

17. Applications

17.1 RAMP & SOAK

● **RAMP :**

- I. SET2.1=1 → To display AL3
- II. SET4.1=1 → To display ALD3
- III. ALD3=9 → Open RAMP option
- IV. Then, AL3 will not display. It was replaced by RAMP.

| |
|-------|
| RAMP |
| 00.00 |

Range : 00.00 ~ 99.99(°C / min)
 (If RAMP is not used , please set
 ALD3 to 0)

● **SOAK :**

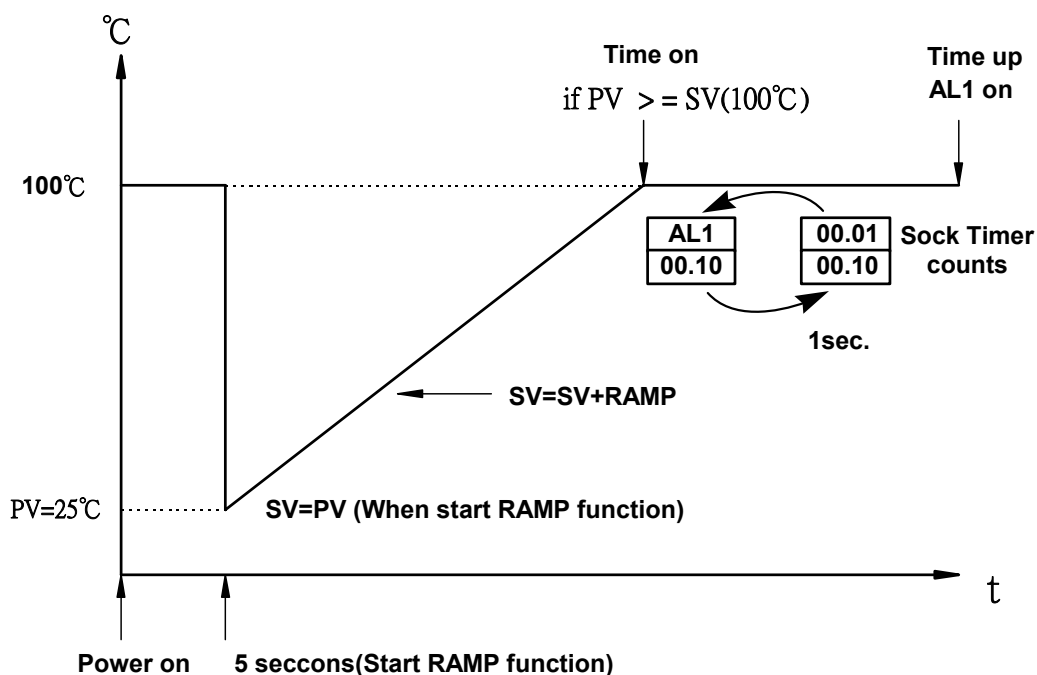
- I. ALD1 / ALD2=19 → To use Sock Timer.
- II. AL1 / AL2 will display as below:

| |
|-------|
| AL1 |
| 00.00 |

Range : 00.00 ~ 99.59(Hour.Minute)

● **Example :**

SV=100°C , RAMP=10.00 (°C/min) , AL1=00.10 min , PV=25°C



17.2 TTL Communication : SV output and RATE function

- **Open RATE function (use for slave controller)**

Display AL3 : SET2.1=1

Display ALD3 : SET4.1=1

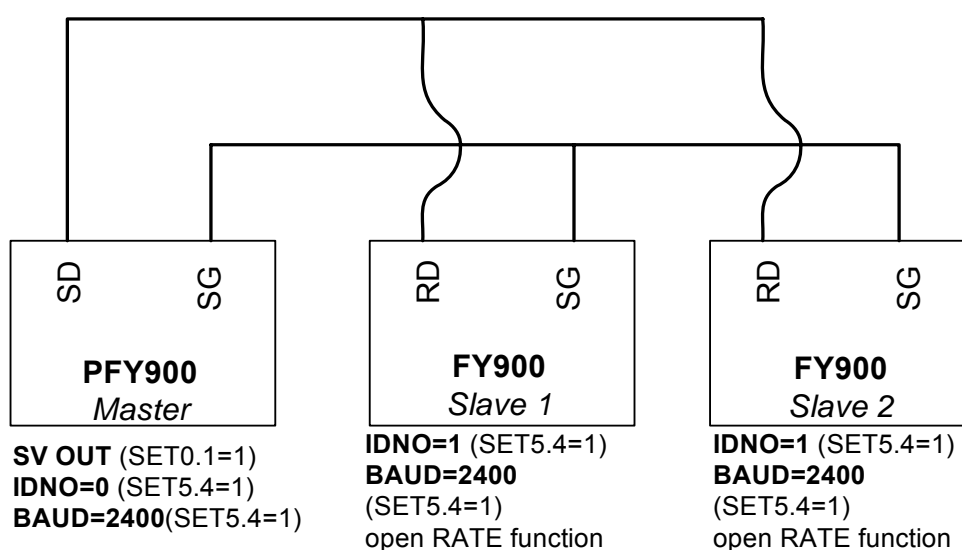
Display RATE(AL3 will be replaced) : SET0.2=1

