

Electronic overload relays

60A Definite time characteristics



Description

- Small size, economical
- Delay time setting in starting and operation
- Over current, phase failure protection
- Definite time characteristics
- Wide current setting range
- Screw or Din-rail mounting

Extended protective functions

Number of sensors		2CT
Types (GMP-60T)		
Functions	Overcurrent	✓
	Phase loss	✓ Δ Note1)
	Locked rotor	✓
	Phase unbalance	
	Phase reversed	

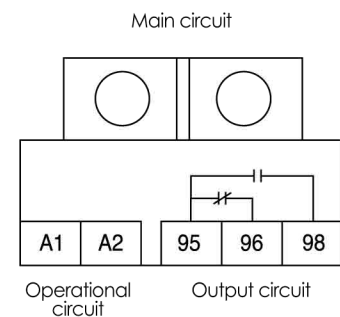
Ratings (Tunnel type)

Model		GMP60T
Type		Tunnel type
No. of CT		2
Current setting range(A)		0.5~6
		3~30
		5~60
Operating time characteristics		Definite time characteristics
Time setting (sec.)	Starting time	0.2~30
	Operating time	0.2~15
	Reset time	Manual reset
Allowable error	Current	$\pm 5\%$
	Time	$\pm 5\%$ (or ± 0.5 sec.)
Control power	Voltage	180~260V (110V / 440V) Note2)
	Frequency	50 / 60Hz
Aux. s/w	Contact	1SPDT (1c)
	Ratings	5A 250Vac, resistive load
	Operation	95 $\overline{}$ 96close
Insulation resistance		Min. 50M Ω at 500Vdc
Surge insurance(IEC 1000-4-5)		7kV(6times for 1min. Interval)
Fast transient burst(IEC 1000-4-4)		2.5kV/5min.
Environment	Operation	-25~70°C
	Storage	-50~80°C
Relative humidity		46~85 RH(No freezing)
Trip indicator		LED
Dimension(mm) W x H x D		72 x 63 x 69
Mounting type		Separate mount(Screw & Din-rail)
Applied MC		GMC-9, 12, 18, 32, 40, 50
Certification		UL, CUL, CE

Note 1) Under phase failure condition over current flows
The EMPR tripped if it is over the setting over current

Note 2) () are optional specifications

Contact configuration



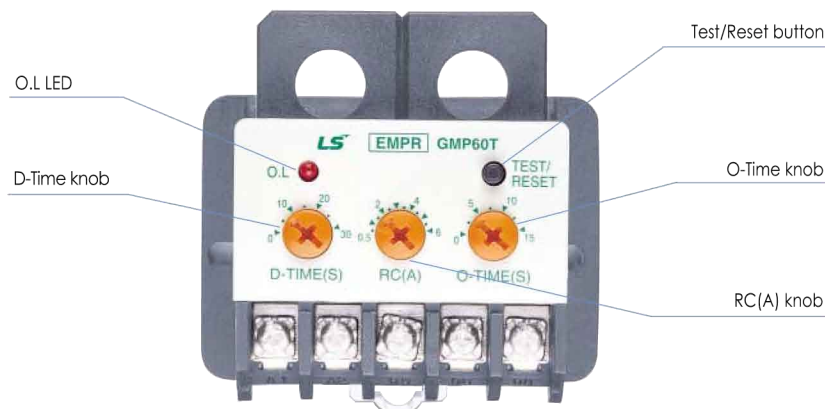
Tunnel type EMPR protects the current under 0.1A

- The tunnel type EMPR with 0.5~6A nominal current, can detect the current under 0.1A

If we increase the number of times of a wire pass through the CT (Tunnel), the EMPR can detect the lower current

No. of times to pass through	Current setting range
1	0.5~6
2	0.25~3
3	0.17~2
4	0.12~1.5

Operating and setting method



Tunnel type mounting

1. Check the Test/Reset button operation

Check if the EMPR operate in overcurrent

- 1) Check if the wiring is correct (Refer to the wiring diagram)
 - 2) Set the 'D-Time' and 'O-Time' knob to the min. ratings
 - 3) When the 'Test' button is pressed under tripped condition, the 'O.L' LED is turned off
 - 4) When you press the 'Test' button again then the lamp turned off and the EMPR reset
- Note)** In operation, even though you press the 'Test/Reset' button, the EMPR do not trip

