

2078649-QUA/CAL 05-1073A

Type test of a static transformer operated three phase energy meter, made by Power Measurement Ltd., types ION 7550 and ION 7650, class 0,2S

Arnhem, 17 June 2005

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By order of Power Measurement Ltd., Canada

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SUMMARY

The transformer operated static energy meters made by Power Measurement Ltd. types ION 7550 and ION 7650, class 0,2S were tested according to the requirements laid down in:

- IEC 62053-22 (2003): "Electricity metering equipment (a.c.) - Static meters for active energy (classes 0,2S and 0,5S)", (requirements for indoor use)
- IEC 62053-21 (2003): "Electricity metering equipment (a.c.) - Static meters for active energy (classes 1 and 2)", (requirements for indoor use)
- IEC 62053-23 (2003): "Electricity metering equipment (a.c.) - Static meters for reactive energy (classes 2 and 3)", (requirements for indoor use)

EMC tests are not carried out only with the communication module described as follows:

Standard Comms: 1xRS232/RS485 port (COM1), 1xRS485 port (COM2)

All requirements are met.

1 **INTRODUCTION**

The type test was carried out in the Calibration Laboratory of KEMA, from November 2004 to March 2005, on behalf of Power Measurement Limited, on the static three-phase four-wire energy meters type ION 7550 and ION 7650, made by Power Measurement Ltd., class 0,2S.

The energy meters were tested in respect of the following requirements:

- IEC 62053-22 (2003): "Electricity metering equipment (a.c.) - Static meters for active energy (classes 0,2S and 0,5S)", (requirements for indoor use)
- IEC 62053-21 (2003): "Electricity metering equipment (a.c.) - Static meters for active energy (classes 1 and 2)", (requirements for indoor use)
- IEC 62053-23 (2003): "Electricity metering equipment (a.c.) - Static meters for reactive energy (classes 2 and 3)", (requirements for indoor use)

2 **DATA RELATING TO THE ENERGY METERS TESTED AND MARKINGS**

Manufacturer : Power Measurement Ltd.
 Type : ION 7550 and ION 7650
 Class : 0,2S
 Other specifications : See table below

Serial No.	Type	System	Voltage (V)	Current (A)		
				In(I _{max})	f (Hz)	version
PI-0501A022-01	ION 7550	4 wire	57-347	1(10)	50/60	INTG
PJ-0409A001-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG
PJ-0409A002-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG
PJ-0409A003-01	ION 7650	4 wire	57-347	1(10)	50/60	INTG
PJ-0409A005-01	ION 7650	4 wire	57-347	1(10)	50/60	INTG
PJ-0409A006-01	ION 7650	4 wire	57-347	5(20)	50/60	TRAN
PJ-0409A007-01	ION 7650	4 wire	57-347	5(20)	50/60	TRAN
PJ-0409A008-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG
PJ-0409A009-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG
PJ-0409A010-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG
PJ-0409A011-01	ION 7650	4 wire	57-347	5(20)	50/60	INTG

The reference type for the typetest was the ION 7650. The tests on the other type is based on the difference to this reference type.

The EMC tests were carried out only with the following communication module:
 Standard Comms: 1xRS232/RS485 port (COM1), 1xRS485 port (COM2)

The tests were carried out in conformity with IEC 62053-22 using a static energy standard. The precisely known corrections of the standard were taken into account in determining the errors of the energy meters examined.