Var, VA, FP, cos φ, frequency, global and phase/phase		
Energies	generated and consumed: active, reactive, capacitive and inductive		
Harmonics	50th order in U, I and VA, direction of the harmonics		
			Var
Interharmonics			yes
Disturbances	triggers on alarms		
	EN50160 report (with DataViewer software)		monitoring as per EN50160, 10 ms voltage changes measurement
Flicker	Pst		Pst; Plt as per standard
Unbalance	phase shift, global unbalance		
			positive, zero, negative sequence current
Remote control signaling			yes
Impedance			source and load impedance
Transients		recording: 80 ms	recording: 10 s
Inputs/outputs			optional 10-channel analogue acquisition card, 2 binary inputs
Memory	2 Mbytes	4 Mbytes	10 Gbytes
Printer	external DPU414		all kinds of USB printers
Communication	optical series port		USB port
Type of display	color LCD, scope		color LCD, touch screen
Power supply	mains + 8 hr battery		mains
Software	QualistarView - Data Viewer optional		Post Processing
Interface			modem, Ethernet network
Electrical safety	600 V cat. III		500 V cat. III
Dimensions	24 x 18 x 5.5 cm		360 x 300 x 150 cm
Weight	2.1 kg		4 kg
State of delivery	instrument comes with QualistarView software, an optical DB9F series lead, 4 banana/banana voltage leads (length: 3 m), 4 crocodile clips, a mains plug, plus any selected options (ask for details)		instrument includes harmonic analysis, oscilloscope mode, vector scope, delivered in standard with carrying bag, 4 current leads (5 A max.), 8 voltage leads, 8 crocodile clips, the data processing software CD ROM, USB cable, plus any selected options (ask for details)

Accessories

Site-proof casing > P01.2980.62

Printer > P01.1029.03A

Clamps:

3 C193	> P01.1203.27
3 MN93A	> P01.1204.31
3 PAC93	> P01.1200.76

Amp*FLEX*™ A193

45 cm	> P01.1205.35
80 cm	> P01.1205.36

5 A adapter > P01.1019.59

Voltage leads > P01.2951.83

Clamps:

4 C145	> P01.1203.19A
4 MN95	> P01.1204.29

4 Amp*FLEX*™ A195

45 cm	> P01.1205.19
80 cm	> P01.1205.20

Digital and analogue wattmeters

C.A 404

- Analogue
- AC/DC TRMS single-phase

C.A 405

- Analogue
- AC/DC TRMS single and three-phase

C.A 8210

- Digital
- AC RMS balanced single and three-phase
- Automatic range selection
- Memory and peak measurement functions (400 ms)



	C.A 404	C.A 405	C.A 8210
Reference	> P01.1703.04	> P01.1703.05	> P01.1825.01
Voltage single-phase	4 cal. 60 - 120 - 240 - 480 V AC	6 cal. 60 - 120 - 180 - 240 - 360 - 480 V AC	
Voltage three-phase		4 cal. 60√3 - 120√3 - 180√3 - 240√3 V AC	2 cal.: 35 - 600 V ± 0.3% R
Intensity	2 cal. 0.5 - 1 A AC	1 cal. 5 A AC	2 cal.: 3 to 500 A (Y13 clamp) 3 to 1000 A (C 191 clamp)
Accuracy (1)	± 1% in AC ± 2.5% in DC	± 1% in single-phase AC ± 2% in balanced three-phase AC ± 2.5% in DC	± 0.3% R ± 0.3% FE
Power factor			0.00 to 1.00(2)
Active power			30 W to 300 kW (Y13 clamp) 60 W to 600 kW (C 191 clamp)
Apparent power			30 VA to 300 kVA (Y13 clamp) 60 VA to 600 kVA (C 191 clamp)
Reactive power			-300 to +300 kvar (Y13 clamp) -600 to +600 kvar (C 191 clamp)
Operating frequency	0 to 500 Hz	0 to 500 Hz (single-phase) 15 to 500 Hz (three-phase)	3 cal.: 100 - 500 - 1000 Hz 45 to 65 Hz
Dial	1 black scale (0 to 120)	1 black scale (0 to 120) / 1 red scale (0 to 90)	simultaneous display: Vrms, Arms, Hz, W, var, VA and PF or cos φ
Protection index	IP 40		
Electrical safety	IEC 61010		
Weight	450 g		500 g
Dimensions	165 x 105 x 50 mm		90 x 195 x 54 mm
State of delivery	without lead		with leads and Y13 clamp in hard case

(1) Accuracy in % of the reading (R) and full scale (FS) depending on the range - Add the accuracy to the clamp being used: Y13: up to 500 A typical accuracy: 2 % R – C191: up to 1000 A~ typical accuracy: 0.5 % R (2) Displays "–" if capacitive and "+" if inductive

Accessories

Current clamps with 1 A or 5 A outputs
(See page 52)

Shockproof sheath for C.A 404/405
> P01.2980.16

C191 clamp (1000 A~)
> P01.1203.18
(for C.A 8210)

Power and harmonics wattmeter clamps

F21

> *AC harmonics clamp*

- Quick diagnosis for qualifying and quantifying "harmonic pollution"
- Global current or voltage distortion

F23

> *AC power clamp*

- Powers analysis
- Global U and I harmonic distortion measurement
- Functions on disturbed networks (balanced three-phase or single-phase)

F27

> *AC / DC power and harmonics clamp*

- Voltages, intensities, powers (single or balanced three-phase) and harmonics (25th order) in just one instrument
- Monitoring with RS232 output (4) for recording and processing results on PC or printer



	F21	F23	F27
Reference	> P01.1207.52	> P01.1207.56	> P01.1207.57
Display	10,000 counts and 30-segment bargraph	triple 10,000 counts	
Clamping capacity	Ø 42 mm or 50 x 5 mm bar	Ø 50 mm or 80 x 5 mm bar	
Intensity (True RMS)	50 mA to 700 A (1000 Apeak)(1)	300 mA to 1000 A (1500 Apeak)	
Tension (True RMS)	50 mV to 600 V (1200 Vpeak)(1)	50 mV to 600 V (1500 Vpeak)	
Peak value	PEAK	" + " or " - " PEAK	
Crest factor (CF)	1 to 10		
Ripple			2 to 1000%
Frequency	0.5 Hz to 10 kHz	0.5 Hz to 20 kHz	
THD	0.5 to 600%	0.2 to 600%	
Harmonic distortion factor (DF)	0.5 to 100%	0.2 to 100%	
Harmonic distortion order by order			up to the 25th order
Record	min, max and avg. values		
Smooth value	during 3 s		
Hold	for all functions		
Analogue output(3)	2 cal.: 1-10 mV / A		
Active, reactive, apparent powers		10 W to 600 kW (var and VA)	
Power factor (PF)		0 to 1	
Power displacement factor (Cos.φ)		-1 / +1 (2)	
K factor (KF)			1 to 30
THD factor			0.2 to 1
Monitoring (SCAN mode)			progr rate: 1 to 60 min
Power supply / operating life	9 V battery / 50 hours	4 x 1.5 V batteries / 40 hours	
Climatic conditions	-10 to +55°C / RH ≤ 80%		
Electrical safety	IEC 61010-1. 600 V Cat.III		
Protection index	IP 40		
Weight	600 g	670 g	
Dimensions	254 x 97 x 44 mm	275 x 103 x 50 mm	
State of delivery	in bag with set of leads and oscilloscope lead (banana/BNC)	in hard case with leads, crocodile clips, and test leads	+ RS232 communication kit and C.A TRANSFER communication software

Accessories

Set of leads **> P01.2950.84**

(1) Automatic adjustment of the zero in continuous intensity
(2) Factors specifique to measurements on transformers
(3) For displaying the current on an oscilloscope
(4) Configurable for recording and processing results later on, on a PC or printer

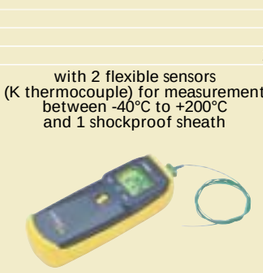
Contact thermometers

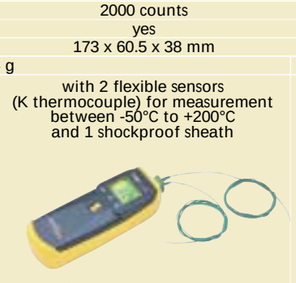
C.A 861
> *Easily test temperatures up to 350°C*
1 K thermocouple input

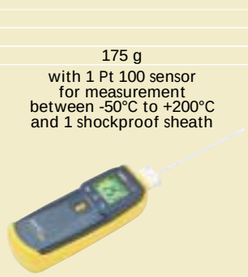
C.A 863
> *Easily test temperature differences up to 1300°C*
2 K thermocouple inputs

C.A 865
> *Accuracy measurement*
1 input with Pt 100 sensor

	C.A 861	C.A 863	C.A 865
Reference	> P01.6501.01Z	P01.6502.01Z	P01.6503.01Z
Sensor used	K thermocouple		Pt 100
Number of inputs	1	2	1
Measurement range	-40 to +1350 °C	-50 to +1 300 °C	-50 to +200°C
Resolution	0.1 or 1 °C		0.1°C
Accuracy	± 0.1% + 1°C	± 0.3% + 1°C	± 0.5°C
Functions — Max value	yes		
Functions — Hold	yes		
Choice of measurement unit	°C or °F		
Display	2000 counts		
Backlighting	yes		
Dimensions	173 x 60.5 x 38 mm		
Weight	185 g		175 g
State of delivery	with 2 flexible sensors (K thermocouple) for measurement between -40°C to +200°C and 1 shockproof sheath	with 2 flexible sensors (K thermocouple) for measurement between -50°C to +200°C and 1 shockproof sheath	with 1 Pt 100 sensor for measurement between -50°C to +200°C and 1 shockproof sheath







Accessories

C.A 805
K couple
infrared probe > P03.6527.21

K couple sensors
(see next page)

Pt 100 couple sensors
(see next page)

