

# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

**RoHS  
Compliant**



## Features

- Compact DIN rail mounting package
- Single phase input voltage
- Universal AC input voltage range from 90V AC to 264V AC
- High performance and reliability
- 100% full load burn-in test
- Free Air Convection Cooling
- LED indicator for DC power on and DC low
- Short circuit, over voltage, over current and over temperature protection

## Applications

- Process Control
- Factory Automation
- Traffic & Transportation System
- Other industrial Applications

## Electrical

Part Number	Nominal Input Voltage	Output Voltage	Output Current	Ripple (Max.)	Efficiency (Typ.)	Certificate
MP003281	100V AC to 240V AC	12V	5A	100mV	84%	CE, FCC, CB, UL, CUL
MP003282		24V	3A	120mV	86%	

### NOTE:

1. The ripple values are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1uF & 47uF parallel capacitor under ambient temperature 25°C at rated input voltage and rated load;
2. The efficiency values are measured under ambient temperature 25°C at rated input voltage and rated load.

## Input

Parameter	Conditions	MIN	TYP	MAX	Units
Input voltage		90		264	V AC
Input frequency		47		63	Hz
Input current	Full load, Vin=115V AC Full load, Vin=230V AC			1.6 0.8	A A
Inrush current	Cold start, Vin=115V AC Cold start, Vin=230V AC			30 60	A A
	1. This product is built in inrush limiting circuit to protect the circuit from surge current damages when the power is turned on. Malfunction can occur by repeating the input voltage on and off rapidly. Therefore, sufficient interval should be given between turning on and off the power; 2. To avoid connecting the switch or fuse to input terminal (outside of the power supply), more consideration should be given when selecting the parts that can endure the inrush current				
Stand-by power consumption	Vin=230V AC			4	W
Surge voltage	L-N			2	KV

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

**multicomp** PRO

# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

## Output

Parameter	Conditions	MIN	TYP	MAX	Units
Output voltage accuracy				2	%
Output voltage adjustment range	MP003281		11-14		V
	MP003282		23-28		V
	Output voltage can be adjusted within above range by V-ADJ. Variable resistance inside of the power supply. When output voltage exceeds the range, the power supply will be in failure or get into over voltage protection mode. To avoid the case that the output voltage is higher than rated voltage, output current should be used under rated current				
Minimum load		0			A
Line regulation	Vin from 100V AC to 240V AC			2	%
Load regulation	Vout from min. to 24V			3	%
Turn-on delay time	Full load, Vin=115V AC		560		ms
Hold up time	Full load, Vin=115V AC		20		ms

## Protection

<b>Short circuit</b>	Shut off output voltage, the power supply will recover after the power is turned on again
<b>Over voltage</b>	MP003281: over voltage protection value 20V MP003282: over voltage protection value 33V
	(1) When output voltage exceeds above over voltage protection value or reversal voltage occurs, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover after the power is turned on again
<b>Over current</b>	MP003281: over current protection value 8A MP003282: over current protection value 4A
	(1) When output voltage exceeds above over current protection value, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover automatically after the fault condition is removed
<b>Over temperature</b>	Over temperature protection value: 100 ±10°C
	(1) When the ambient temperature exceeds above over temperature protection value, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover after the power is turned on again

# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

## Environment

Parameter	Conditions	MIN	TYP	MAX	Units
Ambient operating temperature	Startup at rated voltage	-25		+70	°C
Operating relative humidity	Non condensing	20		95	%
Storage temperature	Humidity 5% RH to 95% RH	-40		+85	°C
MTBF	Full load, 220V AC input, 25°C ambient temperature	200			Khrs
DC-OK led	LED(Green) DC OK LED light will be ON when the power supply is properly operated				
DC-Low led	LED (Red) DC Low LED light will be ON: (1) When output voltage is below 85% ( $\pm 2.5\%$ ) from the rated output voltage; (2) When get over voltage, over current, over temperature and short circuit fault				
Cooling	Free air convection				
Mounting method	Vertical				
Dimension (W × H × D)	33mm × 130mm × 125mm (1.30inch × 5.12inch × 4.92inch)				
Weight	650g				
Packing	18pcs/13kg/0.7cuff/carton Carton size 620 × 260 × 175mm (L × W × H)				

