



Master Contract: 162029 (LR 44340)
Report: 1671838
Project: 1885851

March 7, 2007

Mr. Dan Cordwell
Fluke Corp.
P.O. Box 9090
Everett, WA 98206-9090
USA

Subject: Update Report to add alternate model names AC40B and AD40B.

Dear Mr. Cordwell:

We are pleased to enclose the Certificate of Compliance and associated documentation. The Certificate verifies the new model designations comply with the applicable standards.

Please examine the enclosed documents and contact me if you have any questions or would like us to make any changes.

It is your responsibility to forward a copy of the Descriptive Report and Test Results to each factory producing this equipment.

On behalf of CSA International, I would like to thank you for your business and offer our services for your future needs.

Yours truly,

Mehrdad Sadeghieh, P. Eng.
CSA International - Vancouver

Encl. Updated Certification Records
Updated Profile of Reports
Updated Certificate of Compliance
Updated Descriptive Report and Test Results

cc: CSA International - Vancouver, Engineering
CTS - Taiwan, Inspection



Certificate of Compliance

Certificate: 1671838 (LR 44340C)

Master Contract: 162029

Project: 1885851

Date Issued: 2007/02/26

Issued to: **Fluke Corporation**
P.O. Box 9090
Everett, WA 98206-9090
USA
Attention: Mr. Dan Cordwell

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Mehrdad Sadeghieh, P. Eng.

Authorized by: Ken Rutledge, Product Group Manager

PRODUCTS

CLASS 3631 05 - ELECTRICAL MEASUREMENT AND TEST EQUIPMENT
CLASS 3631 85 - ELECTRICAL EQUIPMENT FOR MEASUREMENT USE - Certified to US Standards

Clamp meters, battery operated, CAT III, Models AC40A and AC40B, rated AC Clamp, 400 A, 600 V ac and Input Terminals 600 V ac/dc; Models AD40A and AD40B, rated AC Clamp, 400 A, 600 V ac.

Note: The above model is Equipment Class 2, Pollution Degree 2.

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



Certificate: 1671838 (LR 44340C)

Master Contract: 162029

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APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 61010.1-04 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

CAN/CSA-C22.2 No. 61010-2-32-04 - Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement

UL Std. No. 61010-1 (2nd Edition) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements

IEC 61010-2-032(2002) - Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement



Supplement to Certificate of Compliance

Certificate: 1671838

Master Contract: 162029

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

| Project | Date | Description |
|----------------|-------------|---|
| 1885851 | 2007/02/26 | Update report 1671838 to include new model names AC40B and AD40B (to be used with new tradename Amprobe). |
| 1671838 | 2005/08/26 | Clampmeters, Models AC40A/AD40A (C/US) |

MASTER CONTRACT: 162029 (LR 44340C)
REPORT: 1671838
PROJECT: 1885851

Edition 1: August 26, 2005; Project 1671838 - Vancouver
Prepared by Mehrdad Sadeghieh, P. Eng.; Issued by Stephane Poutissou, P. Eng.

Edition 2: February 26, 2007; Project 1885851 - Vancouver
Issued by Mehrdad Sadeghieh, P. Eng.

Pages Updated: All (Report Re-issued)

Contents: Certificate of Compliance - Pages 1 to 2
Supplement to Certificate of Compliance - Page 1
Description and Tests - Pages 1 to 7
Figures - Figs 1 to 8
Illustrations - Ills 1 to 3

PRODUCTS

CLASS 3631 05 - ELECTRICAL MEASUREMENT AND TEST EQUIPMENT
CLASS 3631 85 - ELECTRICAL EQUIPMENT FOR MEASUREMENT USE (Certified to U.S. Standards)

Clamp meters, battery operated, CAT III, Model AC40A **and AC40B**, rated AC Clamp, 400 A, 600 V ac and Input Terminals 600 V ac/dc; Model AD40A **and AD40B**, rated AC Clamp, 400 A, 600 V ac.

