HC3600 Precision AC Power Reference Standard

TAIWAN EXCELLENCE 2019

Features

Precision with auto range measurements

Voltages	*0.01% reading*
Currents	*0.01% reading*
Powers and energies	
Current direct in	*0.02% reading*
Clamp (CT Φ8S)	*0.05% reading*

Standard current inputs

Direct in	*0.001-12A*
Clamp CT Φ8S	*0.01-12A*

Optional current inputs

Clamp CT Φ20P	*10mA-200A*
Clamp CT Φ50P	*10-1000A*
Rogowski Coil	*20-3000A*
HV Wireless Clamp	*1200A Max.*



Field test can be powered by power bank

Fast trace port calibration assuring long-term stability

Power qualities analysis

- *Real –fundamental-distorted power energy measurements*
- *Power harmonic analysis 1-100 th*

CT Ratio and CT PT burden Tests

Potable IP67 water protective enclosure

IPC 10” Display with Touch-screen

2 Years warranty





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Specifications

Standard Inputs

Model	*3600*			
Input mode	*Direct*	*Direct*	*Clamp-CTΦ8S*	*CTΦ8S❷❺*
	Uncertainty	*Range*	*Uncertainty*	*Range*
Frequency	*60ppm*	*45-65Hz*		
Voltage	*100ppm*	*30-500V*		
	100ppm❹	*1-30V*		
Currents	*100ppm*	*0.05-12A*	*500ppm*	*0.1-12A*
	100ppm❹	*0.01-0.05A*	*500ppm❹*	*0.1-12A*
Powers-energies	*30-500V*		*30-500V*	
	150ppm±0.0015°	*0.06-12A*	*500ppm±0.005°*	*0.1-12A*
	150ppm ±0.002°❹	*0.02-0.06A*	*500ppm ±0.005°❹*	*0.02-0.1A*
PF-Phase angle	*0.003°*	*0.05-12A*	*0.01°*	*0.1-12A*

Optional inputs

Clamps❷❺	*CTΦ20P*		*CTΦ50P*	
	Uncertainty	*Range*	*Uncertainty*	*Range*
Currents	*0.2%*	*2-200A*	*0.3%*	*30-1000A*
	0.2%❹	*0.1-1A*	*0.3%❹*	*10-30A*
Powers-Energies	*0.2% ±0.05°*	*2-200A*	*0.3% ±0.07°*	*50-1000A*
	0.2% ±0.05°❹	*0.5-2A*	*0.3% ±0.07°❹*	*10-50A*
PF-Phase angle	*±0.05°*	*2-200A*	*±0.07°*	*50-1000A*

Rogowski coil ❻ ❾	*RC3000*		
	Uncertainty	*Range*	*Center position*
Current	*0.6-1.2%*	*50-3000A*	*30-50mm C.P*
Powers-Energies	*0.6-1.2% ±0.05°*	*50-3000A*	*30-50mm C.P*
PF-Phase angle	*>50A*	*±0.05°*	

Wireless CT	*HV Clip-on CT (Three range options)*		*Bottom position*	
	Uncertainty Fs	*HV 1200A*	*HV 600A*	*HV 50A*
Current	*1%*	*50-240A*	*20-240A*	*1-50A*
	2%	*240-400A*	*240-400A*	
	3%	*400-1200A*	*400-600A*	
PF-Phase angle	*>measure range*	*±1.5°*		

Stability	*3600*	
Temperature (-10-40°C)	*Direct*	*Clamps*
V-I	*3ppm /°C*	*5ppm /°C*
P-E	*6ppm / °C*	*12ppm / °C*

Drifts/year	*Direct*
Fast calibration/3month	
V-I	*20ppm/year*
P-E	*40ppm/year*
No calibration	
V-I	*40ppm/year*
P-E	*80ppm/year*

Notes

❶ Safety operation ground (FG) essentially required
❷ CT measurement under proper space compensators
❸ Pf range P for cosQ and Q for sinQ
❹ Relative uncertainty versus final value of test range
❺ No external magnetic and electrical field
❻ CTΦ8S precision measurement referring F1 page 10-11
❼ CTΦ8S probe versus S side connectors and CTΦ20P/ CTΦ50P probe versus P side connectors
❽ In integrating conversion Q QE only for fundamental and in standard FFT mode Q QE for real power conversion
❾ Rogowski coil test only for fundamental in integrating mode and in standard FFT mode Q QE for real power conversion

Ratio and burden test

CT ratio test

Test mode	*3Phase synchronized*		
	P-CTΦ50P/ S-CTΦ8S	*0.2%*	*model A*
	P-CTΦ50P/ S-Direct	*0.15%*	*model B*
Ratio ranges	*1-200 of 1000/5*		
	1-1000 of 1000/1		
Test ranges	*I >5% rating*		

CT burden test	*3Phase synchronized*		*PT burden test*	*3Phase synchronized*	
	Burden 0.01-5V	*0.2%*		*Load current >10mA*	*0.2%*
	Phase detection	*±0.05°*		*Phase detection*	*±0.03°*

Power qualities

Option functions *Test functions F1-F5 and F9*
Harmonics and inter-harmonics 1-100th current test ranges
Voltage Flickers-PST/unbalance/dips and swells
Vector distribution and wave captures

EMC

IEC 61326-1

Safety

Isolation protection	*IEC 61010**
Category	*600V CAT III*
Vibration	*IEC60068-2-6*
Shock	*IEC60068-2-27*
Protection degree	*IP67*

General

Operation	*Temperature -10-45°C, Humidity 10-90%*
non-condensed	
Storage	*Temperature- 0 to 45°C humidity 10-90%*
non-condensed	
Power supply	*AC 90-240V 40VA or DC12V 25Watts*
Enclosure	*IP67 potable-water protective*
Dimension	*Size 42.4cm x 34.0cm x 17.3cm Weight less*
*10kg**	

Accessories

Standard

TB1 1 x Tool- box of 44.2 cm x 35.7cm x 11.7 cm		CT1 3 x CTΦ8S probes – input range 0-12A		LW5 3 x Test probes for direct current input test	
LM5 1 x CT correction test probe		VP 1 x Voltage test probe(4x Voltage test probe conductors)		DPB 1 x DC power bank 20000mAH	
PBC 1 x Power bank charger with AC input power cord		DPA 1 x DC power adaptor with ac power cord		EPC 2 x 5 pins Energy I/port test connector	

Optional

OPS 1 x Optical sensor		CT2P 3 x CTΦ20P Probes-input range 0-200A with tool box TB1		CT3P 3 x CTΦ50P Probes-input range 0-1000A with tool box TB2	
RCP 3 x Rogowski coil Probes-input range 0-3000A		DPB 1 X Extension Power bank 20000mAH Li-cell		EPC 1 X Energy I/O port test connector	
TB1 1 X Tool- box 44.2 cm x 35.7cm x 11.7cm		TB2 1 X Tool- box 44.2 cm x 35.7cm x 15.1cm		TB3 1 X Rolling Case 57.9 cm x 46.5 cm x 29.7 cm	