



## PMA82-DIN



### Description

Three phase compact power analyzer. Particularly recommended for the measurement of the main electrical variable on board of machines.

Housing for DIN-rail mounting, with relay or overvoltage/current alarm outputs, MODBUS RTU RS485 communication port.

### Feature

- Three phase power analyzer.
- Energy measurements: kWh and kvarh.
- System variables and phase measurements: VL-L, VL-N, VL-N alarm, AL, An, A alarm, PF,  $PF_{\Sigma}$ , W,  $W_{\Sigma}$ , var,  $var_{\Sigma}$ , VA,  $VA_{\Sigma}$ , Hz.
- Accuracy  $\pm 0.2$  F.S.(current/voltage).
- LCD display instantaneous variables and energies.
- Instantaneous variables data format: 4 DGT.
- Energies data format: 8+1 DGT.
- Class 0.5 (active energy).
- Class 1 (reactive energy).
- Power supply: 180 to 240Vac, 18 to 60Vac/dc, 90 to 260ac/dc.
- 2 Digital input.
- 2 Relay outputs
- Protection degree (front): IP40.
- RS485 serial port.
- 35mm DIN-rail mounting.
- Front dimensions: 90x82mm.



## Input specifications

### Rated inputs

Voltage	400/690(120/208)V <sub>L-L</sub>
V <sub>L-L</sub>	320 to 800(78 to 250)V <sub>ac</sub>
V <sub>L-N</sub>	185 to 460(45 to 145)V <sub>ac</sub>
Phase current(CT)	0-5A
Neutral current	Depend CT
Frequency	40-65Hz
Digital input	2
Contact read. Volt	5V <sub>dc</sub>
Contact read. Current	10mA Max
Sampling rate@ 50Hz	1600 samples/s
Sampling rate@ 60Hz	1900 samples/s
Init time	1s
Display	LCD
Display Read-out for counter	99999.999
Display refresh time	700ms
Measurements Display	Current, voltage, power, power factor, frequency, energy

### Rated outputs

Alarm output(current/voltage)	2
Relay contact rating@current max	5A
Relay contact rating@Voltage max	230V <sub>ac</sub>
Alarm output(voltage)/ Relay output	DO1
Alarm output(current)/ Relay output	DO2

### Accuracy

Phase-phase voltage	±0.2% FS
Phase-neutral voltage	±0.2% FS
Current	±0.2% FS
Neutral current	±0.5% FS
Active power	±1% FS
Reactive power	±2% FS
Apparent power	±1% FS
Active energy	Class 0.5
Reactive energy	Class 1
Frequency	±0.1Hz

## Power Supply Specifications

Auxiliary power supply	180-240V <sub>ac</sub>
	18-60V <sub>ac/dc</sub>
	90-260V <sub>ac/dc</sub>
Power consumption	3.5W

## RS485 Serial Port Specifications

Type	Multidrop bidirectional (static and dynamic variables)
Connections	2 wires, max. distance 1200m, termination directly on the instrument
Addresses	1 to 255, key-pad selectable
Protocol	MODBUS
Data (bidirectional)@Dynamic (reading only)	System, phase variables and energies
Data (bidirectional)@Static (writing only)	All configuration parameters
Baud-rate	1200bit/s, 2400bit/s, 4800bit/s, 9600bit/s, 19200bit/s
Data format	1 bit distart, 8 data bit, no parity, 1 stop bit

All technical characteristics are subject to change without previous notice.

