

Features

- 2:1 Wide Input Range
- 150% Peak Load Capability
- Operating Temperature Range: -40°C~+70°C
- High-Efficiency up to 91%
- Safety Standards to IEC 62368-1
- Protection: SCP, OLP, OVP, UVP, RVP
- Three Years Warranty



Certified to UKCA, CE, RoHS, REACH & IEC 62368-1 Standards and complies with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models

Model No	DC Voltage (V)	Rated Current (A)	Rated Power (W)	Current Range (A)	Voltage ADJ Range (V)
56YDD-120-12A	12	8.3	99.6	0~8.3	9~14
56YDD-120-12B	12	10	120	0~10	9~14
56YDD-120-12C	12	10	120	0~10	9~14
56YDD-120-12D	12	10	120	0~10	9~14

Input Specifications

Part Number	56YDD-120-12A	56YDD-120-12B	56YDD-120-12C	56YDD-120-12D
Voltage Range	9~18Vdc	16.8~33.6Vdc	33.6~67.2Vdc	67.2~154Vdc
Frequency Range	87%	89.0%	90.0%	91.0%
DC Current (Typ.)	11.2A@12Vdc	5.6A@24Vdc	2.8A@48Vdc	1.3A@110Vdc
Inrush Current (Typ.)	5A@12Vdc	5A@24Vdc	5A@48Vdc	5A@110Vdc
Interruption of Voltage Supply	EN50155:2007-comply with S1 level (6ms)@ full load			
	EN50155:2007-comply with S2 level (10ms) @full load			
	EN50155:2017-comply with S1 level			

Output Specifications

	56YDD-120-12A	56YDD-120-12B	56YDD-120-12C	56YDD-120-12D
Line Regulation				
Load Regulation	12.45A	15A	15A	15A
Line Regulation	150W (3sec.)	150W (3sec.)	180W (3sec.)	180W (3sec.)
Load Regulation	50mVp-p			
Line Regulation	±1.0%			

Load Regulation	±0.5%	
Line Regulation	±1.0%	
Setup, Rise Time	500ms, 60ms @12Vdc	56YDD-120-12A
	500ms, 60ms @24Vdc	56YDD-120-12B
	500ms, 60ms @48Vdc	56YDD-120-12C
	500ms, 60ms @110Vdc	56YDD-120-12D
Hold Up Time (Typ.)	Please refer to page 7 Hold up Time(Load de-rating curve)	

Protection

Over Load	Normally works within 150% rated output power for more than 3 seconds and then constant current protection 105~135% rated output power with auto-recovery	
Over Voltage	14.4 ~ 16.8V Protection type: Shut down o/p voltage, re-power on to recover	
Reverse Polarity	By internal MOSFET, no damage, recovers automatically after fault condition removed	
Under Voltage Lockout	12Vin (A-type): Power ON>9V, OFF<8.5V	56YDD-120-12A
	24Vin (B-type): Power ON>16.8V, OFF<16.5V	56YDD-120-12B
	48Vin (C- type): Power ON>33.6V, OFF<33V	56YDD-120-12C
	110Vin (D-type): Power ON>67.2V, OFF<65V	56YDD-120-12C

Environmental Characteristics

Working Temp	-40 °C to +70 °C (Refer to "Derating Curve")	
Working Humidity	5~90% RH non-condensing	
Storage Temp., Humidity	-40~+85°C, 5~95% RH non-condensing	
Temp. Coefficient	±0.03%/°C (0~50°C)	
Vibration	Component:10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axe Mounting: Compliance to IEC61373	
Operating Altitude	5000 meters	
MTBF	1769.5K hrs min. Telcordia SR-332 (Bellcore)	

Safety & EMC

Safety Standards	IEC 62368-1 EAC TP TC 004, AS/NZS 62368.1 approved	
Withstand Voltage	I/P-O/P:4KVDC/min I/P-FG:2.5KVAC/min O/P-FG:2.5KVAC/min	
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25 °C/70% RH	
EMC Emission	Compliance to BS EN/EN55032 (CISPR32) Class B,BS EN/EN61000-3-3	
EMC Immunity	Compliance to BS EN/EN61000-6-2, BS EN/EN61000-4-2,3,4,5,6,7,8	

