ADW60-xx Series

DESCRIPTIONS 60W，AC-DC DIN-Rail Power Supply



RoHS

3 Years Warranty

CE Report UKCA Report

EN62368-1 BS EN62368-1

FEATURES

- Universal 180 - 600VAC or 250 - 850VDC input voltage
- Single/Two phase both available
- Operating ambient temperature range: -40℃ to +85℃
- High I/O isolation voltage up to 4700VAC
- Ultra-thin width 32mm
- Low ripple & noise, high efficiency, high reliability
- DC OK function
- 150% peak load for 3 seconds
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- OVC III, 2000m altitude (Design refer to IEC60664, IEC62477 standards)
- Design refer to UL508, UL/EN/IEC62368, UL61010/IEC60664, IEC61558, EN62477

APPLICATIONS

- Industrial control equipment machinery

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)	Efficiency at 400VAC (%) Typ.	Max. Capacitive Load (μF)
EN/BS EN	ADW60-05	50	5V/10.00A	5-6	83.5	20000
	ADW60-12	60	12V/5.00A	12-15	86.5	10000
	ADW60-24	60	24V/2.50A	24-29	89.0	4000
	ADW60-48	60	48V/1.25A	48-57	90.5	1000

Note: 1.The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

2.The product picture is for reference only.For details, please refer to the actual product.

Specifications

Product Specifications	Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range	Rated input (certified voltage)		200	--	480	VAC
		AC input		180	--	600	
		DC input		250	--	850	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	230VAC		--	--	0.7	A
		400VAC		--	--	0.4	
	Inrush Current	230VAC	Cold start	--	30	--	
		400VAC		--	50	--	
	Contact leakage current	480VAC		< 0.5mA RMS max			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	All load range	5V	--	±2.0	--	%
			12V	--	±1.5	--	
			24V/48V	--	±1.0	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	400VAC	5V	--	±1.5	--	
			12V/24V/48V	--	±0.5	--	
	Minimum Load			0	--	--	
	Start-up Delay Time			--	--	1.5	s
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	--	--	100	mV
			12V/24V	--	--	120	
			48V	--	--	150	
	Stand-by Power Consumption	400VAC		--	1.0	1.5	W
	Temperature Coefficient	0℃ to 60℃		--	±0.03	--	%/℃
	Hold-up Time	Room temperature, full load	230VAC input	15	20	--	ms
			400VAC input	70	80	--	

	Over-current Protection**			≥130% Io, constant current mode, self-recover			
	Short Circuit Protection**			Constant current mode, recovers automatically after fault condition is removed			
	Over-voltage Protection		5V	≤8V	Output voltage hiccup, self-recover		
			12V	≤18V			
			24V	≤37V			
			48V	≤63V			
	Over-temperature Protection		400VAC	Output voltage hiccup, self-recover			
General Specifications	Isolation	Input - output	Electric strength test for 1min., leakage current <6mA	4700	--	--	VAC
		Input - ⏚	Electric strength test for 1min., leakage current <5mA	2500	--	--	
		Output - ⏚		500	--	--	
		Output - DC OK	Electric Strength Test for 1min., leakage current < 1mA	500	--	--	
	Insulation Resistance	Input - output	Test voltage: 500VDC	100	--	--	MΩ
		Input - ⏚					
		Output - ⏚					
	Operating Temperature			-40	--	+85	℃
	Storage Temperature			-40	--	+85	
	Storage Humidity		Non-condensing	--	--	95	%RH
	Operating Humidity			--	--	95	
	Power Derating		Operating temperature derating: -40℃ to -30℃	7.00	--	--	%/℃
			Operating temperature derating: +60℃ to +70℃	5.00	--	--	
			Operating temperature derating: +70℃ to +85℃	1.33	--	--	
			Input voltage derating: 180 - 200VAC	1.00	--	--	%/VAC
			Input voltage derating: 550 - 600VAC	0.40	--	--	
	Safety Class			CLASS I			
	MTBF		MIL-HDBK-217F@25℃	≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Dimensions		124.00 x 32.00 x 102.00mm				
	Weight		445g (Typ.)				
	Cooling Method		Free air convection				

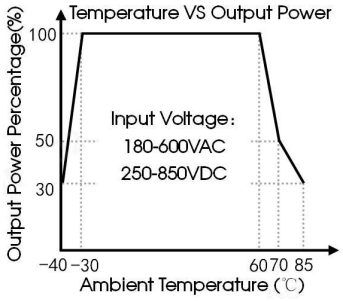
Note:1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor;
2.**The constant-current mode is segmented.