Captors and sensors

Complete range or interchangeable sensors equipped with a handle

K couple sensors

Pt 100 sensors

Modele	Measurement extent	Reference	Reponse time	Ø	Length	Description
SK1 needle	-50 to +800°C	> P03.6529.01	1 s	3 mm	15 cm	For penetration into pasty, viscuous products.
SK2 bendable	-50 to +1000°C	> P03.6529.02	2 s	2 mm	1 m	Can be bent as required by use.
SK3 semi-rigid	-50 to +1000°C	> P03.6529.03	6 s	4 mm	50 cm	Can be slighty bent.
SK4 surface	0 to +250°C	> P03.6529.04	1 s	5 mm	15 cm	Adapted for measurements on smail surfaces.
SK5 surface	-50 to +500°C	> P03.6529.05	1 s	5 mm	15 cm	8 mm Ø spring tip provides optimal contact even if the sensor is not placed at right angles.
SK6 flexible	-50 to +285°C	> P03.6529.06	1 s by contact 3 s in ambient air	1 mm	1 m	Recommended for points where access is difficult.
SK7 air	-50 to +250°C	> P03.6529.07	5 s	5 mm	15 cm	For ambient air measurements. Couple protected by a Ø 8.5 mm metallic sheath.
SK8 auto-grip	-50 to +140°C	> P03.6529.08	10 s on stainless steel pipe (Ø 12 mm)	For pipework 10 mm ≤ Ø ≤ 90 mm		The couple placed on a sheet of copper, at the end of a double sided Velcro ribbon, is held in contact by winding the ribbon round the pipe.
SK11 needle	- 50 to +600°C	> P03.6529.17	12 s	3 mm	13 cm	For penetration into pasty, viscuous products.
SK13 general use	- 50 to +1100°C	> P03.6529.18	12 s	3 mm	30 cm	All uses.
SK14 surface-elbowed	- 50 to +450°C	> P03.6529.19	8 s	6 mm	13 cm	Surface temperature for difficult access. Tip Ø 15 x 30 mm
SK15 surface	- 50 to +900°C	> P03.6529.20	2 s	8 mm	13 cm	Tip Ø 8 mm with spring, provides optimal contact even if the sensor is not placed at the right angles.
SK17 air	- 50 to +600°C	> P03.6529.21	3 s	6 mm	13 cm	For measurements in ambient air. Couple protected by a metallic sheath Ø 8.5 mm.
SK19 surface with magnet	- 50 to +200°C	> P03.6529.22	7 s	14 mm	12 mm	The sensor attaches magnetically.
SP10 surface	- 50 to +200°C	> P03.6527.12	6 s	5 mm	130 mm	The spring provides optimum contact, even if the sensor is not placed perpendicular to the surface.
SP11 needle	- 100 to +600°C	> P03.6527.13	7 s	3 mm	130 mm	For penetration into pasty, viscuous products.
SP12 air	- 100 to +600°C	> P03.6527.14	5 s	5 mm	130 mm	Suitable for all ambient air measurements.
SP13 liquid	- 100 to +600°C	> P03.6527.25	7 s	3 mm	130 mm	Stainless steel specially designed for liquids.
PK9 retractable needle	-20 to +250°C	> P03.6529.15	5 s	1 mm	55 mm	For automobile tires Penetration up to 15 mm
CK1 extension *		> P03.6529.09		4 mm	1 m	Terminated by male / female plug
CK2 extension *		> P03.6529.10		4 mm	1 m	Terminated by male plug / 2 bared wires
CK3 extension *		> P03.6529.13		4 mm	1 m	Terminated by 5 pin DIN plug / female socket
CK4 extension *		> P03.6529.14		4 mm	1 m	Terminated by 2 banana plugs / female plug

**Temperature withstand of extensions: -40° C + 100° C*

Non-contact thermometers

C.A 870
> *Measure at a distance in complete safety*
- Without laser sighting

C.A 872
> *Accuracy and safety*
- With laser sighting

C.A 871
> *Ideal both for industry and the self-employed electrician*
- Small and easy to handle
- With laser sighting

New

C.A 874
> *Remote measurement probe for multimeter*
(see pages 11/13/15)

C.A 876
> *Provides both remote and contact measurement*
- Adjustable emissivity

C.A 878
> *Exceptionally easy to handle*
- Without laser sighting

C.A 880
> *Accurate and easy to handle*
- With laser sighting

	C.A 871	C.A 870	C.A 872	C.A 876		C.A 878	C.A 880
Reference	> P01.6513.01Z	> P01.6514.01Z	> P01.6514.02Z	> P01.6514.03Z		> P01.6518.01	> P01.6518.02
				measurement with infrared	measurement with K thermocouple*		
Targeting range	8/1	10/1		10/1		15/1	
Emissivity		0.95		0.1 to 1		0.2 to 1	
Measurement range	-40 to +310°C	-20 to +260°C		-20 to +550°C	-40°C to +1350°C	-32 to 500°C	
Resolution	0.1°C up to 100°C 1°C beyond that	1°C					
Accuracy	± 2.5% or 3°C	± 2% or 3°C		± 2% or 3°C	± 0.1% + 1°C	± 1% or 1°C	
Functions							
Laser sighting	yes		yes	yes			yes
Continuous measurement				yes			
Audible alarms				yes			
Max. value				yes		yes	
Min value				yes		yes	
Average						yes	
Auto-hold	yes						
Choice of measurement unit	°C or °F						
Display	2000 counts						
Backlighting	yes						
Dimensions	160 x 50 x 32.5 mm	173 x 60.5 x 38 mm				250 x 100 x 45 mm	
Weight	200 g	190 g		255 g		320 g	
State of delivery	with wrist strap	with shockproof sheath		with flexible sensor (K thermocouple) for measurement between -40°C to +200°C and shockproof sheath		with wrist strap and carrying case	

**for adjusting emissivity and wide-ranging measurements*

Lightmeters

	C.A 811	C.A 813
Reference	> P01.1722.01Z	> P01.1724.01Z
Measurement range	4 ranges: 0 to 20,000 lux	5 ranges: 0 to 200,000 lux
Accuracy (cell + instrument) Typical incandescent lamp (2856K)	± 3% + 10 cts	
Other light sources	± 18 % +2 cts	± 11% + 2 cts
Functions		
Remote probe	yes	
C.I.E spectral correction	yes	
Incidence correction	yes	
Max. value	yes	
Peak value		yes
Hold	yes	
Choice of measurement unit	Lux or Fc	
Display	2000 counts	
Backlighting	yes	
Dimensions	173 x 60.5 x 38 mm	
Weight	214 g	223 g
State of delivery	with protective shockproof sheath	

> *Check lighting in full compliance with standards*

C.A 811
- Measures up to 20,000 lux

C.A 813
- Measures up to 200,000 lux

Sound level meters

	CDA 830	C.A 832	C.A 834
Reference	> P01.1850.01	> P01.1855.01Z	> P01.1855.02
Measurement range	35 to 130 dB		30 to 130 dB
Number of ranges	2	3	4 with 1 automatic
Resolution	0.1 dB		
Accuracy	± 2 dB		± 1.5 dB
Dynamics in frequency	30 Hz to 12 kHz	31.5 Hz to 8 kHz	
Memory			32,000 values acquisition increments: 1 s to 1 h
Functions			
Frequency weighting curves: A and C	yes		
Fast and slow time weighting	yes		
Max. value	yes		
Min. value			yes
Hold	yes		yes
Analogue output	10 mV / dB or 1 Veff		
RS 232 output			yes
Tripod positioning	yes	yes	yes
Auto-calibration	yes		
Display	2000 counts	2000 counts	+ 50 segment bargraph
Backlighting		yes	
Dimensions	275 x 64 x 30 mm	237 x 60.5 x 38 mm	275 x 64 x 30 mm
Weight	215 g	230 g	285 g
State of delivery	with carrying case	with shockproof sheath, receptacle for analogue output, and universal adapter for mounting on tripod	in hard case with data processing software, RS 232 cable and receptacle for analogue output

CDA 830
> *Simple and economic*
- 2 weighting curves
- 2 measurement ranges

C.A 832
> *Check sound levels according to regulations*
- Designed in accordance with the IEC 651 type 2 standard
- 3 measurement ranges
- 2 integration times
- 2 weighting curves

Accessories

C.A 833 Calibrator for sound level meter: 94 or 114 dB
> P01.1853.01

New

C.A 834
> *Noise exposure level monitoring*
- Rugged, easy to handle and accurate
- Very large recording capacity
- In conformity with the IEC 651 type 2 standard

Thermo-hygrometers

	CDA 845	C.A 846
Reference	> P01.1565.01	> P01.1563.01Z
Humidity		
Measurement range	10 to 95% RH	0 to 100% RH
Resolution	0.1% RH	
Accuracy	± 3% RH between 30 and 90% RH - 5% beyond that	± 2.5% RH between 10 and 90% RH - 5% beyond that
Temperature		
Measurement range	-20 to +60°C	
Resolution	0.1°C	
Accuracy	± 0.8°C	± 0.5°C from 0 to +60°C 1°C beyond that
Functions		
Max. value		yes
Hold	yes	
Choice of measurement unit	°C or °F	
Display	2000 counts	
Backlighting		yes
Dimensions	240 x 68 x 25 mm	173 x 60.5 x 38 mm
Weight	215 g	185 g
State of delivery	with carrying case and battery	with shockproof sheath
		For hygrometer verification, salt cartridges at 33% RH P01.1564.02 75% RH P01.1564.01

C.A 845

> *Hygrometry and ambient temperature testing*

- Measurement: 10 to 95% RH and -20 to + 60°C

C.A 846

> *2 in 1: hygrometry and ambient temperature measurement*

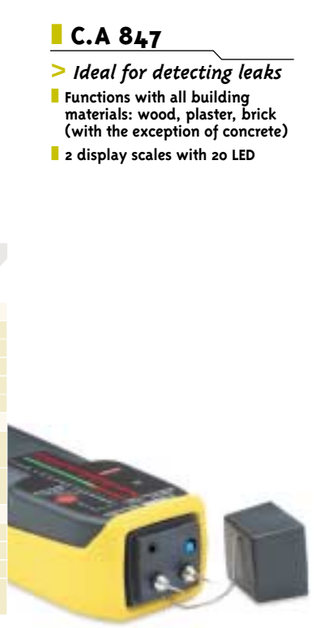
- Measurement: 0 to 100% RH and -20 to +60°C
- Rugged: shockproof sheath

Materials humidity indicators

C.A 847

> *Ideal for detecting leaks*

- Functions with all building materials: wood, plaster, brick (with the exception of concrete)
- 2 display scales with 20 LED



	C.A 847
Reference	> P01.1563.02Z
Humidity	
Measurement range	6 to 100% humidity
Display scales	6 to 23% 24% to 100%
Accuracy	± 1 LED for 6 to 30% ± 2 LED beyond that
Functions	
Low battery indicator	yes
Replaceable electrodes	yes
Display	
Max. value	20 diodes
Dimensions	192 x 60.5 x 38 mm
Weight	160 g
State of delivery	with shockproof sheath and set of spare electrodes

Thermo-anemometers

	C.A 822
Reference	> P01.1731.02
Air speed	
Measurement range	0.4 to 30 m/s
Resolution	0.01 m/s
Accuracy	± 3% full scale
Temperature	
Measurement range	-20 to +60°C
Resolution	0.1°C
Accuracy	0.5°C between 0 and 45°C 1°C beyond that
Functions	
Air speed averaging	every 2 seconds for 2 measurements
Avg., min., max. values	yes
Différence max.- min	yes
Hold	yes
Choice of measurement unit	°C and m/s or km/h or knots °F and ft/min or mph or knots
Double display	speed: 5000 counts temperature: 1000 counts
Backlighting	yes
Dimensions	
instrument	173 x 60.5 x 38 mm
sensor	365 x 75 x 45 mm
Weight totale	330 g
State of delivery	with shockproof sheath and rotating vane sensor (D = 70mm)

> *Its double display makes it particularly easy to use*

C.A 822

- Ergonomic and rugged casing (shockproof sheath)
- Rotating vane sensor (Ø = 70 mm, L = 260 mm) for accurate measurement up to 30 m/s

New

Manometers

New

C.A 850

> *For testing pressurized equipment*

C.A 852

> *For professionals in environmental engineering*

- Large easy-to-read display
- Accurate and easy to use
- Rugged ABS casing
- Time-stamped monitoring
- Differential measurements
- Auto shut-off

	C.A 850	C.A 852
Reference	> P01.1841.01	> P01.1841.02
Measurement range	-6.89 bar to +6.89 bar	-138 to +138 mbar
Max. pressure	10.33 bar	1.38 bar
Resolution	0.004 bar	0.1 mbar
Accuracy	0.3% full scale	
Units	psi, kPa, bar, mbar, mmH2O, inH2O, cm H2O, FtH2O, mmHg, inHg, OZin², kg/cm²	psi, bar, mbar, mmH2O, inH2O
Functions		
Differential measurement	yes	
Min. max. values	yes	
Hold	yes	
Display	2000 counts	
Backlighting	yes	
Dimensions	182 x 72 x 30 mm	
Weight	220 g	
State of delivery	in hard case with 2 connecting hoses	