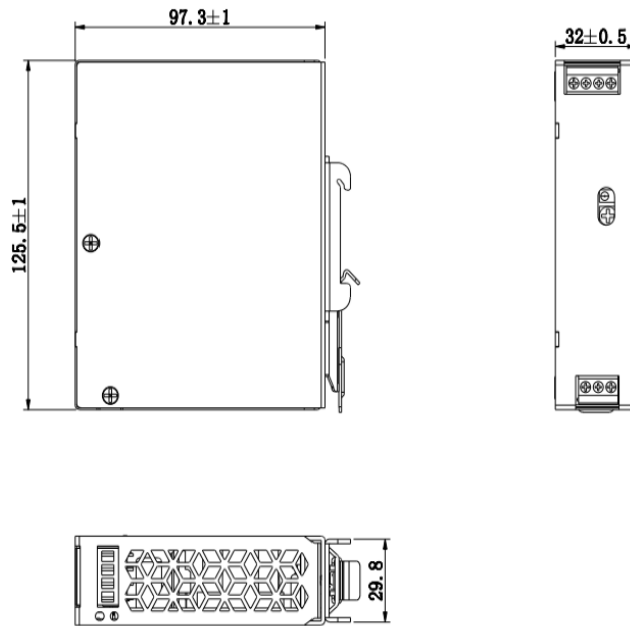
Dimensions & Weight

Size	125.5 x 97.3 x 32mm
Weight	500g

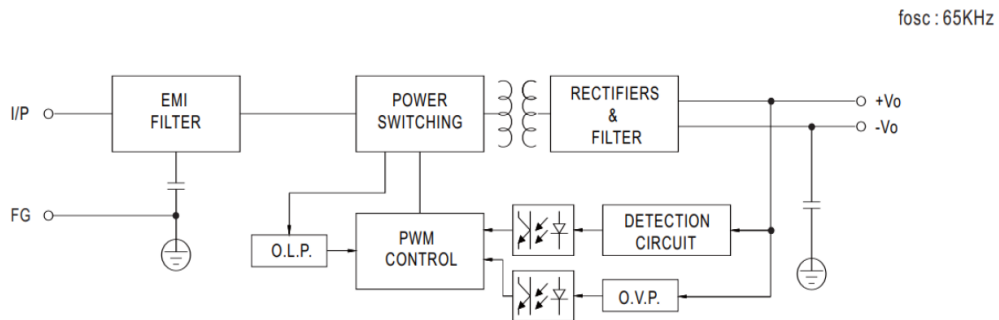
Packaging

Carton Size	52.5 x 33 x 17.5 CM / 20.67 x 12.99 x 6.89in
Carton Quantities	10pcs/Carton

Dimensions and Recommended Layout

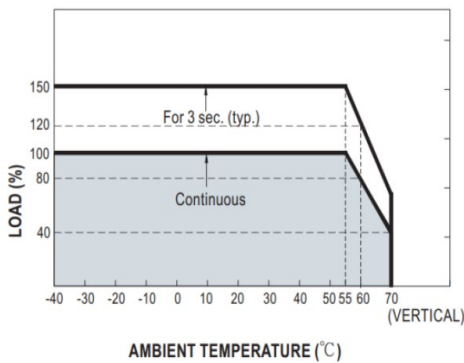


Block Diagram

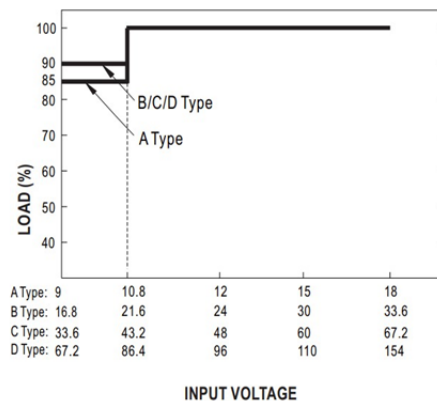


Curves

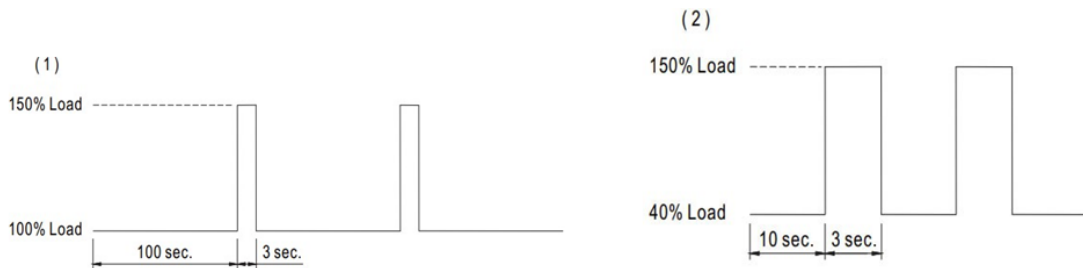
Deduction curve and temperature



Minus output and input voltage curves



Peak Loading



Input Fuse

There is a fuse connected in series to the positive input line, which is used to protect against abnormal surge. Fuse specifications of each model are shown as below.

Type	Fuse Type	Reference and Rating
A	Time-Lag	Conquer MST, 10A, 250V *2
B	Time-Lag	Conquer MST, 8A, 250V *2
C	Time-Lag	Conquer MST, 8A, 250V *1
D	Time-Lag	Conquer MST, 4A, 250V *1

Input Reverse Polarity Protection

There is a MOSFET connected in series to the negative input line. If the input polarity is connected reversely, the MOSFET opens and there will be no output to protect the unit.

Input Range and Transient Ability

The series has a wide range input capability. With -30%/+40% of rated input voltage(except A Type), it can withstand that for 1 second.

Inrush Current

Inrush current is suppressed by a current limit circuit during the initial start-up, and then the circuit is bypassed by a MOSFET to reduce power consumption after accomplishing the start-up.

