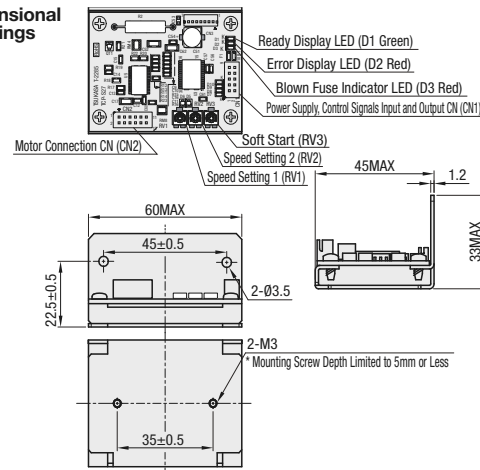


Motor Type

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

• DC Geared Motor Driver Details

■ Dimensional Drawings



■ Specification

Item		Description
Applicable Motor	Part Number	TCP-S27A-611B
	Magnet Pole Sensor	Hall IC (Square-wave Output)
Power Supply Voltage		Within 24VDC $\pm 10\%$ (Within 12VDC $\pm 10\%$)
Control Circuit Power Consumption		1W or less
Rated Output Current ^{*1}		280mA
Overload Current		340mA
Current Limit Value		2.2A
PWM Frequency		Approx. 20.0KHz
Speed Variable Range ^{*2}		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 ^{*4}		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 ^{*5}		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)

*1: The rated output current is the continuous allowable current when combined with a supported motor. Make sure that the total current does not exceed the rated current of the inverter.

*2: 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 24 V input.

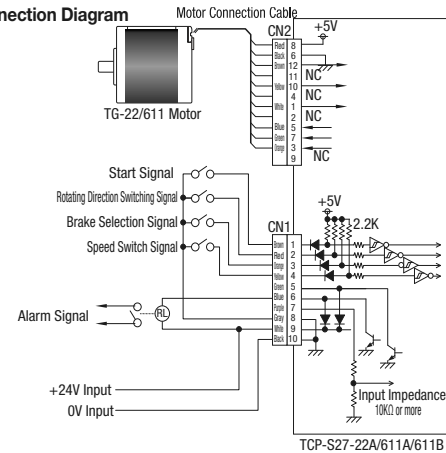
*3: This driver has second quadrant operations and cannot be used for applications with gravity load applied.

*4: The soft start function only works during acceleration and does not work during deceleration.

*5: Make sure to perform resetting after removing the cause when the protection function is activated

*6: 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 0 V.

- **Connection Diagram**

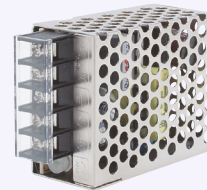


Input/Output Signal

Name, Pin No.	Lead Color	Signal Name	Description	
CN1 (Power Supply, Control Signal I/O)	1	Brown	Start Input	"H": Stop, Alarm Reset "L": Rotating Operation
	2	Red	Rotating Direction Switch Input	"H": CW Rotation "L": CCW Rotation
	3	Orange	Brake Selection Input	Select the stop method when the start input switches to "H" "H": Select Free-run Stop "L": Select Brake Stop
	4	Yellow	Speed Switch Input	"H": Select RV1 "L": Select RV2
	5	Green	Rotation Synchronization Signal Output	Output 6 pulse/rotation signal synchronized with the rotation
	6	Blue	Alarm Output	Output transistor turns ON when detecting overload, sensor error, overcurrent Output transistor is OFF during normal state
	7	Purple	External Speed Command Input ^{*)}	Input Voltage: 0~5V (10V MAX) Input Impedance: 10KΩ or more
	8	Gray	GND	Ground for Control Input Signal (Same potential as CN1-10)
	9	White	Power Input	+24V Input
	10	Black		0 V Input (Same potential as CN1-8)
CN2 (Motor Signal I/O)	8	Red	+5V	5V Output for Magnet Pole Sensor (Cannot be used for other applications)
	6	Black	GND	GND for Magnet Pole Sensor
	12	Brown	Sensor Signal Input	A Phase
	11	-		Not in Use
	10	Yellow		B-phase
	4	-		Not in Use
	1	White	Motor Output	C-phase
	2	-		Not in Use
	5	Blue		A-phase Coil
	7	Green		B-phase Coil
	3	Orange	C-phase Coil	
	9	-	NC	Not in Use
Status Display LED	Ready Display LED (D1: Green)		Ready State (Drive-ready): Light ON Soft Start Operation: Blinking Error: Light OFF	
	Error Display LED (D2: Red)		Normal Operation: Light OFF Power-on Reset: Light ON (0.5 sec) Current Exceeding Overload Detected: Light ON Sensor Error: Continuous Lighting Motor Lock Detected: Blinks Once Overload Detected: Blinks Twice	
	Blown Fuse LED (D3: Red)		Turns ON when Fuse blown	
Adjustment VR	RV1 ^{*)}		Speed Setting SP1 (Set to 0 at the time of shipping)	
	RV2 ^{*)}		Speed Setting SP2 (Set to 0 at the time of shipping)	
	RV3		Soft Start Setting SOFT (Set to 0 at the time of shipping)	