Set ALD3 to 0. (In Level 3)

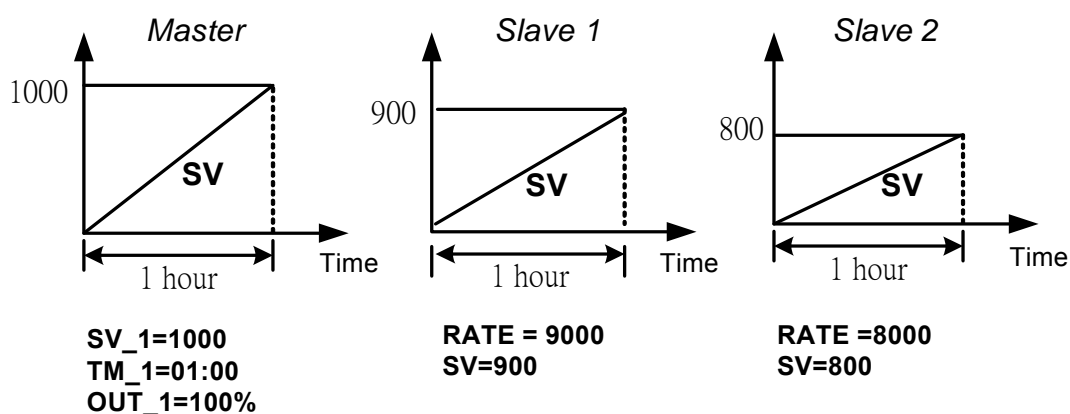
Slave SV = (RATE÷9999)×master SV

- **Example :**

Connection Diagram



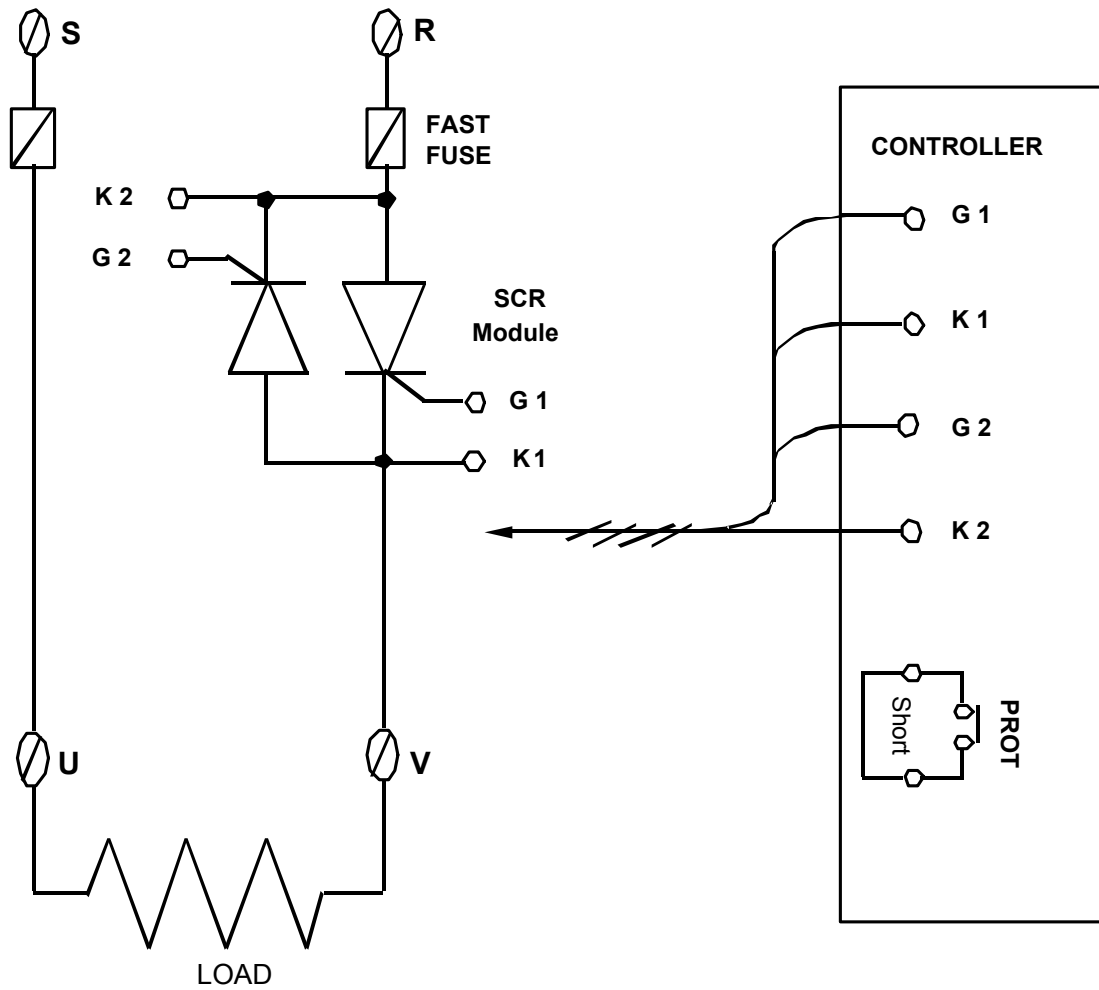
Time Chart



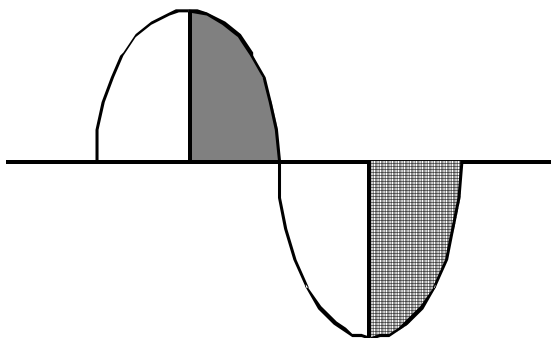
(Three controllers reach to the max value at the same time)

17.3 1 ϕ Phase angle control (By SCR module)

- Available Models : FY900 / PFY900 , FY700 / PFY700
