

FUJI ELECTRONIC TIMER, TYPE EMS

Because of the great popularity of automation in recent years, high reliability and capabilities are essential in control devices for wide applications. Semiconductors fulfill these two requirements and also have a long service life, and therefore the demands for devices employing transistors, thyristors etc. are rapidly expanding.

For several years, Fuji Electric has been manufacturing timers using semiconductors in the time limit parts and recently completely static timers including the output sections have been developed. Both of these have been well received but the previous ST and KT models using relays with contacts in the output section have been changed due to the development of the new EMS type electronic timer which is both compact and very functional. This new model will be introduced here.

The Fuji electronic timer EMS type is a static timer with basic characteristics for adjustable time limit operation. The time limit circuit contains a CR time constant circuit and a transistor switching circuit combined in a solid state circuit. The thyristor is fired by means of transistor switching and a magnetic relay is driven through the thyristor. Because of these components, the mechanical parts are few, service life is long, the timers can be used under conditions of short time limits and frequent operation and are suitable as time limit elements in all types of control devices and equipment.

Features

1) Long service life against frequent operation

Operation is stable and the service life long because all parts are solid state except for the output relay, circuit parts are carefully selected for high reliability and the output part consists of the highly functional Fuji control relay.

2) High accuracy

The time limit circuit contains unique voltage comparator circuits and the power source has a constant voltage circuit. Because of these, the time limit error is very small even if there are large

variations in the operating source voltage. The high quality capacitors and resistors used in the time limit circuit mean that the repeat error is also very low.

Repeat accuracy: $\pm 1\%$ (1 sec. rating is $\pm 2\%$)

Influence of voltage variations: $\pm 1\%$ (85~115% of rated voltage)

Influence of temperature variations: $\pm 4\%$ (0~40°C)

3) Multicontact output

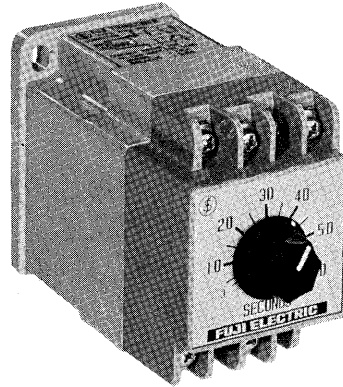
The output circuit contains 2 transfer on-delay contacts and independent operation of 2 circuits is possible with one timer. If the 2 output contacts are arranged in parallel, the contact reliability of the timer is greatly increased.

4) High insulation withstand

The timer has an insulation withstand of ac 2000 v. There are also appropriate protection circuits against external surges. These timers are therefore suitable for control equipment in power and heavy industry.

5) Compact, lightweight, can be installed anywhere

This compact timer uses the same hole dimensions and the space occupied is the same as that of Fuji Electric's SRC 3631-0 type magnetic contactor. This greatly simplifies equipment construction. The timer can be installed on either horizontal or vertical surfaces. The excellent screw-type terminals make for easy connections.



Specifications

Type	Installation method	Input side specifications			Timing range (sec.)	Output side specifications	
		Voltage (v)	Frequency (Hz)	Approximate power consumption		Type of output	Maximum continuous current
EMS	Surface type	100	50/60	1.2 va	0.1~1 0.5~5 1~15 1.5~30 3~60	On-delay 2 transfer contacts	3 amp
		200	50/60	2.4 va			
		24	dc	1.5 w			
		48	dc	1.5 w			
		100	dc	1.5 w			