Gas detectors

C.A 895

> *Tests the good working order of combustion equipment*

- Audible signal warns of possible risk
- 2 measurement modes: normal or average

Accessories

Extraction kit
with pump and connector
> P01.6511.01

	C.A 895
Reference	> P01.6510.01Z
Measurement range	0 to 1000 ppm
Resolution	1 ppm
Accuracy	± 5% + 5 ppm
Measurement mode	
normal	for CO detection
average	for precise measurements
Functions	
Audible alarm	progressively beginning at 50 ppm
Max. value	yes
Hold	yes
Display	2000 counts
Backlighting	yes
Dimensions	237 x 60.5 x 38 mm
Weight	190 g
State of delivery	1 protective shockproof sheath

Tachometers

C.A 21

> *Automobile tachometer*

- Gas motor

C.A 25

> *Industrial tachometer*

- Up to 100 000 tr/min
- 4 functions

C.A 27

> *Industrial tachometer*

- Up to 100 000 tr/min
- 10 functions

C.A 23

> *Automobile tachometer*

- Gas and diesel motor

	C.A 21	C.A 23	C.A 25	C.A 27
Reference	> P01.1745.01	> P01.1745.02	> P01.1746.01 > P01.1746.02	> P01.1747.01
with mechanical accessory kit				
Measurement range	60 to 20 000 tr / min		6 to 99 999 tr / min	
Accuracy	0.05% + 10 cts		0.01%	
Measurement by contact			yes*	
Measurement without contact		yes		
Functions smooth		yes		
Max. value/min.; Hold		yes		
Choice of auto-ranging		yes		
Choice of type of motor	yes			
Auto shut-off	yes			
Measurement in m/min			yes	
Frequency			yes	
Cycle			yes	
Duty cycle function			yes	
Choice of measurement unit (S.I / Anglo-Saxon)			yes	
Metering (revolution, m, pulses)				yes
High and low audible alarms				yes
K multiplying coefficient (scale factor)				yes
Tachometer programming				yes
Printing				yes
Remote drive				yes
Display	20,000 counts + bargraph		100,000 counts + bargraph	
Dimensions	216 x 72 x 47 mm			
Weight	250 g			
State of delivery	in hard case with battery	in hard case with battery and diesel sensor*	in hard case with set of 15 reflective strips and a female connector	in hard case with set of 15 reflective strips and 2 female connectors

** for measurements on diesel motors, the C.A 23 uses a sensor that mounts on a gas intake pipe*

Accessories

Shockproof sheath
> P01.2980.09B

Mechanical accessory kit
> P01.1749.02

TACHOGRAPH software
> P01.1749.04

Printer **> P01.1597.15A**

RS 232 lead **> P01. 1017.87**

Site calibrators

C.A 61

> *Process signals*

	C.A 61	
Reference	> P01. 6537.01	
	Voltage	Current
Measurements		
Measurement range	-5.00 to 30.00 V	-5.00 to 30.00 mA
Resolution	0.01 V	0.01 mA
Accuracy for 1 year	± 0.2% + 2 ct	± 0.2% + 2 ct
Impedance	1 MΩ	
Voltage drop		< 0.5 V
Simulation		
Emission range	0.00 to 12.00 V	0.00 to 24.00 mA
Resolution	0.1 V	0.1 mA
Accuracy for 1 year	± 0.1% + 10 mV	± 0.2% + 20 µA
Load resistance	≥ 1000 Ω	≥ 500 Ω
State of delivery	with 9 V battery	

Accessories

4 crocodile clips
> P01.1018.01

Leads
> P01.2950.88

C.A 63

> *Temperature: resistive probes*

	C.A 63	
Reference	> P01. 6538.01	
	Voltage	Current
Measurements		
Measurement range	-200 to 850°C	
Accuracy for 1 year according to t° θ	-100°C ≤ θ ≤ 300°C: ± 0.1% + 0.1°C θ < -100°C or 0 > 300°C: 0.1% + 1°C	
Simulation		
Emission range	-200 to 850°C	
Accuracy for 1 year	± 0.1% + 2°C	
State of delivery	with 9 V battery	

Accessories

Pt 100 sensor
See page 33

Pt 100 connectors
2 poles **> P03.6527.16**
3 poles **> P01.6527.17**

Accessories for calibrators

Shockproof sheath
> P01.2980.09B

Hard case **> P01.2980.23**

C.A 65

> *Temperature: thermocouples*

		C.A 65	
Reference		> P01. 6539.01	
	Measurement range	Accuracy for 1 year according to t° θ	
Measurement	T couple	-250 to 400°C	θ < -100°C: ± 1% + 2°C -100°C ≤ θ ≤ 300°C: ± 0.2% + 0.2°C θ > 300°C: 0.2% + 2°C
	J couple	-210 to 1200°C	
	L couple	-200 to 900°C	
	N couple	-250 to 1300°C	
	R couple	-50 to 1769°C	-0.2% + 2°C
	S couple	-50 to 1769°C	
Simulation	K couple	-250 to 1372°C	θ < -100°C: ± 0.5% + 2°C θ ≤ -100°C: 0.1% + 0.2°C
	T couple	-250 to 400°C	
	J couple	-210 to 1200°C	
	L couple	-200 to 900°C	
	N couple	-250 to 1300°C	
	R couple	-50 to 1769°C	-0.1% + 2°C
	S couple	-50 to 1769°C	

Accessories

K couple sensors page 33

Miniature male connectors 2 compensated poles:

J couple > P03.6529.23
T couple > P03.6529.24
K couple > P03.6529.25
N couple > P03.6529.26
S couple > P03.6529.27

Scalar testers

ORITEL RO 600

> *SWR, insertion loss or gain: 1 MHz to 2,7 GHz*

- Locates faults on coaxial cables up to 900 m
- Interacts in the user's language

NATO certified

ORITEL RO 600		
Reference	France RO600-4-2 FR model > P01.2701.13	For other models, please ask for details
Calibrations	Memorized, independent of configuration	
with CC/CO or ROS=3 references	in standard optional	
Protection	against overloads and interference	
Frequency response	antennae decoupling and amplifier gain (LNA)	
Memory	40 measurement curve registers	
Transmission of results	RS 232	
Remote programming	via IEEE 488 (optional)	
Location of faults	up to 900 m (optional)	
Result processing software	by PC (Windows™) (LOG 600 optional)	
Operating life	3 to 5 hours depending on configuration	
NATO code	6625-14-489-2020	
Power supply	12 V / 24 V DC and 100 V to 240 V AC	
Operating temperature	-10 to +55° C	
Dimensions	245 x 140 x 290 mm	
Weight	5 kg	
State of delivery	with user's manual, mains supply lead and battery charger	

Accessories

Hard storing case
> P01.2980.59

Shoulder bag **> P01.2980.45**

CC 600, calibration accessory box **> P01.2703.03**

Calibration reference loads
with ROS 3H **> P01.2703.26**
with SWR = 3 **> P01.2703.27**

Application software
LOG 600 **> P01.2703.05**

AMP 601, 30 dB amplifier from 1 MHz to 1 GHz **> P01.2703.06**

AMP 602, from 0,8 to 2 GHz 30 dB amplifiers with male / female BNC cable **> P01.2703.07**

LOD 600, kit with 3 loads for operations testing **> P01.2703.08**

ATT 600, kit with 4 reference attenuators **> P01.2703.12**

Milliwattmeters

ORITEL MH 600	
Reference	mains: P01.2501.01 battery: P01.2501.03
Measurements	-70 dBm to +44 dBm 100 pW to 25 W*
Frequency range	100 kHz to 50 GHz*
Display	alphanumeric + analogue trend indicator
User interface	English or French
ORITEL ST 600 and SD 600 probes	automatic recognition
NATO code	6625-14-475-8375
Programming	built-in IEEE 488
Dimensions	210 x 88 x 300 mm
Weight	3.5 kg
State of delivery	with mains lead and probe connection lead (1.60 m)

ORITEL MH 600

> *IEEE 488 in standard*

- **Power in dBm or W**
- **Dynamic: 50 dB**
- **Power deviation in dB or %**
- **Bands: LF, HF, UHF and SHF**

NATO certified

Measurement probe selection

MEASUREMENT DYNAMIC	FREQUENCY RANGE 10 MHz to 2 GHz	100 kHz to 4.2 GHz	10 MHz to 18 GHz	50 MHz to 26.5 GHz	50 MHz to 50 GHz
1 mW to 25 W	ST 623 / 75 Ω P01.2851.06		ST 646 P01.2851.03		
100 µW to 3 W		ST 635 P01.2851.04	ST 645 P01.2851.05		
1 µW to 100 mW		ST 633 P01.2851.12	ST 613 P01.2851.01 or ST 643 P01.2851.07	ST 653 P01.2851.08	ST 663 P01.2851.09
100 pW to 10 µW			SD 642 P01.2851.10	SD 652 P01.2851.13	SD 662 P01.2851.11

Accessories

Shoulder bag **> P01.2980.44**

Single rack mounting kit*
RAC 60/1 **> P01.2503 01**

Double rack mounting kit*
RAC 60/2 **> P01.2503 02**

*depending on the probe

Thermocouple measurement probes and with Schottky diode

ORITEL ST 600 series
1 µW to 25 W*
100 kHz to 50 GHz*

ORITEL SD 600 series
100 pW to 10 µW*
10 MHz to 50 GHz*

Directional microwave wattmeters for military and civilian applications

NATO certified




	RW 511	RW 5012	RW 501	RW 521
Reference	> P01.2551.02	> P01.2551.04	> P01.2551.01	> P01.2551.03
Frequency	2 to 30 MHz	25 to 500 MHz	25 to 1300 MHz	1300 to 2700 MHz
Power	3 to 1000 W	100 mW to 300 W	100 mW to 300 W	+5 to +40 dBm
Use	single side-band transmission	DDE, DDSIS, police, VHF networks	FM radio networks and TV	rural UHF networks
NATO code	6625-14-417-3785		6625-14-399-6017	6625-14-441-7702

ORITEL RW 511 / 5012 / 501 / 521

- **Transmitter incident power and reflected power by antenna**

Accessories

Shoulder bag **> P01.2980 46**

SWR abacus for RW 501, 511 and 5012 **> P01.2559 01**

SWR abacus for RW 521 **> P01.2559 02**

Fieldmeters

C.A 40

Teslameter/Gaussmeter

> *Rapidly evaluates instrument and installation radiation*

- Easy to handle unidirectional probe
- Low Frequency magnetic field measurement

C.A 41

RF Fieldmeters

> *Measures electrical fields and seeks radiation sources*

- Wide frequency band
- Unidirectional probe

C.A 43

RF Fieldmeters

> *Measures electrical fields and seeks radiation sources*

- Wide frequency band
- Isotropic probe

New

C.A 42

BF Fieldmeter

> *Compares fields measured with international standards*

- Low Frequency electrical and magnetic field measurement
- Oscilloscope and frequency analysis functions
- Isotropic probes

