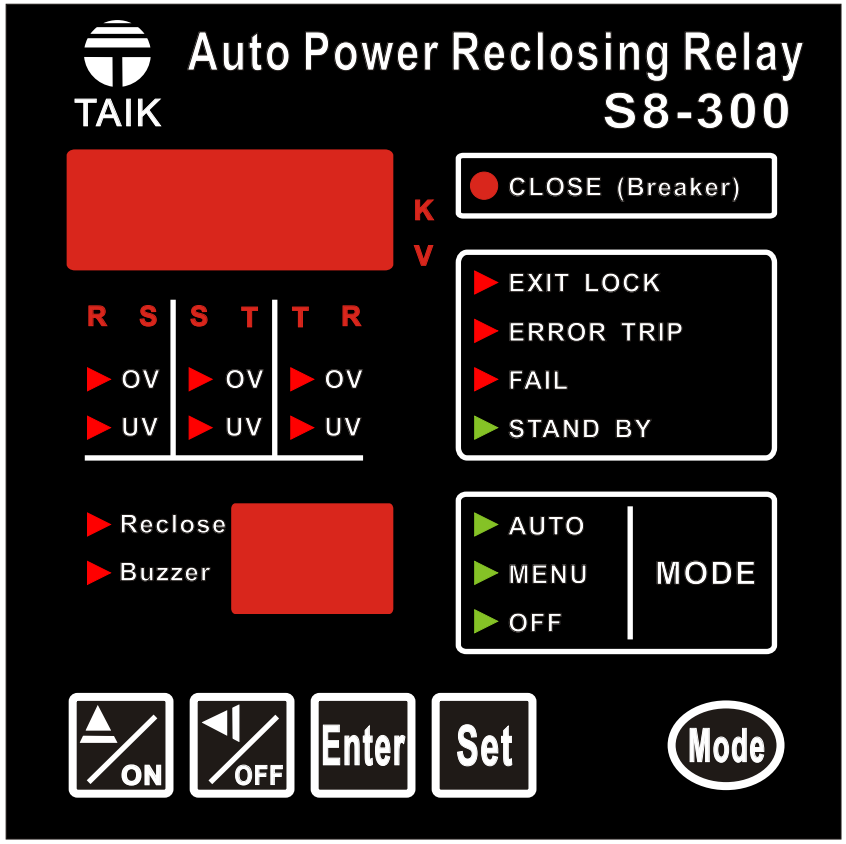
S8-300

Instruction Manual



TAIK ELECTRIC CO., LTD.

1. Structure:

1.1 Front panel

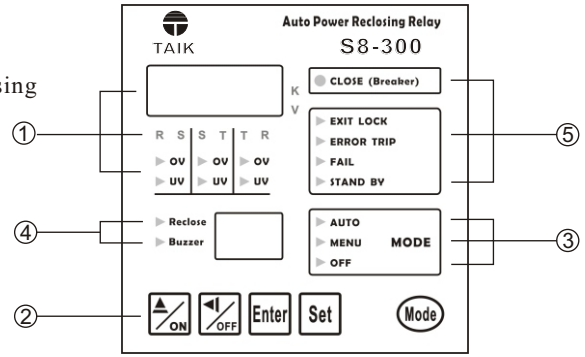
① The value of line-volts in three phase/The faulty status