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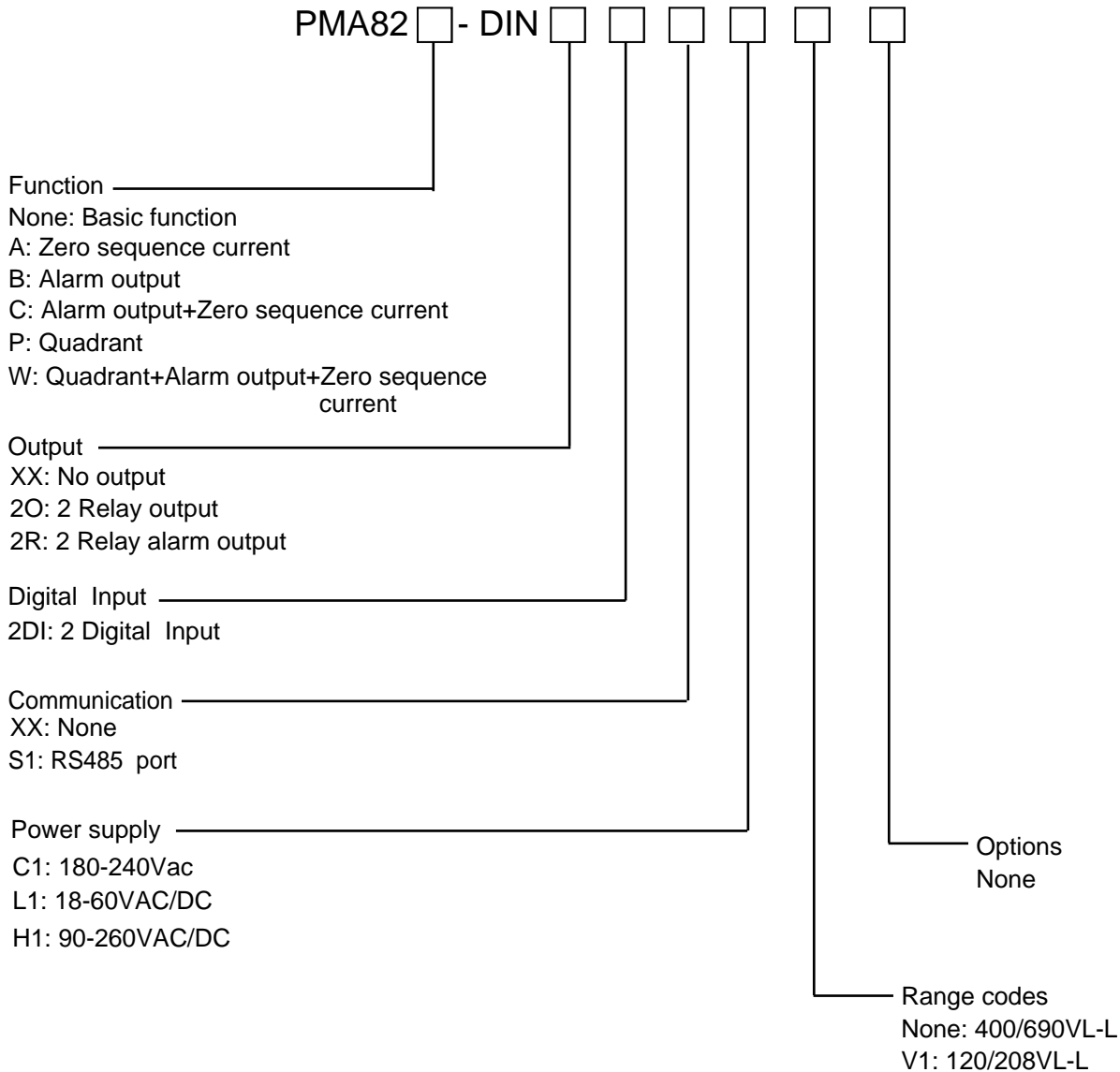
## Interface functions

