

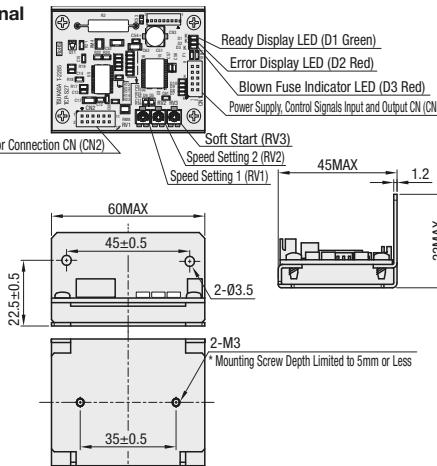
# Motor Type

# Switch Mode Power Supply (SMPS) - Overview

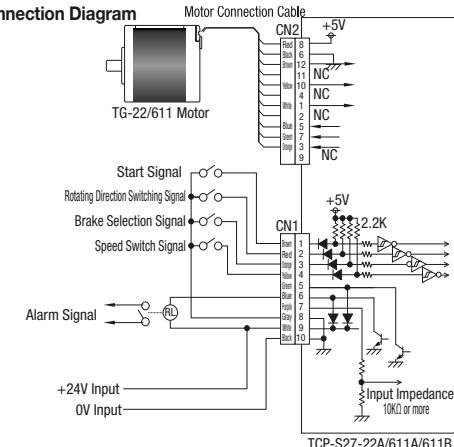
## ■ Motor Manufacturer DA (TSUKASA ELECTRIC CO., LTD)

### • DC Geared Motor Driver Details

#### ■ Dimensional Drawings



#### • Connection Diagram



## ■ Specification

Item	Description
Applicable Motor	Part Number: TCP-S27A-611B Magnet Pole Sensor: Hall IC (Square-wave Output)
Power Supply Voltage	Within 24VDC ±10% (Within 12VDC±10%)
Control Circuit Power Consumption	1W or less
Rated Output Current <sup>1</sup>	280mA
Overload Current	340mA
Current Limit Value	2.2A
PWM Frequency	Approx. 20.0KHz
Speed Variable Range <sup>2</sup>	200~6900rpm
External Speed Command Factor	1500rpm/V
Speed Setting (Rotation Speed Setting)	Internal Driver Settings: 2 systems of RV1 and RV2 (can be switched by speed switch input) External speed command input: 1 system
Soft Start Setting <sup>4</sup>	Can be configured as 1.67 sec/1000 rpm Max. with RV3 Works at startup and speed increase by speed command (D1 blinking when working)
Protection Function <sup>5</sup>	Overload: Shuts off the output to retain the state if the current exceeding the rated output has flown continuously. (Reset by start input "Open" and power-on again)  Sensor Error: Shut off the output by detecting an error code of the sensor signals (Reset by start input "Open" and power-on again)  Motor Restrained: Shut off the output by detecting motor lock (Reset by start input "Open" and power-on again)  Overcurrent: Shut off the output by detecting abnormal motor current  Fuse Protection: Shut off the circuit by detecting abnormal power current
Operating Environment	0~40°C, 85%RH or less (No condensation) To be used in the atmosphere with thermal convection
Storage Environment	-10~60°C, 85%RH or less (No condensation)
Accessory	Motor Connection Cable (50 cm) Power Supply / Control Signal I/O Cable (50 cm)
Mass	Approx. 30g (Main Body only)

<sup>1</sup>The rated output current is the continuous allowable current when combined with a supported motor. Make sure to use it at a current equal to or lower than the allowable current (allowable torque) for the geared motor you use.

<sup>2</sup>The maximum value of the speed variable range is proportional to the power voltage. The value listed here is the no-load rotation speed at 24V input.

<sup>3</sup>This driver has second quadrant operations and cannot be used for applications with gravity load applied.

<sup>4</sup>The soft start function only works during acceleration and does not work during deceleration.

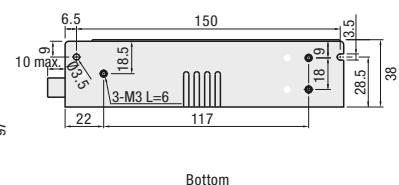
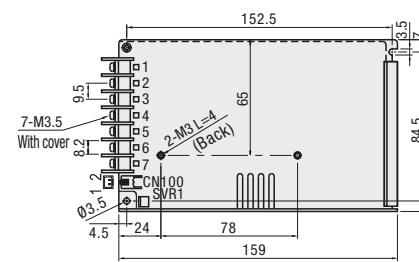
<sup>5</sup>Make sure to perform resetting after removing the cause when the protection function is activated.

