

# Power Supplies

E Series ECW-007

AC Input

Multi Output, General-Purpose

UL/CSA/TÜV Approved

## ECW-007 TYPE

### SPECIFICATIONS AND STANDARDS

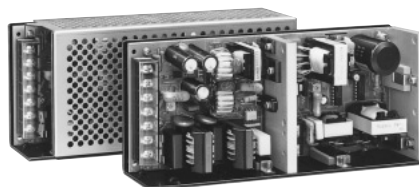
Part No.		ECW-007
Rated output voltage and current*1	V <sub>1</sub>	5V • 3A
	V <sub>2</sub>	24V • 6A(Peak current 10A)
Maximum output power	W	159(Peak current output: 255)
Input conditions		
Input voltage Eac*2	V	85 to 265[Rating: 100 to 120/200 to 240]
Input frequency	Hz	47 to 66[Rating: 50 to 60](Single phase)
Input current	A	2.1typ./3.8max.[AC.100V] 0.9typ./1.6max.[AC.240V]
Fuse rating	A	6.3 [AC.250V Built-in]
Surge current	A	12typ./17max.[AC.100V, 1st surge current.] 31typ./40max.[AC.240V, 1st surge current.]
Leakage current	mA	0.6typ./1max.[AC.100V, 60Hz(Electrical Appliance and Material Safety Law)] 0.6typ./0.75max.[AC.240V, 60Hz(UL,IEC)]
Power factor		0.95typ.[AC.100/240V]
Efficiency	%	100V 77typ.
	%	240V 80typ.
Output characteristics		
Output voltage Edc	V	5(V <sub>1</sub> ) 24(V <sub>2</sub> )
Voltage variable range Edc	V	Fixed Fixed
Maximum output current	A	3 6(Peak current 10A, 10s max.)
Minimum output current	A	0 0
Overvoltage threshold Edc	V	5.6 to 6.9 30.1 to 35
Overcurrent threshold	A	3.1min. 10.1min.
Voltage stability	Source effect	% 2max.(0.4typ.)(Within the input voltage range) 7max.(0.4typ.)(Within the input voltage range)
	Load effect	% 4max.(1typ.)(10% to maximum current) 16max.(14typ.)(10% to maximum current)
	Temperature effect	% 2max.(1typ.)(Ambient temperature: -10 to +40°C) 4max.(1typ.)(Ambient temperature: -10 to +40°C)
	Drift(Time effect)	% 1max.(0.4typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h) 3max.(1typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h)
	Recovery	%/ms ±10max.(Voltage variation)/5(Reset time)[10% to maximum current sudden load change]
Total effect	%	±5max.(2typ.) ±10max.(9typ.)
Ripple Ep-p	mV	100max. 600max.
Ripple noise Ep-p	mV	150max. 800max.
Start up time	ms	1500max.(1000typ.)/600max.(300typ.)(AC.100/240V)
Hold up time	ms	20min.(30typ.)/20min.(35typ.)(AC.100/240V)
Auxiliary functions		
Indicator display		No
Overvoltage protection		Voltage shut-down type, recovers upon reset(interval approx. 5min), set value fixed.
Overcurrent protection		Winker operation, automatic recovery.
Remote ON-OFF		No
Remote sensing		No
Parallel operation		Impossible
Series operation		Impossible
Output voltage external variable function		No
Standards		
Safety standards		UL1950, CSA 950-95(C-UL), EN60950(TÜV) approved, Electrical Appliance and Safety Control Law meet.
Noise terminal voltage		FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.
Input harmonics current requirement		EN61000-3-2 meet.
Construction		
External dimensions	mm	50×95×220[H×W×L]
Weight	kg	0.9typ.
Mounting method		Can be attached to 1 side.
Case material		Frame: Aluminum/Cover: Zinc-plated iron

\*1 Current rating(maximum output current) is determined -10 to +40°C. Derating is required when used outside this temperature range.

\*2 The use of input voltage outside of that which is prescribed may result in the power supply specifications not being met or cause damage.

### PRODUCT IDENTIFICATIONS

Input and output style	L-shape frame type	With cover type
Terminal block	ECW-007D	ECW-007DC
Connector(Vertical)	ECW-007E	ECW-007EC