② Functions of the push buttons

③ Indication of the operating modes

④ Indication of the reclosing/de-reclosing times and the countdown

⑤ Error status



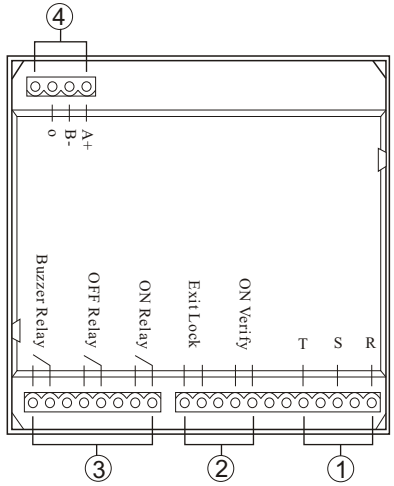
1.2 Terminals

① Line volts

② Status of the mains supply

③ Output relays

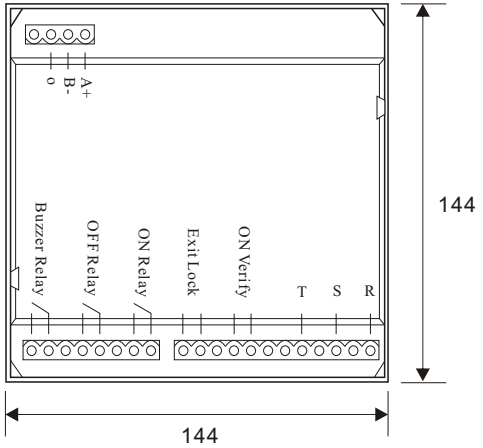
④ Communication interface



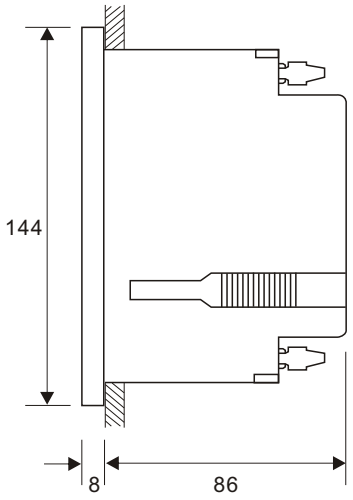
2. Installation/Wiring:

2.1 Outside dimension/Cut-out size Unit：mm

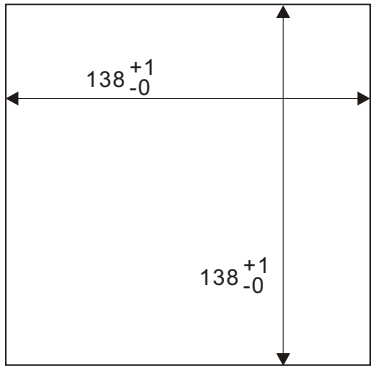
● Outside dimension: Back side



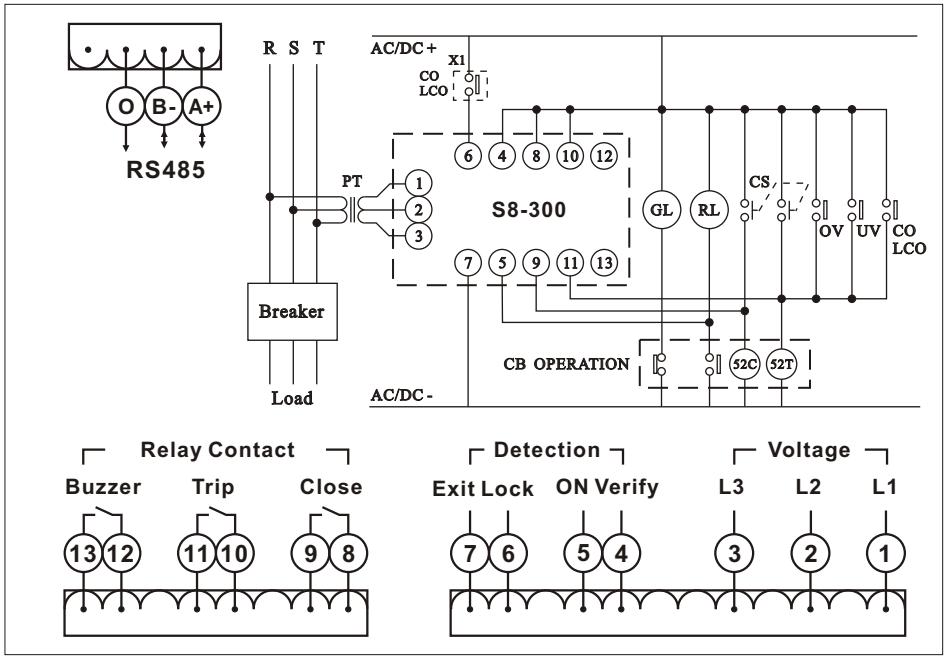
● Side view



● Cut-out size



2.2 Wiring



1，2，3 : The input volts should accommodate to the system volt

4，5 : Detecting the circuit breaker to be closed (ON VERIFY)

6，7 : Detecting the status of the lockout being existed on load (EXIT LOCK)

