REPORT

For

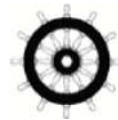## Schneider Electric

2195 Keating Cross Road
Saanichton, British Columbia
V8M 2A5, Canada

Date: September 09, 2014
Report No.:   12236-1E
Revision No.: 0
Project No.:   12236
Equipment: Digital Power Meter
Model No.:   ION 7650

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DCN: 1034, Rev 4

TEST REPORT

EN 55022

Report reference No......................:	12236-1E
Report Revision History:	✓ Rev. 0: September 09, 2014
Tested by (printed name and signature) ....:	Jeremy LEE
Approved by (printed name and signature) ....:	Kavinder Dhillon, Eng.L.
Date of issue ....:	September 09, 2014

Note: By signing this report, both the Testing Technician and the Reviewer hereby declare to abide by the applicable LabTest policies:
1.) Statement of Independence # 3014 (LabTest Employees),
2.) Independence, Impartiality, and Integrity #1039, clause 11 (Engineering Service Subcontractors), or

3.) Independence, Impartiality, and Integrity #1019, clause 3.5 (Testing Subcontractors).

Testing Laboratory Name ....:	LabTest Certification Inc.
Address ....:	3133 – 20800 Westminster Hwy, Richmond, B.C. V6V-2W3
Test Location Name ....:	Same as Test Laboratory
Address ....:	Same as Test Laboratory
Applicant's Name ....:	Schneider Electric
Address ....:	2195 Keating Cross Road, Saanichton, B.C. V8M 2A5, Canada
Type of Test ....:	**EMC Directive 2004/108/EC**
Standards Emissions ....:	➢ EN 55022:2010/AC:2011, Class B
Standards Immunity ....:	➢ N/A
Test item description ....:	EMC
Trademark ....:	None
Manufacturer ....:	Same as Applicant
Model and/or type reference ....:	ION 7560
Serial numbers ....:	MJ-1409A746-04
Rating(s)..:	230VAC, 50Hz, Single Phase

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Particulars: test item vs. test requirements	
Equipment mobility .... :	No
Operating condition .... :	-20 to 70 °C
Mass of equipment (kg).............................. :	2.0
Dimension(Width X Depth X Height)	190.5mm X 177.8mm X 152.4 mm
Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement .... :	Pass
Test item does not meet the requirement .. :	Fail
Testing	
Date of receipt of test item .... :	September 04, 2014
Date(s) of performance of test .... :	September 04 & 05, 2014

General remarks

The test result presented in this report relate only to the object(s) tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.
☐ Throughout this report a comma is used as the decimal separator.
☒ Throughout this report a period is used as the decimal separator.

General product information:

PowerLogic ION 7650 Digital Power Meter
Model: ION 7650
Order Number: M7650B1C0B5F1N0A
Function: Intelligent Metering and Control Device
Power: 85-240 VAC, 50/60 Hz

Measures Electrical Power and Energy.
Measurements are displayed or available for reading by multiple communication media(ex. Serial, Ethernet, IR and etc.)
Monitors and controls digital and analog inputs.
Meter is a black "cube" with a front panel display.

Frequencies

Module	Signal	Frequencies (MHz)
CPU Board	FPGA and DSP Oscillator	25
CPU Board	FPGA	100
CPU Board	DSP Memory bus(SYSCLK3)	100
CPU Board	DSP core clock(SYSCLK1)	166
CPU Board	DSP some other clock(SYSCLK2)	83
CPU Board	PPC core clock	66
CPU Board	PPC bus clock	33
CPU/Display Board	PPC display clock	2.75
Comms Card	Oscilator for Ethernet switch	25
IO Card	PIC Clock	10

List of ancillary and/or support equipment provided by the applicant

Model No.	Description	Manufacturer	Approvals/Standards
Voltage Loads	Provides 120VAC to measurement inputs	Schneider	N/A
Current Loads	Provides 1A or 5A Current	Schneider	N/A
COM128	RS485 to RS232 Converter	Schneider	CE
Laptop	Excercise EUT Comms during test	Dell	CE

