

SWITCHING POWER SUPPLY SPECIFICATION

MODEL ETP24SC300

DRAWING No. ES-06690

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Revision History		
No.	The Contents	DATE/DR.
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DR	CHK	APPD.

SWITCHING POWER SUPPLY SPECIFICATIONS

ES-06609

MODEL ETP24SC300**1. INPUT SPECIFICATIONS**

(1) Rated Voltage	300 VDC
(2) Voltage Range	200 to 400VDC
(3) Inrush Current	Not specified
(4) Efficiency	95.5% Typ. (At rated input and output)

2. OUTPUT SPECIFICATIONS

(1) Rated Voltage	24V
(2) Rated Current	19A
(3) Adjustable Range	21.6 to 26.4V
(4) Ripple and Noise	340mVp-p Max. * Measured by a probe at the end of 150mm long wire from the output terminal setting a 100uF electrolytic capacitor and a 0.1uF film capacitor between the probe and the wire. Bandwidth DC-100MHz.
(5) Voltage Regulation	
a) Line Regulation	120mV Max. * At 200 to 400VDC input voltage
b) Load Regulation	135mV Max. * In case of change from 0 to rated output current within 200 to 400VDC input voltage.
c) Temperature Coefficient	4.8mV / °C Max. * At -10 to 71°C
d) Drift	96mV Max. * Up to 8 hours after 1 hour warm-up.
(6) Hold-up Time	Not specified
(7) Rise-up Time	500ms Max.

3. OPTIONAL FUNCTIONS

(1) Over Current Protection	Works at 105% or more rated output current. Recover automatically after removing the factor. However, the output shuts down if the output gets 5V or less. Recover by re-applying the input after 1 minute from the shut down.
(2) Over Voltage Protection	Works at 115% or more rated output voltage. Recover by re-applying the input after 1 minute from the shut down.
(3) Remote Sensing	Available Connect +S and -S to load side. * Use a pair of sufficiently thick wire to connect between the output terminals and the load. Keep line drop at 0.3V or less.
(4) Remote Control	Available
a) RC1 (CN2)	RC1 terminals open: Output Off RC1 terminals short (0.5V Max): Output On The current is supposed to be 0.1mA or less when RC1 terminals short. * Use it separately from other line.

b) RC2 (CN42)

Current is supplied to RC2 terminal (1mA Min.): Output Off
 Current is not supplied to RC2 terminal (0.1mA Max.): Output On

* Current supplied to RC2 terminal should be less than 5mA

[Example] 5V input: 1.5mA Typ.

12V input: 4.1mA Typ.

* Use resistance to keep 5mA Max. in use of input 12V or more.

* Power supply for RC2 is installed in this power supply.

* More details refer to Attachment 1 "RC2 Connection".

4. GENERAL SPECIFICATIONS

(1) Operating Temperature

-10 to 71°C (Thermal shock is not acceptable)

* Output derating is required for 50°C or more.

* See Attachment 2 "ETP24SC300 Derating Curve"

(2) Operating Humidity

20 to 90% (Without condensation)

(3) Storage Temperature

-20 to 85°C (Thermal shock is not acceptable)

(4) Storage Humidity

10 to 90% (Without condensation)

(5) Withstanding Voltage

Primary to Secondary: 3000VAC 1 minute.

Primary to Frame Ground: 2000VAC 1 minute.

Secondary to Frame Ground: 1000VAC 1 minute.

* Sense Current:

10mA (Between primary and secondary, between primary and frame ground)

50mA (Between secondary and frame ground)

(6) Isolation Resistance

Primary to Secondary to Frame Ground: 100MΩ Min. (500VDC)

(7) Vibration

5 to 10Hz / XYZ axis 10mm

10 to 55Hz / 19.6m/s²

*Period 20 minutes / 1 hour each to XYZ axis

(8) Shock

196m/s²

5. OUTLINE DRAWING

See Attachment 3 "ETP24SC300 Outline Drawing"

