

**OPERATING INSTRUCTIONS
SER-1P**



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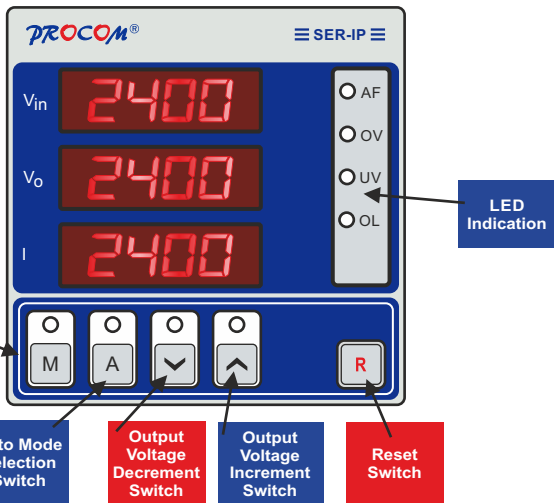
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□ 1.0 Introduction

SER-1P is digital controller equipped with 3 row alphanumeric seven segment display and 5 navigator keys simplifies configuration of controller.

□ 2.0 Salient Features:

- 32 Bit RISC floating point microprocessor.
- Response time 60mSec.
- Fast Fourier Transformation to eliminate Harmonics & Surges/Sag.
- High performance & Accuracy.
- Simultaneous display of all measured quantity.
- Password protection for user programmable parameters.



□ 3.0 Display/Front Panel:

- Fault Indication LEDs
- Manual /Auto mode LEDs
- Limit switches LEDs
- Manual/Auto selection switch.
- Output voltage Increment/Decrement switch.
- Reset switch.

□ 4.0 Technical Specifications

Measurement Accuracy	: Class 1(± 1% Of Full Scale)
Input Voltage	: Vph, VN
Input Voltage Measured Range	: 10-350V AC (L-N)
Voltage Withstand	: 800V L-L Max., 1000V for 1 Minute
Isolation Between Terminal & Body	: 2kV
Input Current	: Iph
Input Current Range	: 0-6 A
Current Withstand	: 10A Continuous, 50A for 1 Second
Input Frequency	: 45 To 55 Hz
Auxiliary Supply	: Ph-N(50-350V AC/DC)
Input/output Voltage Display	: 1 Row 3 Digit
Input Current Display	: 1 Row 3 Digit
Response Time	: 60msec
Operating Temperature	: -20°C to +70°C
Storage Temperature	: -25°C to +80°C
Mounting	: Panel Mount
Cut out Dimensions	: 91mm X 91mm

□ 5.0 Relay Card Description:







- For SER-1P four potential free output contacts are provided :
 1. Phase Increase
 2. Phase Decrease
 3. Hooter
 4. Trip.

● Relay Specifications

Contact Arrangement	: 1 C/O
Contact Rating	: 10A @ 230 VAC
Mechanical life expectancy	: 10 ⁶
Electrical life expectancy	: 10 ⁵



□ 6.0 Switches Description:

PSR-3/PSR-1 has 6 switches provided on its front panel. The table below describes the operation of these:

Switch Symol	Switch Function	Description
	Manual Mode	By pressing the Manual switch, for 3 sec controller enters in manual mode.
	Auto Mode	By pressing the Auto switch for 3 sec , controller enters in Auto Mode.
	Increment	By pressing the increment switch, the output voltage limit can be increased.
	Decrement	By pressing the decrement switch, the output voltage limit can be decreased.
	Reset	By pressing the Reset switch, hooter and fault signals are reseted.
	Programming Mode entry	By pressing both switches (Auto & Reset) the controller will enter in programming mode.
	Next	After entering in programming mode the Reset switch is used to select the next parameter to be programmed.

□ 7.0 LEDs Description

SER-1P has 8 LEDs provided on its front panel. The table below describes the operation of these.

Nomenclature	Symbol	Description
Auto		Auto LED glows continuously when controller is in Auto Mode.
Manual		Manual LED glows continuously when controller is in Manual Mode.
Low		Low LED glows continuously when low voltage limit is reached.
High		High LED glows continuously when high voltage limit is reached.
AF		AF LED glows continuously when auto correction of set system output voltage is not perceived.
OV		OV LED glows continuously when Over Voltage is perceived.
UV		UV LED glows continuously when Under Voltage is perceived.
OL		OL LED glows continuously when overload is perceived.