## Safety/EMC

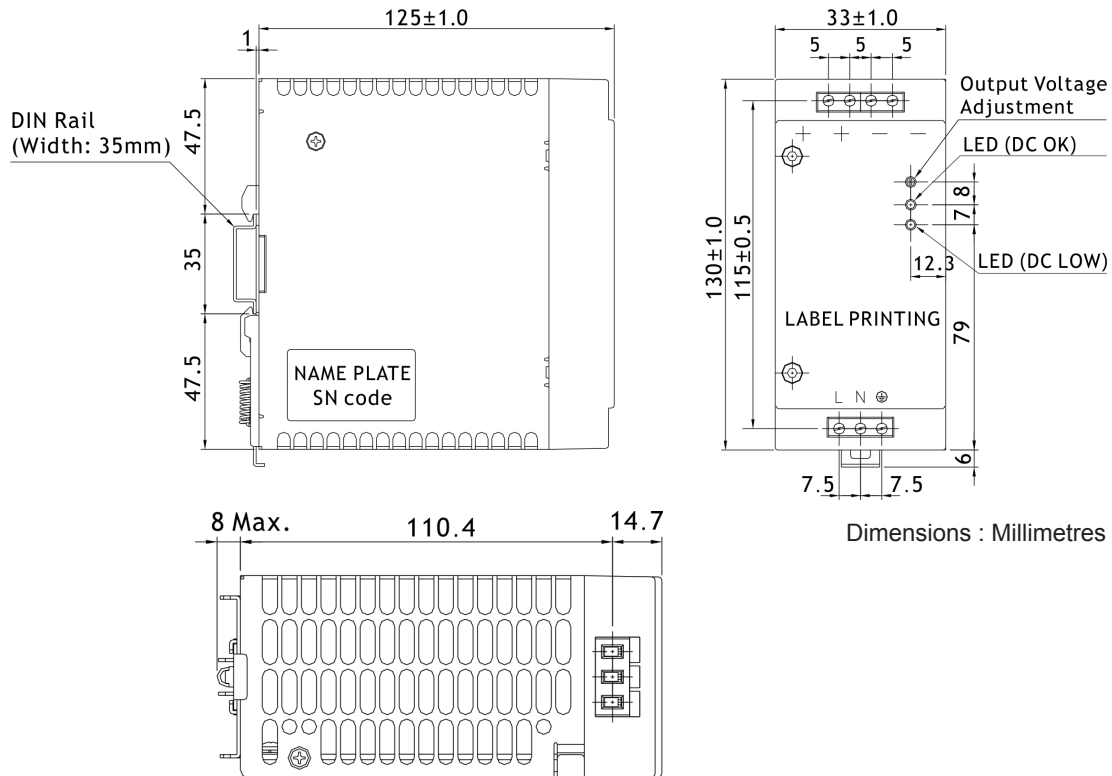
Isolation voltage	I/P-O/P: 3KV AC, I/P-FG: 1.5KV AC, O/P-FG: 1.5KV AC
Insulation resistance	100mΩ Max./500V DC
Safety	Design refer to UL60950-1, EN60950-1
EMC	EN 55022:2010+AC:2011 (CISPR 22:2008) ClassB EN 61000-3-2:2014 (IEC 61000-3-2:2014) EN 61000-3-3:2013 (IEC 61000-3-3:2013) EN 55024:2010 (CISPR 24:2010)

NOTE: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C, rated load and  $V_{in}=115/230V$  AC.

