



# PFR160NX 120NX 80NX

## Features

- Three-phase power factor regulator
- Measurement parameters
  - Active, reactive and apparent power
  - Required VAR
  - RMS voltage and current
  - Frequency
  - \*2 Up to 15th order harmonics measurement
  - True power factor and displacement power factor
- Automatic step size detection
- Automatic CT polarity correction
- 4-quadrant operation
- No voltage release alarm
- Programmable sensitivity
- Programmable alarm
- NFC communication
- Complies with IEC 61000-6-2 and IEC 61000-6-4 standard
- \*2 60 alarm records, 120 system records and 350 step records

## External Plug-in Module



## NXM1

- PFR step extensible
- RS485 Modbus-RTU communication isolated
- Records with timestamp

## Technical Data

### AUXILIARY POWER SUPPLY

Supply voltage	: 100~415 V AC / 140~370 V DC
Operating limits	: -15% + 10%
Consumption	: 10 VA max
Rated frequency	: 45~65 Hz

### OUTPUT CONTACTS

Numbers of outputs	: 8 / 12 / 16 (PFR80NX/PFR120NX/PFR160NX)
Rated voltage	: 250 V AC
Contact rating	: 5 A (COSφ=1)
Expected electrical life	: 100,000 operations at rated current
Expected mechanical life	: 5 x 10 <sup>6</sup> operations
Max current for the common terminals	: 12 A continuous

### VOLTAGE SENSING

Rated voltage	: 230 V AC
Operating limits	: 5 V AC ~ 600 V AC
Rated Frequency	: 50 Hz and 60 Hz

### CURRENT SENSING

Rated current (In)	: 5 A
Operating limits	: 0.05 A to 10 A
Rated frequency	: 50 Hz and 60 Hz
Burden	: <0.3 VA at In

### ALARMS SETTING

% THDV	: 10% ~ 20% / OFF
% THDI	: 20% ~ 300% / OFF
Undercurrent	: 1.0% ~ 3.0% / OFF
Overcurrent	: 110% ~ 140% / OFF
Undervoltage	: 90 V ~ 395 V / OFF
Overvoltage	: 132 V ~ 500 V / OFF
Cap. size error	: ON / OFF
Undercompensate	: ON / OFF
Overcompensate	: ON / OFF
Step error	: ON / OFF
No voltage release	: ON / OFF
*1 Clock loss	: ON / OFF
EEPROM error	: ON / OFF

### CONTROL RANGE

Power factor setting	: 0.8 Ind - 0.8 Cap
Smallest Cap.	: 500 - 1.5x10 <sup>6</sup> VAR / Automatic
Switching sensitivity	: 5 - 600 s/step
Reconnection time for same step	: 5 - 240 s
Switching program	: Automatic / Automatic Rotate / 4-quadrant / Manual
Rated step coefficient	: 0 / 1 / 2 / 3 / 4 / 5 / 6 / 8 / 12 / 16 (Automatic if smallest cap set to Auto)

### ENVIRONMENTAL CONDITIONS

Temperature	: -10°C to 55°C
Humidity	: 5% to 95%, non-condensing

### MECHANICAL

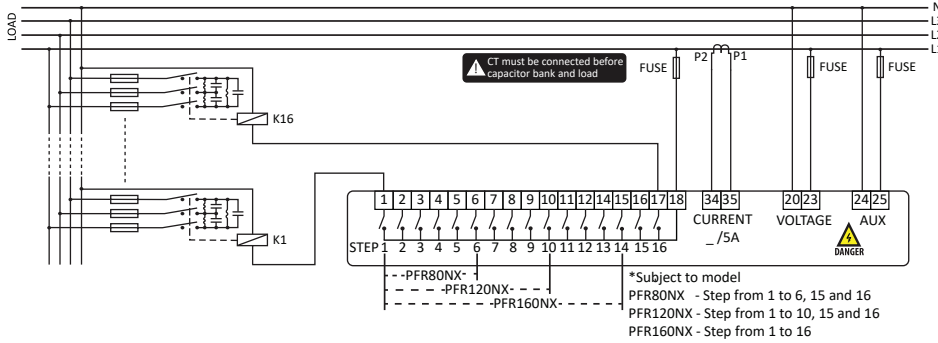
Mounting	: Panel mounting
Dimension (mm)	: 145(w) x 145(h) x 78(d)
Enclosure protection	: IP54 at the panel IP20 at body
Approximate weight	: 0.8kg

