



GDYM-3F Portable Multi-functional Energy Meter Calibrator



Product Description

GDYM-3F Electric Energy Meter Calibrator is multi-parameter measuring instrument which is full digital, multi-function and high precision. It is not only enable to calibrating the error, but also to measure voltage, current effective value, active power, reactive power, apparent power, power frequency, power factor, phase relationship, etc. It is especially suitable for calibrating the measurement accuracy of 3-phase electric energy meter in the power supply unit.

Features

- Synchronously calculate all parameters and display on the interface include full wave, fundamental wave and harmonic wave as the same time show U,

I, P, Q, VA, phase angle about full wave and fundamental wave as well as the harmonic synthesis of I, U, P, Q, VA and its percentage, the content of U, I positive sequence, negative sequence, zero sequence and harmonics of PH+, PH-, PH+/Pf%, PH-/Pf%, full wave PF, fundamental wave PF, harmonic wave PF.

- Inspection method include 7 kinds of ways of full wave active, full wave reactive power, full wave apparent, fundamental wave active, fundamental wave reactive power, fundamental wave apparent and harmonic wave, which can check the active power accuracy of full wave meter, fundamental meter, harmonic wave meter and the reactive power accuracy of full wave and harmonic wave meter, also can check the apparent accuracy of electrical energy meter.
- Optional arbitrary one or more harmonic to calculate the harmonic compound of U, I, P, Q, VA and its percentage as well as harmonic wave active power of electric energy.
- Simultaneously single analysis component and measure value of each time U, I, P, Q, VA of three-phase harmonic wave and display its 51 times +PH/-PH and percentage of fundamental wave to determine influence of positive and negative harmonic on the metering.
- Full wave reactive power is the algebraic sum of the reactive power of fundamental wave and harmonic wave of each harmonic. In order to avoid 90 degree phase shift in the past and in the case of harmonic wave reactive power test error. We can measure the brand with of electrical energy meter that can be detected and choose the number of each harmonic wave.
- Simultaneously test two detected pulse, and the constant, working mode and number of detected pulses at the same time can be totally different.

- Overload 2.4 times, all measurement points can ensure that the accuracy of 0.05% and also guaranteed the measure index of CT secondary rated current when it is 1A.
- 500 times current range ensure measurement index, 1000times current display range, the minimum of 1mA starting current. At the same time of high-voltage power supply, high-voltage device are measured, and the wiring can be identified by no-load.
- Electric energy accumulation function can measure the electric energy meter that has not pulse output.
- Display vector diagram, can identify three-wire of 48 wrong wiring and four-wire of 96 wrong wiring as well as CT secondary cross wiring.
- Adopt 7 inch 16:9 industrial grade and width color screen of TFT, each function parameter of the instrument are direct and clear display on the screen simultaneously without turn screen , allow users to use at a glance.
- Instrument can be simulate variety of scene wiring and get corresponding results of wiring and correction coefficient in office without access to voltage or current signal. This function can be used as a tool for training line inspection to improve the line-checking skills of field staff.
- Instrument internal can produce the actual current signal of 0.05-5A and added into 5A clamp to check the error of clamp meter. Thinking into account 5A clamp has error change problem after being used for a long time. Enable to keep know the situation of closure about the clamp meter at any time, remind relevant staff timely to clean clamp jaw. When replacing the 5A clamp, the error can be corrected to 0.2.
- Automatically enter the energy meter number (optional function)
- Support barcode scanner and automatically input energy meter code.
- Use 485 or infrared photoelectric head to read the multi-function energy meter tip, peak, flat, valley, total active and reactive base, read constant and

timing. Support the national standard DL645 regulations, DL645-1997 and DL645-2007. (optional function)

- Built-in 2G electronic disk.
- It can be equipped with a 3-inch field printer, battery-powered, and directly converts the color screen image into black and white when being printing.(optional)
- Using the clamp meter (5A, 100A, 500A, 1000A) directly to measure the ratio and ratio error of low voltage current transformer. (100A, 500A, 1000A clamp is optional)
- Show the voltage and current waveform of three phase A, B, C.
- Work power input range is 55V-600V. The normal three-phase voltage input industrial socket is 600V. Industrial switches switching connection city electric and three phase voltage as work power.
- All parameters that need to be entered on site and downloaded data can be freely defined by the user. It can download data of 5000 users.
- Current screen can be saved to U disk.
- With temperature and humidity measurement function(need to install temperature and humidity sensor).
- With USB interface and connects to a USB flash drive to form a large space for data copying.
- Touch screen and press key operation, the keyboard using a computer keyboard column arrangement. A PC keyboard with a USB interface is also available.
- Timing with PC machine by USB interface.
- The tablet computer can directly control the instrument with the same operating interface as the instrument.