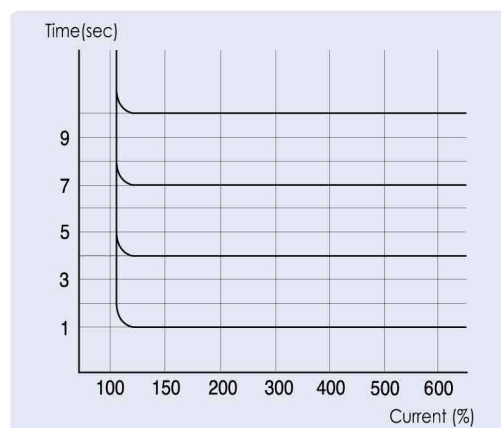
2. Set the operating time (Definite time characteristics)

● D-time (Delay time) : 0.2~30 sec

The motor starting current, which flows when the motor is starting, is generally 600~800% of the rated current and the delay time varies according to the load condition. It is the time during which the EMPR do not operated by over-current during the starting time

- 1) Set the delay time by use of the 'D-time' knob
- 2) In case you do not know the delay time, start the motor by setting the 'D-time' knob to the max. position and after checking the time during which the starting current become stable, set the D-time (In general pump, the setting time is 3~5 seconds)

Note) The time delay is forced time delay type, therefore if you make a mistake to select the time, the motor may be burn



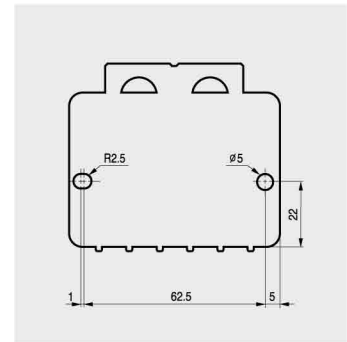
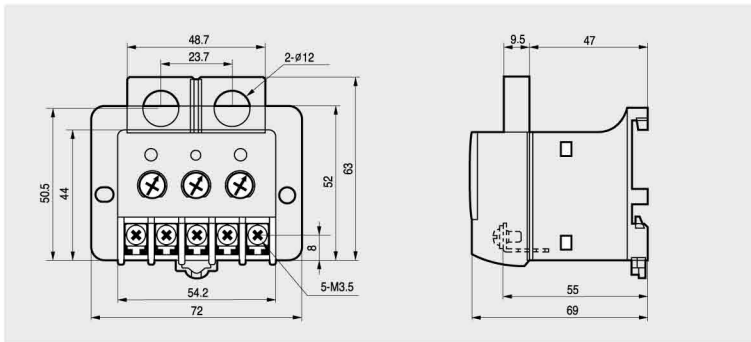
Definite time characteristics curve

● The operating time is the time during which the EMPR tripped by the over-current. The EMPR is tripped after the selected operation time

- 1) Set the operation time by the 'O-time' knob
- 2) In special case such as for mechanical shock relay, if you set the 'O-time' to the min value, the EMPR is tripped at once

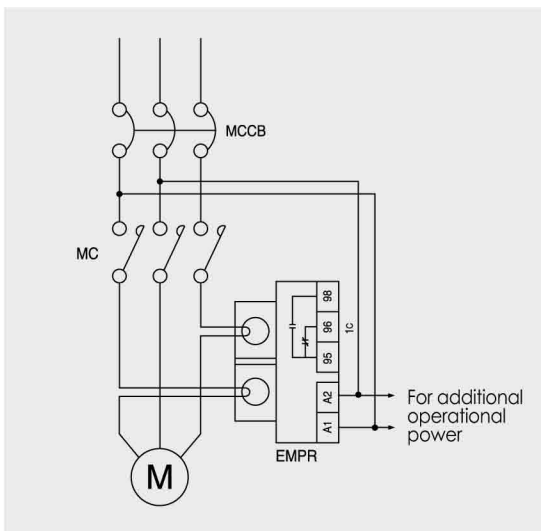
Note) Generally set it to 4~6 seconds

GMP 60T



0.42kg/0.46kg

Circuit diagram



Terminal configuration