Password	
1st level	Password from 0 to 9999, no protection
2nd level	Password from 0 to 9999, all data are protected
System	3-phase with N 3-phase 2-phase Single phase
Transformer ratio(CT)	1 to 9999
Transformer ratio(PT)	1 to 9999
Alarms outputs (on request) @current	0-6A
Alarms outputs (on request)@Voltage	0-600Vac
Displaying 3-phase system with neutral	Page 1: U Line, L12, L23, L31 Page 2: U, L1, L2, L3 Page 3: I, A L1, A L2, AL3 Page 4: I, An Page 5: PF, PF L1, PF L2, PF L3 Page 6: Hz, PF $\Sigma$ Page 7: S, VA L1, VA L2, VA L3 Page 8: P, W L1, W L2, W L3 Page 9: Q, var L1, var L2, var L3 Page 10: VA $\Sigma$ , W $\Sigma$ , var $\Sigma$ Page 11: DI1 and DI2 Page 12: DO1 and DO2 Page 13: Addr Page 14: Baud Page 15: Ratio PT Page 16: Ratio CT

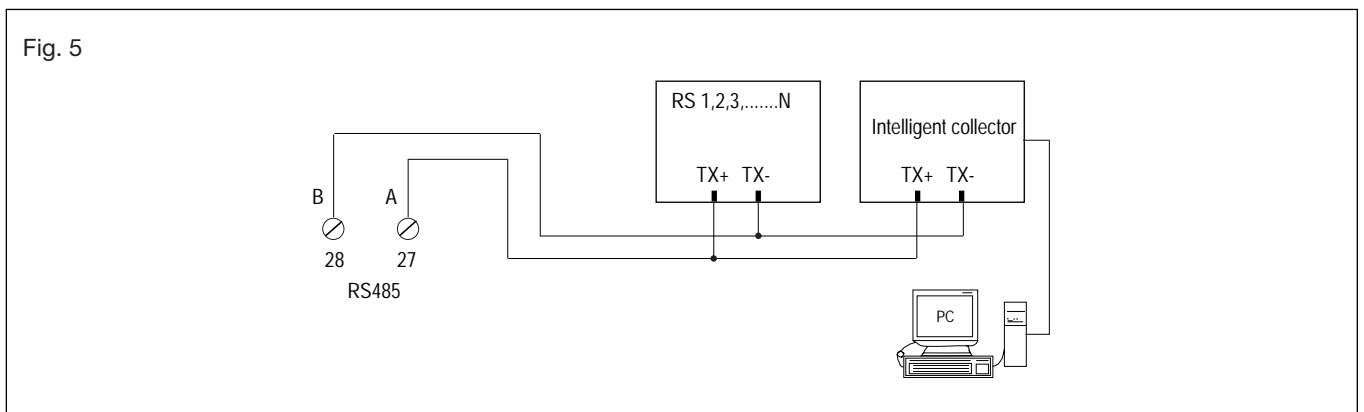
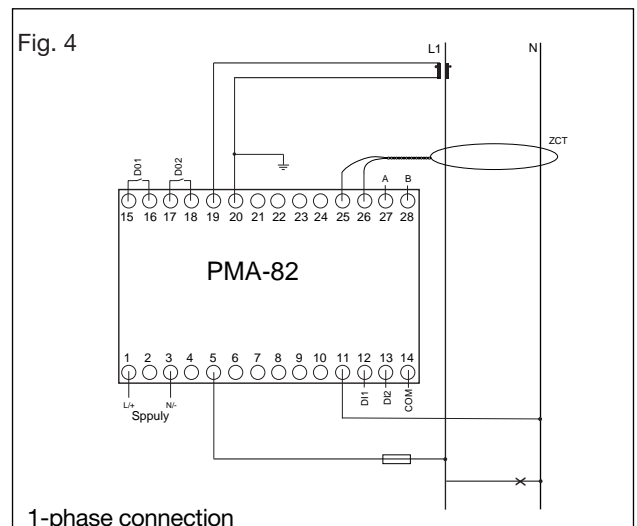
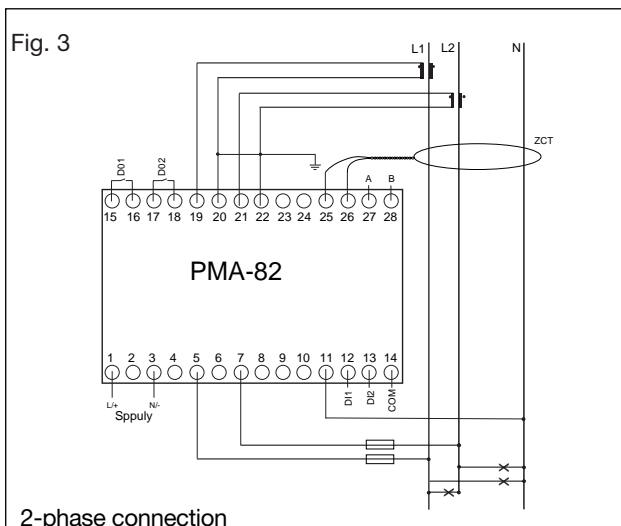
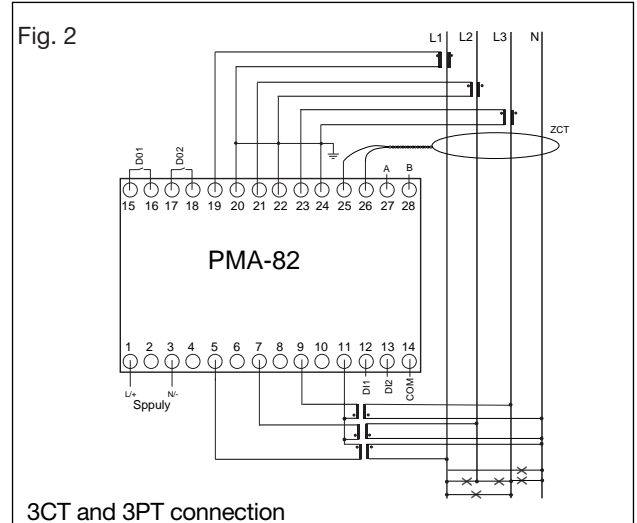
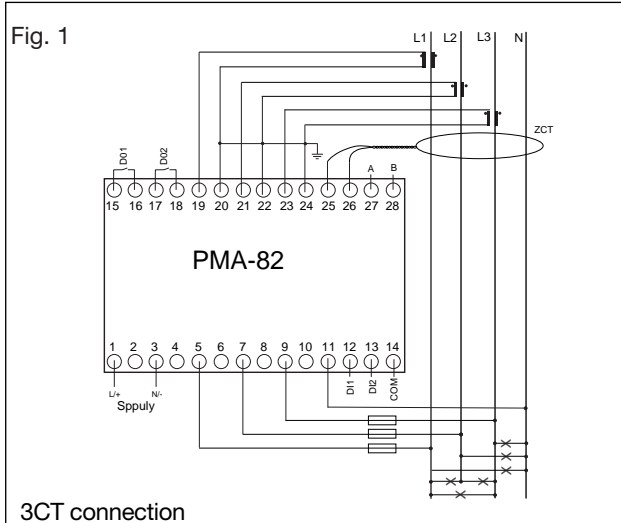
## General Specifications