6. SAFETY STANDARD

UL60950-1: Based

EN60950-1: Based

7. MOUNTING DIRECTION

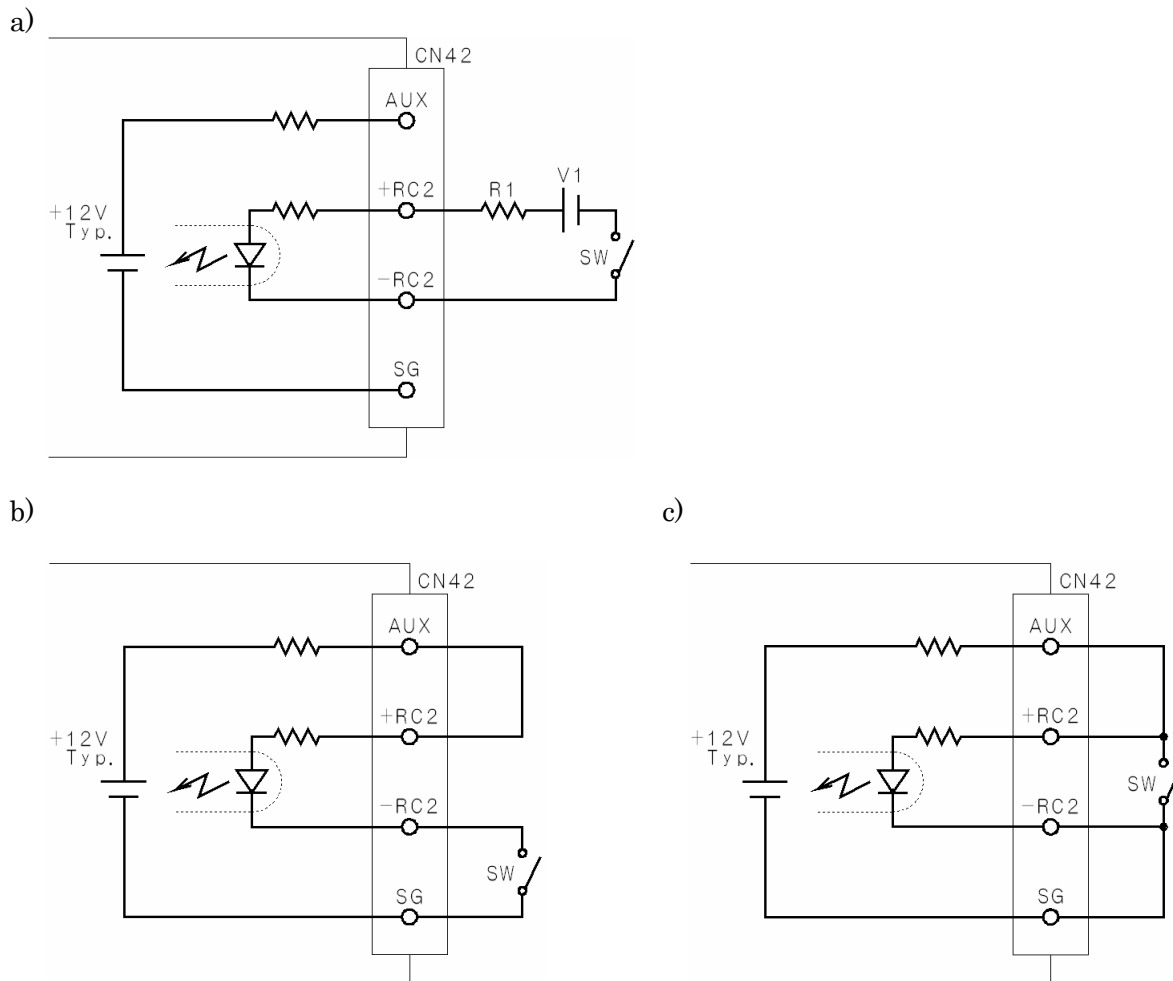
See Attachment 4 "ETP24SC300 Mounting Direction"

8. REMARKS

- In the operation of this unit, don't touch inside of the case to protect from electric shock and also outside of it due to high temperature.
- Put diode in input line to protect from reverse current if any.
- This unit has no fuse inside for input protection. Put fuse (400VDC/6-10 [A]) in plus side of input line. Prepare strong fuse not to be melted by inrush current. If AC line fuse (15-20 [A]) is fixed in AC rectifier circuit, it can replace the fuse in input line mentioned above.

Attachment 1 “RC2 Connection”

Three connections of remote control using RC2 are available as shown below.