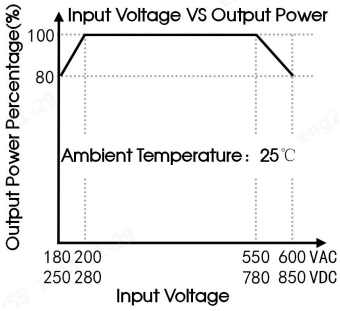
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN 55032	CLASS B	
		RE	CISPR32/EN 55032	CLASS B	
		Harmonic Current	IEC/EN 61000-3-2	CLASS A	
		Voltage Flicker	IEC/EN 61000-3-3		
	Immunity	ESD	IEC/EN 61000-4-2	Contact ±4KV/Air ±8KV	Perf. Criteria A
		RS	IEC/EN 61000-4-3	10V/m	Perf. Criteria A
		EFT	IEC/EN 61000-4-4	±2KV	Perf. Criteria A
		Surge	IEC/EN 61000-4-5	Line to line ±2KV/line to ground ±4KV	Perf. Criteria A
		CS	IEC/EN 61000-4-6	10Vr.m.s	Perf. Criteria A
		PFMF	IEC/EN 61000-4-8	30A/m	Perf. Criteria A
		Voltage Variations*	IEC/EN61000-4-11	0% U_n, 0.5 cycle; 0°/45°/90°/135°/180°/225°/270°/315°	Perf. Criteria B
				0% U_n, 1 cycle; 70% U_n, 25/30 cycle (50/60Hz); Monophase: 0	
		Short interruptions*	IEC61000-4-11	0% U_n, 250/300 cycle (50/60Hz)	Perf. Criteria C

Note: * U_n Maximum input nominal voltage.

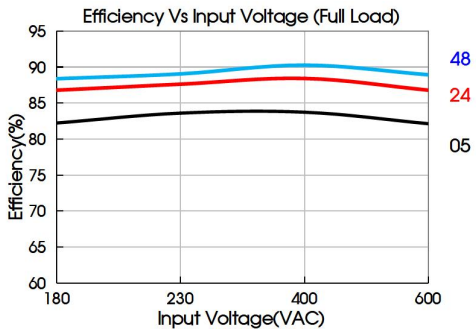
Product Characteristic Curve

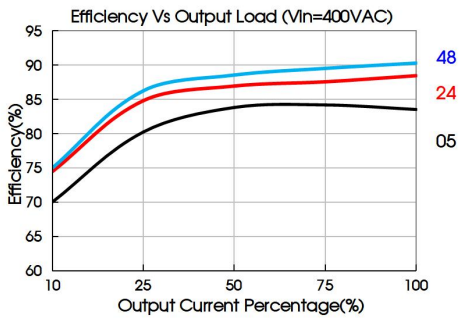




Note: 1.With an AC input between 180 - 200VAC/550 - 600VAC and a DC input between 250 - 280VDC/780 - 850VDC the output power must be derated as per temperature derating curves;

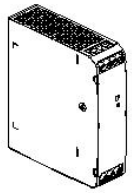
2.This product is suitable for applications using natural air cooling.



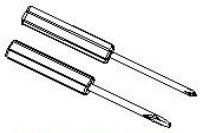


Installation Diagram

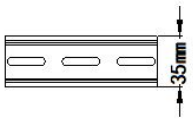
Materials required in the installation		
1	Product	1 PCS
2	Phillips screwdriver Slotted screwdriver	1 PCS
3	TS35/7.5 or TS35/15	1 PCS
4	26–10AWG wire	/ PCS
	The content is for reference only. Regarding the actual wire diameter and tightening torque, refer to the dimensional drawing.	