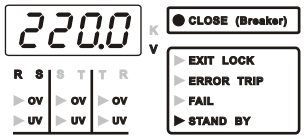
8，9 : Reclosing contact(The wiring can be connected to CS-ON in parallel) (ON Relay)

10，11 : De-reclosing contact(The wiring can be connected to CS-OFF in parallel) (OFF Relay)

12，13 : Alarm contact to a buzzer during the status of the reclosing (Buzzer Relay)

3. Functions

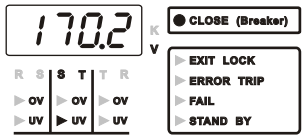
3.1 Indication of the input volts / the faulty status



Line volt 220.0 V in (R-S)

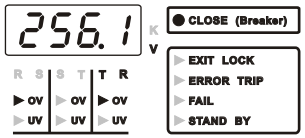
No over/under voltage status

Standby condition



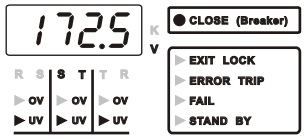
Line volt 170.2 in (S-T)

Undervoltage status in (S-T)



Line volt 256.1 V in (T-R)

Overvoltage status in both lines (T-R) and (R-S)



Line volt 172.5 V in (S-T)

Undervoltage status in the lines (R-S), (S-T) and (T-R)

3.2 Indication of the operating modes

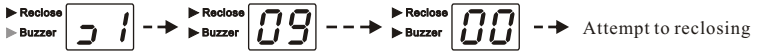
Press the Mode button to change the operating mode by entering the pass code.

Auto Mode Manual Moe Disabled Mode

3.3 Indication of the reclosing/de-reclosing times and the countdown

Note: To reach the maximum de-reclosing times, the legend of EE will be displayed.

Auto Reclosing



First attempt Countdown starting from 9 sec. Countdown finished

Auto De-reclosing

Second de-reclosing Countdown starting from 9 sec. Countdown finished

3.4 Indication of the error status

CLOSE (Breaker) : The circuit breaker is closed (ON Verify, which the mains supply flows thro the load

EXIT LOCK : External lockout (It inhibits the reclosing attempts if the mains supply is still supplied as the status of the external lockout occurs.)

ERROR TRIP : Abnormal tripping status

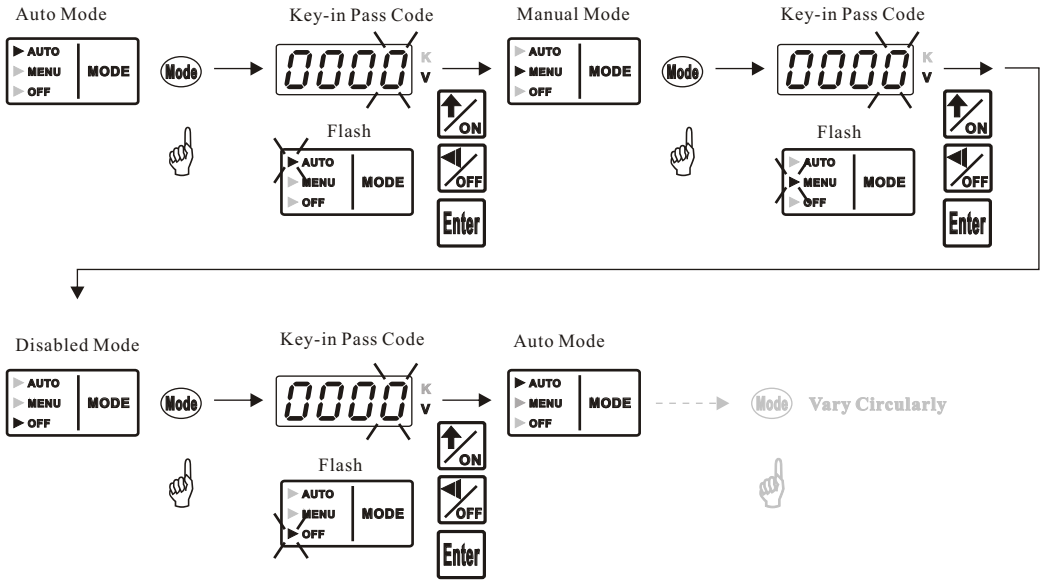
FAIL : Reclosing attempts ended

STAND BY : Normal mains supply range

Reclose : Reclosing attempts in progress

Buzzer : Buzzer relay contact energized

3.5 Descriptions of the operating modes ＊ Default value set as 1000



Operative Functions

ON : Vary value

OFF : Vary digit position

Enter : Confirm, the operating mode will be altered once the correct setting is finished, otherwise the legend will be shown as Err