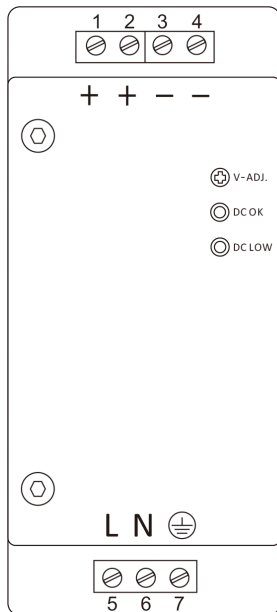
# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

## Mechanical



Dimensions : Millimetres

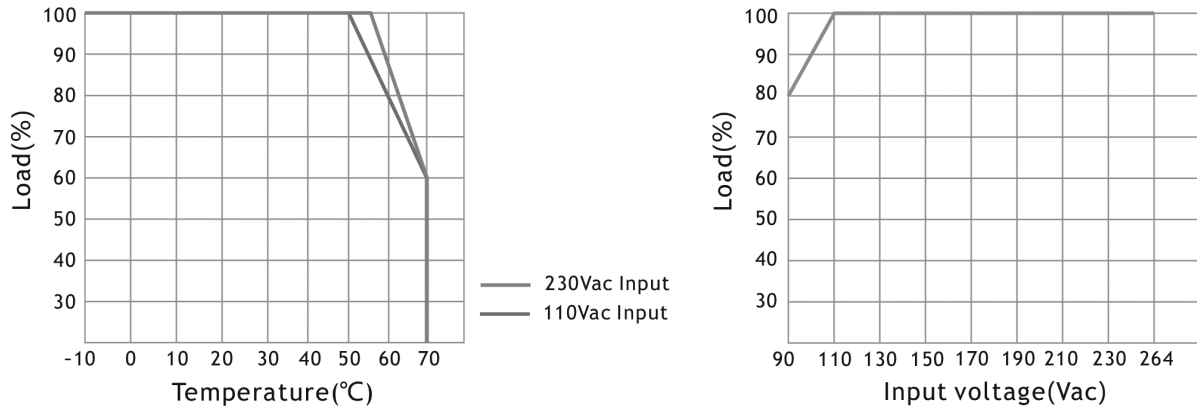


Marking	No.	Assignment
+	1	DC(+) Output Terminal
+	2	
-	3	DC(-) Output Terminal
-	4	
L	5	AC(L) Input Terminal
N	6	AC(N) Input Terminal
⊕	7	AC Grounding Terminal
V-ADJ.	/	DC Output voltage adjustment trimmer
DC OK	/	DC Output OK indication LED(Green)
DC LOW	/	DC Output Low indication LED(Red)

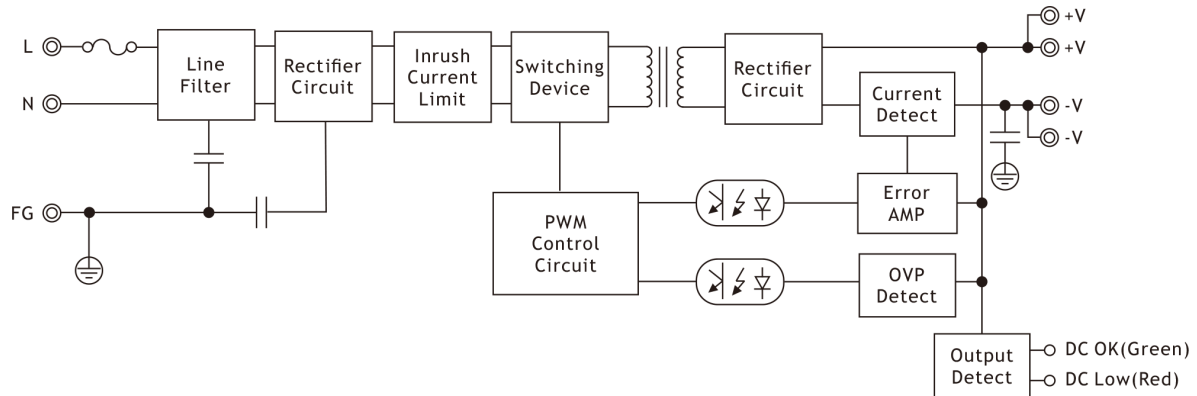
# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