Note: The above model is Equipment Class 2, Pollution Degree 2.

CSA C22.2 No. 1010.1 (Ver 2.0) CERTIFICATION REPORT SUPPLEMENT (DESIGN MANUAL ISSUED UNDER REPORT 1146065) IS AN INTEGRAL PART OF THIS REPORT.

The test report shall not be reproduced, except in full, without the approval of CSA International.

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APPLICABLE REQUIREMENTS

- CAN/CSA-C22.2 No. 61010.1-04 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
- CAN/CSA-C22.2 No. 61010-2-32-04 - Particular Requirements for Hand-Held and Hand-Manipulated Current Sensors for Electrical Test and Measurement
- UL Std. No. 61010-1 (2nd Edition) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements
- IEC 61010-2-032(2002) - Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement

REFERENCE STANDARDS

Compliance to the following requirements was also assessed:

- IEC 61010-1, Edition 2 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
- IEC 61010-2-032, Edition 2 - Safety requirements for electrical equipment for measurement, control, and laboratory use. Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement.
- CB Bulletin OC, No 110a - Adherence to IEC Standards - National differences for IEC 61010-1, Edition 2 and IEC 61010-2-032, Edition 2.

MARKINGS

The following markings appear on the product and may be described in further detail in the Certification Report Supplement, Section C:

1. Submitter's identification (company name and/or file number and/or registered tradename);
2. Factory identifier; [if required]
3. Model designation;
4. Electrical rating;
5. Date of manufacture (or traceable serial number);
6. The CSA Monogram with C/US subscript.

DOCUMENTATION: As outlined in the Certification Report Supplement, Section D.

Documentation Includes the Following:

1. The intended use of the equipment;
2. Technical specifications;
3. Instructions for use;
4. Name and address of the manufacturer or supplier;
5. Equipment rating;
6. Identification of operating controls;
7. An explanation of safety symbols used in the equipment;
8. Instructions for replacement of consumable materials;
9. Instructions for cleaning;
10. Instructions for equipment maintenance
11. Environmental Conditions:
 - (a) Pollution degree 2;
 - (b) Installation category II or III;
 - (c) Altitude 2000 m;
 - (d) Humidity 0 to 80%;
 - (e) Electrical supply 2 x 1.5 V batteries;
 - (f) Indoor use statement;
 - (g) Temperature 0°C to 40°C.

ALTERATIONS

Markings as described above.

FACTORY TESTS

Not Applicable.

DESCRIPTION

General: Handheld, battery operated, Clamp meter.

Note: The notation "+" may be used before the component designation to denote that an alternative equivalent component (bearing the equivalent Approval Mark as applicable), may be used. Equivalent means that the component has equivalent mechanical and electrical characteristics and has no impact on the conformity of the product.

Models AC40A and AC40B:

The above two models are identical. Different model names are used with different trade names for marketing reasons.

1. Enclosure: Overall dimensions 65 mm wide by 192 mm long by 33 mm high, constructed of plastic, 2.2 mm thick minimum. The jaws are 56 mm x 73 mm x 18 mm when closed and covers the laminated steel core. 2 - 9.1 mm dia openings have been provided for input contacts.

Plastic Enclosure Material Details: ABS, 'CHI MEI Corp.', Type PA-765A, flame rating V-0 at 2.12 mm for all colours.

