

TEST REPORT FOR THE PATTERN AND CONSTRUCTION OF ELECTRICITY METERS

MANUFACTURER : *Schneider Electric*

TYPE : *ION7400*

MODEL : *METSEION7400*

CLASS : *0.2s (kWh) & 2(kvarh)*

DESCRIPTION : *Polyphase, Active Import/Export (kWh), Reactive Import/Export (kvarh), Transformer Operated, Electricity Meter with Auxiliary Power Supply*

Tested in accordance with IEC 62052-11: 2003, Electricity metering equipment (AC) – General requirements, tests and test conditions - Part 11: Metering equipment

and IEC 62053-22: 2003, Electricity metering equipment (AC) – Particular requirements Part 22: Static meters for active energy (classes 0.2s and 0.5s).

and IEC 62053-23: 2003, Electricity metering equipment (AC) – Particular requirements Part 23: Static meters for reactive energy (classes 2 & 3).

and IEC 61326-1: 2013, Electrical equipment for measurement, control and laboratory use – EMC requirements, clause 6.1

The meters tested satisfied the required specification.

ISSUED BY:



K. Hunter
Test Engineer

CHECKED BY:



R. Jackson
Metering Manager

REPORT ISSUE DATE: 28th June 2016

ISSUE No.: 1

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Tests marked * are not covered under our UKAS scope.



CONTENTS

INTRODUCTION

INFORMATION OF THE ELECTRICITY METER TESTED

SUMMARY OF TEST RESULTS

GENERAL REQUIREMENTS

- 1 INSULATION
 - 1.1 Impulse Voltage Test
 - 1.2 AC Voltage Test
- 2 ACCURACY REQUIREMENTS
 - 2.1 Meter Constant
 - 2.2 Starting Conditions
 - 2.3 Running with no load
 - 2.4 Influence of ambient temperature
 - 2.5 Influence Quantities -
 - 2.5.1 Current Variation
 - 2.5.2 Voltage Variation
 - 2.5.3 Frequency Variation
 - 2.5.4 Reverse Phase Sequence
 - 2.5.5 Voltage Unbalance
 - 2.5.6 Continuous Magnetic Induction
 - 2.5.7 Magnetic Induction of 0.5mT
 - 2.5.8 Auxiliary Power Supply Voltage Variation
 - 2.6 Accuracy test in the Presence of Harmonics
 - 2.6.1 Harmonic Components in the Current and Voltage Circuits
 - 2.6.2 Influence of Odd and Sub Harmonics in the AC Current Circuit
- 3 ELECTRICAL REQUIREMENTS
 - 3.1 Power Consumption
 - 3.2 Influence of Supply Voltage - Interruptions and Dips.
 - 3.3 Influence of Short-Time Over-currents
 - 3.4 Influence of Self Heating
 - 3.5 Influence of Heating
- 4 ELECTROMAGNETIC COMPATIBILITY (EMC)
 - 4.1 Immunity to Electrostatic Discharges
 - 4.2 Immunity to Electromagnetic HF Fields
 - 4.3 Fast Transient Burst Test
 - 4.4 Immunity to Conducted Disturbances
 - 4.5 Surge Immunity
 - 4.6 Immunity to Damped Oscillatory Waves



- 5 CLIMATIC INFLUENCES
 - 5.1 Dry Heat Test
 - 5.2 Cold Test
 - 5.3 Damp Heat Cyclic Test
- 6 MECHANICAL REQUIREMENTS
 - 6.1 Spring Hammer
 - 6.2 Shock
 - 6.3 Vibration
 - 6.4 Resistance to Heat & Fire
 - 6.5 Penetration of Dust & Water

DEVIATIONS OR EXCLUSIONS FROM THE TEST SPECIFICATION

- ANNEX A Radiated Immunity Test (0.08-2GHz) – Graphical plots of results
- ANNEX B Radiated Immunity Test (2-2.7GHz) – Graphical plots of results
- ANNEX C Conducted Immunity Test – Graphical plots of results
- ANNEX D Photographs of Meter Under Test



INTRODUCTION

The type tests described were carried out in the SGS (Durham) measurement laboratory on behalf of:

CLIENT DETAILS: Schneider Electric
2195 Keating Cross Road
Saanichton
British Columbia
V8M 2A5
Canada

ORDER No's: 141984, 143542, 144231, 144272

APPLICATION RECEIVED DATE: 6th November 2015

DATE OF RECEIPT OF SAMPLES: 6th November 2015

DATE OF TESTS: 6th November 2015 to 7th June 2016

In the cases where no or only limited tests have been conducted on the submitted samples, tests carried out during previous OFGEM approval (or by other accredited bodies) on meters of similar construction and designs have been taken to confirm that the meter satisfies the requirements of the relevant standard. See supporting documentation for reference.

Conditions under which the type tests took place:

Unless otherwise stated, the meters were examined at an ambient temperature of $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$, and after the voltage circuits had been connected to reference voltage for at least 1 hour.

Unless otherwise stated, Polyphase tests were tested with a standard phase sequence of L1-L2-L3 (corresponding to the Red, Yellow & Blue phases).

The tests were conducted using equipment, traceable to National and International Standards.