**Notes:**

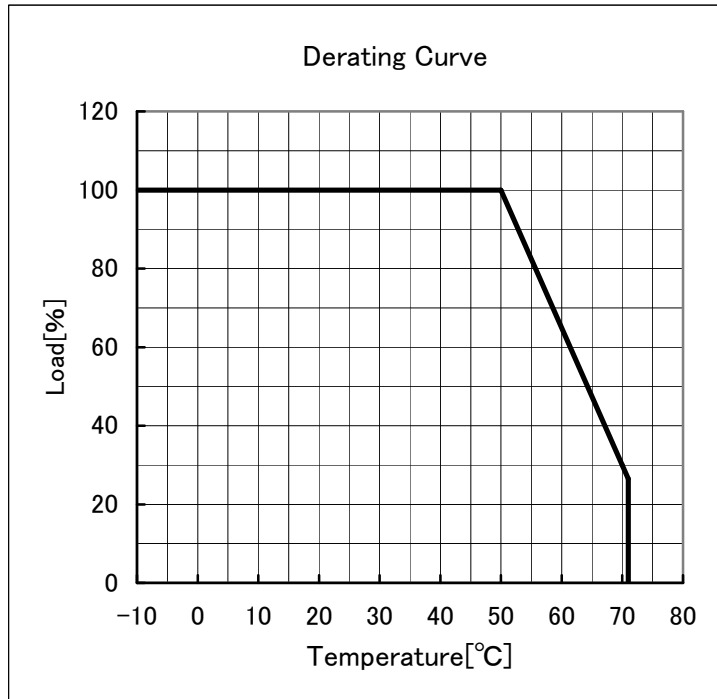
- * Take 5V or more for V1.
- * In case of $5 \leq V1 \leq 12V$, external resistance (R1) is not required.
- * In case of $V1 > 12V$, use external resistance (R1) to make input current 2mA Typ. (5mA Max.)
- * +RC2 and -RC2 terminals are isolated from other terminals.
- * SG terminal is common to minus output terminal.
- * Connection to offer output current to SG terminal is prohibited.
- * Power supply for remote control (AUX-SG) is available only for RC2. Other use is not permitted.

Specification of Remote Control:

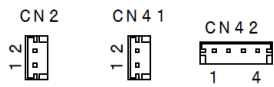
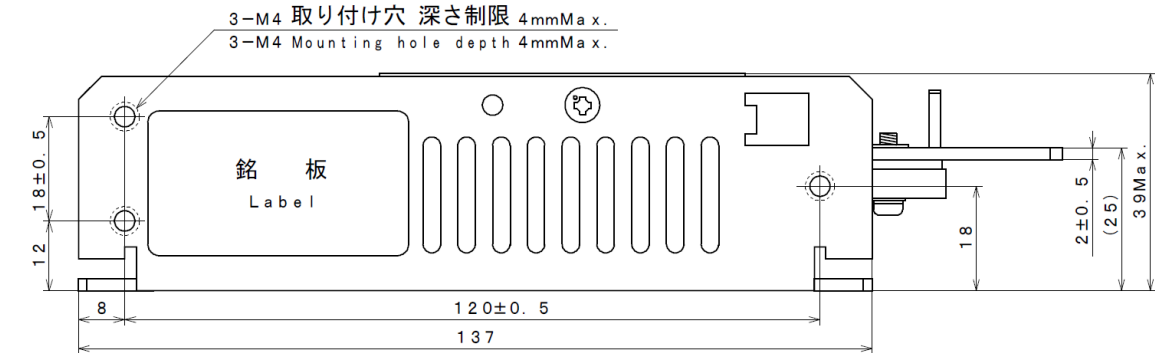
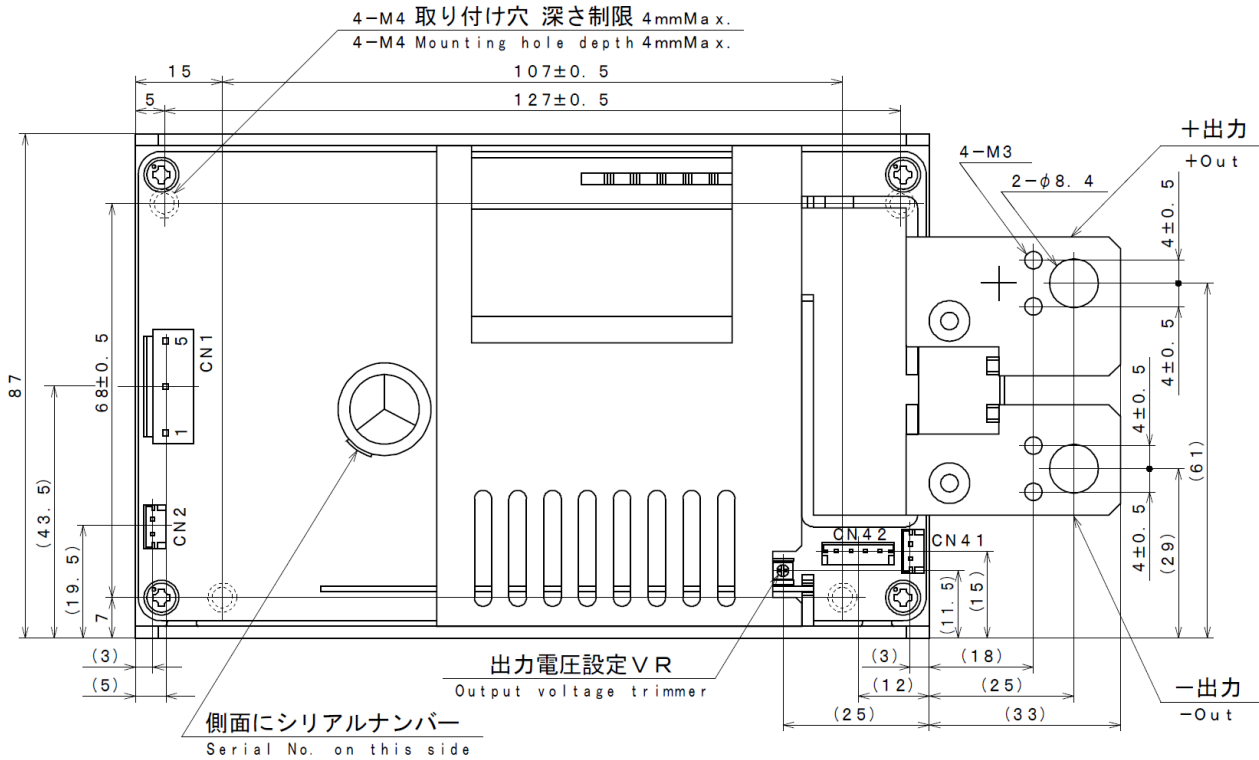
	SW open	SW short
Connection a)	Output On	Output Off
Connection b)	Output On	Output Off
Connection c)	Output Off	Output On