New

	C.A 40	C.A 41	C.A 43	C.A 42
Reference	> P01.1675.01	> P01.1670.01A	> P01.1670.02A	> P01.1670.03
Magnetic field measurement	BF (3 cal.) 2 000 µT 20 000 mG			MF 400 - MF 400H - MF 05 isotropic probes: 10 nT to 1T*
Electrical field measurement		0.1 to 200 V/m		EF 400 isotropic probe: 1V / m to 30 kV / m
Frequency range	30 to 300 Hz	100 kHz to 2.5 GHz		DC to 400 kHz*
Stored evaluation standards				6 in standard including ICNIRP
Field intensity		0.1 to 2 mW / cm²		
Display	digital 2000 counts	digital with trend bargraph		alphanumeric and graphic
Probes	easy to handle unidirectional	unidirectional EF1	isotropic EF2A	1 built-in isotropic probe and 4 external isotropic probes (optional): MF 400, MF 400H, MF 05, EF 400
		Dimensions: Ø 50 x 320 mm. Weight: 250 g		
Outputs		analogue	digital on optical fiber (RS 232)	RS232 and analogue output
Alarm		with configurable thresholds (high and low)		
Crest measurement		≥1 ms		
Functions			memory	optional: oscilloscope, frequency analysis
Dimensions	163 x 68 x 24 mm	216 x 72 x 37 mm		266 x 144 x 60 mm
Weight	285 g	350 g		950 g
State of delivery	with probe and battery	with EF1 probe, hard case and battery	with EF2A probe, hard case, optical fiber, PC adapter, software and battery	in shoulder bag with protective sheath, RS232 leads and Trigger and mains charger

*depending on the probe

Accessories

Carrying case **> P01.2980.36**

Unidirectional EF1 **> P01.1672.01A**

Isotropic EF2A **> P01.1672.02B**

for C.A 40

Shockproof sheath for C.A 41/43 **> P01.2980.09B**

Probes:

MF 400	> P01.1673.02
MF 400H	> P01.1673.03
MF 05	> P01.1673.04
EF 400	> P01.1673.05

Storing cases:

Large	> P01.1673.08
Small	> P01.1673.07

Shoulder bag **> P01.1673.09**

Options:

- Oscilloscope function
- Frequency analysis
- Measurement recovery

Aluminum tripod for MFxxx probe **> P01.1673.10**

for C.A 42

Selective RF receivers

C.A 47

> *The ideal on-site tool for Cellular telephony, Broadcasting, Television, EMC, etc.*

- Electrical field mapping (GPS, odometer and specialized software)
- Programming and measurement processing via high-performance application software
- Selectivity from 1 kHz to 1 MHz covering practically all of today's networks
- Large measurement dynamic -10 to -130 dBm

Reference	C.A 47 Without AM/FM demodulation > P01.1680.01	C.A 47 With AM/FM demodulation > P01.1680.21	C.A 47 Kit* for mapping with demod. > P01.1680.41
Frequency range	25 MHz to 2500 MHz		
Measurement dynamic	10 dBm to -112 dBm (1) -40 dBm to -130 dBm (1)+(2)		
Display	LCD graphic backlit (95 x 60 mm)		
RF measurement input	Impedance: 50 Ω		
Measurement trigger input	TTL signals on female BNC connector		
External drive input, TTL compatible	Frequency 10 MHz		
User interface	messages available in 5 languages: GB, FR, AL, IT, ES		
Internal memory	5 configurations and 96,000 measurement points		
Result transmission	via RS 232		
Demodulation	AM, FM or without (option)		
Operating life	3 to 4 hours depending on configuration		
Power supply	12 V DC and 230 V AC		
Power supply output	+ 15 V DC for auxiliary pour preamplifier (115 V optional)		
Large temperature range	0 to +40°C		
Programming	via RS 232 series interface and LOG 47 software (option)		
Results processing	LOG 47 application software on PC (Windows™) (optional)		
Dimensions	335 x 300 x 155 mm		
Weight	approx. 5 kg		
State of delivery	with mains lead, mains supply / battery charger and a carrying harness		

** see sales brochure for composition*

(1)) With 1 kHz analysis filter and average detection (AVG), depending on frequency (2) With optional AMP 601A or AMP 602A amplifier

Electrical field mapping software

	ArcView Software	Spatial Analyst Extension	3D Analyst Extension
Points report			
Flat tint equi-field areas			
Three-dimensional			

Specific mapping training with the C.A 47

Chart bases

Ask for details !

Accessories

LOG47 Application software **> P01.1019.39**

Metallic storing case **> P01.2980.60**

Shoulder bag **> P01.2980 45**

Amplifiers 30 dB 25 MHz to 1 GHz AMP 601A **> P01.2703.06A**

0.8 to 2 GHz AMP 602A **> P01.2703.07A**

Magnetic antennae

890 to 960 MHz **> P01.1019.50**

1710 to 1880 MHz **> P01.1019.51**

Antennae with N conector

890 to 960 MHz **> P01.1019.52**

1710 to 1880 MHz **> P01.1019.53**

Cigarette lighter charger **> P01.2951.89**

Elbowed FME male / N male adapter **> P01.1019.83**

Elbowed N male / N female adapter **> P01.1019.84**

Odometer

4 sockets 19 mm **> P01.1019.47**

Extension for odometers

5 sockets 19 mm **> P01.1019.48**

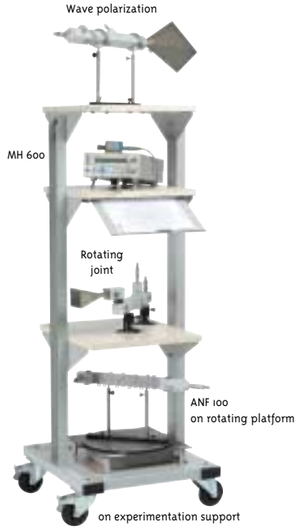
GPS 8 channels **> P01.1019.49**

Educational benches

Microwave teaching aids - 8.5 to 9.6 GHz

WR90/R100 waveguide fitted with EASYFIX quick fastening system

- **Rotating joint, E/H polarizer, Luneberg lens, displacement simulator, configurable couplers, absorbent panels, rotating platforms, etc.**
- **Numerous studies presented by specialized kits supplied with experimentation manuals**



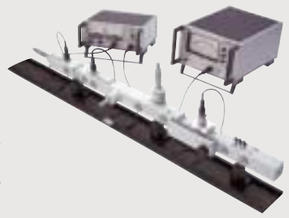
Experimentations*

Studies in guided mode	Sets	Reference	Accessories		
GUNN oscillator Frequency Wavelength Standing-wave ratio Detector's quadratic law	BDH R100	> P01.2751.01			
Impedance and matching	BDH R100	> P01.2751.01	Moveable impedance adapter	LAZ 100	> P01.2753.52
Attenuation	BDH R100	> P01.2751.01	Calibrated attenuator	ATC 100	> P01.2753.39
Power	BDH R100	> P01.2751.01	MH600 powermeter + ST613	MH600 and ST613	> P01.2501.01 > P01.2851.01
Coupling and directivity	BDH R100	> P01.2751.01	Cross guide couplers and/or Directionals	GCX 100/20 and CDT 100/20	> P01.2753.05 and > P01.2753.41
Isolator and Circulator	BDH R100	> P01.2751.01	Circulator and isolator	CIR 100 ISO 100	> P01.2753.44 and > P01.2753.08
Dielectrics	BDH R100	> P01.2751.01	Dielectrics kit	KED 100	> P01.2753.53

Studies in in free-space propagation mode**	Sets	Reference	Accessories		
Polarization and Space attenuation	E ANC 100	> P01.2753.65			
Horn antenna	E ANC 100	> P01.2753.65			
Parabolic antenna	E ANP 100	> P01.2753.66			
Slot antenna	E ANF 100	> P01.2753.67			
Dielectric antenna	E AND 100	> P01.2753.68			
Microstrip antenna	E ANP 100	> P01.2753.70			
Passive radar responder	E ANL 100	> P01.2753.71			
DOPPLER Effect	E DOP 100	> P01.2753.74	Displacement simulator	SDD 100	> P01.2753.63

** It is advisable to use GUNN CF204 power supply for powering GUNN diode oscillators in complete safety.*
*** These experimentations require a BEM100 emission bench P01.2753.64*

Specific accessories



GUNN power supply
ORITEL CF 204 > P01.2753.24
SWR indicator
ORITEL.IR 205 > P01.2705.01
Powermeter
ORITEL MH 600 > P01.2501.01
and its thermocouple probe
ORITEL ST 613 > P01.2851.01

Numerous components available : please ask for details

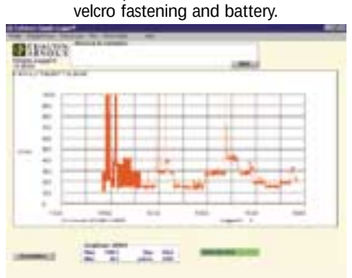
Simple Logger serie L

Single data loggers

Without a doubt, this is the simplest tool for making on-site measurement recordings.
The data analysis can be made at your leisure on the computer at a later date.

- Compact and economical, requiring no configuration (automatic adjustment and optimisation of sensitivity and data sampling rate)
- Different models log and measure Arms, Vrms, Adc, Vdc, Temperature...
- RMS measurement for better measurement quality no matter the form of the signal measured
- Data storage capacity of more than 8000 recordings
- Samples up to 4096 values per hour for maximum information
- Single command button with LED signalling the instrument's state
- Low power consumption. More than one year of autonomy with standard 9 V battery
- RS 232 output for data transfer
- Windows™ data processing software
- IEC 1010, 600 V Cat III-2

Delivered complete with software, PC lead, velcro fastening and battery.



AC Current	L100	0 to 1 V AC
	L110	0 to 1 A AC
AC voltage	L205	0 to 25 V AC RMS
	L230	0 to 300 V AC RMS
	L260	0 to 600 V AC RMS
4-20 mA	L320	0 to 25 mA DC
DC Voltage	L410	0 to 100 mV DC
	L430	0 to 10 V DC
Temperature	L600	-20° C + 70° C (int)
	L605	-20° C + 70° C (int) -20° C + 100° C (ext)
	L610	0 to +750° C
	L620	-200° C to +1250° C
	L630	-200° C to +350° C
AC RMS Current	Clamp C.A 601 (see p.55)	0 to 600 A AC RMS
	AmpFLEX™ Logger C.A 605 (see p.54)	0 to 250 A RMS 0 to 2500 A RMS
	AmpFLEX™ Logger C.A 607 (see p.54)	0 to 500 A RMS 0 to 5000 A RMS

L100		**> P01.1569.10**
L110		**> P01.1569.15**
L205		**> P01.1569.40**
L230		**> P01.1569.20**
L260		**> P01.1569.25**
L320		**> P01.1569.45**
L410		**> P01.1569.50**
L430		**> P01.1569.60**
L600		**> P01.1569.30**
L605		**> P01.1569.35**
L610		**> P01.1569.70**
L620		**> P01.1569.75**
L630		**> P01.1569.80**
C.A 601		**> P01.1568.01**
C.A 605	L45 cm	**> P01.1568.20**
	L80 cm	**> P01.1568.25**
C.A 607	L45 cm	**> P01.1568.30**
	L80 cm	**> P01.1568.35**

Function generators

Garanteed 2 years

C.A 910

> *10 MHz AM/FM function generator with built-in frequency meter*

	C.A 910
Reference	**> P01.1906.31 France** **> P01.1906.32 UK**
Signal shapes	Sinus, square, triangle, pulse, ramp, TTL, CMOS
Frequency	
Range	0.1 Hz to 10 MHz in 8 ranges (with fine-tuning)
Display resolution	5 or 6 digits
Output level	20 Vcc, 1 attenuator- 20 dB
Distinctive characteristics	Wobble modulation: internal or external, linear or logarithmic AM and FM, internal or external modulation External frequency meter 150 MHz
Electrical safety	IEC 61010-1 cat.II / 20 V (generator) cat.II / 30 V (frequency meter)
Power supply	115 V, 220 V, 230 V, 240 V, ±10%, 50 / 60 Hz
Dimensions	91 x 251 x 291 mm
Weight	2.2 kg
State of delivery	with mains lead

Differential voltage probes

DP 25

> *Floating measurements accessible on any oscilloscope*

- **UL certification**
- **For display on any standard oscilloscope, class 1 or class 2**