<sup>6</sup>For the motor rotation speed, the highest setting value among RV1, RV2, and the speed command input takes precedence. To use the external speed command input, set RV1 and 2 to 0. To use the internal speed setting, set the external speed command input to Open or 0V.

## ■ DC5V, DC12V Output



## • 100W



## ■ Specification

### MISUMI Part Number

ESP10-100-24

Input Voltage

85~264VAC, 120~370VDC

Input Frequency

47~63Hz

Input Current (115/230VAC)

1.2A/0.6A

Input Inrush Current (115/230VAC)

35A/65A

Output Voltage

24V

Output Current

4.5A

Maximum Output Power

108W

Output Ripple Noise

150mVp-p

Variable Range for Output Voltage

22.8~28.8V

Output Voltage Allowable Tolerance

±1.5%

Maximum Input Variation in Output Voltage

±0.2%

Maximum Load Variation in Output Voltage

±0.5%

Efficiency

88%

Starting Time (115/230VAC) Max. Load

2.5s/2.5s

Holding Time (115/230VAC) Max. Load

20ms/50ms

Overcurrent Protection

Constant current and voltage dropping type, Automatic Reset 105~135%

Overvoltage Protection

Output shut down, Reset by re-application of power 30.0~34.8V

Serial Operation

Possible

Parallel Operation

Not Possible

Function

Remote ON/OFF: possible

LED Display: Green

Operating Environment

Temperature -40~+40°C (100%)

(100%)C(100%) -40~+60°C (50%)C(50%)

Humidity 20~90%RH (No Condensation)

Cooling Natural ventilation

Insulation Resistance 100MΩ or more (in 500VDC mega): Between input-output, input-FG, output-FG

Between input-output: 3kVAC

Between input-FG: 1.5kVAC

Between output-FG: 0.5kVAC for one minute respectively

Safety Standard UL60950-1, TUV EN60950-1

Harmonic Input Current Regulations EN61000-3-2,3

Applicable Standards EMI EN55022 class B

EMS EN61000-4-2,3,4,5,6,8,11

EN55024, EN61000-6-2

Expected Service Life (40°C, Max. Load) Approximately 10 years

Thread Size of Terminal Block / Cover M3.5 Screw/With cover

Mass 380g

<sup>\*</sup>Available as an alteration when purchasing belt conveyor.

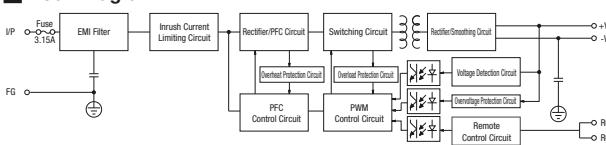
## ■ Terminal Pin No.

Pin No.	Pin Name	Pin No.	Pin Name
1	AC/L	4.5	DC Output -V
2	AC/N	6.7	DC Output +V
3	FG ±		

## ■ Remote ON/OFF (CN100): JST B-XH

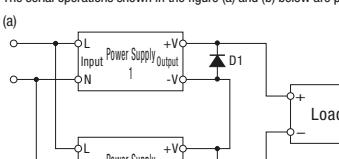
Pin No.	Pin Name	Applicable Housing	Contact
1	RC-	JST XHpt	JST SXH-001T
2	RC+		

## ■ Block Diagram



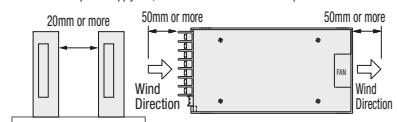
## ■ Serial Operation

The serial operations shown in the figure (a) and (b) below are possible.



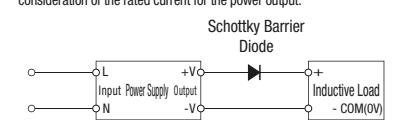
## ■ Precautions When Mounting

Make sure to arrange the power supply so that heat will not accumulate, since it is designed as a naturally-cooled unit. Please keep clearance more than 20mm around it. When you use more than one power supply unit, clearance more than 20mm is required between the units.



## ■ Precautions on Connection with Inductive Load

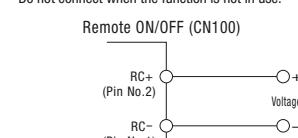
Note that when voltage exceeding the output voltage range is externally applied to the output terminal, this may cause failure in the power supply. When inductive load is used, be sure to externally connect a schottky barrier diode. Select an appropriate schottky barrier diode in consideration of the rated current for the power output.



## ■ Remote ON/OFF Function

Use the remote ON/OFF function to turn the power ON and OFF with external signals.

Do not connect when the function is not in use.



## ■ Power Supply Operation Voltage Input (between RC+ and RC-)

Power ON	0~0.8VDC
Power OFF	DC 4~10VDC