- OUT1: 1 ϕ SCR phase angle control
- Parameter setting : OUTY=4
 CLO1=0 , CHO1=4500 if use for resistance load
 CLO1=0 , CHO1=4000 if use for inductor load

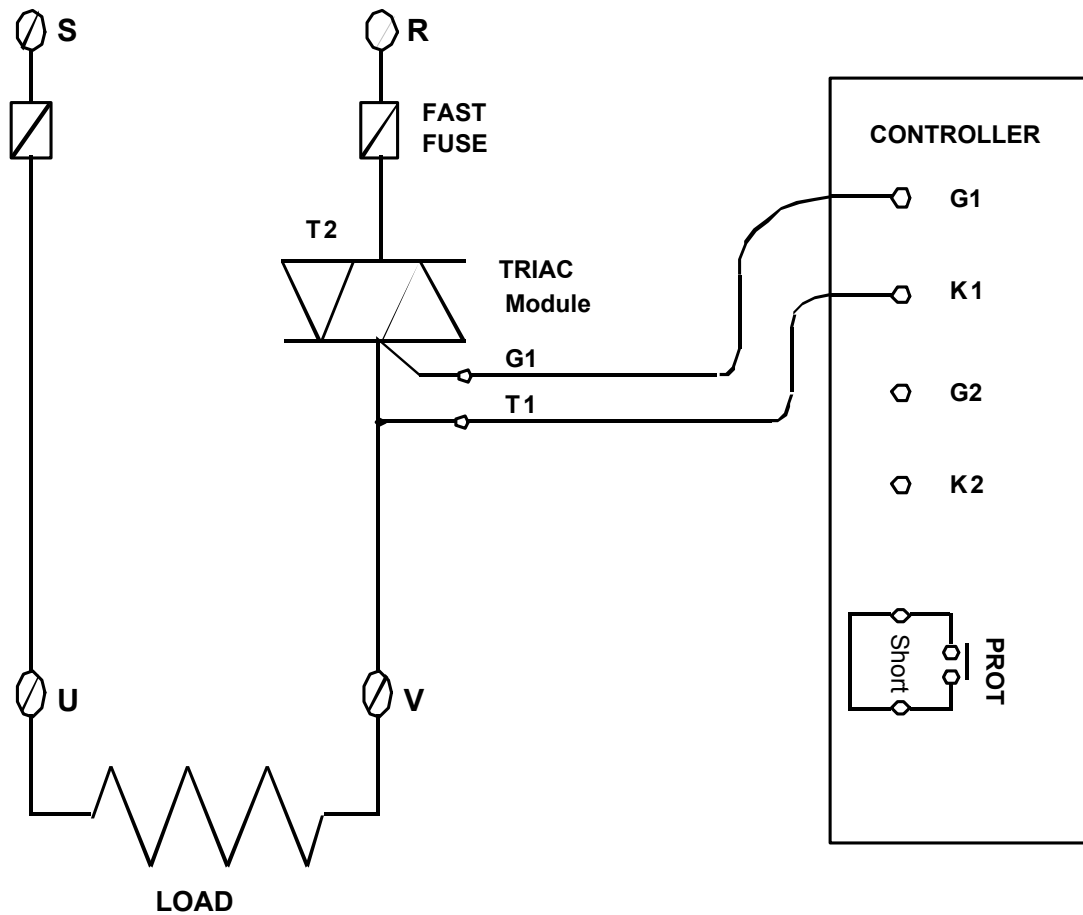


** Controller source phase must be same as load source phase

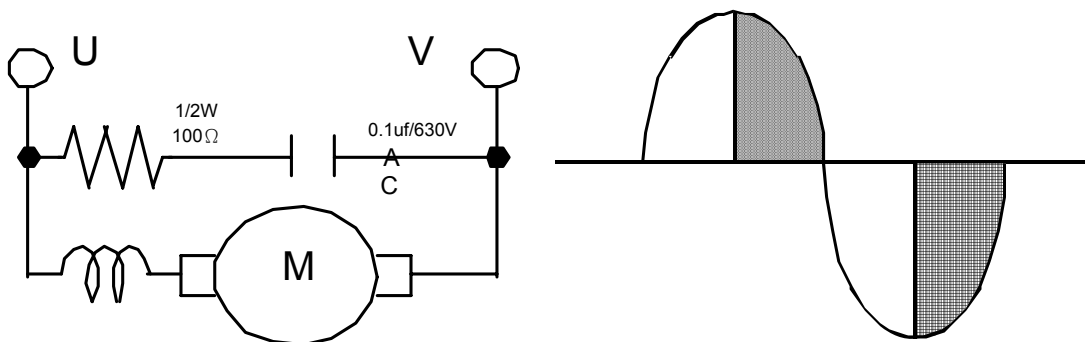


17.4 1 ϕ Phase angle control (By TRIAC)