\*1 Only applicable if NX-M1 attaches on PFRNX

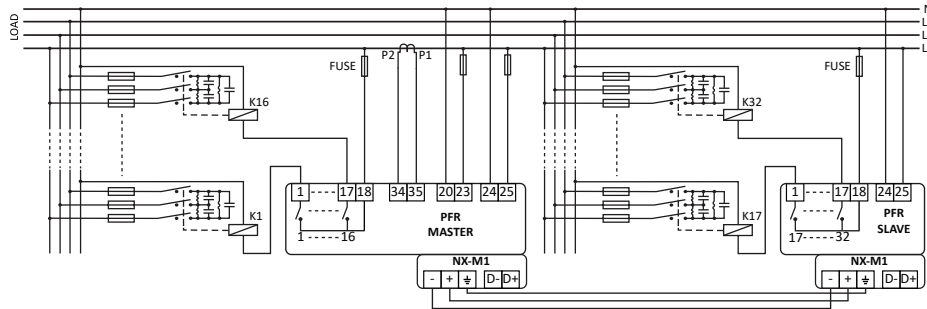
\*2 Only can be read from NFC or RS485 Communication

## Typical Application Diagram

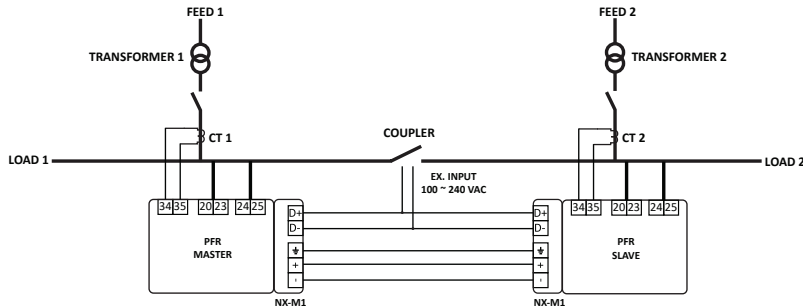
PFRNX live-neutral voltage system connection diagram



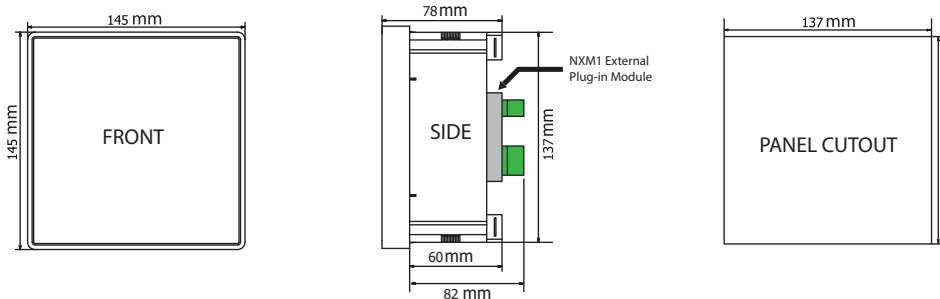
\*1 PFRNX operate in step extension system



\*1 PFRNX operate in two feeds system



## Case Dimensions



## Ordering Information

MODEL	DESCRIPTION
PFR80NX	8 Steps, 50/60Hz, 100 ~ 415 VAC or 140 ~ 340VDC
PFR120NX	12 Steps, 50/60Hz, 100 ~ 415 VAC or 140 ~ 340VDC
PFR160NX	16 Steps, 50/60Hz, 100 ~ 415 VAC or 140 ~ 340VDC
NX-M1	External module for PFRNX models

\*1 Only applicable if NX-M1 attaches on PFRNX