	DP 25
Reference	**> P01.1789.02A**
Differential input voltage	1000 V RMS
Common mode voltage	600 V RMS
Attenuation	3 ratios: 1/20, 1/50 and 1/200
Accuracy	±2%
Bandwidth	0 to 25 MHz (0 to 15 MHz for a 1/20 ratio)
Rise time	14 ns for x50 and x200; 23.4 ns for x20
Output impedance	1 MΩ
Output voltage (max.)	-6.5 V to +6.5 V
Noise (max.)	⩽ 2 mV RMS; ⩽ 4 mV RMS for x20
BNC cable	detachable
Power supply	9 V battery or mains adapter (optional)
Mains adapter	230 V / 9 V DC regulated
Operating life	approx. 15 h
Dimensions	195 x 55 x 30 mm
Weight	250 g
IEC 61010-1 safety	Cat III - 600 V, class 2
State of delivery	in shoulder bag with batteries, insulated BNC / BNC lead, 2 x Ø 4 mm banana leads with wire grip

Accessories

Mains adapter **> P01.1018.17**

Training cases

Electrical installations case

> *Measurement simulation on electrical installations*

- **Ideal for learning about electrical safety measurements**
- **Depressurization valve for transportation on an aircraft**

	C.A 6710
Reference	**> P01.1459.01**
Standards	NF C 15-100, VDE 0100, IEE 16th, CEI 64-8, ÖVE EN-1, RBT MIE, NIN/NIV…
SLT simulations	T, TN and IT
Measurement simulations	earth, resistivity, phase/earth and phase/neutral loops, insulation, differential testing (30 mA / 300 mA), current / leakage current
Fault simulations	phase/neutral or earth cuts, neutral/earth reversals, leakage current
Electrical safety	Cat. II 230 V I
Dimensions	490 x 395 x 195 mm
Weight	10 kg
State of delivery	with power supply cable, 6 safety leads (25 cm), universal adapter for mains plug, FRA/ALL adapter

Power and harmonics case

> *Network and three-phase load simulations with no risk*

- **Variable currents and voltages**
- **Variable phase shift**
- **Variable harmonic distortion**

Reference	**> 01NC5003**
Network simulations	SINGLE or THREE-phase (mains power supply 230 V)
Measurement simulations	U, I, W, W/h, var, j, THD,...
Voltage	mains ±15%
Current	1, 2, 5, 10, 20 A ±10%
Voltage change*	+8%; -10%
Current phase shift*	30°, 45°, 60° ±5°inductive or capacitive
Harmonic distortion in current and voltage*	network distortion, 15%, 25% and variable
Phase failure	yes
Power supply	mains 230 V - 2P+E plug
Electrical safety	IEC 61010 300 V Cat II pollution 2
Dimensions	490 x 395 x 195 mm
Weight	10 kg
State of delivery	with mains lead

** on phase 1*

Accessories

Choice of current sensors: AmpFLEX, MN clamps, etc. Please ask for details

Current probes for oscilloscopes

> *Display currents in complete safety*
> *Without even opening the circuit!*

- Voltage output with BNC connector
- Safety: IEC 61010-2-32 Cat. III, 600 V
- Capture signals by simply clamping the conductor

C160

D38N

MN60

Y7N

E3N

PAC12

PAC22

	C160	D38N	MN60	Y7N	E3N	PAC12	PAC22
Reference	> P01.1203.08	> P01.1200.57A	> P01.1204.09	> P01.1200.75	> P01.1200.43A	> P01.1200.72	> P01.1200.73
Measurement range	0.1 to 30 A peak 0.1 to 300 A peak 1 to 2000 A peak	1 to 90 A peak 1 to 900 A peak 1 to 9000 A peak	0.1 to 60 A peak AC 0.5 to 600 A peak AC	1A to 1200A peak	0.05 to 10 A peak 1 to 100 A peak	0.2 to 60 A cpeak 0.4 to 60 A DC 0.5 to 600 A peak 0.5 to 600 A DC	0.2 to 150 A peak 0.4 to 150 A DC 0.5 to 1400 A peak 0.5 to 1400 A DC
Transformation ratio	10 A / 1 V 100 A / 1 V 1 kA / 1 V	1 A / 10 mV 1 A / 1 mV 1 A / 0.1 mV	1 A / 100 mV 1 A / 10 mV	1A / 1 mV	1 A / 100 mV 1 A / 10 mV	1 A / 10 mV 1 A / 1 mV	
Bandwidth	10 Hz to 100 kHz	30 Hz to 50 kHz	40 Hz to 40 kHz	5 Hz to 10 kHz	DC - 100 kHz	DC - 10 kHz	
Accuracy	3%, 2%, 1%	≤2%	≤2% and ≤1.5%	≤2%	3% 4%	≤1.5% ≤2%	≤1.5% ≤2%
Clamping diameter	52 mm	64 x 150 mm	20 mm	max 30 mm or 30 x 63 mm	11.8 mm	30 mm	39 mm
Input	AC				AC/DC		
Cable length	2 m	2 m	2 m	2 m	2 m	1.5 m	2 m
Dimensions (overall)	216 x 111 x 45 mm	310 x 120 x 48 mm	135 x 51 x 30 mm	213 x 66 x 34 mm	231 x 67 x 36 mm	224 x 97 x 44 mm	236.5 x 97 x 44 mm
Weight	550 g	1200 g	180 g	420 g	330 g	440 g	520 g
Power supply	1 battery 9 V						

To choose a model: see page 46
Technical specifications: see table pages 48 and 49

Analogue testers

C.A 400 series*

> *Economical and robust, for teaching purposes*
> *Electrical safety as per IEC 61010-1*

- Resistant casing with detachable stand
- Single switch
- Safety sockets
- Double insulation

C.A 406 kit

	C.A 401	C.A 402	C.A 403	C.A 404	C.A 405	C.A 406
Reference also available in kit	> P01.1703.01	> P01.1703.02	> P01.1703.03	> P01.1703.04	> P01.1703.05	> P01.1705.01 > P01.1707.01
Function	AC / DC ammeter	AC / DC voltmeter	zero galvanometer 2 black scales (0 to 30 and 0 to 100)	single-phase AC / DC wattmeter	single and three-phase AC/DC wattmeter	multimeter 6 scales: black, green and red
Switchgear	magneto-electric rectifying		magneto-electric	ferrodynamic		magneto-electric
Ranges Voltage	1 cal. DC: 100 mV for shunts	8 cal. DC: 100 mV to 1000 V 6 cal. AC: 3 V to 1000 V	1 cal. DC: 100 mV for shunts	4 cal.: 60 V to 480 V	single-phase 6 cal.: 60 V to 480 V balanced three-phase 4 cal.: 60 V√3 to 240 V√3	8 cal.DC: 100 mV to 1000 V 6 cal.AC: 3 V to 1000 V
Intensity	11 cal. DC: 100 µA to 10A 7 cal. AC: 10 mA to 10 A		2 cal. DC: 30 µA, 3 mA	2 cal.: 0.5 A; 1 A	1 cal. 5 A	4 cal.DC: 1 mA to 1 A + 1 cal. 50 µA 5 cal.AC: 0.3 mA to 3 A + 1 cal. 150 µA
Resistance						3 cal.: 0.5 Ω - 1 kΩ to 1 MΩ
Basic accuracy	2% DC 2.5% AC		1.5% DC	1% AC	2.5% DC, 1% AC single- and 2% AC three-	1.5% DC
Operating frequency	45 to 400 Hz	20 to 400 Hz		0 to 500 Hz	15 to 500 Hz	20 to 400 Hz
Fuses	1A HPC and 10A HPC	internal resistance: 20 kΩ/DC; 6.32 kΩ/AC	315 mA HPC	1.25 A HPC	6.3 A HPC	3.15 A HPC and 160 mA HPC int. res.: 20 kΩ/VDC; 6.32 kΩ/VAC
Dimensions	165 x 105 x 50 mm					
Weight	450 g					
State of delivery	with test probe leads and 1.5 V battery (LR6)					

Also see page 28

Resistances and capacities

Decades boxes and Shunts

Electrical safety as per IEC 61010-1

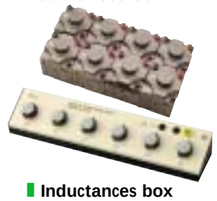
Resistances boxes

0.1 to 1 Ω	> P03.1975.21A
1 to 10 Ω	> P03.1975.22A
10 to 100 Ω	> P03.1975.23A
100 to 1000 Ω	> P03.1975.24A
1 to 10 kΩ	> P03.1975.25A
10 to 100 kΩ	> P03.1975.26A
100 to 1000 kΩ	> P03.1975.27A
1 to 10 MΩ	> P03.1975.28A
BR 04 :	
4 decades 1 Ω to 10 kΩ	> P01.1974.01
BR 05 :	
5 decades 1 Ω to 100 kΩ	> P01.1974.02
BR 06 :	
6 decades 1 Ω to 1 MΩ	> P01.1974.03
BR 07 :	
7 decades 1 Ω to 10 MΩ	> P01.1974.04

Capacitor box

Simple and dual inverter box

Resistances box



Shunt

Assembly for Wheatstone Bridge

7-ratio K box	> P03.1975.31A
Zero Galvanometer	> P03.1976.11A
Dual switch box	> P03.1975.29A
Simple inverter box	> P03.1975.30A

Capacitor boxes

0.01 to 0.1 µF	> P03.1996.13A
0.1 to 1 µF	> P03.1996.12A
1 to 10 µF	> P03.1996.11A
BC 05 :	
5 decades 0.1 nF to 10 µF	> P01.197421

Inductances box

BL 07 :	
7 decades 1 µH 10 H	> P01.197421

100 mV safety output shunts

1 A	> HA 001
5 A	> HA 005
10 A	> HA 010
20 A	> HA 020
30 A	> HA 030

Current sensors

Ammeter clamps

The widest range of IEC 1010 clamps

MN88

Our innovation, technical mastery and desire to manufacture top-quality products that comply with norms have made Chauvin Arnoux the worldwide specialist in ammeter clamps.
On the next pages, you will find a table presenting the clamps for measuring AC/DC current, followed by a diagram giving clamp form with dimensions and then another table grouping a large number of models for AC current.
As a result of their specifications, certain clamps are specialized for specific applications.

- Clamps for oscilloscopes (BNC connectors): E3N, PAC12, PAC22, MN60, Y7N, C160, and D38N
- Clamps for leak currents: MN73 and C173
- Process current clamps: K1 and K2
- Clamp for measurement on the secondary winding of current transformers: MN71

As well as these standard specialized and unspecialized models, “specific” versions can also be produced on request: please ask for details.

