

# TDK-Lambda

DPP Series Din Rail Mountable  
Switching Power Supply



Technical Data  
Installation and Operation

Fig. 1

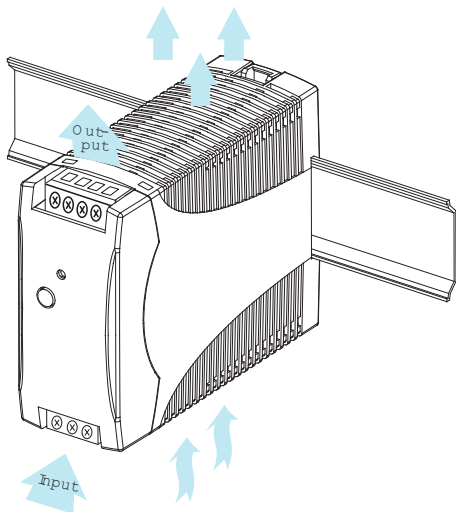


Fig. 2

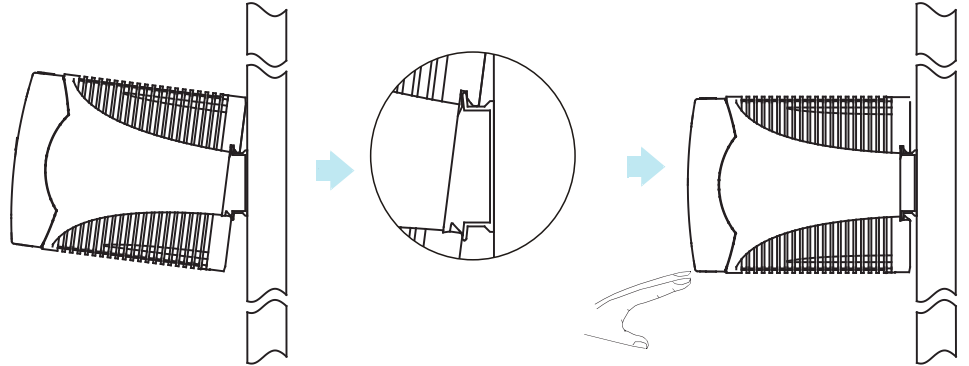


Fig. 3

Connector size range  
AWG26-12  
use copper conductors only  
Connector can withstand torque at  
maximum 0.56Nm (5 pound-inches)

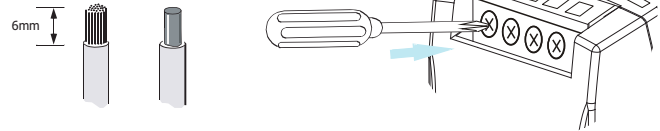
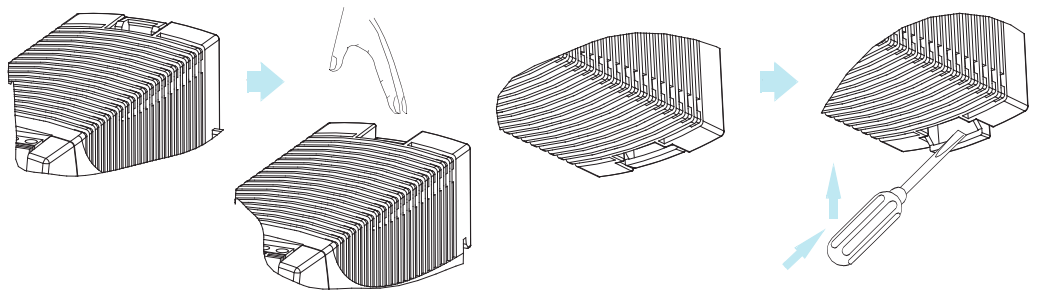


Fig. 4





## Safety notes

### Read Instructions!

Before working with this unit, read these instructions carefully and completely. Make sure that you have understood all the information!

### Disconnect system from supply network

Before any installation, maintenance or modification work: Disconnect your system from the supply network. Ensure that it cannot be re-connected inadvertently!

### Before start of operation

#### Ensure appropriate installation

Warning! Improper installation / operation impair safety and result in operational difficulties or complete failure of the unit. The DPP family of component power supplies is designed for use within other equipment or enclosures which restrict access to authorised competent personnel only. The unit covers/chassis are designed to protect only skilled personnel from hazards and must not be made user accessible.

The unit must be installed and put into service appropriately by qualified personnel. Compliance with the relevant regulations must be ensured. Before operation is begun the following conditions must be ensured, in particular:

- Connection to main power supply in compliance with VDE0100 and EN50178.
- With stranded wires: all strands must be secured in the terminal blocks (potential danger of short circuit).
- Unit and power supply cables must be properly fused; if necessary a manually controlled disconnecting element must be used to disengage from supply mains.
- The non-fused earth conductor must be connected to the " " terminal (protection class 1).
- All output lines must be rated for the power supply output current and must be connected with the correct polarity.
- Sufficient air-cooling must be ensured.

### In operation: No modifications!

As long as the unit is in operation: do not modify the installation! The same applies also to the secondary side. Risk of electric arcs and electric shock (fatal)!

