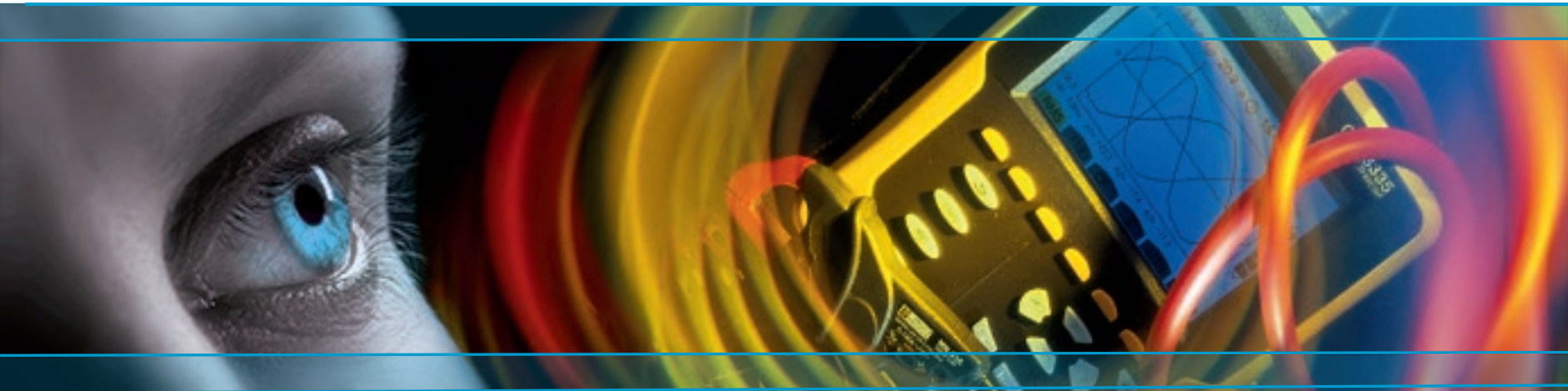


Test & Measurement Instruments

Portable and laboratory measurement



C.A 6011 Continuity Tester

Continuity tester for protective earth conductors

D.Palanché - 12/2018

Rules and tests

- Electrical installations must be built according to **rules and prescriptions to guarantee the safety of their users, their operation, etc.**
- These rules and prescriptions are mostly contained in the standards in the IEC/EN 60364 series and may also be the subject of local editions specific to one (NF C 15-100 in France, the VDE 100 series in Germany, etc.).
- To ensure that these rules are applied properly, these texts define the **various tests and measurements** which have to be performed when construction is finished, **but also at regular intervals afterwards.**
- These tests and inspections are also the subject of standard texts defining how they should be performed. The texts in question are the standards in the **IEC/EN 61557** family with, in some cases, local equivalences or even complements for specific aspects or applications. This applies in the case of the German standards in the **VDE 404** series, for example.
- The **periodicity** is usually defined by the national regulations and is usually **from 6 months to 2 years**, depending on the type, usage or specific features of the installation.
- **Summary:**
 - **List of the tests: IEC/EN 60364, NF C 15-100, VDE 100**
 - **How to perform the tests: IEC/EN 61557, VDE 404, etc.**

The tools: Multifunction vs Single/Bi-function

- For this requirement, the manufacturers mainly propose **multifunction** measuring instruments which offer the advantage of enabling you to perform the **various tests with a single tool** whose **cost is more attractive** than using several single or bi-function instruments.
- Among the tests to be performed, there is one that **the operator has to repeat several hundred times a day: continuity testing of the protective conductors.**

The purpose is to ensure that all the conducting elements (in the electrical sense), which may be raised to a high potential in the event of a fault and may be in contact with a person, are properly connected to the protective conductor (PE) which is usually identified by its two-color green/yellow covering.

Continuity tests represent 80% to 90% of the tests performed.

- A multifunction instrument is not the ideal equipment for performing this test repetitively all day long because it is:
 - heavy and cumbersome
 - not always very responsive
 - not particularly optimized in ergonomic terms.
- **The use of an instrument dedicated to continuity testing** alongside a more complete instrument **offers numerous advantages:**
 - It reduces equipment investments because it enables you to reduce the number of more expensive multifunction instruments needed for a team.
 - **Because it is more ergonomic, testing is quicker and less tiring.**
 - The battery life is extended.