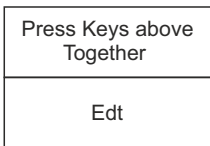
□ 8. Parameter Mode

The following tables gives the detailed descriptions of parameter name/settings

Parameter Name on Display	Explanation of Parameter	Factory Setting	Setting Range
Ent PAS (Enter password)	System settings are password protected. Password is a three digit number.	1	1-999
Set Vol (Set output voltage limit)	Set the desired output voltage.	230	200-550
Set Vol Hys	The desired output voltage hysteresis.	10	1-20
CT Pri	The desired primary turns of CT	005	1-999
CT Sec	The desired secondary turns of CT	5	1-10
OV	The desired over voltage limit	280	200-300
OV HYS	The desired over voltage hysteresis.	10	1-20
OV DLY	The desired over voltage fault delay.	3	1-20
UV	The desired under voltage limit	200	100-300
UV HYS	The desired under voltage hysteresis.	10	1-20
UV DLY	The desired under voltage fault delay.	3	1-20
OL	The desired over load limit	005	1-999
OL DLY	The desired over load fault delay.	5	1-20
Hot	Hooter	120	1-999

□ 9. Setting Procedure: How to Enter in Parameter Mode

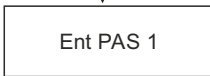
- Press AUTO & RESET switches simultaneously. The controller shall display, "Edt".
- To enter in edit parameter mode



Press Auto & Reset switch together




Edt appears on display.



Press "Reset" switch to move forward 

Display will show PAS 1



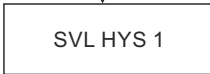
Press INC or DEC switch to reach 1 which is the default password. Once 1 is set Press "Reset" switch to move forward 


Display will show PAS Ok



Press "Reset" switch to move forward 


Display will show SET VOL 230



Press INC or DEC switch to select the desired Output voltage. Press "Reset" switch to move forward 

Display will show SVL HYS 1



Press INC or DEC switch to select the desired Hysterisis. Press "Reset" switch to move forward 

CT PRI 005

Display will show CT PRI 005



CT SEC 005

Press INC or DEC switch to select the desired CT Primary turns .Press "Reset" switch to move forward



OV 280

Display will show CT SEC 005

Press INC or DEC switch to select the desired CT Secondary turns. Press "Reset" switch to move forward



OV HYS 10

Display will show OV 280

Press INC or DEC switch to select the desired Over Voltage limit. Press "Reset" switch to move forward



OV DLY 3

Display will show OV HYS 10

Press INC or DEC switch to select the desired Over voltage Hysteresis. Press "Reset" switch to move forward



UV 200

Display will show OV DLY 3

Press INC or DEC switch to select the desired Over voltage fault delay. Press "Reset" switch to move forward.



UV HYS 10

Display will show UV 200

Press INC or DEC switch to select the desired Under voltage limit. Press ""Reset" switch to move forward



Display will show UV HYS 10

Press INC or DEC switch to select the desired Under voltage Hysteresis. Press "Reset" switch to move forward

UV DLY 3



Display will show UV DLY 3

Press INC or DEC switch to select the desired Under voltage fault delay.

Press "Reset" switch to move forward

OL 005



Display will show OL 005

Press INC or DEC switch to select the desired Over Load limit. Press "Reset" switch to move forward

OL DLY 5



Display will show OL DLY 05

Press INC or DEC switch to select the desired Over Load fault delay.

Press "Reset" switch to move forward.