- Available Models : FY900 / PFY900 , FY700 / PFY700
- OUT1: 1 ϕ SCR phase angle control
- Parameter setting : OUTY=4
 CLO1=0 , CHO1=4500 if use for resistance load
 CLO1=0 , CHO1=4000 if use for inductor load

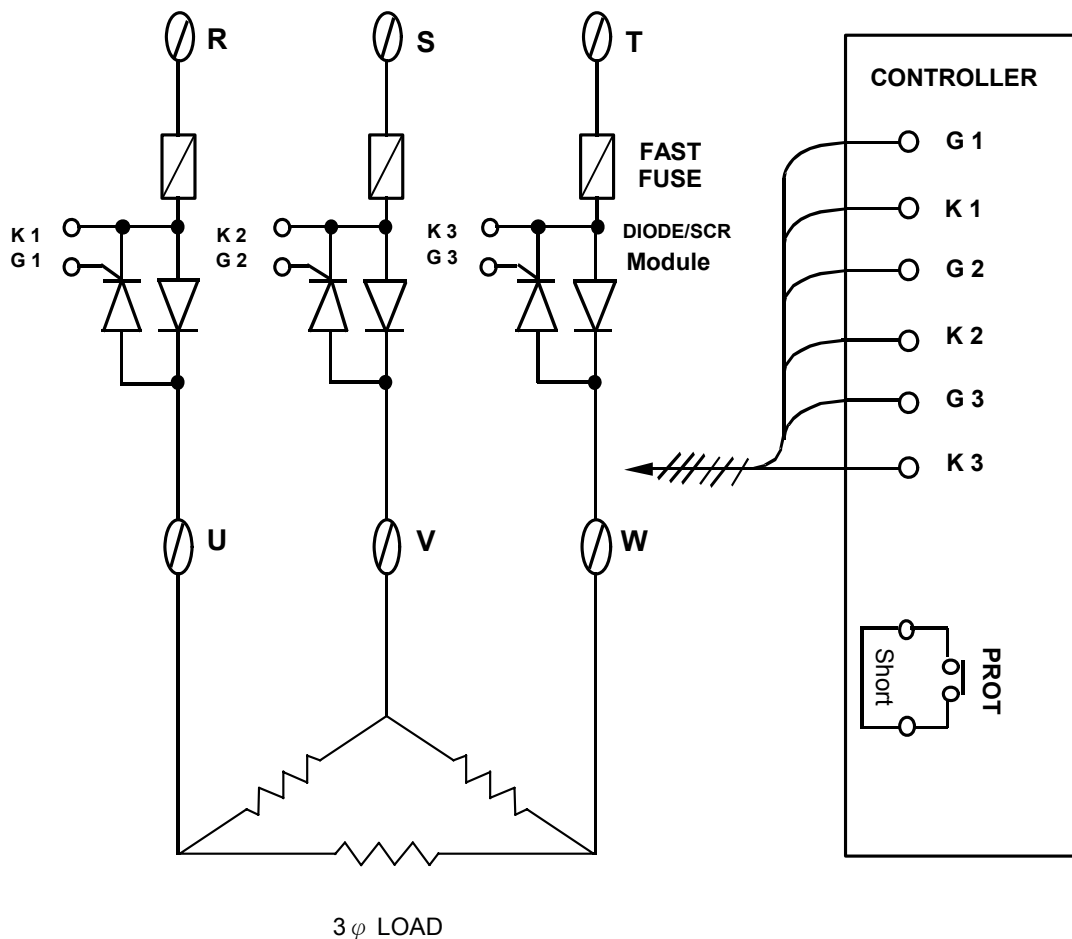


** Controller source phase must be same as load source phase



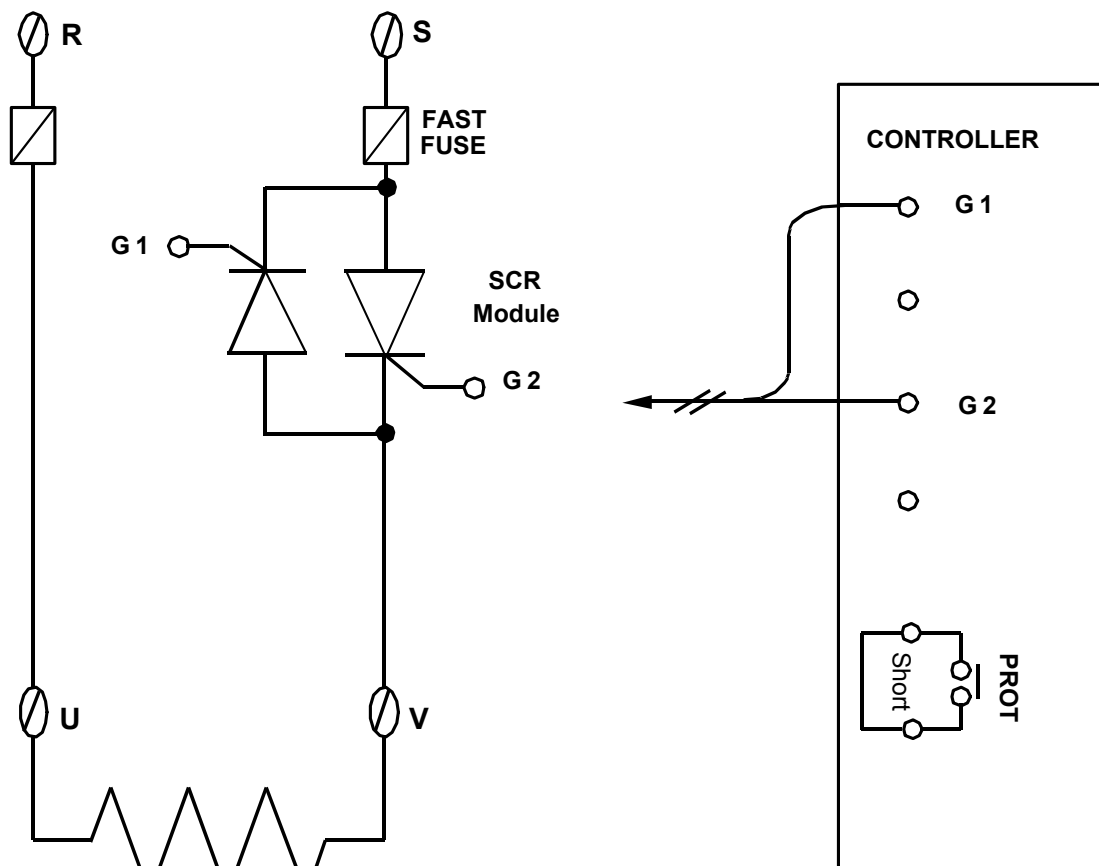
17.5 3 ϕ Phase angle control (By DIODE/SCR module)

