

°C	<i>Plug-In Type</i>	Series EM51
%RH		
SHIMADEN	SERVO CONTROLLER	



BASIC FEATURES

- *Adjusts the rotation angle of the control motor (with F.B.POT) in proportion to the control input signal*
- *Feedback resistance (with F.B.POT) is optional between 100Ω and 2kΩ*
- *Output selectable from relay contact or triac (SSR)*
- *Plug-in type, mounting type for both panel surface and DIN rail*
- *RoHS directive supported*

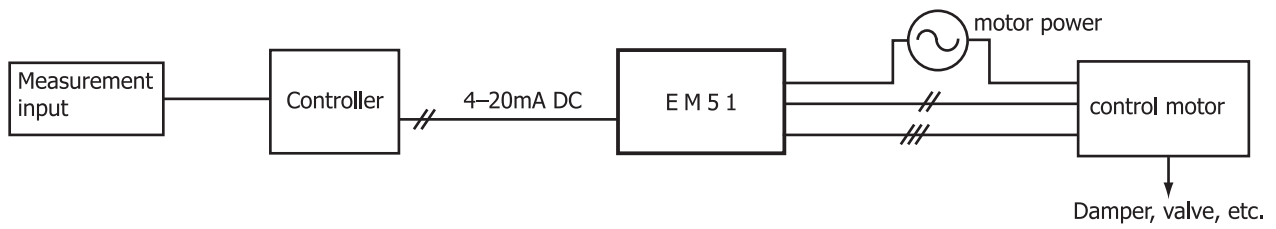
SPECIFICATIONS

SERIES EM51

- Input: : See ordering information.
- Feedback Resistance : 100Ω to 2kΩ random / 3-wire
- Output : Relay contact or Triac (SSR) (SSR/zero-cross switching)
- Output Rating / Contact Protection
 - Relay contact : 240V AC, 1A (inductive load) / CR Absorber
 - Triac (SSR) : 20 to 120V AC / (inductive load) / CR Absorber + varistor
- Hysteresis : Approx. 0.5% fixed of input signal range
- Dead Band (DB) : 1 to 10% variable of input signal range
- Dead time : Approx. 0.2 seconds (chattering prevention)
- Opening adjustment range : 0% (ZERO) / 0 to 20% variable
: 100% (SPAN) / 70 to 100% variable
- Output Operation Display : M2-M1 conducted / LED green lighting
M2-M3 conducted / LED red lighting
- General specifications
 - Operating Ambient Temperature
 - Range : -10 to 50 °C
 - Humidity : 90% RH max. (no condensation)
 - Altitude : Altitude below 2000m
 - Overvoltage category : II
 - Pollution degree : 2 (IEC 60664)
 - Storage temperature : -20 to 65 °C
 - Power Supply : See ordering information
 - Power Consumption : Approx. 4VA
 - Applicable standards : RoHS directive supported
 - Insulation Resistance : 500V DC, 100MΩ between the input and power supply terminals
500V DC, 100MΩ between the output and power supply terminals
 - Dielectric Strength : 1 min. at 1000V AC between the output and power supply terminals
 - Material : ABS resin molding
 - External Dimensions : 80 (H) × 50 (W) × 130 (D) mm
 - Installation : 11-pin plug-in type, panel or DIN rail mounting
 - Weight : Approx. 350g

ORDERING INFORMATION

ITEM	CODE	SPECIFICATIONS	
SERIES	EM51-	Plug-in Type Servo Controller	
CONTROL INPUT	1	1 to 5mA DC, Receiving resistance: 250Ω	
	2	4 to 20mA DC, Receiving resistance: 62Ω	
	3	0 to 10V DC, Input resistance: 200kΩ	
	5	Potentiometer 100Ω to 2kΩ 3-wire system	
	9	Others (Please consult before ordering.)	
OUTPUT	Y	Contact 240V AC, 1A (inductive load) With CR absorber	
	R	Contact 240V AC, 1A (inductive load) without CR absorber	
	S	Triac 20 to 120V AC, 1A (inductive load) (Motor Supply Voltage: 20 to 120V AC)	
POWER SUPPLY	13-	100 to 110V AC ±10%	50/60Hz
	14-	110 to 120V AC ±10%	50/60Hz
	15-	200 to 220V AC ±10%	50/60Hz
	16-	220 to 240V AC ±10%	50/60Hz
	99-	Others (Please consult before ordering.)	
REMARKS	0	Without	
	9	With (Please consult before ordering.)	



RELAY ACTIONS

Characteristic	Run	Increased	Balanced	Decreased
RA 	Heat	M2-M1: ON (Open) 	M2-M1, M3: OFF (Stop) 	M2-M3: ON (Close)
DA 	Cool	LED Green lights	LED off	LED Red lights.