INFORMATION ON THE ELECTRICITY METERS TESTED

| | | |
|-------------------------------|---|--|
| Manufacturer | : | <i>Schneider Electric</i> |
| Type | : | <i>ION7400</i> |
| Model | : | <i>METSEION7400</i> |
| Class | : | <i>0.2s (kWh) & 2(kvarh)</i> |
| Type of circuit | : | <i>3 phase 4 wire</i> |
| No. of Elements | : | <i>3</i> |
| Rated Current (In) | : | <i>1A & 5A</i> |
| Maximum Current (Im) | : | <i>10A</i> |
| Reference Supply Voltage (Un) | : | <i>3x57.7/100V- 3x277/480V</i> |
| Auxiliary Voltage (Ux) | : | <i>90-415V</i> |
| Rated Frequency | : | <i>50Hz, 60Hz</i> |
| Pulse output constant | : | <i>Programmable</i> |
| Manufacturers Serial No's | : | <i>MR-1510A859-00, MR-1510A861-00, MR-1510A856-00,</i> |



SUMMARY OF TEST RESULTS

IEC 62052-11: 2003 General Requirements:

| IEC 62052-11 Clause | Test | Performed | Result |
|---------------------|--------------------------------------|-----------|----------|
| 5.2.2.1 | Spring hammer | Yes | Complied |
| 5.2.2.2 | Shock | Yes | Complied |
| 5.2.2.3 | Vibration | Yes | Complied |
| 5.8 | Resistance to heat and fire | Yes | Complied |
| 5.9 | Penetration of dust and water | Yes | Complied |
| 6.3.1 | Dry heat | Yes | Complied |
| 6.3.2 | Cold | Yes | Complied |
| 6.3.3 | Damp heat cyclic | Yes | Complied |
| 6.3.4 | Solar radiation | N/A | N/A |
| 7.1.2 | Voltage dips and short interruptions | Yes | Complied |
| 7.2 | Influence of heating | Yes | Complied |
| 7.3.2 | Impulse voltage | Yes | Complied |
| 7.5.2 | Electrostatic discharge immunity | Yes | Complied |
| 7.5.3 | Radiated immunity | Yes | Complied |
| 7.5.4 | Fast transient bursts immunity | Yes | Complied |
| 7.5.5 | Conducted immunity | Yes | Complied |
| 7.5.6 | Surge immunity | Yes | Complied |
| 7.5.7 | Damped oscillatory waves immunity | Yes | Complied |
| 7.5.8 | Radio interference suppression | No* | - |

IEC 62053-22: 2003 Particular Requirements:

| IEC 62053-22 Clause | Test | Performed | Result |
|---------------------|--|-----------|----------|
| 7.1 | Power consumption | Yes | Complied |
| 7.2 | Influence of short-time over-currents | Yes | Complied |
| 7.3 | Influence of self-heating | Yes | Complied |
| 7.3.3 | AC voltage | Yes | Complied |
| 8.1 | Current variation | Yes | Complied |
| 8.2 | Variation of error due to voltage variation | Yes | Complied |
| 8.2 | Variation of error due to frequency variation | Yes | Complied |
| 8.2 | Reverse Phase Sequence | Yes | Complied |
| 8.2 | Voltage Unbalance | Yes | Complied |
| 8.2 | Operation of accessories | N/A | N/A |
| 8.2 | Auxiliary voltage variation | Yes | Complied |
| 8.2 | Variation of error due to temperature variation | Yes | Complied |
| 8.2 | Variation of error due to harmonics | Yes | Complied |
| 8.2 | Sub-harmonics in the AC circuit | Yes | Complied |
| 8.2 | Continuous magnetic induction of external origin | Yes | Complied |
| 8.2 | Magnetic induction of external origin (0.5mT) | Yes | Complied |
| 8.3 | Starting and no-load condition | Yes | Complied |
| 8.4 | Meter constant | Yes | Complied |

No*: Tests performed at Labtest Certification Inc Report No: 13180-1E Issued: 14th December 2015



SUMMARY OF TEST RESULTS (cont.)

IEC 62053-23: 2003 Particular Requirements:

| IEC 62053-23 Clause | Test | Performed | Result |
|---------------------|--|-----------|----------|
| 7.1 | Power consumption | No | - |
| 7.2 | Influence of short-time overcurrents | No | - |
| 7.3 | Influence of self-heating | No | - |
| 7.4 | AC voltage | No | - |
| 8.1 | Current variation | Yes | Complied |
| 8.2 | Variation of error due to voltage variation | Yes | Complied |
| 8.2 | Variation of error due to frequency variation | Yes | Complied |
| 8.2 | Operation of accessories | No | - |
| 8.2 | Variation of error due to temperature variation | No | - |
| 8.2 | DC Component in the current circuit | No | - |
| 8.2 | Continuous magnetic induction of external origin | No | - |
| 8.2 | Magnetic induction of external origin (0.5mT) | No | - |
| 8.3 | Starting and no-load condition | Yes | Complied |
| 8.4 | Meter constant | Yes | Complied |

IEC 61326-1: 2013 Electrical equipment for measurement, control and laboratory use – EMC requirements:

| IEC 61326-1 Clause | Test | Performed | Result |
|--------------------|------------------------------------|-----------|----------|
| 6.1 | Radiated Immunity, 1V/m , 2-2.7GHz | Yes | Complied |