Mode : Vary operating mode

Descriptions of The Operating Modes

Auto Mode : Automatic reclosing/ de-reclosing attempts

Manual Mode : Manual reclosing attempts and de-reclosing (Excluding the status of the EXIT LOCK)

AUTO / MENU / OFF — MODE

ON : Keep pressing the button the Buzzer Relay will be activated to the buzzer for a warning sign, then the legend of oo will be displayed on display.

OFF : Keep pressing the button the Buzzer Relay will be activated to the buzzer for a warning sign, then the legend of cc will be displayed on display.

Disabled Mode : Disable the On Relay, Off Relay and Buzzer Relay functions.

4. Descriptions of the parameters setup

4.1 Flowchart of the parameters setup: For example: The actual value shown on display, press the E button for 2 sec then the legends will be shown accordingly as follows.

uoL → 220.0 → ouP → 120 → UuP → 080 → ont → 10 → oFt → 10 → rcn → 3

uoL **To show the primary value =** uoL x Ptr

4.2 Operating functions: ＊ Default value set as 1000

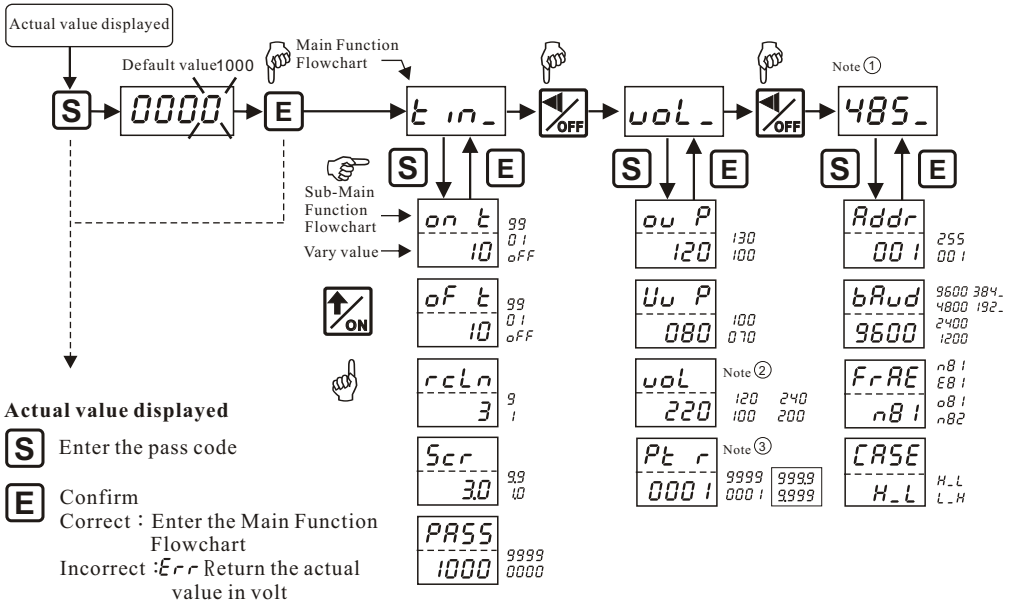
ON : Vary value

OFF : Vary digit position/Shit to the next Main Function Flowchart

Enter : Confirm, return to the Main Function Flowchart
Press the E button for 2 sec. to enter the parameters setup as the actual value in volt is displayed

SET : Enter the Sub-Main Function Flowchart to set the desired parameters

4.3 Descriptions of the setup flowchart: S : Set E : Enter



Actual value displayed

S Enter the pass code

E Confirm
Correct : Enter the Main Function Flowchart
Incorrect : Err Return the actual value in volt

Note ① : The legend of 485_ will be displayed if the RS 485 function is required

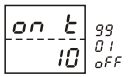
Note ② : The setting depends on the system volt (220V or 110V)

Note ③ : Press the Enter + Shift simultaneously to set or cancel the decimal point digit as the value is flashed

