

# PS-24



■ Model PS-241/PS-242

DC24V Power supply for ROBO Cylinder

## Features

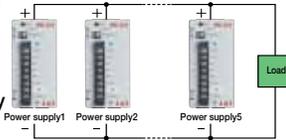
### 1 Maximum Momentary Output of 17A

Up to 17A of maximum momentary output current is possible at 8.5A rated output current. This lets you select an appropriate power-supply capacity based on the total rated current of actuators, without having to consider the maximum momentary current that may be generated by the actuators during acceleration. Because you no longer need to use an expensive high-capacity power supply, cost can be reduced substantially.

\* The maximum momentary output current must be considered if the actuator operating conditions are tight. See the "Selection Guide" at right for details.

### 2 Parallel Operation Enabled

Up to 5 units can be operated in parallel. Therefore, even if the power capacity is insufficient with one unit, this can be easily remedied by adding one unit, without the need to replace the unit with a larger capacity power supply.



### 3 Load Detection Function

Load percentage can be detected by the RDY (Ready) display lamp and the RDY output signal.

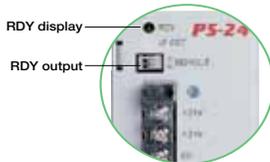


Table 1. PS-24 Rated Current and Allowable Maximum Momentary Electric Current

No. of Connected units	Rated current [A]	Max. momentary current [A]
1	8.5	17
2	15.3	30.6
3	22.95	45.9
4	30.6	61.2
5	38.25	76.5

Note: For the second and subsequent units, add a 10% safety buffer (loss).

### Selection target Number of actuators connected

When selecting a power-supply unit for operating multiple actuators, normally a unit with a capacity equal to or exceeding the total maximum current of all actuators is chosen. However, actuators generate their maximum current only momentarily during acceleration, etc., and in many cases the power-supply is over-specified.

On the other hand, the PS-24 power supply provides the following advantages:

1. Supporting maximum momentary current of up to twice the rated current.
2. If you need more power-supply capacity, you can simply add an extra unit or units.

The above features let you select an optimal power-supply capacity.

### Number of Power-Supply Units

Basically, how many power-supply units you need should be determined in such a way that the total rated current of all actuators will remain within the rated current of the PS-24. If the load condition is tight, however, the power-supply capacity may still become inadequate. In such cases, add an extra power supply or supplies.

### "Severe load conditions" refers to:

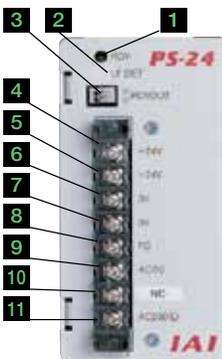
- Large load (load is approaching the rated load capacity)
- High acceleration/deceleration
- High speed
- Simultaneous operation of multiple axes
- Use of the RCS2-SRA7 series (Structurally these actuators allow maximum current to flow for a longer period).

Table 2. Actuator vs. Power Supply Current

Controller Type	Actuator Type	Power supply current [A]	Number of Connectable Units for PS-24 (Reference)*1	
			If the servo is on for all axes simultaneously	If the servo is NOT on for all axes simultaneously
ERC2	ERC2			
PSEP RPCON PCON	All models of RCP3/RCP2 (* Excluding the 5 models below)	Rated (=Maximum) 2	8	8
PCON-CF	RCP2-HS8C / RCP2-HS8R RCP2-RA10C RCP2W-RA10C / RCP2W-SA16C	Rated (=Maximum) 6	2	2
ASEP RACON ACON	SA4, SA5 (20W)	Rated 1.3	3	6
		Maximum 4.4		
	SA6 (30W)	Rated 1.3	4	6
		Maximum 4		
	RA3 (20W)	Rated 1.7	3	5
		Maximum 5.1		
RA4 (20W)	Rated 1.3	3	6	
	Maximum 4.4			
RA4 (30W)	Rated 1.3	4	6	
	Maximum 4			

\*1 The figures in "Number of Connectable Units for PS-24 (Reference)" are calculated based on the following: When supplying power to multiple controllers, make sure that the sum of the rated current for the individual axes stays LOWER than the PS-24's rated current (8.5A). Exceptions: For RCP3/RCP2/RCP2W, make sure that the sum of the rated current for the individual axes is LOWER than the PS-24's maximum momentary current (17A). For PSEL/ASEL, this varies with number of axes used and the model. Please ask for details.

## Names



1 Ready indicating light (RDY)

2 Level setting dial for over load detection (LF.DET)

\*Appropriate value settled at shipment. Operation not needed.

3 Ready output signal (RDYOUT)

4 5 + 24V Output terminal (+ 24V)

\*4 5 connected internally.