- Available Models : FY900 / PFY900
- OUT1: 3 ϕ SCR phase angle control
- Parameter setting : OUTY=5
 CLO1=0 , CHO1=4500 only if use for resistance load
 CLO1=0 , CHO1=4000 if use for inductor load

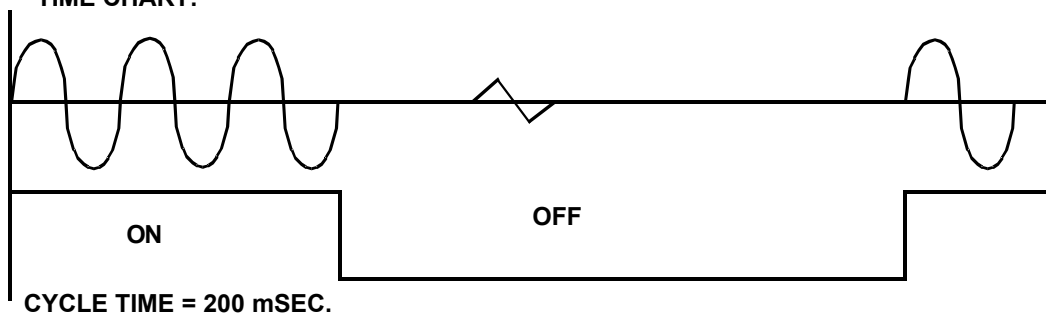


17.6 1 ϕ Zero crossing control (By SCR module)

- Available Models : FY900 / PFY900 , FY700 / PFY700
FY400 / PFY400
- OUT1: 1 ϕ SCR zero cross control
- Parameter setting : OUTY=0
CYT1=1