C.A 6011 *Continuity Tester*

For repetitive testing of "earth" continuity



C.A 6011: Key Features



Compliant with IEC/EN 61557-4

- Continuity measurement at 200 mA
- Automatic polarity reversal

Compensation of the measuring cables

Programmable continuity threshold: 1 Ω or 2 Ω

Large backlit display

Triple visual indications:

- Backlighting (Blue vs Red)
- Symbols ("Ticked box" vs "Crossed box")
- Measurement value

Audio indication

- Can be deactivated for use when people are working, sick, etc.

Vibrating indication

- Activatable / Deactivatable for use in noisy environments or to overcome the absence of a buzzer.

Cable length: 30m

User-replaceable cable.

Power supply: 4 standard 1.5V AA batteries

Deactivatable Auto Power Off function

Long battery life:

- 4,500 measurements (according to the protocol in the 61557-4 standard: load 1Ω, test 5s, pause 25s)
- 30,000 in actual conditions of standard use

300V CAT IV / 300V CAT III

C.A 6011

dedicated to continuity testing



All-in-one reeler/continuity tester!

Double configuration:

- Reeler / continuity tester fixed together
- Continuity tester separated on wrist

- Main market: testing and safety of electrical installations connected to the "mains".
- The target is essentially certifiers and testing organizations.

More occasionally,

- Electricity companies subcontracting part of their work but responsible for correct completion of the works. They therefore carry out a preliminary inspection before the visit by the certified electrician.
- Companies which have chosen to have the testing done in-house by trained, accredited staff.

The main targets include the following companies in France and their equivalents in the other countries.

- Socotec (50 countries, 5,000 employees)
- DEKRA Industrial (141 subsidiaries, 3,500 specialists)
- Veritas
- Apave
- Consuel
- Qualibat
- Euro-Quality System
- Qualitel Association
- BTP Consultants (210 people)
- Ceres Control France
- TÜV Rheinland
- Members of SYPREV (the Prevention and Technical Inspection employers' federation)

Members of SYPREV (Prevention and Technical Inspection employers' federation)

SAFOTEC	1191, route Nationale	01120 LA BOISSE
BEVELEC	52, grand Faubourg - B.P. 37	01190 PONT DE VAUX
LITTORAL CONTRÔLE	Allée Hector PINTUS - Les Nertières	06610 LA GAUDE
ACDEF	160, allée Camille CLAUDEL	07500 GUILHERAND GRANGE
BC BTP	Borda	09700 SAVERDUN
CTE SAS	56, rue du Fauge	13400 AUBAGNE
CONSEILS SERVICES	2, allée Alessandro Volta - ZI Ecopolis	13500 MARTIGUES
MANUMESURE	Reux	14130 PONT L'EVEQUE
AR'CONTROL	28, Rue Chaptal	22000 SAINT BRIEUC
INGERIS INSPECTION	ZI du Bois des Lots	26130 SAINT PAUL TROIS CHATEAUX
CLOAREC sarl	30ter, avenue Baron Lacrosse	29850 GOUESNOU
BUREAU PREVENCO	80, rue Haute	30520 ST MARTIN DE VALGALGUES
PREVENSCOP Conseil	8, rue Jacques BABINET	31100 TOULOUSE
COTEF	28, allée des Acacias	33850 LEOGNAN
COVETECH SAS	620, avenue du Marché Gare	34070 MONTPELLIER
BUREAU DE CONTROLE FEDERAL	Z.I. 7 Fonts - 21, rue du Père Jean-Baptiste Salles	34300 AGDE
TEST CONTROL SAS	Parc de la Conterie - 11, rue Léo Lagrange	35131 CHARTRES DE BRETAGNE
EMERAUDE PREVENTION	ZAC de la Moinerie - 54, rue du grand jardin	35400 SAINT MALO
ACANTHE	6, route de la Douzillère	37300 JOUE-LES-TOURS
CTD-CREA	43, rue de la Rivoire	38300 BOURGOIN JALLIEU
ACRITEC B2C	196 chemin du Rocher de Lorzier	38430 MOIRANS
ADKOTEC	30, place du Monument	38550 AUBERIVES SUR VAREZE
C.T.B. (Contrôles Techniques de Bièvre)	101, route de Flachères	38690 ST DIDIER DE BIZONNES
SERV-ELEC .CONTROLE	34, lot Les Allors	43210 BAS EN BASSET
TIBCO TELECOMS	Le Bois Cholet	44860 SAINT AIGNAN DE GRAND LIEU
SUD LOIRE PREVENTION	1, Rue du Traité de Rome Anjou Actiparc des Trois Routes	49120 CHEMILLE
AZUR CONTROLE & TECHNOLOGIE	10, rue des Moulières	50560 GOUVILLE SUR MER
ACF CONTRÔLE FORMATION	19, rue du Pré le Moine	57160 ROZERIEULLES
CGM INSPECTION	Les Terrasses de la Sarre - 2 Terrasse Bretagne	57400 SARREBOURG
AEDIFIS Control Technic	126, rue du Long Pot	59000 LILLE FIVES
PREVENTEC	77 boulevard Gambetta	59100 ROUBAIX
EXEL EXPERTISE ELECTRIQUE	30, rue du 1er Mai	59113 SECLIN
INOVI ATELIER CONSEIL	117-119, rue Jeanne d'Arc	59650 VILLENEUVE D'ASCQ
CONTRÔLE TECHNIQUE DELINSELLE	Z.A. Rue Nicephore Niepce - BP 30035	59710 PONT A MARCQ