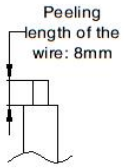
Product



Phillips screwdriver
Slotted screwdriver
Diameter of the cutting tools: 3mm

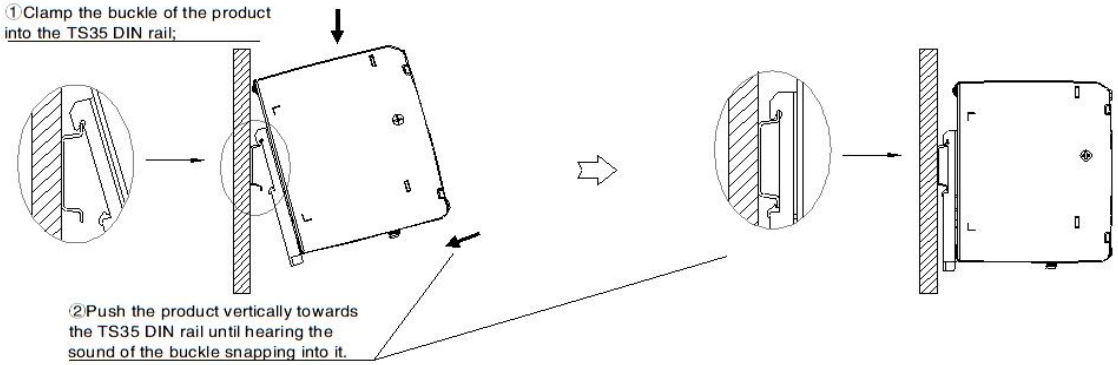


TS35/7.5 or TS35/15

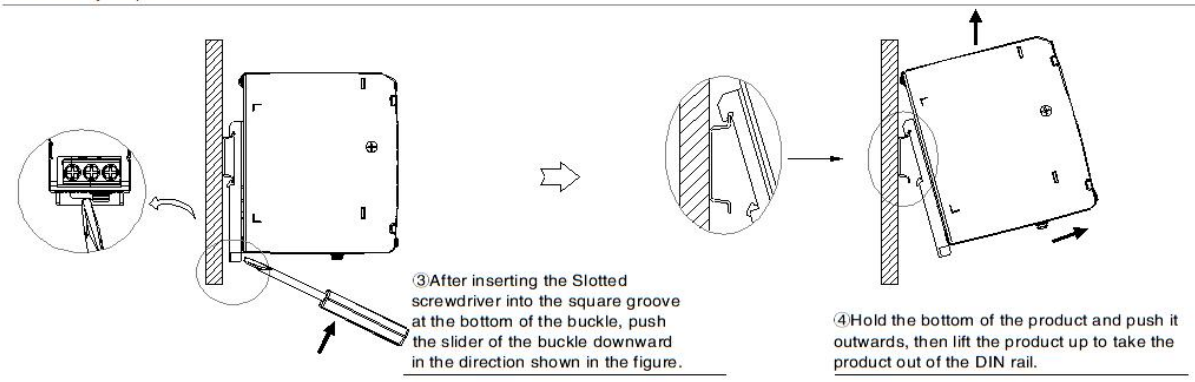


26–10AWG wires

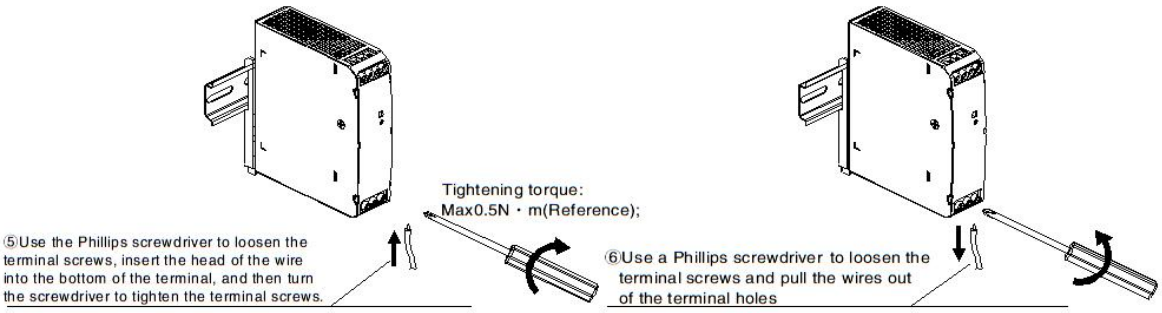
Installation Steps ①–②



Disassembly Steps ③–④

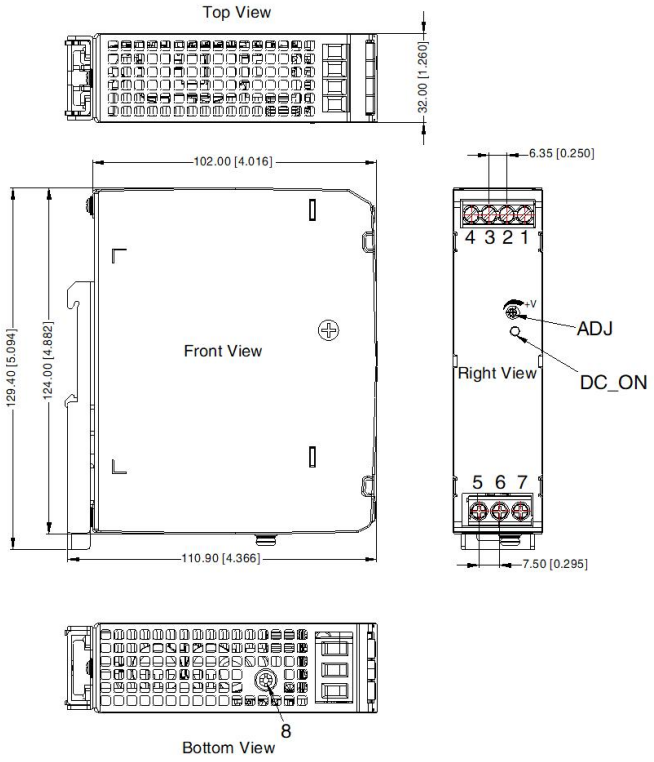


Wiring / Unwiring Steps ⑤–⑥



Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

Dimensions and Recommended Layout



THIRD ANGLE PROJECTION

Pin–Out	
Pin	Function
1	DC OK
2	
3	+Vo
4	–Vo
5	L1
6	L2
7	⏚

7、8 any position must be connected to the earth (⏚)

Note:
Unit: mm[inch]
DC ON：Output status indicator LED
ADJ: Output adjustable resistor
Wire range: Input: 24–10 AWG
Output: 5V：10–14AWG
12V：18–10AWG
24V：24–10AWG
48V：26–10AWG
Input Tightening torque: Max 0.8 N·m
Output Tightening torque: Max 0.5 N·m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ±1.00[±0.039]

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity <75% RH with nominal input voltage and rated output load;
2. The room temperature derating of 3.5℃/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The output voltage can be adjusted by the ADJ, clockwise to increase;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment. The Din-rail products needs to be connected to the system ground.
10. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.