# Power Supplies

AC Input

Multi Output, General-Purpose

E Series ECW-007

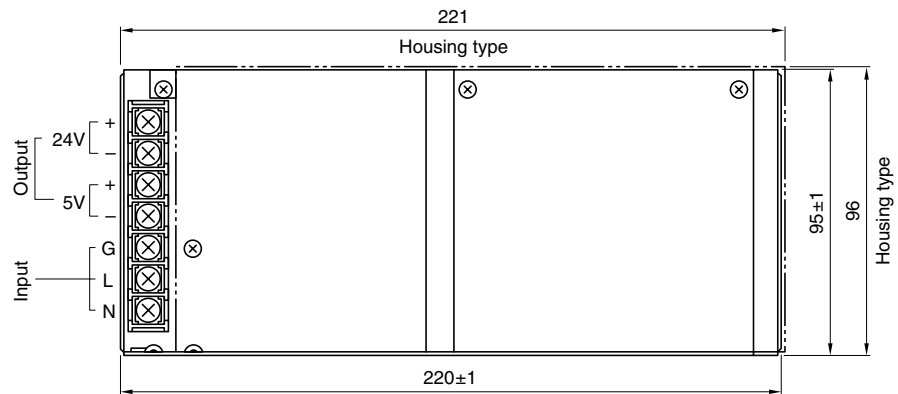
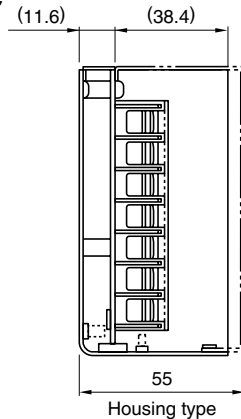
UL/CSA/TÜV Approved

## ECW-007 TYPE

### SHAPES AND DIMENSIONS

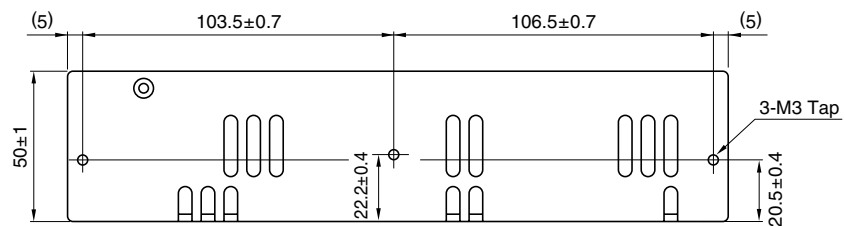
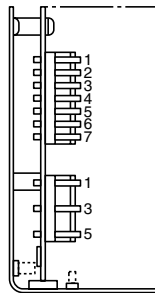
#### ECW-007D

#### ECW-007DC



#### ECW-007E

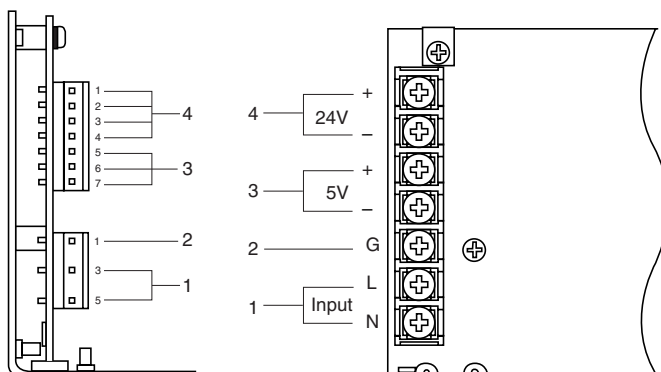
#### ECW-007EC



Dimensions in mm  
±1mm : without specified dimensions  
Third-angle projection

Connector name (Part number)	Manufacturer	Compatible housing	Compatible connector
Input connector	JST	VHR-5N	SVH-21T-P1.1
Output connector	JST	VHR-7N	SVH-21T-P1.1

## TERMINAL DESIGNATIONS AND FUNCTIONS



## INPUT AND OUTPUT TERMINALS

	Terminal No.	Voltage
Output connector	1	+24V
	2	+24V
	3	-24V
	4	-24V
	5	+5V
	6	-5V
	7	-5V
Input connector	1	G(Frame ground)
	3	L(ACin)
	5	N(ACin)

### Terminal No. Designations and functions

1	AC input terminals(L, N)	Connect to AC.100V or 200V single phase input line.
2	Frame ground terminal(G)	Connect to earth ground.
3	DC output terminals(5V, +, -)	Connect to load.
4	DC output terminals(24V, +, -)	Connect to load.