GRETCO INSPECTION	17, Rue du Pré La Reine	63100 CLERMONT FERRAND
Cabinet FONTAN	3, rue Saint Aloise	67100 STRASBOURG
LA VERIFICATION ELECTRIQUE	6, Route de Marckolsheim	67390 ELSENHEIM
ALSACE-LORRAINE VERIFICATIONS	Parc d'activités - 17, rue Manfred Behr	68250 ROUFFACH
EVE RISQUES INDUSTRIELS	10, rue de la Gare - BP 20	68420 HERRLSHEIM
SUD EST PREVENTION	17, chemin Louis Chirpaz	69130 ECULLY
BUREAU VERNAY ET ASSOCIES	53, avenue Carnot	69250 NEUVILLE SUR SAONE
Bureau VTR "Vérfications Techniques Réglementaires"	179, allée du Clos du Puits	73420 DRUMETTAZ-CLARAFOND
ACTION CONTRÔLE PREVENTION	29, chemin des Bergeronnettes	73420 VIVIERS DU LAC
AURATEC	51, allée du Nivolet	73420 VOGLANS
OCDS	Rue de la Déserte	73800 ARBIN
CABINET MIDROIT	1861, route de l'Ermitage	74200 ARMOY
ACOSEP SARL	2737, route de Lutz	74300 MAGLAND
C.E.F. CONTROLES	20, résidence Les Laux	74500 MAXILLY SUR LEMAN
ALPES ASSISTANCE SECURITE	Champ La Haut	74540 MURES
ACTEIS	Les Rochettes - 83 rue du Charbon	74810 DOUSSARD
CDP FRANCE	41, rue Vivienne	75002 PARIS
BATIPLUS	91, avenue Ledru-Rollin	75011 PARIS
RISK CONTROL	80, avenue Léna	75116 PARIS
SECURELECT INSPECTION	12, square du Haut Bosc	76520 FRANQUEVILLE SAINT PIERRE
COTEREG	2, rue Neuve Montcel	77320 CHEVRU
GROUPE DE PREVENTION	1, rue du Fort	77720 QUIERS
BTP CONSULTANTS	Imm. Central Gare - 1 PI Charles de Gaulle	78180 MONTIGNY LE BRETONNEUX
ALPHA CONTRÔLE	Parc d'activités Trappes/Elancourt 46, Avenue des Frères Lumière	78190 TRAPPES
VISIOHM	Espace Cristal 22, rue Gustave Eiffel BP 10058	78306 POISSY CEDEX
ACEP	11, rue des Vallées	79000 BESSINES
TECHNIC-LEV	85, lotissement Picoy	82130 L'HONOR DE COS
SUD CONTROLE	Z.I. TOULON EST - BP 502 - 67, Avenue Joliot Curie	83078 TOULON CEDEX 9
SECOPREV	44, rue Rhin et Danube	87280 LIMOGES
ALLIANCE CONTROLE VERIFICATION	6, rue des Petits Champs	91100 VILLABE
AM'TECH MEDICAL	5, rue Pierre Midrin	92310 SEVRES
KALICONSEILS	102, rue Etienne Marcel	93100 MONTREUIL
APIC CONSULT	167, boulevard d'Alsace Lorraine	94170 LE PERREUX SUR MARNE

