

# Digital Power Factor Regulator

# NV-5/7



## features



- True RMS Measurement
- LED Step Indication
- Automatic / Manual Step Operation
- Automatic or Manual C.T. Polarity
- Automatic C/K Detection or User Preset
- Automatic or User Preset Switching Sequence (rotational for same size grouping)
- Operation from 1% Load
- Viewable Parameters:  
V, I, Cos  $\phi$ , PF, Hz, W, Var, THD-V, THD-I, Harmonics Spectrum up to 15<sup>th</sup> order for V & I (secondary values for I, W, Var)
- Individual Capacitor Step Info:
  - Hour run (accumulative)
  - Usage count (accumulative)
  - Secondary 1-phase Var value (present)
- Programmable Over Voltage & THD-V alarm
- Alarm Information:
  - Under / Over Compensate
  - Under / Over Voltage
  - Overload, THD-V Limit High
- User selectable capacitor protection for Over voltage & THD-V
- Selectable contact for Signal Alarm Output or Exhaust Fan Output
- Extrenal Plug-in Module for: A-01s / A-01sp (RS-485 Modbus RTU) isolated type
- Software Lock to prevent unauthorized modification of parameters
- Complies with:
  - IEC 61000-6-2 / 6-4 Standards
  - IEC 60255-27-Clause 10.6.4.2 / 4.3

## technical data

- Aux Power Supply**
  - AC range : 85 ~ 275 VAC, 45 ~ 65 Hz
  - Consumption : < 3 VA
- Power Measurement**
  - Accuracy (W, Var, Cos  $\phi$ , PF) :  $\pm 1.0\%$
- Current Measurement**
  - AC Input range : 0.01 ~ 6.50 A
  - Accuracy :  $\pm 1.0\%$
  - CT range :  $\dots/5A$
  - Burden : < 0.1 VA at 5A
- Voltage Measurement**
  - AC Input range : according to Aux Power Supply
  - Accuracy :  $\pm 1.0\%$
- Frequency Measurement**
  - Range: : 45 ~ 65 Hz
  - Accuracy :  $\pm 0.1\%$
- LEDs Indication**
  - Individual Steps, Fan, x1000, A/PF, V/Hz, W/Var, thd/nth Harmonic, Cap., Ind., Auto/Manual
- Mechanical**
  - Output Relay (Individual Steps / Alarm / Fan) Rating : SPST 7A, 250 VAC
  - Electrical Life : 100,000 operations at rated current
  - Mechanical Life :  $5 \times 10^6$  operations
  - No voltage release : < 40ms
  - Operating Temp. :  $-5^{\circ}C \sim +55^{\circ}C$
  - Humidity : 56 days at 93%RH, 40 $^{\circ}C$  non-condensing
  - IP Rating : IP54 (front panel)
  - Installation : Panel flush mount
  - Weight : 280 g