2. Printed Circuit Board: Glass epoxy, rated min V-1 at 1.6 mm thick, 38 mm x 110 mm. Items 3 to 6 are the main components secured to the board. Refer to schematic diagram in III-1 for the rest of the components.
3. PTC1 to 3: Approved/certified or certified equivalent, manufactured by 'Walsin Technology Corp.', Catalogue No PDT1C272H60, rated 600 V, 100°C.
4. Spark Gap (SPG1): Approved/certified or certified equivalent, manufactured by 'Success Electronic Co., Ltd.', Catalogue No 4SGR75U152A67, rated 1.5 or 2 kV.
5. Resistors:
R33 = 100 Ω
R32 = 560 k Ω
R26 = 787 k Ω
R37 = 100 Ω
R27 = 1 k Ω
R26 = 787 k Ω
6. Input Contacts: 2 provided. Plated copper alloy, 0.5 mm thick, 4.6 mm OD, 17 mm long, attached to the pc board using L bracket terminals of the same copper alloy material. The bracket is 5 mm x 12.5 mm x 11.5 mm, attached to input terminal by a rivet. Each contact is provided with a plastic cover of the same enclosure material, measuring 18.3 mm high, 6 mm OD, 0.8 mm thick.
7. Batteries: 2 x AAA non-rechargeable.
8. Battery Compartment Cover: Made of the same Enclosure material, Item-1, secured to Enclosure by a screw and threaded metal insert.

Model AD40A and AD40B:

The above two models are identical. Different model names are used with different trade names for marketing reasons. These models are similar to AC40A and AD40A, described above, except is not provided with input terminals. Following are the differences between these models and AC40A/AC40B:

7. Enclosure: Similar to Item-1 above, except no openings have been provided for input contacts.
8. Printed Circuit Board: same as Item-2 above, except for the schematic diagram and components. Refer to III-2.
9. PTC1 to 3: Not Provided
10. Spark Gap: Not Provided
11. Resistors: Refer to III-2.
12. Input Contacts: Not provided.

TESTS

Edition: 1 (Project 1671838)

The tests summarized below were conducted with satisfactory results.
 Detailed test results are on file at CSA.

Device Tested: Clamp meter, Model AC40A (Represents model AD40A)

Test Requirements: CSA C22.2 No 61010.1-04 and UL 61010-1 (2nd Edition)

Note: Checklist Location in the following table refers to the form for test results found in the CSA 1010.1 Conformance Verification Report.

| Clause | Description | Checklist Location | Compliance (Y, N, NA) | Comments |
|------------|---|--------------------|-----------------------|----------|
| 4.4 | Testing in SINGLE FAULT CONDITION | Form A.2 | Y | |
| 4.4.2.1 | PROTECTIVE IMPEDANCE | Form A.1 | N | |
| 4.4.2.2 | Protective conductor | Form A.1 | N | |
| 4.4.2.3 | Equipment or parts for short-term or intermittent operation | Form A.1 | N | |
| 4.4.2.4 | Motors | Form A.1 | N | |
| 4.4.2.5 | Capacitors | Form A.1 | N | |
| 4.4.2.6 | Mains transformers | Form A.1/29/30 | N | |
| 4.4.2.6.1 | Short circuit | Form A.29 | N | |
| 4.4.2.7 | Outputs | Form A.1 | N | |
| 4.4.2.8 | Equipment for more than one supply | Form A.1 | N | |
| 4.4.2.9 | Cooling | Form A.1 | N | |
| 4.4.2.10 | Heating devices | Form A.1 | N | |
| 4.4.2.11 | Insulation between circuits and parts | Form A.1 | N | |
| 4.4.2.12 | Interlocks | Form A.1 | N | |
| 4.4.4.1 b) | Conformity after application of fault conditions | Form A.14 | Y | |
| 5.3 | Durability of Markings | Form A.4 | Y | |
| 5.1.3 | Mains Supply | Form A.3 | N | |
| 6 | Protection Against Electric Shock | Form A.5 | Y | |
| 6.2 | Determination of ACCESSIBLE PARTS | Form A.6 | Y | |
| 6.3.1 | Values in Normal Condition | Form A.7 | Y | |
| 6.3.2 | Values in SINGLE FAULT CONDITION | Form A.8 | Y | |
| 6.4 | Protection in NORMAL CONDITION | Form A.14 | Y | |
| 6.5.1.1 | Cross-sectional area of bonding conductors | Form A.9 | N | |
| 6.5.1.2 | Tighting torque test | | N | |