Choosing your ammeter clamp

K1

a wide range of criteria for choosing an clamp. The approach below is designed to fine your requirements and guide you naturally ds the model which best suits your application. criteria selected are classified from 1 to 6. choose your clamp, we advise you to follow his logic:

- Measurement of direct or alternating current? (AC/DC clamps or AC clamps tables)
- High or low currents? (see the “Input” column to define the appropriate families of clamps)

mall wires or large cables? (see the diagrams ie bottom of the next page and only choose lies with the shapes and dimensions required)

- What instrument will it be connected to? (see “Input / Connection” column to choose a clamp with compatible signal and connection possibilities)
- What are your other criteria? (see “Specific features” column to check that the clamp chosen fulfils your requirements perfectly)

MULTIMETERS												
Clamps	Output	C.A 5000	C.A 5001	C.A 5003	C.A 5005	C.A 5011	C.A 5205G	C.A 5210G	C.A 5220G	C.A 5230G	C.A 5240	C.A 5260
AC CLAMPS												
MN09	I		■	■		■			■	■	■	
MN11	I	■	■	■		■			■	■	■	
MN13	V						■	■				■
MN39	V						■	■				■
MN89	V DC	■			■		■	■				■
Y1N	I		■	■		■			■	■	■	
C103	I		■	■		■			■	■	■	
C122	I		■	■								
C148	I		■	■								
C173	V								■	■	■	
D30CN	I	■	■	■								
D36N	I	■	■	■		■			■	■	■	
AmpFLEX	V					■	■	■	■	■	■	
AC/DC CLAMPS												
K1/K2	V					■		■	■	■	■	
E1N	V					■	■	■	■	■	■	
E6N	V					■		■	■	■	■	
PAC10	V								■	■	■	
PAC11	V								■	■	■	
PAC20	V								■	■	■	

The ■ sign indicates the compatibility between a clamp and a multimeter
The colored squares indicate the best choice for your multimeter

Current measurement

Leak current measurement

Series	Model	Input: Measurement range (1) Very low current	Low current	Medium current	Hi current	~ AC	⎓ DC	Output / Connections: Current	Voltage	Lead + safety plug ø 4 mm(2)	Female sockets ø 4 mm	BNC connector (oscilloscopes)	Specific features: Transformation ratio (input/output)	Output protected against overvoltages	Automatic DC zero	Power measurement (low phase shift)	Bandwith (frequency in Hz)	Typical accuracy	To order
	MN73	10 mA to 2.4 A 100 mA to 240 A				●			2 V AC 2 V AC	●			1 A/1000 mV 1 A/10 mV				40 Hz to 10 kHz	≤ 1% ≤ 2%	> P01.1204.21
	C173	1 mA to 1.2 A 0.01 to 12 A 0.1 to 120 A 1 to 1200 A				●			1 V AC	●			1 A/1V 10 A/1V 100 A/1V 1000 A/1V				10 Hz to 3 kHz	≤ 0.7% ≤ 0.5% ≤ 0.3% ≤ 0.2%	> P01.1203.09
	B102	500 µA to 4 A 0.5 to 400 A				●			4 V AC 0.4 V AC	●			1 mA/1 mV 1 A/1 mV	●			10 Hz to 1 kHz	≤ 0.5% ≤ 0.35%	> P01.1200.83

Measurement on oscilloscope

	MN60	0.1 to 60 A peak 0.5 to 600 A peak		●				2 V AC 2 V AC			●		1 A/100 mV 1 A/10 mV				40 Hz to 40 kHz	≤ 2% ≤ 1.5%	> P01.1204.09
	Y7N	1 A to 1200 A peak		●				1 V AC			●		1 mA/1 mV				5 Hz to 10 kHz	≤ 2%	> P01.1200.75
	C160	0.1 to 30 A peak 1 to 300 A peak 1 to 2000 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%	> P01.1203.08
	D38N	1 to 90 A peak 1 to 900 A peak 1 to 9000 A peak		●				1 V AC			●		1 A/10 V 1 A/1 mV 1 A/0.1 mV				30 Hz to 50 kHz	≤ 2%	> P01.1200.57A
	E3N	0.05 to 10 A peak 1 to 100 A peak		●				1 V peak			●		1 A/100 mV 1 A/10 mV				DC to 100 kHz	≤ 3% ≤ 4%	> P01.1200.43A
	PAC12	0.2 to 60 A peak 0.4 to 60 A DC 0.5 to 600 A peak 0.5 to 600 A DC		●				600 mV AC/DC			●		1 A/10 mV 1 A/1 mV		●		DC to 10 kHz	≤ 1.5% ≤ 2%	> P01.1200.72
	PAC22	0.2 to 150 A peak 0.4 to 150 A DC 0.5 to 1400 A peak 0.5 to 1400 A DC		●				1.4 V AC/DC			●		1 A/10 mV 1 A/1 mV		●		DC to 10 kHz	≤ 1.5% ≤ 2.5%	> P01.1200.73

Measurement of process current

	K1	1 to 14.5 A DC 1 to 3 A RMS 1 to 2 A peak		●				4.5 V DC 3 V RMS 2 V peak		●			1 mA/1 mV				DC to 2 kHz	≤ 1%	> P01.1200.67
	K2	0.1 to 450 mA DC 0.1 to 300 mA RMS 0.1 to 450 mA peak		●				4.5 V DC 3 V RMS 2 V peak		●			1 mA/10 mV				DC to 1.5 kHz	≤ 1%	> P01.1200.74

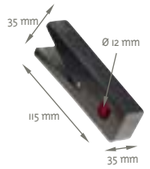
Measurement on secondary widing of current transformers

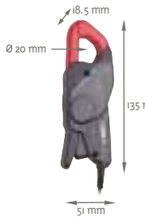
	MN71	10 mA to 12 A		●				1 V AC		●			1 A/100 mV				40 Hz to 10 kHz	≤ 1%	> P01.1204.20

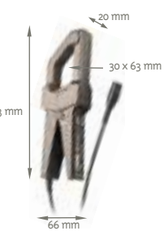
(1) The upper value corresponds to 120% of the maximum nominal value.
(2) Lead + electronic unit with Ø 4 mm safety connectors, centre distance 19 mm, for K series

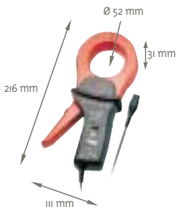
AC current measurement

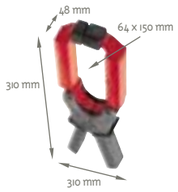
Series	Model	Input: Measurement range (1) — Very low current	Low current	Medium current	Hot current	~ AC	⎓ DC	Current	Output / Connections: Voltage	Leads + safety plug ø 4 mm(2)	Female sockets ø 4 mm	BNC connector (oscilloscopes)	Specific features: Transformation ratio (input/output)	Output protected against overvoltage	Automatic DC zero	Power measurement (low phase shift)	Bandwith (frequency in Hz)	Typical accuracy	To Order
	Miniclamp 1	1 mA to 10 A 1 A to 100 A				●			10 V AC 0.1 V AC	●			1 mA/1 mV 1 A/1 mV				45 Hz..500 Hz	≤ 3 % ≤ 2 %	**> P01.1050.01**
	Miniclamp 2		1 A to 150 A			●			15 V DC (2)		●		1 A/100 mV				50 Hz..400 Hz	≤ 3%	**> P01.1050.02**
	Miniclamp 3		0.5 to 150 A			●		0.3 A AC			●		500/1				45 Hz..450 Hz	≤ 4%	**> P01.1050.03**
	Miniclamp 4		2 to 150 A			●		0.15 A AC			●		1000/1				45 Hz..1 kHz	≤ 2,5%	**> P01.1050.04**
	Miniclamp 5	50 mA to 100 A				●		0.1 A AC			●		1000/1			●	45 Hz..10 kHz	≤ 1%	**> P01.1050.05**
	MN08		0.5 to 240 A			●		0.2 A AC			●		1000/1				40 Hz..10 kHz	≤ 1%	**> P01.1204.01**
	MN09		0.5 to 240 A			●		0.2 A AC		●			1000/1				40 Hz..10 kHz	≤ 1%	**> P01.1204.02**
	MN010		0.5 to 240 A			●		0.2 A AC			●		1000/1	●			40 Hz..10 kHz	≤ 2%	**> P01.1204.03**
	MN011		0.5 to 240 A			●		0.2 A AC		●			1000/1	●			40 Hz..10 kHz	≤ 2%	**> P01.1204.04**
	MN012		0.5 to 240 A			●			2 V AC		●		1 A/10 mV				40 Hz..10 kHz	≤ 1%	**> P01.1204.05**
	MN013		0.5 to 240 A			●			2 V AC	●			1 A/10 mV				40 Hz..10 kHz	≤ 1%	**> P01.1204.06**
	MN014		0.5 to 240 A			●			0.2 V AC		●		1 A/1 mV				40 Hz..10 kHz	≤ 1%	**> P01.1204.16**
	MN015		0.5 to 240 A			●			0.2 V AC	●			1 A/1 mV				40 Hz..10 kHz	≤ 1%	**> P01.1204.17**
	MN021		0.1 to 240 A			●		0.2 A AC		●			1000/1	●			40 Hz..10 kHz	≤ 2%	**> P01.1204.18**
	MN023		0.1 to 240 A			●			2 V AC	●			1 A/10 mV				40 Hz..10 kHz	≤ 1.5%	**> P01.1204.19**
	MN038		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	≤ 1%	**> P01.1204.07**
	MN039		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	≤ 1%	**> P01.1204.08**
	MN060		0.1 to 60 A peak 0.5 to 600 A peak			●			2 V AC 2 V AC			●	1 A/100 mV 1 A/10 mV				40 Hz..40 kHz	≤ 2% ≤ 1.5%	**> P01.1204.09**
	MN071	10 mA to 12 A				●			1 V AC	●			1 A/100 mV				40 Hz..10 kHz	≤ 1%	**> P01.1204.20**
	MN073		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	≤ 1% ≤ 2%	**> P01.1204.21**
	MN088		0.5 to 240 A			●			20 V DC (2)		●		1 A/100 mV				40 Hz..10 kHz	≤ 2%	**> P01.1204.10**
	MN089		0.5 to 240 A			●			20 V DC (2)	●			1 A/100 mV				40 Hz..10 kHz	≤ 2%	**> P01.1204.15**
	Y1N		4 A to 600 A			●		0.5 A AC		●			1000/1	●			48 Hz..1 kHz	≤ 3%	**> P01.1200.01A**
	Y2N		4 A to 600 A			●		0.5 A AC		●			1000/1	●			48 Hz..1 kHz	≤ 1%	**> P01.1200.28A**
	Y3N		4 A to 600 A			●		5 A AC		●			100/1				48 Hz..1 kHz	≤ 3%	**> P01.1200.29A**
	Y4N		4 A to 600 A			●			0.5 V DC (2)	●			500 A/ 0.5 V				48 Hz..1 kHz	≤ 1%	**> P01.1200.05A**
	Y7N		1 A to 1200 A peak			●			1 V AC			●	1 A/1 mV				5 Hz..10 kHz	≤ 2%	**> P01.1200.75**
	C100		0.1 to 1200 A			●		1 A AC			●		1000/1				30 Hz..10 kHz	≤ 0.5%	**> P01.1203.01**
	C102		0.1 to 1200 A			●		1 A AC			●		1000/1	●			30 Hz..10 kHz	≤ 0.5%	**> P01.1203.02**
	C103		0.1 to 1200 A			●		1 A AC		●			1000/1	●			30 Hz..10 kHz	≤ 0.5%	**> P01.1203.03**
	C106		0.1 to 1200 A			●			1 V AC		●		1 A/1 mV				30 Hz..10 kHz	≤ 0.5%	**> P01.1203.04**
	C107		0.1 to 1200 A			●			1 V AC	●			1 A/1 mV				30 Hz..10 kHz	≤ 0.5%	**> P01.1203.05**
	C112		1 mA to 1200 A			●		1 A AC			●		1000/1	●		●	30 Hz..10 kHz	≤ 0.3%	**> P01.1203.14**
	C113		1 mA to 1200 A			●		1 A AC		●			1000/1	●		●	30 Hz..10 kHz	≤ 0.3%	**> P01.1203.15**
	C116		1 mA to 1200 A			●			1 V AC		●		1 A/1 mV			●	30 Hz..10 kHz	≤ 0.3%	**> P01.1203.16**
	C117		1 mA to 1200 A			●			1 V AC	●			1 A/1 mV			●	30 Hz..10 kHz	≤ 0.3%	**> P01.1203.17**
	C122		1 to 1200 A			●		5 A AC			●		1000/5	●			30 Hz..10 kHz	≤ 1%	**> P01.1203.06**
	C148		1 to 300 A 1 to 600 A 1 to 1200 A			●		5 A AC			●		250/5 500/5 1000/5	●			48 Hz..1 kHz	≤ 2% ≤ 1% ≤ 1%	**> P01.1203.07**
	C160		0.1 to 30 A peak 0.1 to 300 A peak 1 to 2000 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..100 kHz	≤ 3% ≤ 2% ≤ 1%	**> P01.1203.08**
	C173		1 mA to 1.2 A 0.01 to 12 A 0.1 to 120 A 1 to 1200 A			●			1 V AC	●			1 A/1 V 10 A/1 V 100 A/1V 1000 A/1 V				10 Hz..3 kHz	≤ 0.7% ≤ 0.5% ≤ 0.3% ≤ 0.2%	**> P01.1203.09**
	D30N		1 A to 3600 A			●		1 A AC			●		3000/1	●	●	●	30 Hz..5 kHz	≤ 0.5%	**> P01.1200.49A**
	D30CN		1 A to 3600 A			●		1 A AC		●			3000/1	●	●	●	30 Hz..5 kHz	≤ 0.5%	**> P01.1200.64**
	D31N		1 to 600 A 1 to 1200 A 1 to 1800 A			●		1 A AC			●		500/1 1000/1 1500/1	●			30 Hz..1.5 kHz	≤ 3% ≤ 1% ≤ 0.5%	**> P01.1200.50A**
	D32N		1 to 1200 A 1 to 2400 A 1 to 3600 A			●		1 A AC			●		1000/1 2000/1 3000/1	●	●	●	30 Hz..1 kHz	≤ 1% ≤ 0.5% ≤ 0.5%	**> P01.1200.51A**
	D33N		1 to 3600 A			●		5 A AC			●		3000/5				30 Hz..5 kHz	≤ 1%	**> P01.1200.52A**
	D34N		1 to 600 A 1 to 1200 A 1 to 1800 A			●		5 A AC			●		500/5 1000/5 1500/5				30 Hz..1.5 kHz	≤ 3% ≤ 1% ≤ 0.5%	**> P01.1200.53A**
	D35N		1 to 1200 A 1 to 2400 A 1 to 3600 A			●		5 A AC			●		1000/5 2000/5 3000/5			●	30 Hz..1.5 kHz	≤ 1% ≤ 0.5% ≤ 0.5%	**> P01.1200.54A**
	D36N		1 to 3600 A			●		3 A AC			●		3000/3	●	●	●	30 Hz..5 kHz	≤ 0.5%	**> P01.1200.55A**
	D37N		0.1 to 36 A RMS 1 to 360 A RMS 1 to 3600 A RMS			●			3 V AC		●		30 A/3 V 300 A/3 V 3000 A/3 V				30 Hz..5 kHz	≤ 2%	**> P01.1200.56A**
	D38N		1 to 90 A peak 1 to 900 A peak 1 to 9000 A peak			●			1 V AC			●	1 A/10 mV 1 A/1 mV 1 A/0.1 mV				30 Hz..50 kHz	≤ 2%	**> P01.1200.57A**