Attachment 2 “ETP24SC300 Derating Curve”

In case of 50°C or more operating temperature, decrease output in accordance with next chart which shows 3.5% per 1°C between 50 and 71°C.



Attachment 3 “ETP24SC300 Outline Drawing”



* Unit: [mm]
* Tolerance: ±1

■Applicable Connector

Connector No	Purpose	Applicable Housing	Applicable Contact	Manufacturer
CN1	Input	VHR-5N	SVH-21T-P1.1	JST
CN2	Remote Control	EHR-2	SEH-001T-P0.6	JST
CN41	Remote Sensing	EHR-2	SEH-001T-P0.6	JST
CN42	Remote Control	EHR-4	SEH-001T-P0.6	JST

■Connection

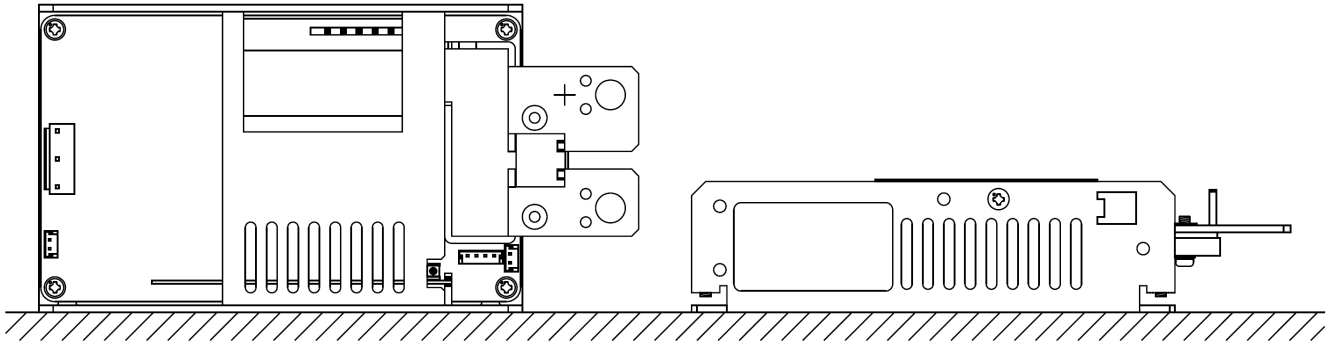
Pin No	CN1
1	+Vin
3	-Vin
5	FG

Pin No	CN2
1	-RC1
2	+RC1

Pin No	CN41
1	-S
2	+S

Pin No	CN42
1	AUX
2	+RC2
3	-RC2
4	SG

Attachment 4 “ETP24SC300 Mounting Direction”



Notes:

- * Mounting direction is to be either of two ways shown in above drawing.
- * In use of several power supplies in the near distance, temperature around each power supply should be within rated operating temperature.