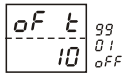
4.4 Settings in the Sub Main Flowchart: [S]: Set [E]: Enter

Please refer to the section 4.2

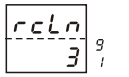
t in_ **Main Function Flowchart**: Time setting for the relay contact energized



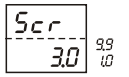
Reclosing time: 1-99 sec. , The relay contact for reclosing is disabled as the operating mode is set to OFF
The legend of OF will be displayed on display as the user sets to the OFF mode



De-reclosing time: 1-99 sec. , The relay contact for tripping is disabled as the operating mode is set to OFF
The legend of OF will be displayed on display as the user sets to the OFF mode



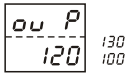
Reclosing/De-reclosing Times: 1-9 times



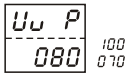
Indication of the actual value in volt (Set for scrolling time at interval): 1.0 ~ 9.9 sec.

Set for another pass code: 0000 ~ 9999
Default value: 1000 (still valid)

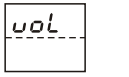
uoL_ **Main Function Flowchart**: Setting the under/over voltage range



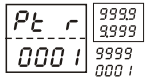
Overvoltage range setting at percentage: 100 ~ 130
The uoL set as 100% depends on the system volt; Example: the system volt is AC 220V then the secondary value should be set to AC 220V being regarded as 100%



Undervoltage range setting at percentage: 70 ~ 100
The uoL set as 100% depends on the system volt; Example: the system volt is AC 220V then the secondary value should be set to AC 220V being regarded as 100%

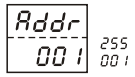


The secondary value (set 100%) in the line-volt system: Setting according to the actual system including 100 ~ 120 or 200 ~ 240

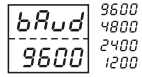


Setting of the PT ratio: 0.01~999.
The unit and decimal point of the primary value will be indicated automatically

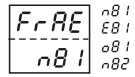
485_ **Main Function Flowchart**: Setting the related parameters for RS 485, the RS 485 legend will be displayed on display if the RS 485 function is required.



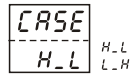
RS 485 Address：1~255



RS 485 Baud rate：1200 ~ 38400



RS 485 Framing：n,8,2、o,8,1、E,8,1、n,8,1



RS 485 Floating point (2 Word) transmission setting：L_H、H_L
L_H：First, transmit **Lot Word** then **Hi Word**
H_L：First, transmit **Hi Word** then **Low Word**

5. Specification:

- **Overvoltage and Undervoltage**

Rated voltage input	AC 110V or 220V ± 30%, 50/60HZ
Overload capability	2 x rated 5sec.
Power consumption	6VA
Overvoltage setting range	100%~130%
Overvoltage time delay	0~99sec.
Undervoltage setting range	70%~100%
Undervoltage time delay	0~99sec.

- **Reclosing unit**

Reclose time delay	0~99sec.
The time of reclose	1~9 times
Alarm for reclose	internal buzzer and contacts output
Disable reclosing	external lock or breaker on

- **Accuracy**

Over/Under voltage setting	±0.5% full scale
Time delay	±3% of set value or ± 20ms. (Whichever is greater) at 0 msec. 50ms Max.

- **Display**

Type	0.56”H, red LED
Digital format	1 row of 4 digits 1 row of 2 digits (reclosing count down time)

- **Output**

Relay contacts	SPST for trip/reclose/buzzer
Contact capacity	AC 250V /DC 30V, 5A

- **Detection Input**

Rated voltage input	AC or DC 220V ± 30% AC or DC 110V ± 30%
Type	External lock & ON verify

- **Communication**

Interface	RS 485
Protocal	MODBUS, RTU framing
Baud rate	1200~38400 programmable
Address range	1~255 programmable
Data format	N.8.1/N.8.2/O.8.1/E.8.1
Number of meter	up to 32 256 (option)

- **General**

Dielectric strength	IEC 688, AC 2.3KV between terminals AC 3KV between terminal/case
Operating temperature	0~60℃
Storage temperature	-10~70℃
Max.humidity	90%

- **Immunity Test**

Withstanding impulse voltage	IEC 61000-4-5
Electrical transient in burst	IEC 61000-4-4
Electrostatic discharge	IEC 61000-4-2
Voltage dips and short interuptions	IEC 61000-4-11