



Three Phase Compact Smart Meter Calibration Report

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Issued date : 2018/06/04

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Calibration Report

Applicant : ICP DAS Co.,Ltd.

Issued Date : 2018/06/04

Address : No. 111, Guangfu N. Rd., Hukou Township,
Hsinchu County 30351, Taiwan, (R.O.C.)

Calibration Date : 2018/05/24

Equipment : Power Meter

Temperature : 23 ± 2°C

Manufacturer : ICP DAS

Humidity : 50 ± 10%

Model No. : PM-3133-160

Procedure : 60I-07-1818,60I-07-1819,60I-07-1811

Serial No. : PM3133BCR0kuJBR00005

Remark : 1. Calibration items with the external current transformer(CT1,CT2,CT3) which Manufacturing number are the same as serial No. of the equipment).

2. The reading was obtained from the RS485 communication interface of the calibration product and the computer software(ICP DAS PM-3133 ver1.17) of the manufacturer.

Calibration Standard :

Equipment	Manufacturer / Model No.	I.D. Number	Cal. Source / Cal. Date/ Report No/Cycle
Three-Phase Watt/Var.	RADIAN/RD-30-211	300130	TERTEC / 107.03.16 / EC1070012 /1 year
Multifunction calibration	FLUKE/5500A	6670008	Pink Technology / 2017.08.15/P708046-C/1 year

一、 Calibration Item & Result :

1. AC Voltage (50Hz)

Item	Standard (V)	Reading (V)	Error(%)
A Phase	220.0000	220.0276	0.01
B Phase	220.0000	220.0164	0.01
C Phase	220.0000	220.0216	0.01

2. AC Current (60Hz)

Item	Standard (A)	Reading (A)	Error(%)
A Phase	5.0000	4.9985	-0.03
B Phase	5.0000	4.9924	-0.15
C Phase	5.0000	5.0012	0.02

3. AC Current (50Hz)

Item	Standard (A)	Reading (A)	Error(%)
A Phase	50.0000	50.0219	0.04
B Phase	50.0000	49.9796	-0.04
C Phase	50.0000	50.0445	0.09

The Report Issued by : *Bang-Yenn Lai*

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60T-07-1803B



Calibration Report

4. AC Watt (60Hz)

Item	Setting			Standard(kW)	Reading(kW)	Error(%)
	Voltage(V)	Current (A)	P.F			
A Phase	220	50	1.0	11.0000	11.0041	0.04
B Phase	220	50	1.0	11.0000	10.9888	-0.10
C Phase	220	50	1.0	11.0000	11.0057	0.05

5. Power Factor (50Hz)

Item	Input Voltage (V)	Standard (A)	Reading (A)	Error(%)
A Phase	220V × 50A	1.0000	1.0000	0
B Phase	220V × 50A	1.0000	1.0000	0
C Phase	220V × 50A	1.0000	1.0000	0
A Phase	220V × 50A(Lag)	0.5000	0.4986	-0.28
B Phase	220V × 50A(Lag)	0.5000	0.4986	-0.28
C Phase	220V × 50A(Lag)	0.5000	0.5083	1.66

6. Power Factor (60Hz)

Item	Input Voltage (V)	Standard (A)	Reading (A)	Error(%)
A Phase	110V × 50A	1.0000	0.9997	-0.03
B Phase	110V × 50A	1.0000	1.0000	0
C Phase	110V × 50A	1.0000	1.0000	0
A Phase	110V × 50A(Lag)	0.5000	0.5079	1.58
B Phase	110V × 50A(Lag)	0.5000	0.5047	0.94
C Phase	110V × 50A(Lag)	0.5000	0.5078	1.56

二、Instruction :

1. Calibration method is refer to the laboratory Watt calibration instructions, It uses adjustable Multi-Function Standard to calculate error (%).
2. Calibration method is refer to the laboratory AC current calibration instructions, use stable AC power to source to calculate error (%).
3. $Error(\%) = ((EUUT - ESTD) / ESTD) \times 100\%$.
4. The use of standard calibration devices is traced back to National Measurement Laboratory(Report No.. E170502A, traceable data 2017-08-29, calibration cycle is 1 year) and Pink Technology Co. Ltd (Report No. P708046-C, traceable data 2017-08-15, calibration cycle is 1 year).