

ALL TRANSISTORIZED SPEED REGULATOR FOR KS MOTOR, MODEL KSR-T 1

With the increasing automation of industrial machinery, demand has become continually greater for the variable speed motor with the easy automatic control as the power unit. Our "KS motor"—a cage motor with a KS coupling (eddy current magnetic coupling)—ideally meets the requirement for a simple and economical variable speed motor. We proudly present the newly developed KS speed regulator, Model KSR-T1, for the KS motor.

1. Principle and Construction

The KS speed regulator, model KSR-T1 is an all transistorized, proportional integral action type regulator. For adjustment of system deviation our unique 2-position oscillation amplifier is used to provide maximum power with very little consumption of electricity. The KS speed regulator is constructed to hang on the wall the speed indicator, the speed setting switch, power switch and power indicating lamp are mounted on the front which permits easy reading and control with this KSR-T1.

Furthermore terminals are provided for both external speed indicator and input power indicator for necessary control. On the terminal board for the external wiring, our terminal arrangement (Model FK 3.5) permits use of stranded wire as well as solid wire. Connections can be made easily and accurately without using the press terminal.

2. Special Features

1) Superior static characteristics

Static characteristic of this KSR-T1 far surpasses that of the conventional magnetic amplifier type.

2) Excellent dynamic characteristics

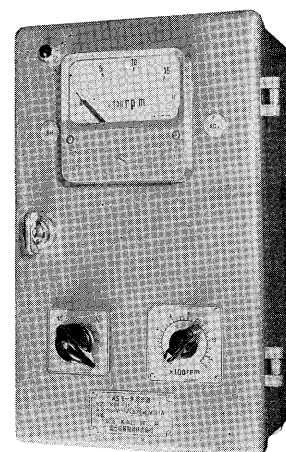
Because of the transistorized speed regulator, dynamic characteristics (follow-up control for load variation, voltage fluctuation, change of speed setting etc.) are excellent.

3) Stable control

Both proportional region (P) and reset time (I) are adjustable and stable control is assured under any load.

4) Direct coupling to the instrument control is possible

By means of the directly coupled instrument control, besides speed control, the KSR-T1 can be applied to proportional action control, cascade control, program control and so on.



3. Specifications

Regulation input : dc 10 v/100%

Maximum output : dc 40 v 3 amp

Proportional region (P): 0~20% (continuously variable)

Reset time (L): 2, 3, 5 seconds

Offset : Under 1%

Permissible ambient temperature : 0~45°C

Power source : Three phase $\frac{200/200 \text{ v}}{220/220 \text{ v}}$ 50/60 c/s

Power consumption : Maximum 250 va

Speed control :

1) Applied KS motor : Up to 15 kw

2) Speed regulation range :

$1 : 10 \begin{pmatrix} 120 \sim 1200 \text{ rpm} & 50 \text{ c/s} \\ 150 \sim 1500 \text{ rpm} & 60 \text{ c/s} \end{pmatrix}$

Under some load conditions, speed regulation of more than 1:10 is possible, but this should be undertaken only after consultation with us.

3) Speed regulation :

(1) Under $\pm 1\%$ of the maximum speed when the load torque variation is 10~100%.

(2) Under $\pm 0.5\%$ of the maximum speed when the power voltage change is under $\pm 10\%$.

(3) Not affected by the fluctuation of power frequency.

(4) Under $\pm 1\%$ of the maximum speed when the ambient temperature change is $25^\circ\text{C} \pm 20^\circ\text{C}$.

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