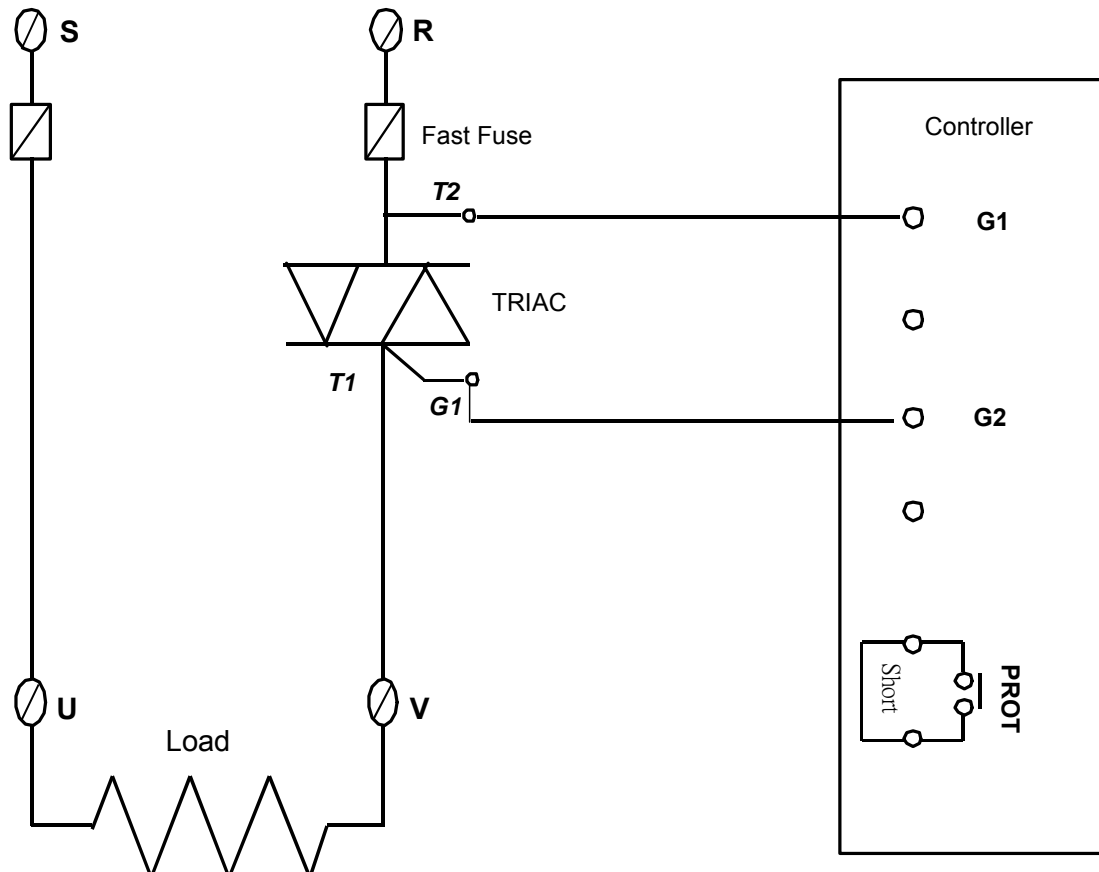


TIME CHART:



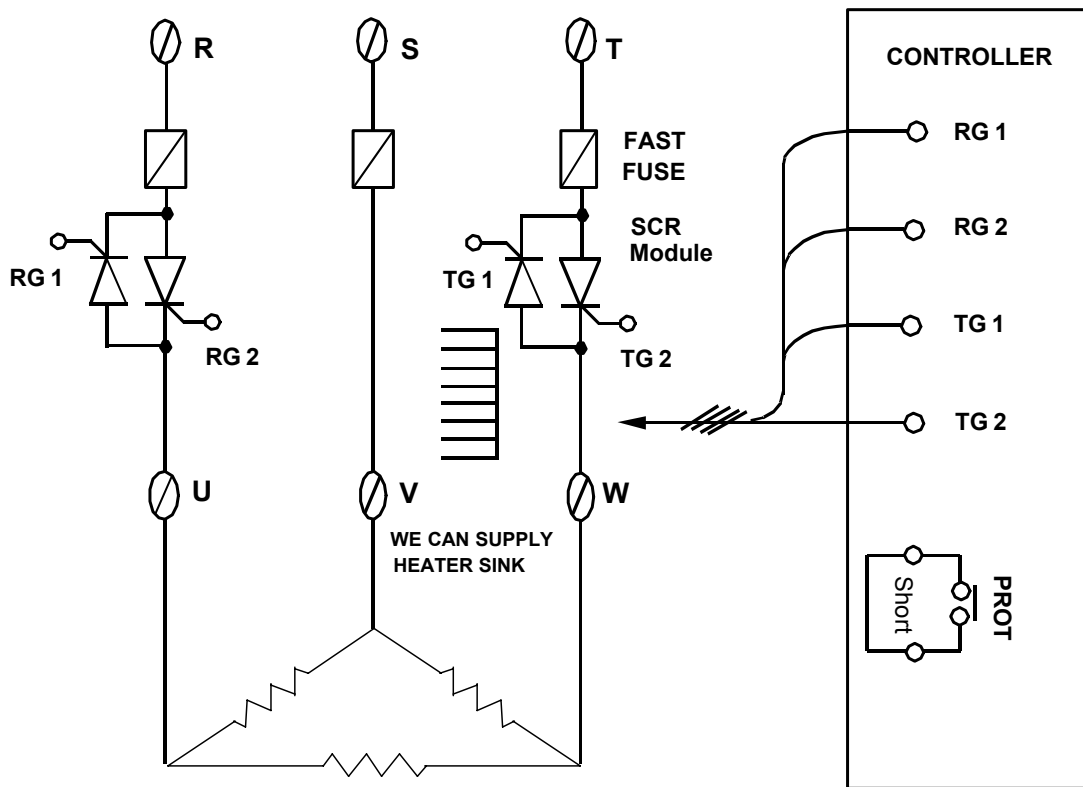
17.7 1 ϕ Zero crossing control (By TRIAC)