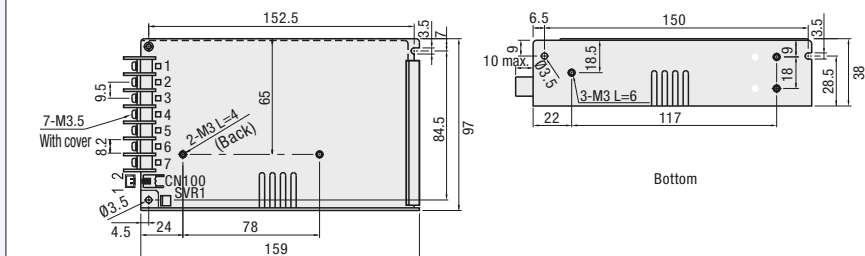
Switch Mode Power Supply (SMPS) - Overview

■DC5V, DC12V Output



RoHS

•100W



Bottom

■ 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 drooping 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
Operation Indicator		LED Display: Green
Operating Environment	Temperature	-40~+40°C (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
Withstand Voltage		Between input-output: 3kVAC Between input-FG: 1.5kVAC Between output-FG: 0.5kVAC For one minute respectively
Applicable Standards	Safety Standard	UL60950-1, TUV EN60950-1
	Harmonic Input Current Regulations	EN61000-3-2,3
	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
Threat Size of Terminal Block / Cover Mass		M3.5 Screw/With cover 380g

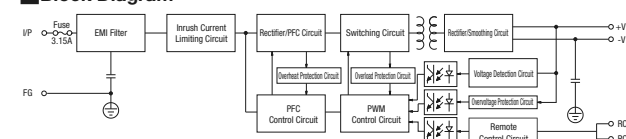
■Terminal Pin No.

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

■ Remote ON/OFF (CN100): JST B-XH

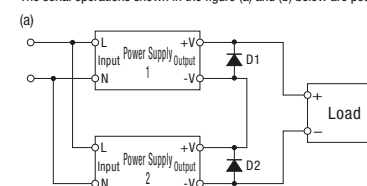
Pin No.	Pin Name	Applicable Housing	Contact
1	RC-	JST XHPt	JST SXH-001T
2	RC+		

■ Block Diagram

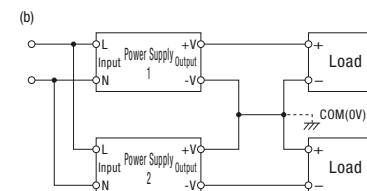


Serial Operation

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

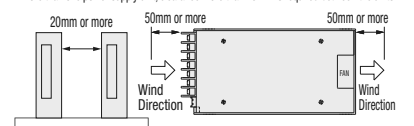


Connect the diode (D1, D2) between the output terminals of each power supply. The reverse voltage (maximum rating) of the diode must be able to sufficiently withstand the output voltage from each power supply. The forward current (maximum rating) of the diode must be able to sufficiently withstand the output current from each power supply.



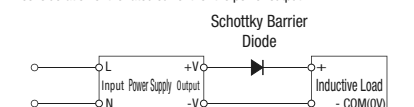
■ Precautions When Mounting

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

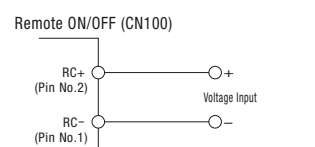
Note that when voltage exceeding the output voltage range is externally applied to the output terminal, this may cause failure in the power supply. When inductive load is used, be sure to externally connect a schottky barrier diode. Select an appropriate schottky barrier diode in consideration of the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

*Available as an alteration when purchasing belt conveyor.