EUT Configuration as Tested

Order Number: M7650B1C0B5F1N0A
- **ION7650, With Ethernet/Serial COMM Card**
- **Also with Analog/Digital I/O Card, Model P760AE**

Module Name	Revision
CPU Board	14000-0175-220
Comm Card	14000-0150-110A
IO Card	14000-0232-110B
Power Supply	14000-0174-110C
Display	14000-0177-230A
LCD Panel	EW51000BMW

Description of Interface Cables for Testing

Connected port	Cable Type	Cable length	Ferrite
Digital Outputs (Main Board)	4x2 Wire 2k Terminated	2 m	No
Digital Inputs (Main Board)	8x1 Wire + 1Wire(com) 1k Terminated	2 m	No
Digital Inputs (IO Card)	8x1 Wire + 1Wire(com) 1k Terminated	2 m	No
Analog Outputs (IO Card)	4x2 Wire 1k Terminated	2 m	No
Analog Inputs (IO Card)	4x2 Wire 500R Terminated	2 m	No
Power Cord	120V/60Hz	1.5m	No
Safety Ground Terminal	1 Wire, 16 Gauge Connected to Ground Plane	1m	No
V_1, V_2, V_3,Vref	4x16 AWG, 120/230VAC Load	1m above plane 3m below plane	No
I1,I2,I3,I4	8x16 AWG, 1 A Load	1m above plane 3m below plane	No
Ethernet	Unshielded Ethernet to Laptop	1m above plane 5m below plane	No
RS232	Shielded RS232 Cable to Laptop	1m above plane 5m below plane	No
RS-485 (Comm Card)	Shielded To Com32 RS485 to RS232 Converter to Laptop	1m above plane 5m below plane	No

ARRANGEMENT OF INTERFACE CABLES: All the above equipment/interface cables were placed in worst case positions to maximize emission signals during emission test. (please reference photographs).

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

Software and Firmware

Description	Version
PM8000 Meter Firmware	R2

Worst-case configuration and mode of operation during testing

Support Laptop running ION Setup Software used to constantly communicate with EUT and poll data. The running communications are:

- Ethernet 1: Laptop to EUT. Real-time Screens data poll.
- RS232: Laptop to EUT. Real-time Screens data pool
- RS-485: Laptop to RS485/232 Converter (COM128) to EUT. Real-time Screens data poll.

All Voltage and Currents connected by support equipment. 120V and 1A single phase.

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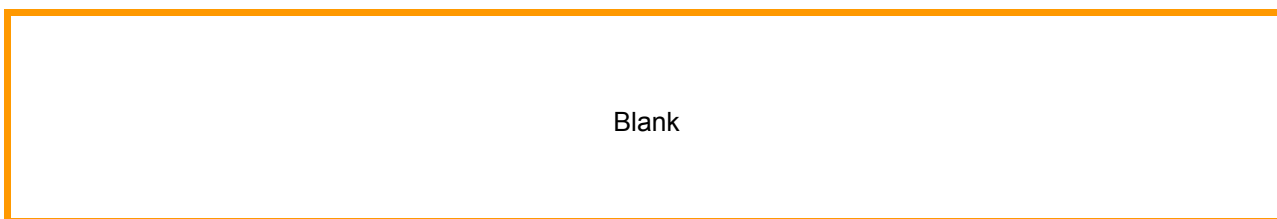
Modifications Required for Compliance

None.

Measurement Uncertainty

Where relevant, the folllowing measurement uncertainty levels have been estimated for tests:

Parameter	Uncertainty(dB)
Radiated Emission, 30 to 1,000MHz	4.67
Conducted Measurements	3.59

Uncertainty figures are valid to a confidence level of 95%.

Markings

Blank

Test Summary

When configured and operated as specified in this report, the product was found to comply with the requirements as indicated below.

Test Standard	Test	Comment
Emissions		
EN 55022	Conducted Emissions, Class B	Pass
EN 55022	Radiated Emissions, Class B	Pass

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