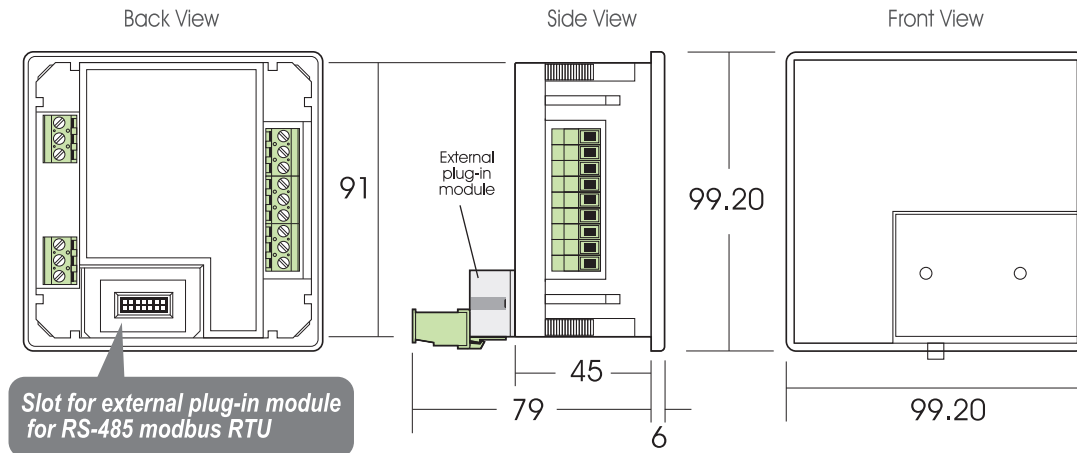
## parameter setting

- C/K Value** : Auto or 0.01 ~ 0.80 (step of 0.01)
- Target Cos  $\phi$**  : 0.85 (Ind.) ~ 0.90 (Cap.) (step of 0.01)
- Switching Program** : Auto or P-0 ~ P-7
- Switching Interval** : (t-on) : 1s ~ 250s (step of 1s)  
(t-off) : 1s ~ 250s (step of 1s)
- Reconnection Inhibit** : OFF or 5s ~ 900s (step of 5s)
- V> (Over Voltage)** : OFF or 100 V ~ 260 V (step of 1 V)
- thd-V > (%)** : OFF or 3, 4, 5, 6, 7, 8, 10%

## selectable switching program sequence

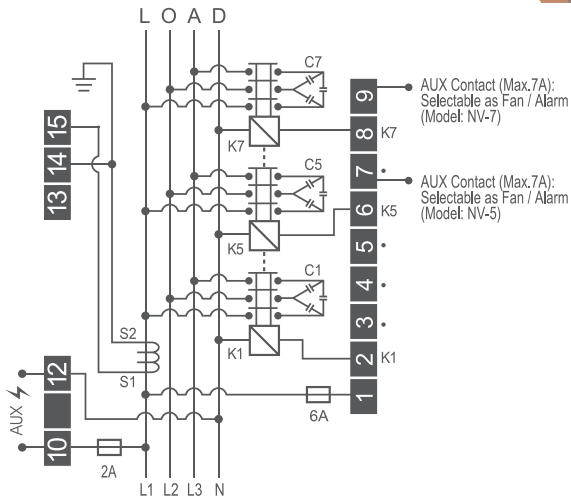
Auto	Automatic
P-0	Linear
P-1	1 : 1 : 1 : 1 : 1
P-2	1 : 2 : 2 : 2 : 2
P-3	1 : 2 : 4 : 4 : 4
P-4	1 : 1 : 2 : 2 : 2
P-5	1 : 1 : 2 : 2 : 4
P-6	1 : 1 : 1 : 2 : 2
P-7	1 : 2 : 4 : 8 : 8

## casing dimension



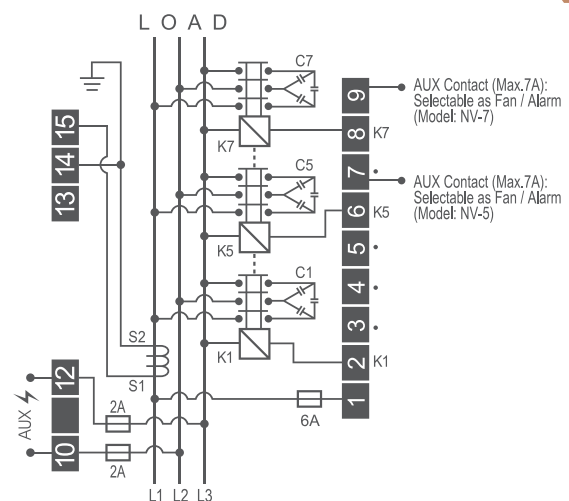
## wiring diagram: NV-5/7 (3P4W)

P-n (3P4W)

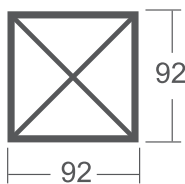


## wiring diagram: NV-5/7 (3P3W)

P-P (3P3W)



## panel cut-out



AUX Power Supply Range	AUX Power Connection	C.T. Phase Connection
85~275 VAC 45~65 Hz	L1- N (P-n)	L1
	L2- L3 (P-P)	L1

**WARNING**  
Do not exceed Aux power supply specification.

## ordering information

Model	Description
NV-5	85 ~ 275 VAC (45~65 Hz)
NV-7	85 ~ 275 VAC (45~65 Hz)

Note: All measurement in mm.