- Available Models : FY900 / PFY900 , FY700 / PFY700
FY400 / PFY400
- OUT1: 1 ϕ SCR zero cross control
- Data Change : OUTY=0
CYT1=1

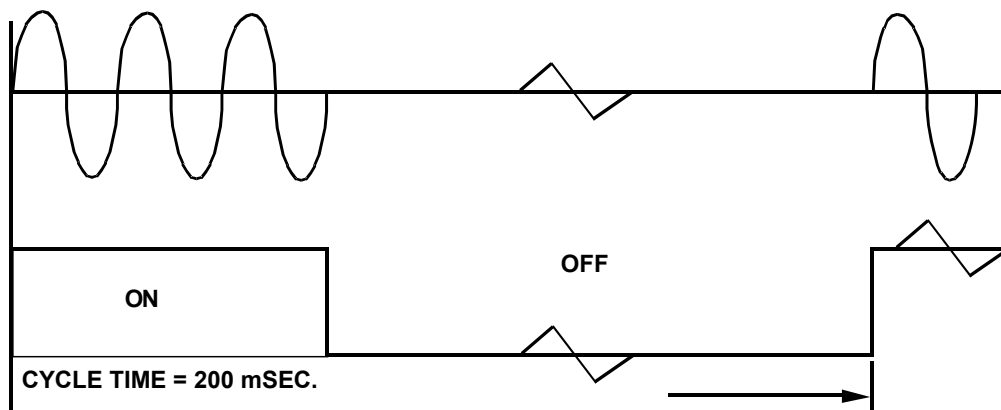


17.8 3 ϕ Zero crossing control (By SCR module)

- Available Models : FY900 / PFY900
- OUT1: 3 ϕ SCR zero cross control
- Data Change : OUTY=0
CYT1=1

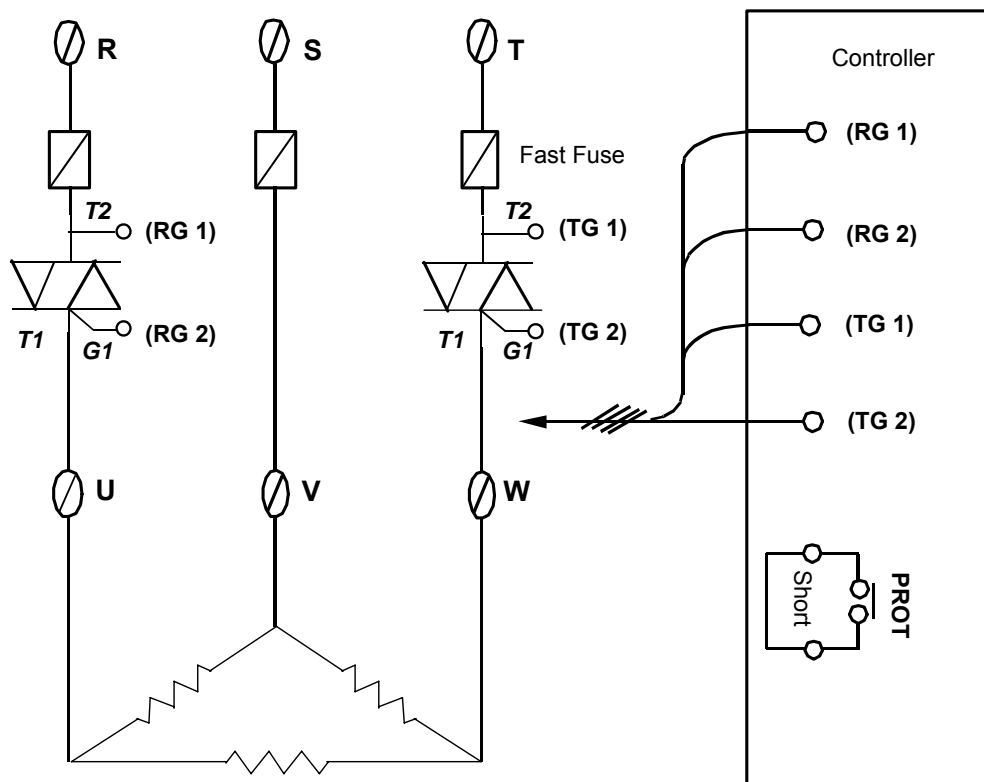


TIME CHART:



17.9 3 ϕ Zero crossing control (By TRIAC)