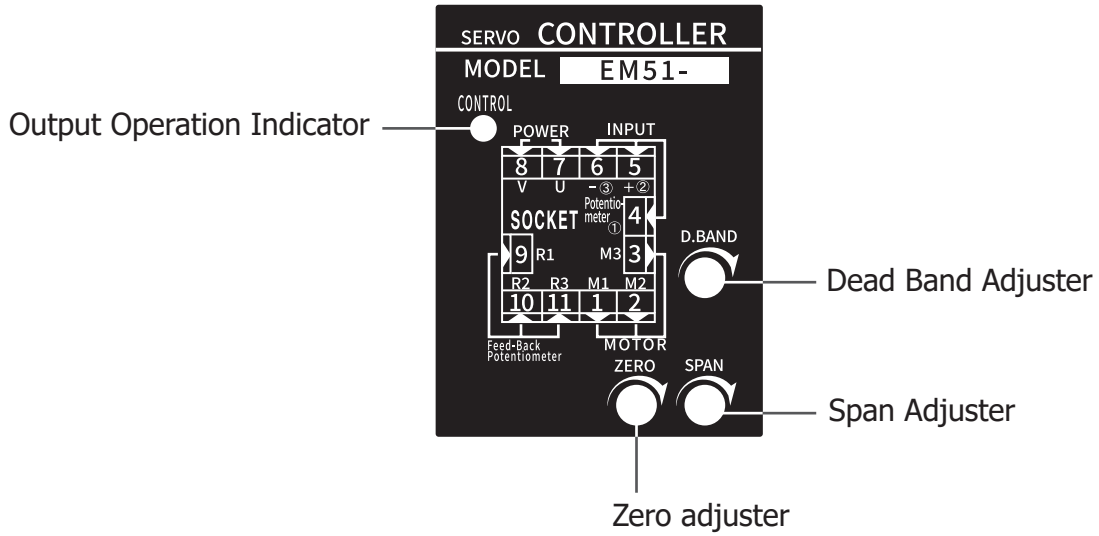
CONNECTION DIAGRAM

CONTACT

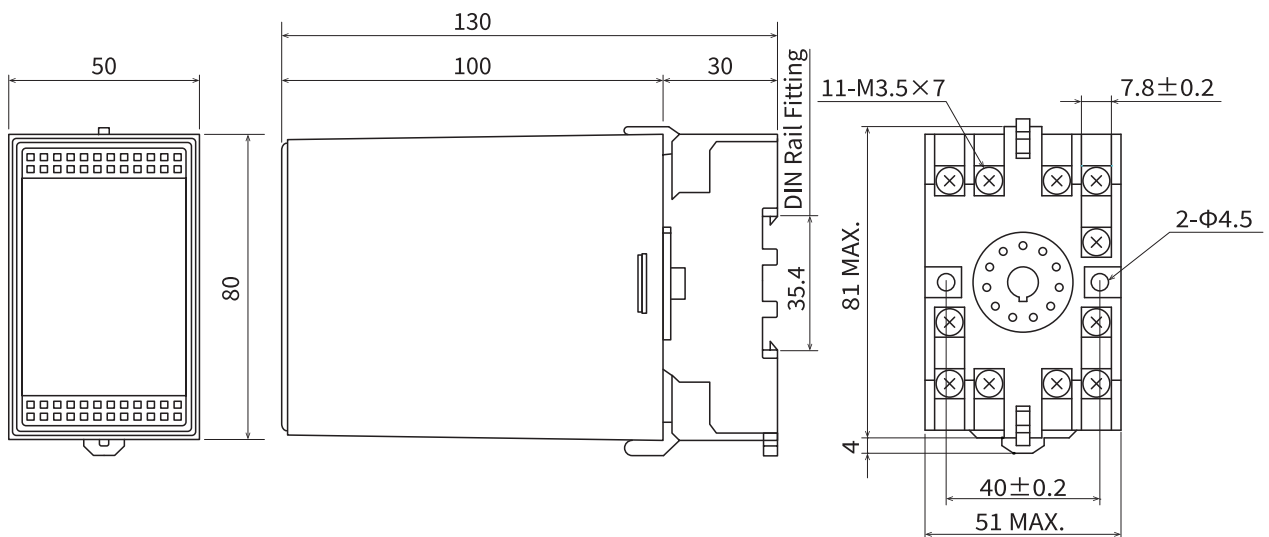
TRIAC (SSR)

- Match the motor power supply to the rating of the motor used.
- When reversing the motor rotation, convert the terminal connections M1-M3 and R1-R3 as per the dotted lines.

- CW : Clockwise rotation (open)
- CCW : Counterclockwise rotation (closed)
- F : Fuse



EXTERNAL DIMENSIONS AND PANEL CUTOUT



Unit: mm

Warning

- The EM51 series are designed for the control of temperature, humidity and other physical values of general industrial equipment. (They are not to be used for any purpose which regulates the prevention of serious effects on human life or safety.)

Caution

- If the possibility of loss or damage to your system or property as a result of failure of any part of the process exists, proper safety measures must be made before the instrument is put into use so as to prevent the occurrence of trouble.

Head Office & Saitama Factory
ISO 9001/ISO 14001 Certification Obtained

(The contents of this brochure are subject to change without notice.)

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