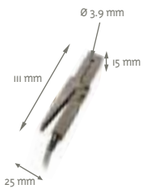




(1) The higher value corresponds to 120% of the max. nominal value (2) Reshaping of AC signal by diodes.

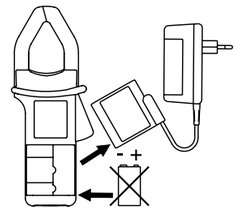
AC / DC current measurement

Series	Model	Input: Measurement range (1) — Very low current	Low current	Medium current	Hot current	~ AC	⎓ DC	Current	Output / Connections: Voltage	Leads + safety plug ø 4 mm(2)	Female sockets ø 4 mm	BNC connector (oscilloscopes)	Specific features: Transformation ratio (input/output)	Output protected against overvoltage	Automatic DC zero	Power measurement (low phase shift)	Bandwith (frequency in Hz)	Typical accuracy	To Order
	K1	1 mA to 4.5 A DC 1 mA to 3 A RMS 1 mA to 4.5 A crête				●	●		4.5 V DC 3 V RMS 2 V peak	●			1 mA/1 mV				DC..2 kHz	≤ 1%	**> P01.1200.67**
	K2	0.1 to 450 mA DC 0.1 to 300 mA RMS 0.1 to 450 mA peak				●	●		4.5 V DC 3 V RMS 2 V peak	●			1 mA/10 mV				DC..1.5 kHz	≤ 1%	**> P01.1200.74**
	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	≤ 2% ≤ 1.5%	**> P01.1200.30A**
	E3N	0.05 to 10 A peak 1 to 100 A peak				●	●		1 V peak			●	1 A/100 mV 1 A/10 mV				DC..100 kHz	≤ 3% ≤ 4%	**> P01.1200.43A**
	E6N	5 mA to 2 A DC 5 mA to 1.5 A AC 20 mA to 80 A AC/DC				●	●		2 V DC 1.5 V AC 0.8 V AC/DC	●			1 A/1 V 1 A/10 mV				DC..2 kHz DC..8 kHz	≤ 2% ≤ 4%	**> P01.1200.40A**
	PAC10	0.5 to 400 A AC 0.5 to 600 A DC				●	●		600 mV AC/DC	●			1 A/1 mV				DC..5 kHz	≤ 2%	**> P01.1200.70**
	PAC11	0.2 to 40 A AC 0.4 to 60 A DC 0.5 to 400 A AC 0.5 to 600 A DC				●	●		600 mV AC/DC	●			1 A/10 mV 1 A/1 mV		●		DC..10 kHz	≤ 1.5% ≤ 2%	**> P01.1200.68**
	PAC12	0.2 to 60 A peak 0.4 to 60 A DC 0.5 to 600 A peak 0.5 to 600 A DC				●	●		600 mV AC/DC			●	1 A/10 mV 1 A/1 mV		●		DC..10 kHz	≤ 1.5% ≤ 2%	**> P01.1200.72**
	PAC20	0.5 to 1000 A AC 0.5 to 1400 A DC				●	●		1.4 V AC/DC	●			1 A/1 mV				DC..5 kHz	≤ 2%	**> P01.1200.71**
	PAC21	0.2 to 100 A AC 0.4 to 150 A DC 0.5 to 1000 A AC 0.5 to 1400 A DC				●	●		1.4 V AC/DC	●			1 A/10 mV 1 A/1 mV		●		DC..10 kHz	≤ 1.5% ≤ 2.5%	**> P01.1200.69**
	PAC22	0.2 to 150 A peak 0.4 to 150 A DC 0.5 to 1400 A peak 0.5 to 1400 A DC				●	●		1.4 V AC/DC			●	1 A/10 mV 1 A/1 mV		●		DC..10 kHz	≤ 1.5% ≤ 2.5%	**> P01.1200.73**



(1) The higher value corresponds to 120% of the max. nominal value
(2) Lead + electronic housing with Ø 4 mm safety plugs, centre distance 19 mm, for K series.

Bring an unlimited autonomy to your current clamps: replace the battery with the mains adapter plug



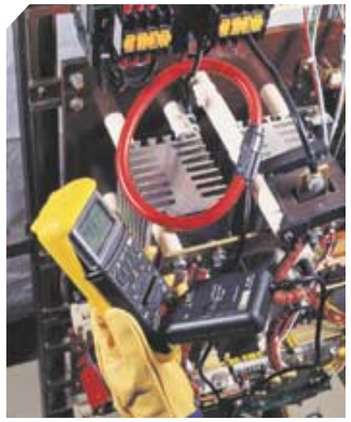
Adapter for...	Reference
E clamps	**> P01.1019.68**
K clamps	**> P01.1019.66**
PAC clamps	**> P01.1019.67**

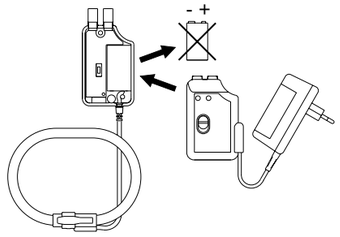
Flexible current sensors

AmpFLEX™ — **Flexibility and easy handling for clamping any conductor**

The range is composed of 9 standard models dedicated to the measurement of AC currents from 0.5 A to 10 kA, at industrial frequencies. Each flexible core (48, 80 or 120 cm long depending on the model) is connected by a shielded cable to a small box containing the processing electronics and a standard 9 V battery. The distance between the sockets (19 mm) facilitates direct connection to any type of multimeter, tester or recorder equipped with an AC voltage input (impedance Z > 1 MΩ). The quick and simple system for opening/closing the core makes it easy to handle even with safety gloves.*
Other strong points: very lightweight (no magnetic circuit), no saturation effect, highly accurate and very little phase shift (for wattmeter measurements).

9 standard models	20-200 A	2 kA		0.2 - 2 kA		0.3 - 3 kA			1-10 kA
Sensor length	45 cm	45 cm	80 cm	45 cm	80 cm	45 cm	80 cm	1.2 m	1.2 m
Single or two-calibre	20 A 200 A	2000 A		200 A 2000 A		300 A 3000 A			1000 A 10000 A
Input / output ratio (in mV~ / A~)	100 mV/A 10 mV/A	1 m V/A		10 mV/A 1 mV/A		10 mV/A 1 mV/A			1 mV/A 0.1 mV/A
Measurement range	0.5 A to 200 A ac	0.5 A to 2 kA ac		0.5 A to 2 kA ac		0.5 A to 3 kA ac			0.5 A to 10 kA ac
Typical accuracy	1%								
Bandwidth	10 Hz to 20 kHz								
Typical phase Shift at 50Hz	≤ 1.3°	≤ 0.7°							≤ 0.5°
Dimensions / weight	Housing: 140 x 64 x 28 mm - 200 g - Built-in lead: 2 m								
Weight of flexible sensor	< 120 g	< 240 g		< 120 g	< 240 g	<120 g	< 240 g		< 360 g
Electrical safety	IEC 61010-2-032 1000 V Cat III								





Bring unlimited autonomy to your AmpFLEX™: replace the battery with the mains adapted plug

Adapter for AmpFLEX™ **> P01.1019.68**

Standard AmpFLEX™ model*:

2 kA (45 cm)	> P01.1205.01	300 A / 3 kA (45 cm)	> P01.1205.06
2 kA (80 cm)	> P01.1205.02	300 A / 3 kA (80 cm)	> P01.1205.07
20 A / 200 A (45 cm)	> P01.1205.03	300 A / 3 kA (1.2 m)	> P01.1205.08
200 A / 2 kA (45 cm)	> P01.1205.04	1 kA / 10 kA (1.2 m)	> P01.1205.09
200 A / 2 kA (80 cm)	> P01.1205.05	Adapter socket Ø 4 mm/BNC	> P01.1018.46

Also see AmpFLEX™ Logger C.A 605 and C.A 607 page 43

* Specific models on request: consult us concerning the possible sensitivities (mV/A) and lengths. We can also supply bare sensors for incorporation in assemblies including the signal processing electronics.