## Electrical Curve

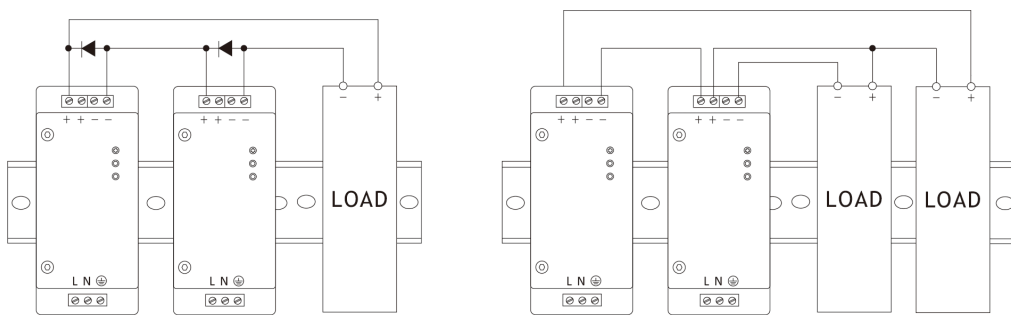


## Block Diagram



## Application Note

### 1. Series Operation



Series Operation A

Series Operation B

### Note:

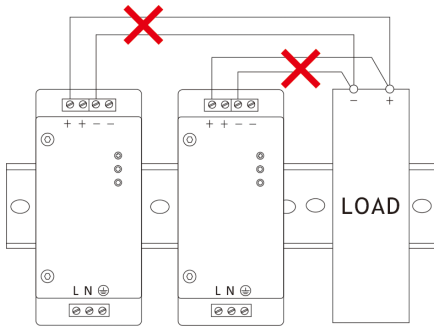
1. Series operation can be connected as shown in above;
2. Load current should be less than the current value of the product with the lowest output current specified at the product specification with the power supply at series connection.

**multicomp** PRO

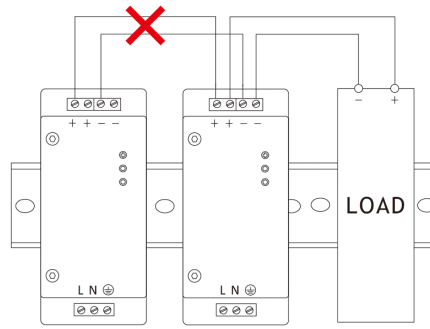
# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

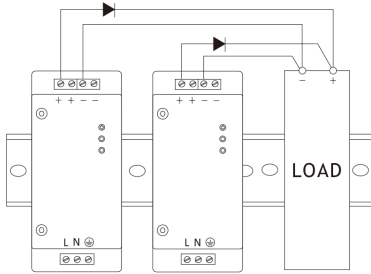
## 2. Parallel Operation



Parallel Operation A  
(Unable to use)



Parallel Operation B  
(Unable to use)



Parallel Operation C  
(Backup)

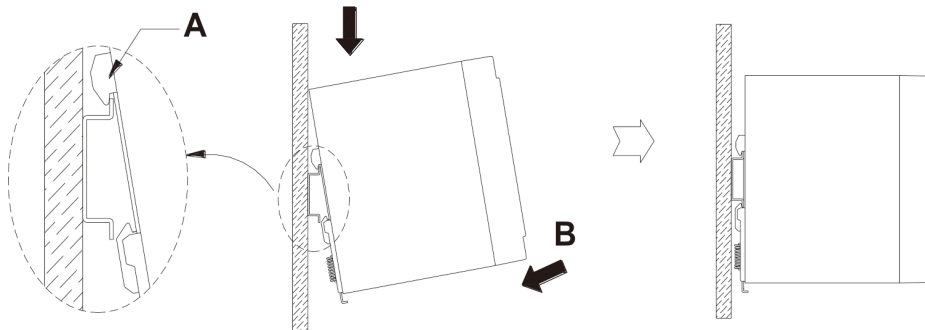
### Note:

1. Parallel operation should be composed with the same products, while the connection should be as shown as "Parallel operation C";
2. In parallel operation C, current capacity cannot be increased, while it should be used for backup only. Moreover, diode that is to be added during parallel operation should be selected after considering its voltage drop, output voltage and current capacity.

## 3. Mounting Method

### (1) How to fix

Firstly hang A part on the top of Rail as shown in below, then push the power supply into B direction to fix it.