Other leads can also be explored:

- Protection against lightning
 - Checking on the continuity of the cable, braid, etc., connecting the lightning arrester to the earth.
- Faraday cage
 - Verification of the earth bond
 - Verification of gridding

To order: complete instrument



P01299926 C.A 6011 KIT

Delivered in CA cardboard box

- **1 C.A 6011 measuring instrument with:**
 - 1 elastic strap for fixing the measurement unit to your wrist
 - 1 set of 4 x 1.5V AA alkaline batteries.
 - 1 set of documentation in 5 languages (F/GB/D/I/E) comprising:
 - 1 safety guide (20 languages)
 - 1 multilingual graphical quick startup guide.
 - 1 Mini-CD containing the User's Manual in 5 languages (F, GB, D, I, E)
 - 1 verification report
- **1 "Cable Reeler No. 01"**
 - delivered with a Mounting Guide.
- **1 green PVC cable 30m long**
 - Terminations: 1 green Ø4 mm elbowed male isolated banana plug / 1 green Ø4mm straight isolated banana plug
- **1 black PVC spiral cable 0.85m long when retracted, 3.5m when extended.**
 - Terminations: 1 black Ø4 mm elbowed male isolated banana plug / 1 black Ø4mm straight banana plug
- **1 green crocodile clip with Ø4mm banana socket. 600V CAT IV 15A**
- **1 black molded test probe CAT IV 600V 15A**
- **1 waist belt + 1 shoulder belt**
- **1 green PVC cable 0.50m long**
 - Terminations: 1 green Ø4 mm elbowed male isolated banana plug / 1 green Ø4mm elbowed isolated banana plug

P01102084A CONTINUITY ROD

Delivered in CA cardboard box

- 3 lengths of 30 cm
- 1 soft case

P01191611 C.A 6011 ALONE

Delivered in CA cardboard box

- 1 C.A 6011 measuring instrument:
 - 1 elastic strap for fixing the measurement unit to your 1 green Ø4 mm elbowed male isolated banana plug / 1 green Ø4mm straight isolated banana plug.
 - 1 set of 6 x 1.5V AA alkaline batteries.
 - 1 set of documentation:
 - 1 safety guide (20 languages)
 - 1 multilingual graphical quick startup guide.
 - 1 Mini-CD containing the User's Manual in 5 languages (F, GB, D, I, E)
 - 1 verification report

P01295492 CABLE REELER NO1 30M

Delivered in CA cardboard box

- 1 "Cable Reeler No. 01"
- 1 green PVC cable 30m long
- 1 waist belt + 1 shoulder belt
- 1 Mounting Guide
- 1 x 15A green crocodile clip
- 1 cover plate

P01102172 CA6011 ELASTIC STRAP

Delivered in a bag

- 1 set of 2 elastic straps for fixing the measurement unit (C.A 6011) to your wrist.

P01102171 C.A 6011 STRAPS

Delivered in CA cardboard box

- 1 waist strap + 1 shoulder strap

P01295493 CORD.30M GN FOR REELER

Delivered in CA cardboard box

- 1 green PVC cable 30m long

P01102173 SPARE CONTINUITY ACC.

Delivered in CA cardboard box

- 1 black PVC spiral cable 0.85m long when retracted, 3.5m when extended.
- 1 green crocodile clip with Ø4mm banana socket. 600V CAT IV 15A
- 1 black molded test probe CAT IV 600V 15A
- 1 green PVC cable 0.50m long
- 1 safety guide (20 languages)