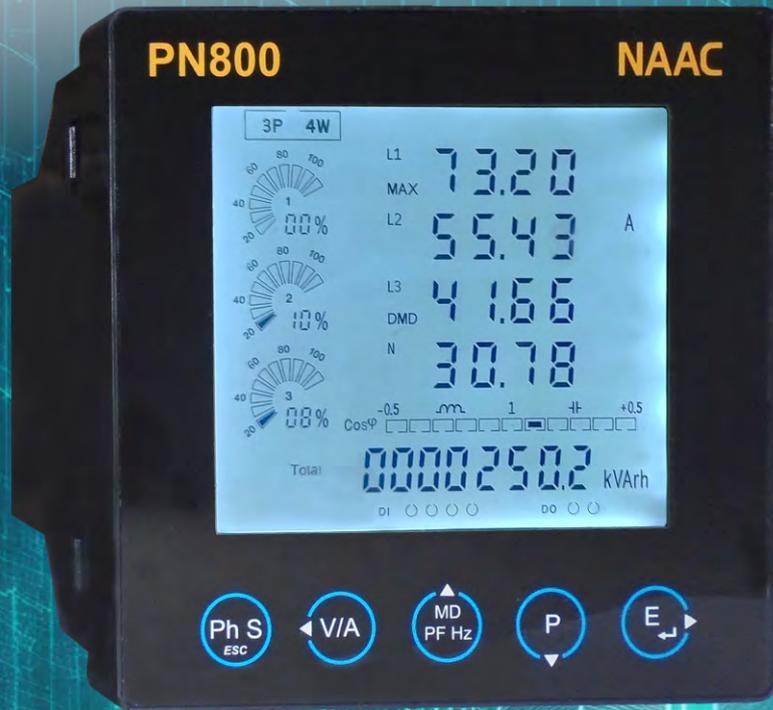


POWERNAAC™ PN800



Digital Power Analyzer



NAAC ENERGY CONTROLS PVT LIMITED



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Overview

The **PN800 Series Multi Function Digital Power Analyzer** designed for Energy Metering and Power Monitoring in electrical distribution systems. It's a key component for improving energy efficiency and understanding electrical network characteristics.

It measures and displays a wide range of electrical parameters for single-phase and three-phase networks, including voltage, current, power (active, reactive, apparent), energy (kWh), power factor, and frequency.

It complies with IEC 62053-22 Class 0.5s for active energy, ensuring precise measurements. Large backlit LCD display provides clear and direct readings of multiple measurement and metering values, making it easy to use. RS485 Modbus communication enables remote monitoring and integration into building management systems (BMS) or SCADA systems.

PN800 includes digital inputs for reading pulses from other devices (e.g., water or gas meters) and digital outputs for control / command or alarm signaling. THD (Total Harmonic Distortion) calculation measures voltage and current harmonics up to the 63rd order, which is crucial for power quality analysis.



Key Features and Capabilities

- It accurately measures and displays crucial values for both single-phase and three-phase networks, including:
 - Voltage (V): Phase-to-neutral and phase-to-phase
 - Current (A): For each phase
 - Active Power (kW): Real power consumed
 - Reactive Power (kVAR): Power oscillating between source and load
 - Apparent Power (kVA): Total power
 - Energy (kWh/kVARh): Both active and reactive energy consumption (import and export)
 - Power Factor (PF): A crucial indicator of system efficiency
 - Frequency (Hz): The standard AC frequency
 - High Accuracy: Adhering to IEC 62053-22 Class 0.5s for active energy, it delivers precise and reliable measurements, essential for accurate billing, energy efficiency initiatives, and power quality analysis.