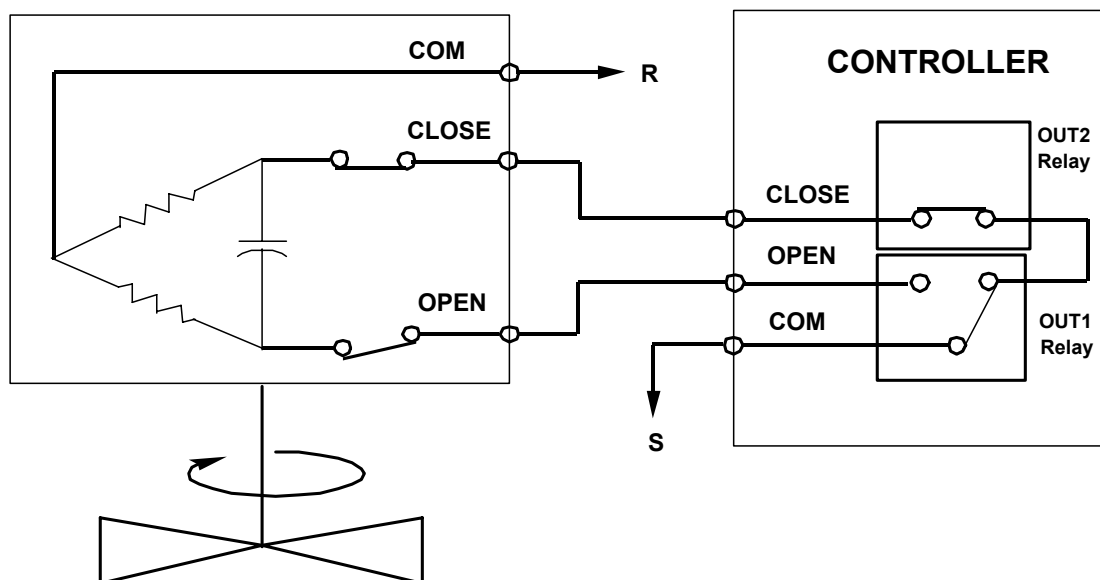
- Available Models : FY900 / PFY900
- OUT1: 3 ϕ SCR zero cross control
- Data Change : OUTY=0
CYT1=1



17.10 3 wires proportional motor valve control

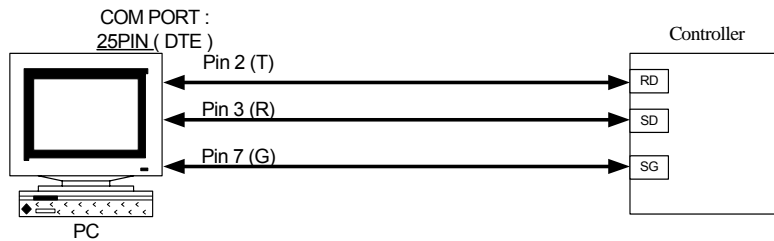
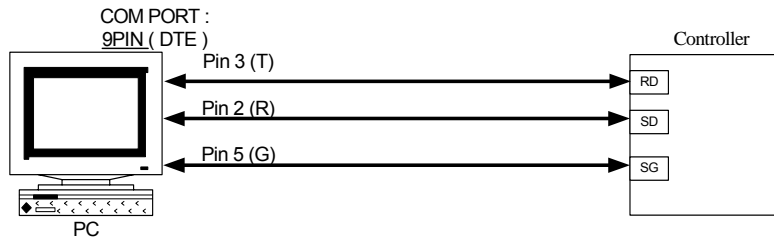
- Available Models : FY900 / PFY900 , FY700 / PFY700
FY800 / PFY800 , FY600 / PFY600
FY400 / PFY400
- Data Change : OUTY=3
CYT1=1 ~ 100sec.
(Manufacturing default setting "5" seconds.)
RUCY=5 ~ 200 seconds.
 1. CYT1 is the cycle time of Open / Close
 2. RUCY is the 0 ~ 100% running time of motor valve

MOTOR VALVE



17.11 Wiring diagram of PC communication

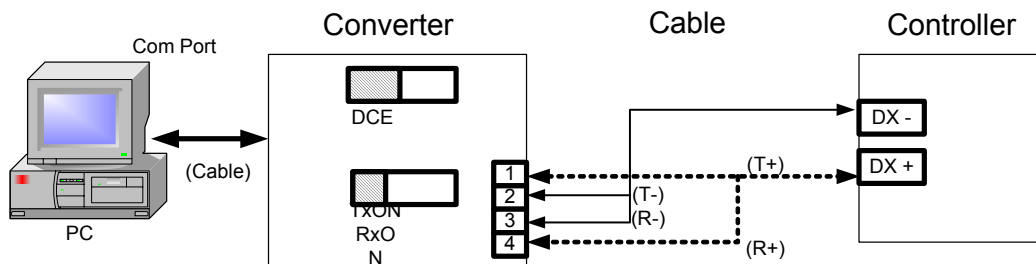
RS232 Connection Diagram



NOTE:

- 1.The length of cable be connected between controller and PC can't exceed 15 meter.
- 2.One Com Port can only be connected to one controller.
If more than one controller is connected to one Com Port , communication will be failed.
- 3.Ensure that the controller's IDNO and BAUD settings are the same with PC software's settings.
- 4.For the software DTE communication format please refer to communication manual.

RS485 Connection Diagram



NOTE:

- 1.The length of cable be connected between Converter and Controller can't exceed 1.2 KM.
Suggestion:choose "Shielded Cable".
- 2.One Com Port can be connected up to a maximum of 30 Controllers.
- 3.Ensure that the Controller's IDNO and BAUD settings are the same with PC software's settings.
- 4.For the software communication format ,please refer to communication manual.