**Only connect/disconnect when the power is off!**

### Convection cooling (See Fig. 1)

**Do not cover any ventilation holes!**  
**Leave sufficient space around the unit for cooling!**

### Warning: High voltage! Stored energy!

The unit contains unprotected conductors carrying a lethal high voltage, and components storing substantial amounts of energy. Improper handling may result in an electric shock or serious burn!

- The unit must not be opened except by appropriately trained personnel!
- Do not introduce any object into the unit!
- Keep away from fire and water!

## Installation

### Mounting (See Fig. 1)

Permissible mounting position: keep ventilation holes clear, leave space for cooling! Recommended to have 25mm free space at all sides:

### Snap on support rail (See Fig. 2)

- Tilt the unit slightly rearwards.
- Fit the unit over top hat rail.
- Slide it downward until it hits the stop.
- Press against the bottom front side for locking.
- Shake the unit slightly to check the locking action.

### Connection (See Fig. 3)

- Use only commercial cables designed for the indicated voltage and current values!
- With flexible cables: make sure that all stranded cable are secured in the terminal.
- Ensure proper polarity at output terminals!

### Removal from DIN Rail (See Fig. 4)

Push the slider downwards (unlock). Gently lift lower front edge of the unit (tipping) and remove.

## Technical Data All specifications are typical at nominal line, full load, 25°C; Unless otherwise specified.

Description	Model No.								
	DPP15-24	DPP25-5	DPP30-12	DPP30-24	DPP50-15	DPP50-24	DPP50-48	DPP100-24	
<b>Input</b>									
Rated input Voltage	115Vac / 230Vac								
AC Voltage Range	85 - 264Vac								
DC Voltage Range	90-375Vdc								
Frequency	50 / 60Hz								
Rated input Current	0.4/0.25A	0.6/0.4A	0.7/0.4A	0.7/0.4A	1.1/0.7A	1.1/0.7A	1.1/0.7A	2.2/1.2A	
Inrush Current(115Vac/230Vac)	Typ.<35A		Typ.<35A / Typ.<45A		Typ.<35A / Typ.<50A		Typ.<35A / Typ.<55A		
Efficiency Typ.	80%	78%	82%	84%	85%	86%	87%	87%	
Power Factor Correction	meet EN61000-3-2 class A								
Fuse Rating (Internal)	T1AH,250V	T2AH/250V					T3.15AH/250V		
<b>Output</b>									
Turn on time	<1000mS after AC is applied to input at full resistive load								
Voltage Rise Time	<150mS full resistive load								
Overvoltage protection	>30 but <33Vdc	<6.7Vdc	<18Vdc	>30 but <33Vdc	<20Vdc	>30 but <33Vdc	<66Vdc	>30 but <33Vdc	
Voltage trim range	22.5-28.5 Vdc	5-6 Vdc	9.9-12.1 Vdc	22.5-28.5 Vdc	11.9-15.1 Vdc	22.5-28.5 Vdc	48-56 Vdc	22.5-28.5 Vdc	
Line regulation	<0.5%								
Load regulation	<0.5%								
Time & temp. Drift	<1.0%								
Initial voltage setting	24.5V±1%	5V±1%	12V±1%	24.5V±1%	15V±1%	24.5V±1%	48V±1%	24.5V±1%	
DC ON indicate(Green LED)	>18V	>4V	>7.92V	>18V	>9.52V	>18V	>38.4V	>18V	
Ripple	<50m Vp-p								
Nominal Current	0.6A	5A	2.5A	1.3A	3.4A	2.1A	1.0A	4.2A	
Rated over load protection	110%~150%	120%~135%	135%~160%	120%~150%	135%~155%	120%~150%	125%~145%	115%~140%	
Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload p to max peak current)								
Holdup Time(115Vac/230Vac)	>20ms / >25ms								
Voltage fall Time	<150mS from 95% to 10% rated voltage @ full load								
Parallel Operation	Switch selectable Via front panel-----DPP 100-24 model only								
<b>General</b>									
Temperature	Storage:-25 to +85°C, Operation:-10 to +60°C derating to half power from 60 to 70°C								
Humidity	20%~90%RH								
MTBF(MIL-HDBK-217F.GF25)	287,000 hrs	294,000 hrs	288,000 hrs	304,000 hrs	269,000 hrs	273,000 hrs	283,000 hrs	239,000 hrs	
Case	Plastic								
Dimensions	2.95 x 0.9 x 3.81 (75 x 22.8 x 96.7)			2.95 x 1.77 x 3.58 (75 x 45 x 91)			42.95 x 2.85 x 3.81 (75 x 72.5 x 96.7)		
Weight	130g			260g			390g		
IP rating	IP 20								
Emissions	EN61000-6-3,EN55011,EN55022 Class B Radiated and Conducted including Annex. A.								
Immunity	EN61000-6-2,EN61000-4-2 Level 4,EN61000-4-3 Level 3,EN61000-4-6 Level 3.								
	EN61000-4-4 Level 4 input and level 3 output, EN61000-4-5 level 4,EN61000-4-8,EN61000-4-11								
Approvals	EN60950-1,UL508 Listed, UL 60950-1, NEC Class 2 except DPP100-24, CE marked for EMC(2004/108/EC)								

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