Features

- Flush-mount LCD Power Analyzer, 96x96x60.8 mm
- Maximum demand management with RTC
- Bi-Directional Metering
- 5 Touch Button operation
- High accuracy measuring of Active Energy : CL 0.5S
- LCD with White Backlit
- Harmonic Analysis - upto the 63rd order Harmonic
- Measured Electrical Parameters 577
- Phase Angle Display
- Auxiliary Supply 85V DC / 265V AC
- RS485 Modbus Communication
- Voltage and Current Unbalance
- CT and PT Programmable
- Programmable CT Secondary : /1A and /5A
- Intelligent setting for forward and reverse wiring of CT
- Digital Input / Output / Pulse
- Inputs / Output for control / command or pulse reading
- Setup Password protection available
- Programmable Alarm
- Auto Rotation Setting
- Ethernet Modbus TCP - On Request

Digital and Smart Capabilities

As a "smart power meter," it likely incorporates features like data logging, time-sharing power measurement, and demand/extreme value tracking, which are essential for modern energy management.

Button Functions

Buttons	Click	Press 2 Sec.
	<ul style="list-style-type: none"> • Display Power, Voltage, Current and Energy Information of each phase • Exit from the Menu 	<ul style="list-style-type: none"> • Automatic Scroll Display On / Off
	<ul style="list-style-type: none"> • Display Voltage and Current information • Phase sequence • Left side move 	<ul style="list-style-type: none"> • Individual harmonic distortion of Voltage upto 63rd
	<ul style="list-style-type: none"> • Display P.F, Freq., Max. Demand • Max. and Min. of Voltage & Current • Up Page and Add Value 	<ul style="list-style-type: none"> • Individual harmonic distortion of Current upto 63rd
	<ul style="list-style-type: none"> • Display Active Power, Reactive Power and Apparent Power • Down Page or Reduce Value 	<ul style="list-style-type: none"> • Running Hour • Full Screen Checking • Modbus Setting Information
	<ul style="list-style-type: none"> • Display total / Import / Export Active and Reactive Energy / Multi-Tariff Energy / Date / Time • Right Side Move 	<ul style="list-style-type: none"> • Set-up Mode Entry • Confirmation

Technical Specifications

Technical Parameters

Applicable Networks	3 Phase 4 Wire, 3 Phase 3 Wire, Single Two-Wire, 3 Phase 3 Wire PT
Operating Voltage Power Range	85V-265V AC / DC
Operating Power Wastage	≤ 5W

Input Voltage

Rating	475V AC
Overloaded	1.2 x Continuous, 2 x (10s)
Power Wastage	≤0.4 VA / Phase
Electrical Impedance	≥ 200 k Ohm

Input Current

Primary Current	1A - 9999A
Secondary Input	1A or 5A
Short Term Over-current	20x maximum current for 0.5 seconds
Power Wastage	≤0.2 VA / Phase
Electrical Impedance	≥ 0.1 Ohm
Frequency	45Hz - 65Hz
Switching Input	Dry Contact Input, Opto-Isolated

Output

Switching Output	Relay Output; any power alarm can be set, default remote control
Pulse Output	1 electrical energy pulse

Precision Indicators

Voltage / Current	0.2%
Frequency	0.2%
Power / Power Factor	1%
Active Degree of Electricity	0.5S Class
Reactive Power	1.0 Class

Communication

Bus Type	RS 485
Communication Protocols	Modbus RTU
Baud	2400 bps / 4800 bps / 9600 bps / 19200 bps / 38400 bps
Address range	1 - 247
Communication Distance	1000 m
Parity	Even / Odd / None (default)
Data Bit	8
Stop Bit	1

Ambient Conditions

Operating Temperature	-25°C - +55°C
Storage Temperature	-40°C - +70°C
Operating Humidity	≤90% RH. Non-condensing, non-corrosive gas locations
Storage Humidity	≤95% RH. Non-condensing, non-corrosive gas locations
Height above seal level	≤2000m

Installation Category

Installation Category	CATIII
Pressure Resistance	AC withstand voltage 4KV / 1 min Pulse withstand voltage 6kV - 1.2uS waveform
Protection Class	IP 51 (Interior)
Insulation Class	II
Average trouble-free operation time	≥50000h

Specifications and characteristics mentioned in this document are subject to change without notification.
The information in this document is purely illustrative, and not contractually binding.

GET IN TOUCH



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