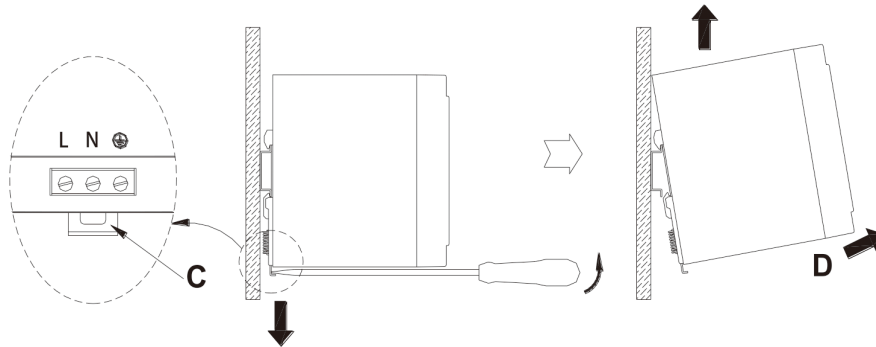


# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

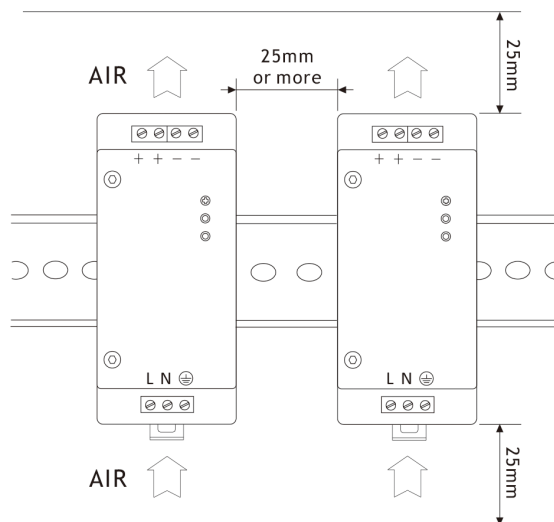
## (2) How to remove

Remove the power supply to D direction, pulling C part by using tools, such as a screwdriver, to downward direction.



## (3) Mounting Spacing

Mounting method should be considered with airflow. Leave enough space between the units when several units are mounted together. Forced air cooling makes protection against heat better.



## 4. Cautions

- (1) Please confirm if the capacity of the product is suitable for your intended application before putting it in use;
- (2) Only the rated input voltage specified on the product should be used;
- (3) Only the wires with rated capacity should be connected to this product, as allowable voltage and current is varied according to each type of wire;
- (4) Ground terminal of the power supply must be grounded before use to prevent electric shock or electromagnetic interference;
- (5) Be cautions to keep the product clean as foreign matter near the input & output terminal or inside if the product could cause series damages;
- (6) If a fuse installed in the product blows off, the product should experience damages not only to the fuse but also to other parts as well. Therefore, the product is to be required for maintenance work from customer service department as well as replacement of the fuse;

# 70W AC-DC Din Rail Mounted Power Supplies

**multicomp** PRO

- (7) Due to constant leakage current flows within the product, extra caution should be made if multiple number of products are used connecting to each other as total leakage current could be amounted beyond the capacity;
- (8) Be sure to avoid any physical contact with the product since some of the parts inside of the product are being functioned at high voltage, which could cause serious electric shock;
- (9) For the purpose of safety as well as reliability of the product, please avoid using the product at the following sites:
  - A place near water or fire
  - A place with high room temperature and poor ventilation
  - A place with a presence of foreign subject or dust
  - A place near volatile or flammable compounds
  - A place with high humidity
  - A place vulnerable for vibration or shock
- (10) Do not inspect or repair the product while the power is applied;
- (11) Unauthorized modification should be avoided in order to prevent series injury or physical loss due to any malfunction;
- (12) In case of power outage while in operation, be sure to turn off the power supply.

## Part Number Table

Description	Part Number
AC-DC Power Supply, 70W, 12V, 5A, DIN Rail	MP003281
AC-DC Power Supply, 70W, 24V, 3A, DIN Rail	MP003282

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

**multicomp** PRO