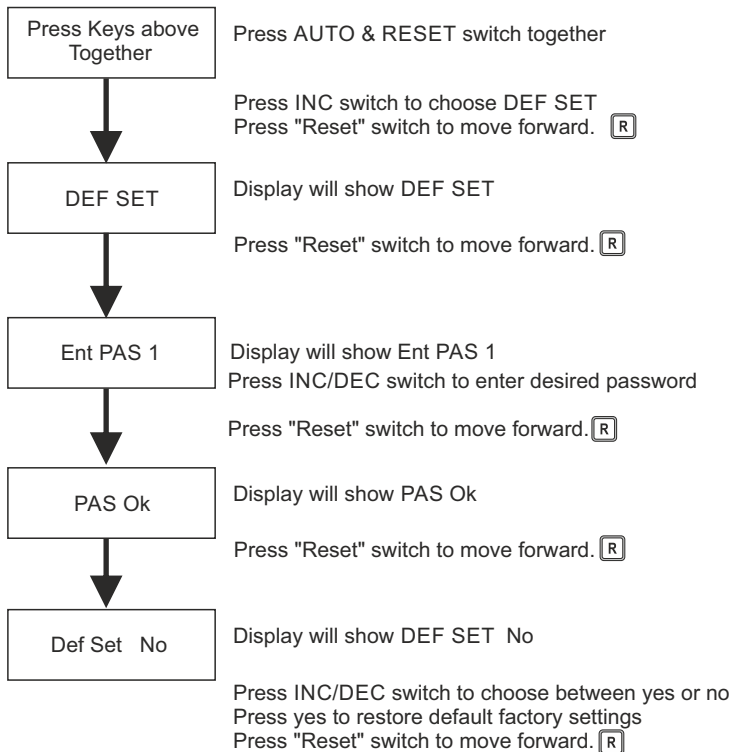
HOT 120

Display will show HOT 120

Press INC or DEC switch to select the desired Hooter enable time.

Press "Reset" switch to move forward.

□ 10. Setting Procedure: How to Restore Factory Settings



□ 11.0 Setting Procedure: How to Enter in View Mode

Press Keys above Together

Press AUTO & RESET switch together



Press INC switch to choose VIE
Press "Reset" switch to move forward. **R**

VIE

Display will show VIE

Press "Reset" switch to move forward. **R**

By pressing "Reset" switch browse through all the set parameters one by one.

□ 12.0 Setting Procedure: How to Reset Password

Press Keys above Together

Press AUTO & RESET switch together



Press INC switch to choose RST PAS
Press "Reset" switch to move forward. **R**

Ent PAS 001

Display will show Ent PAS 001



Press INC or DEC switch to select desired password.
Press "Reset" switch to move forward. **R**

PAS Ok

Display will show PAS Ok



Press "Reset" switch to move forward. **R**

NEW PAS 001

Display will show Rev PAS 001

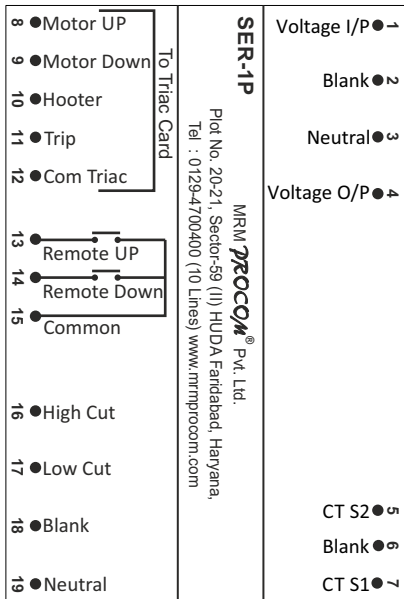
Press INC or DEC switch to select desired password.
Press "Reset" switch to move forward. **R**

Display will show PAS UPT (Password Updated)

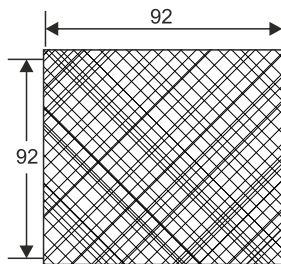
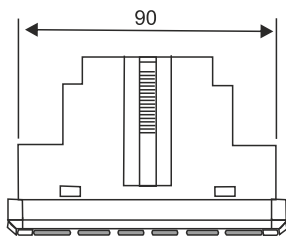
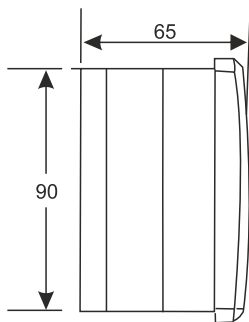
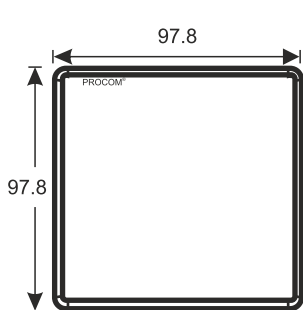
□ 13.0 Terminal Numbers:

Terminal No.	Description
1	Voltage I/P
2	Blank
3	Neutral
4	Voltage O/P
5	CT S2
6	Blank
7	CT S1
8	Motor UP
9	Motor Down
10	Hooter
11	Trip
12	Common for Triac
13	Remote UP
14	Remote Down
15	Common
16	Hig-Cut
17	Low-Cut
18	Blank
19	Neutral

□ 14.0 Connection Diagram:



□ 15.0 Dimensional Detail



Top View

Panel Cutout

All dimensions are in mm.

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