# Power Supplies

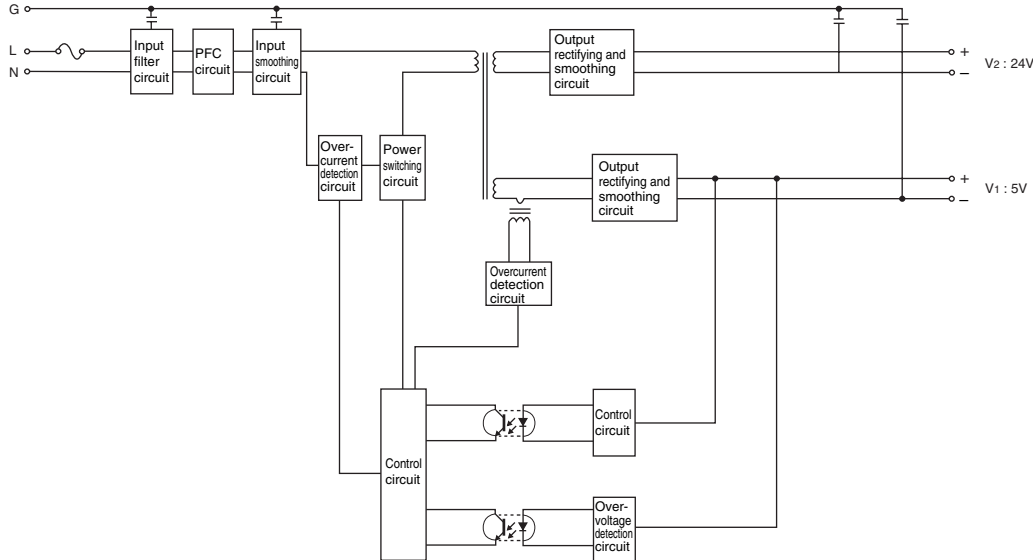
AC Input

Multi Output, General-Purpose

E Series ECW-007

UL/CSA/TÜV Approved

## BLOCK DIAGRAM



## COMMON SPECIFICATIONS

### Temperature and humidity

Temperature range	Operating(°C)	-10 to +60[Please refer to derating curve.]
	Operating available(°C)	-20 to -10
	Storage(°C)	-30 to +70
Humidity range	Operating(%)RH	20 to 95[Maximum wet-bulb temperature: 35°C, without dewing]
	Storage(%)RH	

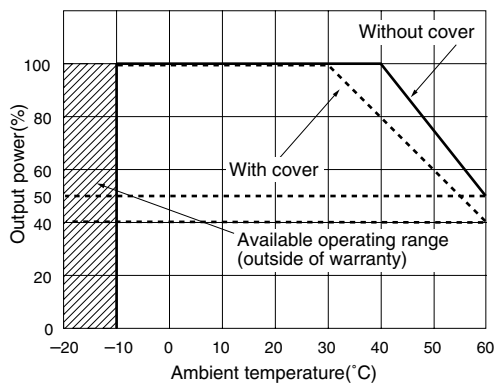
### Vibration and shock

Vibration	5 to 10Hz	All amplitude 10mm[3 directions, each 1h]
	10 to 200Hz	Acceleration 19.6m/s <sup>2</sup> (2G)[3 directions, each 1h]
Shock	Acceleration	588m/s <sup>2</sup> (60G)[3 directions, each 3 times]
	Pulse duration	11±5ms

### Withstand voltage and insulation resistance

Withstand voltage	Input terminal to Case(G)	Eac: 2.5kV, 1min[Normal temperature, normal humidity, cutout current 20mA]
	Input terminal to output terminal	Eac: 3kV, 1min[Normal temperature, normal humidity, cutout current 20mA]
	Output terminal to Case(G)	Eac: 500V, 1min[Normal temperature, normal humidity cutout current 100mA]
Insulation resistance	Input terminal to Case(G)	Edc: 500V, 100MΩ min. [Normal temperature, normal humidity]
	Input terminal to output terminal	
	Output terminal to Case(G)	

## OUTPUT POWER-AMBIENT TEMPERATURE(DERATINGS)



## LINEUP

Part No.	Input/output interface	External shape
ECW-007D	Terminal	Open frame
ECW-007DC	Terminal	Cover type
ECW-007E	Connector	Open frame
ECW-007EC	Connector	Cover type

# Power Supplies

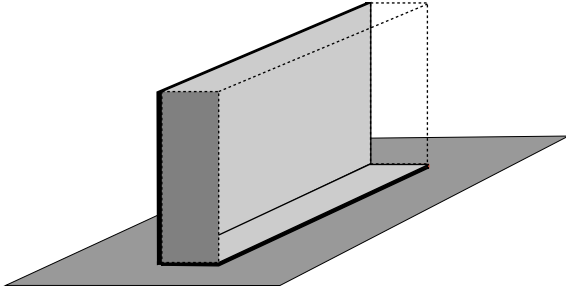
AC Input

Multi Output, General-Purpose

E Series ECW-007

UL/CSA/TÜV Approved

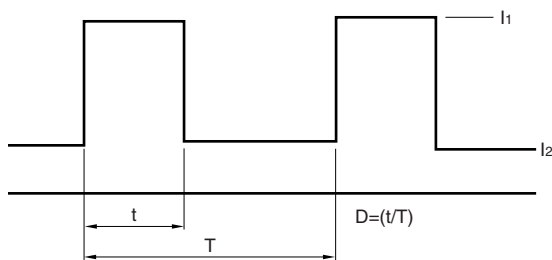
## INSTALLATIONS



Single-side installation in vertical direction

## NOTES ON USE

- It is possible to flow peak current as 24V load current.  
A value exceeding a continuous rated value should be used under the following conditions.  
In case of a use not under the conditions, the power supply may be damaged.



Peak current value:  $I_1 \leq 10A$

Time for peak current value:  $t \leq 10\text{sec.}$

Effective current:  $\sqrt{D \times I_1^2 + (1-D) \times I_2^2} \leq 6A$

- For air cooling without blower, install the power supply so as to cause a thermal convection.  
In addition, provide a minimum 10mm distance between respective surfaces of the power supply and surrounding equipment or the like.
- This product has an internal adjustment trimmer.  
Please do not touch it that can result in damage caused by any change of the setting.