6 7 0V Output terminal (0V)

\*6 7 connected internally.

8 Frame ground terminal (FG)

Terminal for ground.

9 AC input terminal (AC (N))

10 AC input terminal (AC100V) (AC100 (L))

11 AC input terminal (AC200V) (AC200 (L))

\*AC100V input type should be connected to 9 and 10 interval, AC200V to 9 and 11. Unavailable for combined use.

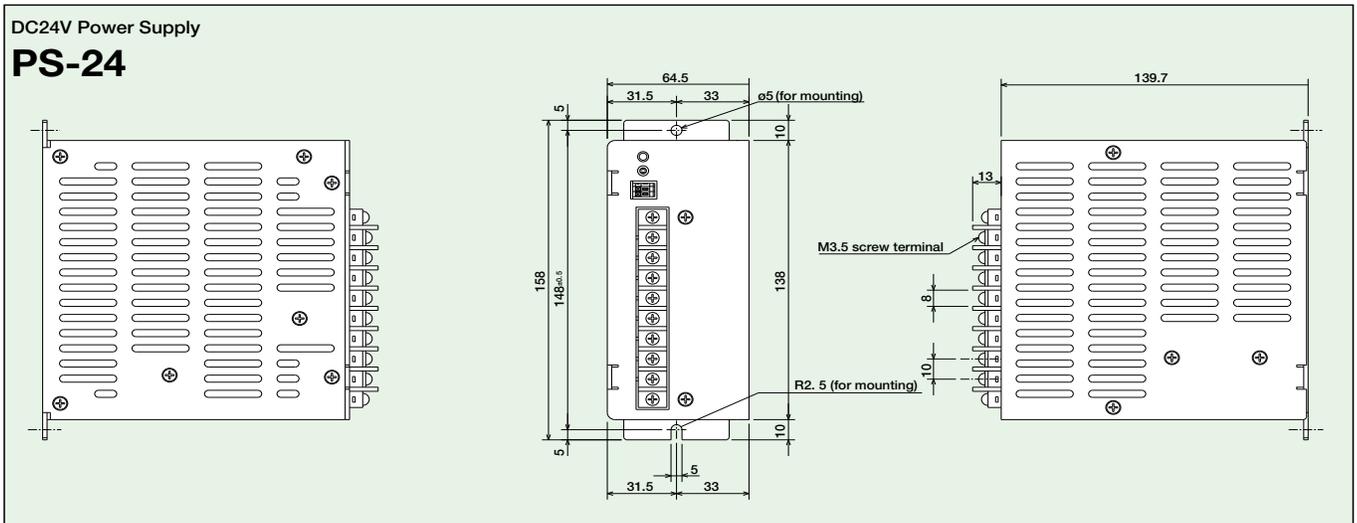
List of Models

Model	PS-241	PS-242
Standard Price	-	-

Specification List

Item	PS-241	PS-242
Rated DC output voltage	24V±10% (varied depending on the load)	
Rated DC output current	8.5A	
Instantaneous max. output current	17A	
Rated output capacity	204W	
Efficiency	80%	80%
Rated input (frequency)	AC100~115V (50/60Hz)	AC200~230V (50/60Hz)
Input voltage range	AC85~125V	AC170~250V
Input current	3.50A (100VAC full load)	1.80A (200VAC full load)
Output holding time	20 [msec] (Ambient temperature 25°C under rated input/output condition)	
Protection circuit	Protection from overcurrent, overvoltage, overheating and overload.	
Parallel operation	Possible	
Operating temperature	0~50°C (derated)	
Operating humidity	30~85%RH (non-condensing)	
Cooling method	Natural, air cooling	
Voltage resistance	Between input/output...2.0kVA per minute (20mA) Between cabinets...2.0kVA per minute (20mA)	
Insulation resistance	Output - 100MΩ or more between cabinets at 500 VDC	
Circuit method	Separate excitation type flyback converter	
Weight	Aprox. 0.9kg	

Outer dimensions



Caution:

- The PS-24 is not a constant voltage power supply. The output voltage changes with the load (voltage decreases according to the load percentage). Therefore, do not connect any equipment other than ROBO Cylinder actuators.
- Up to 5 units can be operated in parallel. Do not use any power supplies other than the PS-24 at the same time for parallel operation.
- Note that serial operations are not possible.
- As a rule, when operating multiple units in a row, allow at least 20mm space between each power supply.
- This is a natural air-cooled power supply. Please give due consideration to natural convection so that heat does not build up around the power supply.
- The case of this product also has heat a dissipating effect. Do not touch the case after installation as it may result in severe burns.