Insulation (for 1 minute)@mesuring inputs and power supply	4000VAC/500VDC
Insulation (for 1 minute)@mesuring inputs and RS485	500VAC/DC
Insulation (for 1 minute)@power supply and RS485	4000VAC/500VDC
Installation category	DIN rail mounted(IEC 60664, EN60664)
Dielectric strength	4000 VAC (for 1 min)
Emissions	EN50084-1(class A)
Immunity	EN61000-6-2(class A)
Safety standards	IEC60664, EN60664
Approvals	CE
Connections	Screw
Recommended tightening torque	2N.m
Max cable cross sect	2.5 mm <sup>2</sup>
Housing	ABS self-extinguishing: UL 94 V-0
Mounting	DIN-rail
Max cable cross sect@Panel	IP40
Max cable cross sect@Connections	IP20
Operating temperature	-10 to 50°C
Storage temperature	-30 to 50°C
Ambient humidity	RH < 90% non condensing
Dimensions (WxHxD)	90x82x58mm
Weight	Approx.300g

## Model description

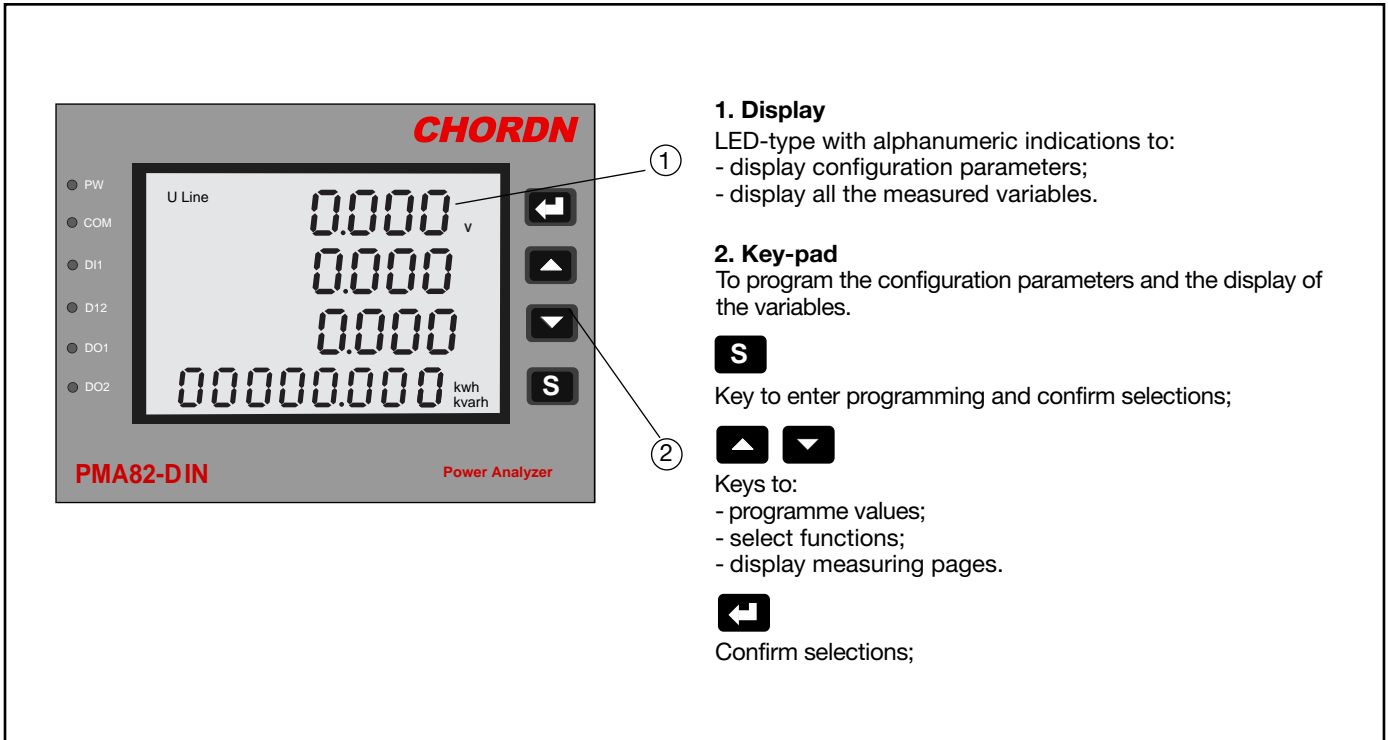


### Wiring diagrams



Disconnect power source before wiring.  
 DO1 is the voltage alarm output terminal and DO2 is the current alarm output terminal.  
 In order to make wiring secure and steady, the torque of wiring terminal should be kept between 2Nm and 6Nm.

## Font Panel Description



## Dimensions(mm)