| Clause | Description | Checklist Location | Compliance (Y, N, NA) | Comments |
|------------|---|--------------------|-----------------------|----------|
| 6.5.1.3 | Bonding impedance of plug connected equipment | Form A.10 | N | |
| 6.5.1.4 | Bonding impedance of PERMANENTLY CONNECTED EQUIPMENT | | N | |
| 6.5.1.5 | Indirect bonding for measuring and test equipment | Form A.11 | N | |
| 6.5.2 | DOUBLE INSULATION and REINFORCED INSULATION | Form A.14 | Y | |
| 6.5.3 | PROTECTIVE IMPEDANCE | Form A.12 | N | |
| 6.6.1 | Connections to external circuits | Form A.14 | N | |
| 6.6.2 | Terminals for external circuit - | Form A.7 | N | |
| 6.7 | CLEARANCES and CREEPAGE DISTANCES | Form A.13 | Y | |
| 6.8 | Dielectric Strength Tests | Form A.14 | Y | |
| 6.9.101 | Insulation Requirement for Jaws.... | | Y | |
| 6.10.2 | Cord Anchorage | Form A.15 | N | |
| 6.10.2.5 | Fitting of non-detachable MAINS SUPPLY cords | Form A.14 | N | |
| 6.10.3 c) | Plugs and connections | Form A.7 | N | |
| 6.7.3.1 c) | CLEARANCE values – General: reduced CLEARANCES for homogeneous construction | Form A.14 | N | |
| 8 | Mechanical resistance to shock and impact | Form A.13/14/23 | Y | |
| 9 | Protection against the spread of fire | Form A.16 | P | |
| 9.1 a) 2) | Eliminating or reducing the sources of ignition within the equipment | Form A.14 | N | |
| 9.2.1 | Constructional requirements | Form A.17 | P | |
| 9.3 | Limited-energy circuit | Form A.14/18 | N | |
| 9.4 | Requirements for equipment containing or using flammable liquids | Form A.19 | N | |
| 10 | Temperature Measurements | Form A.20A | P | |
| 10.2 | Temperature of windings Resistance method Temperature Measurements | Form A.20B | N | |
| 10.5.1 | Integrity of CLEARANCES and CREEPAGE DISTANCES | Form A.13 | Y | |
| 10.5.2 | Resistance to heat of non-metallic enclosures | Form A.21 | Y | |
| 10.5.3 | Insulating Materials | Form A.22 | N | |
| 10.5.3 a) | Ballpressure test | Form A.22 | N | |
| 11 | Protection against hazards from fluids | Form A.23 | N | |
| 11.2 | Cleaning and decontamination | Form A.7/14 | P | |
| 11.3 | Spillage | Form A.7/14 | N | |

| Clause | Description | Checklist Location | Compliance (Y, N, NA) | Comments |
|--------|--|--------------------|-----------------------|----------|
| 11.4 | Overflow | Form A.7/14 | N | |
| 11.6 | Specially protected equipment | Form A.14 | N | |
| 11.7.2 | Leakage and rupture at high pressure | Form A.24 | N | |
| 11.7.3 | Leakage from low-pressure parts | Form A.24 | N | |
| 12.2.1 | Ionizing radiation | Form A.25 | N | |
| 12.5.1 | Sound level | Form A.26 | N | |
| 12.5.2 | Ultrasonic pressure | | N | |
| 13.2.2 | Batteries | Form A.27 | P | |
| 14.3 | Overtemperature protection devices | Form A.28 | N | |
| 14.7.1 | Mains transformers tested outside equipment | Form A.29 | N | |
| 14.7.2 | Mains transformers overload tests | Form A.30 | N | |
| 16.1 | Current measuring circuits | Form A.31 | N | |
| 16.2 | Multifunctional meters and similar equipment | Form A.32 | P | |

Edition: 2 (Project 1885851)

Update Report to add new model names AC40B and AD40B. No tests were required.