- Voltage measurement socket and power switching switch for industrial grade can be used under 600V (The common utility power switch is 250V, which is used in the over-range at 380V, which has potential safety hazards).
- High security design. The mains socket, voltage measuring socket, current input, current clamp input are isolated, and the withstand voltage is 4kV.
- Electric energy pulse input protection. When input high voltage it will automatically start protection and display prompt message on the instrument, once the error is corrected, click on the interface to reset the protection.
- The 5A clamp has self correcting function: the 5A's current signal is generated internally by the instrument added to the 5A clamp to measure the error of the clamp meter.
- 5 low power ARM chips are used, all calculating ability is greater than 1GIPS, and all parameters of the 51 harmonic and the full wave are calculated at the same time.
- Using Windows CE operation system with mature and genuine, its function is stable and reliable.

Specifications

Voltage	Guarantee error range	25-600V
	Starting measuring value	0.5V
	Rated value	440V
	Error accuracy	±0.05%

Current	Terminal	Rated I_e	5A
		Range	0.025A-12A
	Clamp	Rated I_e	5A, 100A, 500A, 1000A (optional)
		Range	0.5% I_e —2.4 I_e
	Starting current		0.02% I_e
Input frequency range			45-65Hz
Frequency measuring error			± 0.01 Hz
Phase angle measuring range			-180° - 180°
Max. Phase angle error			$\pm 0.1^\circ$
Harmonic percentage, harmonic electrical parameters, and harmonic electric energy measurement times			2-51 times
Pulse constant (Note: I_e is rated current)	Low frequency output (3 gears)	5A	3600P, 36000P, 360000P/kWh(kv arh, kVAh)
		others	3600P, 36000P, 360000P *(5/ I_e)P/kWh

			(kvarh, kVAh)
	Internal high frequency	5A	1.8×10^9 P/kWh
		Other current gears	1.8×10^9 $*(5/1e)P/kWh$
Maximum pulse input frequency			50kHz
5A terminal	Full-wave fundamental wave kWh, P, U, I		$\pm 0.05\%$
	Full-wave fundamental wave Kvarh, Q, VA, VAh		$\pm 0.2\%$
	Harmonic wave U, I, P, Q, S		$\pm 0.2\%H$ $(H=1+0.01k$ $K=2-51)$
5A clamp	Full-wave fundamental wave kWh, P, U, I		$\pm 0.2\%$
	Full-wave fundamental wave Kvarh, Q, VA, VAh		$\pm 0.2\%$
	Harmonic wave U, I, P, Q, S		$\pm 0.5\% H$

		(H=1+0.01k K=2-51)
	Self checking current cyclic output current	0.05A, 0.1A, 0.25A, 0.5A, 1A, 2.5A, 5A
	Self checking error (linear and angular difference)	±0.1%
Big current clamp	Full-wave fundamental wave kWh, P, U, I	±0.5%
	Full-wave fundamental wave Kvarh, Q, VA, VAh	±0.5%
	Harmonic wave U, I, P, Q, S	±1.0% H (H=1+0.01k K=2-51)
Others	Ratio measurement	±0.5%
	Voltage influence	< ±0.01%
	Frequency influence	< ±0.01%
	Temperature influence	< ±0.005%/°C
	24hours change error	< ±0.01%

	Harmonic influence	< $\pm 0.01\%$
	Rechargeable battery	11.1V 3000mAh
	Withstand voltage (Voltage current measurement and power supply and low-voltage terminals)	4.0 kV
	Electrical Fast Transient Burst	4.0 kV
	Surge	4.0kV (Common mode), 2.0kV (Differential mode)
	Standby time after start-up	<3 minute
	Ambient temperature	-25°C-+45°C
	Relative humidity	40%-95%
	Working power supply	AC 55V - 600V
	Power consumption	< 9W
	Dimension	275mm * 196mm * 78mm
	Weight	< 1.5 kg