Digital current clamps

> TRMS measurement for all sinusoidal or distorted AC currents

F1N
- Intensity and frequency
- HOLD function

F2N
- PEAK / SMOOTH / HOLD functions

F3N
- Min/max/avg storage

	Pince F1N	Pince F2N	Pince F3N
Reference	> P01.1207.01A	> P01.1207.02A	> P01.1207.03A
Max clamping capacity	Ø 42 mm		
Display	10,000 counts and 40-segment bargraph		
Intensity	2 cal.: 0.3 to 400 A - 700 A TRMS 1000 A peak		
Frequency stable	2 cal.: 0.5 Hz to 1kHz - 10 kHz		
Frequency variable	2 cal.: 5 Hz to 1kHz - 2 kHz		
Storage			min, max and avg values
Peak		1 ms in intensity	
Smooth (3 s)		3 s in intensity and frequency	
Hold	yes		
Electrical safety	IEC 61010 600 V cat.III-2		
Dimensions	232 x 98 x 44 mm		
Weight	500 g		
State of delivery	with carrying case		

Accessories

Carrying case **> P01.2980.43**

Digital RMS current recorders

C.A 601

> Quick and easy load curve acquisition
- A single control button
- Instrument status signaling with LED
- Acquisition frequency automatically adjusted according to real acquisition time, without prior configuration (data automatic compression algorithm)

	C.A 601
Reference	> P01.1568.01
Digital recording	0.5 to 600 A RMS
Accuracy	2% R
Resolution	Automatic selection
Acquisition frequency	4096 sam/hour max
Recording capacity	8192 values
Instrument status	signaling with LED
Data transfer	RS 232 output
Clamping capacity	Ø 42 mm cable max
Electrical safety	IEC 61010 600 V cat.III-2
Dimensions	235 x 76 x 38 mm
Weight	600 g
State of delivery	with PC lead, battery and Windows™ analysis software

Accessories

Shoulder bag **> P01.2980.33**

Accessory sets

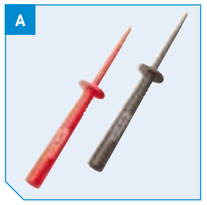
Electricity set
- 2 crocodile clips
- 2 “crocodile” wire grips
- 2 x Ø 4 mm test probes
- 2 x 1.2 m test probes leads

Electronics set
- 2 crocodile clips
- 2 “hook” wire grips
- 2 tapered test probes
- 2 x 1.5 straight/elbowed leads

IEC 61010-2-031 1000 V Cat III

A	**IEC 61010 Electricity set**	> P01.1018.95
B	**IEC 61010 Electronics set**	> P01.1018.94

Test probes



- Non-slip guard
- IEC 61010-2-031
- 1000 V Cat III
- Current: 20 A
- Length: 140 mm

- Non-slip guard
- IEC 61010-2-031
- 1000 V Cat III
- Current: 36 A
- Length: 115 mm

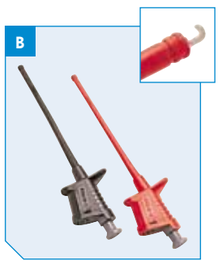
Clips

- Non-slip guard
- IEC 61010-2-031
- 1000 V Cat III
- Current: 32 A
- Length: 92 mm

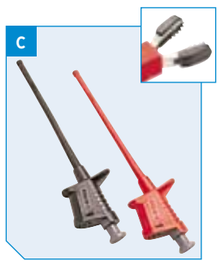
A	**Tapered test probes**		> P01.1018.56
B	**Test probes**	**ø 2 mm**	> P01.1018.54
		ø 4 mm	> P01.1018.55
C	**Crocodile clips**	**ø 4 mm**	> P01.1018.48

Safety wire grips

- IEC 61010-2-031
- 1000 V Cat. III
- Current: 12 A
- Length: 159 mm



- IEC 61010-2-031
- 1000 V Cat. III
- Current: 12 A
- Length: 158 mm



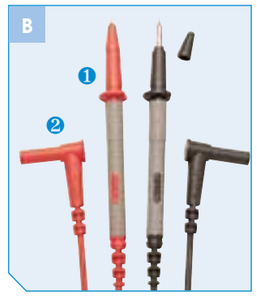
- IEC 61010-2-031
- 1000 V Cat. III
- Current: 12 A
- Length: 172 mm

- Max. voltage: 30 V AC / 60 V DC
- Test on Ø 1.2 wire at 3.5 mm
- Current: 6 A
- Length: 150 mm

A	**Clamp-type wire grips**	> P01.1018.53
B	**Flexible”hook”-type**	> P01.1018.52
C	**“Croc-clip”-type wire grips**	> P01.1018.50
D	**“Piercing-clip” wire grips**	> P01.1019.46

Safety leads

- Ø 4 mm leads
  Voltage: 1 000 V
  Section: 1 mm²
  (≠ sizes and colors)
- straight male banana plug Ø 4 mm /
- straight or elbowed male banana plug Ø 4 mm



- Ø 4 mm leads
  Voltage: 1 000 V
  Section: 1 mm²
- fixed test probe (retractable or not) Ø 2 mm or Ø 4 mm /
- straight or elbowed male banana plug Ø 4 mm

IEC 1010-2-031 1000 V Cat III

PHOTO	Ordering reference	Leads: End: Retractable sheath Ø 2 mm	Leads: End: Retractable sheath Ø 4 mm	Leads: End: Straight	Leads: End: Elbowed	Characteristics: Current	Characteristics: Length	Characteristics: Material	Characteristics: Quantity and colour*
A	> P01.2950.91			•		20 A	1.5 m	Silicon	1N 1R
A	> P01.2950.92			•		15 A	1.5 m	S / PVC	1N 1R / 1V 1B
A	> P01.2950.93			•		15 A	1.5 m	PVC	1J 1Bc
A	> P01.2950.97			•		15 A	3 m	Silicon	1N 1R
A	> P01.2950.98			•		15 A	3 m	S / PVC	1N 1R / 1V 1B
A	> P01.2950.99			•		15 A	3 m	PVC	1J 1Bc
A	> P01.2950.88				•	20 A	1.5 m	Silicon	1N 1R
A	> P01.2950.89				•	15 A	1.5 m	S / PVC	1N 1R / 1V 1B
A	> P01.2950.90				•	15 A	1.5 m	PVC	1J 1Bc
A	> P01.2950.94				•	15 A	3 m	Silicon	1N 1R
A	> P01.2950.95				•	15 A	3 m	S / PVC	1N 1R / 1V 1B
A	> P01.2950.96				•	15 A	3 m	PVC	1J 1Bc
B	> P01.2950.85	•	•	•		15 A	1.2 m	Silicon	1N 1R
B	> P01.2950.82	•	•	•		15 A	1.2 m	Silicon	1N 1R
B	> P01.2950.83		•	•		15 A	1.2 m	Silicon	1N 1R
B	> P01.2950.84		•	•		15 A	1.2 m	Silicon	1N 1R
B	> P01.2950.86	•		•		15 A	1.2 m	Silicon	1N 1R
B	> P01.2950.87	•		•		15 A	1.2 m	Silicon	1N 1R

** Key for colors: Bk black, R red, G green, B blue Y yellow, W white*

Example > P01.2950.84

Ø 4 mm leads (one black, one red)
- fixed test probe Ø 4 mm /
- elbowed male banana plug Ø 4 mm

IP2X measuring accessories

IP2X Test probes and leads to fit any multimeter, voltmeter, etc...
- IP2X leads (one black, one red)

Ends:
- Ø 2 ou 4 mm retractable test probe
- elbowed Ø 4 mm banana plug
- Current: 5 A
- Voltage: 1 000 V
- Length: 1.2 m
- Cross section: 1 mm²
- Material: Silicon

IP2X for UTE C 18-510

Leads: End 1: Ø 2 mm	Leads: End 1: Ø 4 mm	End 2: Straight	End 2: Elbowed	Reference
•		•		> P01.2951.54
	•	•		> P01.2951.56
•			•	> P01.2951.55
	•		•	> P01.2951.57

Protection and transport accessories

PRODUCTS

ACCESSORIES

	HARD CASES		SHOULDER BAGS		SHOCKPROOF SHEATHS		CARRYING CASE		PAGE
	Reference	photo	Reference	photo	Reference	photo	Reference	photo	
C.A 21 / 23 / 25 / 27					P01.2980.09	23			36
C.A 40							P01.2980.36	17	40
C.A 41 / 43					P01.2980.09	23			40
C.A 42	P01.1673.07 P01 1673.08	see page 40	P01.1673.09						40
C.A 47	P01.2980.60		P01.2980.45	13					41
C.A 401 à 406					P01.2980.16	22			47
C.A 5000/01/03/05/11	P01.2980.37	7	P01.2980.33	11			P01.2980.36	17	10
C.A 5205 G à 5260 G	P01.2980.38	6	P01.2980.33	11	P01.2980.15**	19	P01.2980.36	17	12
C.A 61/63/65	P01.2980.23				P01.2980.09	23			37
C.A 6114/6115 N			P01.2980.31				P01.2980.32	25	16
C.A 6121			P01.2980.31						23
C.A 6410/12/15	P01.2980.11*	8							21
C.A 6421/23			P01.2980.25 P01.2980.26 P01.2980.06	9 10 12	P01.2980.05 (strap)	18			20
C.A 6460/62			P01.2980.26	10					20
C.A 6511/6513					P01.2980.16	22			17
C.A 6521/23/25/31/33							P01.2980.49**	24	18
C.A 6545/47/49			P01.2980.61**	14					19
C.A 7024/26/28							P01.2985.32 P01.2980.48	32 30	24
C.A 704 / 760							P01.2980.12 P01.2980.48 P01.2980.65Z	28 30 32	8
C.A 7050	P01.2980.58**	1							24
C.A 730/735/745	P03.1008.50	8					P01.2980.12 P01.2980.07 P01.2980.65Z	28 33 32	8
C.A 8210					P01.2980.14**	21			28
C.A 8332 / 34			P01.2980.56*	15			P01.2980.55 P01.2980.51	26 27	26
C.A 8352			P01.2980.34*	15					26
C.A 878 / 880			P01.2980.33	11					32
C.A 910			P01.2980.24						44
DTR 8500			P01.2951.44**						23
F01 / 03 / 05 / 07							P01.2985.32 P01.2980.48	32 30	14
F1N / 2N / 3N							P01.2980.43 P01.2980.07	29 33	53
F11N / 13N / 15			P01.2980.43**	29			P01.2980.43	29	14
F21 / 23 / 27	P01.2980.17*	8							29
K clamp	P01.2980.39	5							51
Prestige Kit			P01.2980.26	10					20
Standard Kit			P01.2980.25	9					20
ORITEL BDH R100	P01.2980.54**	3							42
ORITEL MH 600			P01.2980.44	16					39
ORITEL RO 600	P01.2980.59 P01.2703.17**	4	P01.2980.45	13					38
ORITEL RW 500							P01.2980.46	31	39

(*) Hard case 8 and shoulder bag 15 are referenced under different sales codes because their internal arrangement varies with each product. (**) Standard delivery.
NB: Some pictures of accessories are not referenced in this table: they are spare parts for old products.

Hard cases

Dimensions

1	540 x 420 x 125 mm
2	385 x 302 x 80 mm
3	530 x 385 x 130 mm
4	226 x 178 x 50 mm
5	267 x 193 x 60 mm
6	267 x 193 x 60 mm
7	267 x 193 x 60 mm
8	322 x 253 x 70 mm

Shoulder bags

Dimensions

9	470 x 290x 240 mm
10	480 x 380 x 260 mm
11	240 x 230 x 70 mm
12	260 x 160 x 150 mm
13	300 x 260 x 120 mm
14	360 x 210 x 200 mm
15	385 x 260 x 240 mm
16	520 x 230 x 170 mm
17	220 x 180 x 75 mm

Shockproof sheaths

Carrying cases

Dimensions

24	230 x 140 x 130 mm
25	240 x 160 x 90 mm
26	260 x 205 x 65 mm
27	250 x 190 x 80 mm
28	180 x 75 x 45 mm
29	265 x 125 x 60 mm
30	220 x 120 x 70 mm
31	185 x 135 x 85 mm
32	210 x 120 x 30 mm
33	185 x 70 x 30 mm