ADWF240-xx Series

DESCRIPTIONS AC/DC 240W DIN-Rail Power Supply

RoHS

3 Years Warranty

CE Report EN62368-1

UKCA Report BS EN62368-1

cULus LISTED IND.CONT.EQ UL61010-1

FEATURES

- Universal 180-550VAC or 254-780VDC input voltage
- Single/Two phase both available
- Operating ambient temperature range: -40℃ to +70℃
- Low ripple & noise, high efficiency
- DC OK function
- Built-in active PFC function
- 150% peak load for 5 seconds
- Output short circuit, over-current, over-voltage, over-temperature, constant current limit protection
- OVC III, 2000m altitude (UL62477 standards)
- Safety according to UL62368, UL62477

APPLICATIONS

- Industrial Control
- Security
- Communicate

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V) (≤240W)*	Efficiency at 400VAC (%) Typ.	Capacitive Load (μF) Max.
EN/BS EN/UL	ADWF240-24	240	24V/10A	24-28	91	10000
EN/BS EN	ADWF240-48		48V/5A	48-55	91	10000

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

Specifications

Product characteristics	Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range	Rated input (certified voltage)		200	--	480	VAC
		AC input		180	--	550	
		DC input		254	--	780	VDC
	Input Frequency			47	--	63	Hz
	Input Current	230VAC		--	--	2.0	A
		400VAC		--	--	1.0	
	Inrush Current	400VAC	Cold start	--	--	110	
	Power Factor	230VAC		--	0.93	--	--
		400VAC		--	0.90	--	
	Leakage Current	480VAC		1mA RMS Max.			
	Input Temporary Over-voltage	Rated load output, 600VAC input		5s/time, interval 10s, product without damaging			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range		--	±1.0	--	%
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	400VAC		--	±1.0	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)		--	--	150	mV
	Temperature Coefficient			--	±0.03	--	%/°C
	Short Circuit Protection			Hiccup, continuous, self-recovery			
	Over-current Protection			≥150% Io, hiccup, self-recovery			
	Over-voltage Protection	24V output		≤33V	Output voltage clamp or hiccup		
		48V output		≤65V			
	Over-temperature Protection	400VAC, rated load		Output voltage turn off, self-recovery			
	Minimum Load			0	--	--	%
	Start-up Time	230VAC		--	1.5	3.0	s
		400VAC		--	0.8	1.5	
	DC OK Signal**	Resistive load		30VDC/1A Max.			
	Hold-up Time	Room temperature, full load	230VAC	--	18	--	ms
			400VAC	--	18	--	
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current<5mA	4000	--	--	VAC
		Input - ⏚		2000	--	--	
		Output - ⏚		500	--	--	

		Output - DC OK		500	--	--	
	Insulation Resistance	Input - output	500VDC	100	--	--	MΩ
		Input - ⏚					
		Output - ⏚					
	Operating Temperature			-40	--	+70	℃
	Storage Temperature			-40	--	+85	
	Operating Humidity		Non-condensing	--	--	95	%RH
	Storage Humidity			--	--	95	
	Power Derating		-40℃ to -30℃	3.0	--	--	%/℃
			+50℃ to +70℃	2.0	--	--	
			180 - 200VAC	0.5	--	--	%/VAC
			2000 - 5000m	3.5	--	--	%/Km
	Safety Class			CLASS I			
	MTBF		MIL-HDBK-217F@25℃	> 300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Package Dimensions		124.00 x 54.00 x 110.00 mm				
	Weight		790g (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, please refer to Enclosed Switching Power Supply Application Notes for specific information;

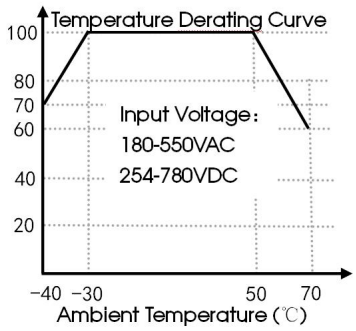
2.*DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (<90%Vo), the relay is disconnected.

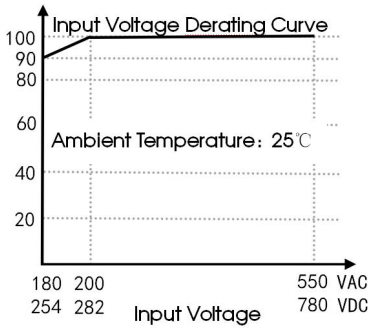
Electromagnetic Compatibility (EMC)

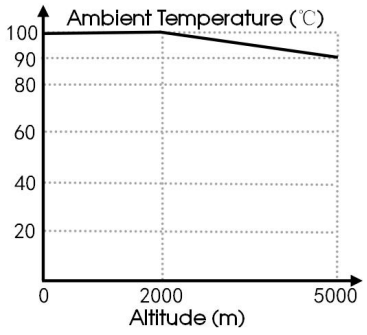
Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32 EN55032	CLASS B	
		RE	CISPR32 EN55032	CLASS B	
		Harmonic current	IEC/EN61000-3-2	CLASS A	
	Immunity	ESD	IEC/EN61000-4-2	Contact ±8KV/Air ±15KV	Perf. Criteria A
		RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4	±4KV	Perf. Criteria A
		Surge	IEC/EN61000-4-5	Line to line ±2KV/line to ground ±4KV	Perf. Criteria A
		CS	IEC/EN61000-4-6	10Vr.m.s	Perf. Criteria A
		MS	IEC/EN61000-4-8	30A/m	Perf. Criteria B
		Voltage dips	IEC61850-3/IEC61000-6-5	40% U_n, 0% U_n, 50 cycle	Perf. Criteria B
		Short interruptions*		70% U_n, 1 cycle 0% U_n, 5 cycle	Perf. Criteria A

Note: *U_n Maximum input nominal voltage.

Product Characteristic Curve

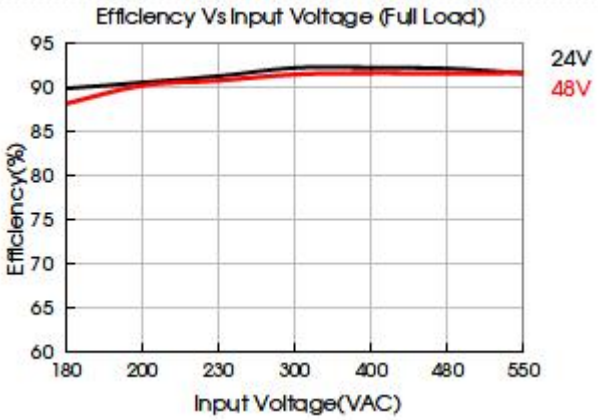


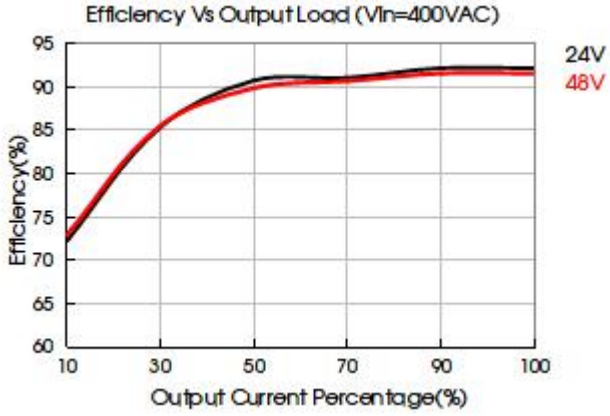




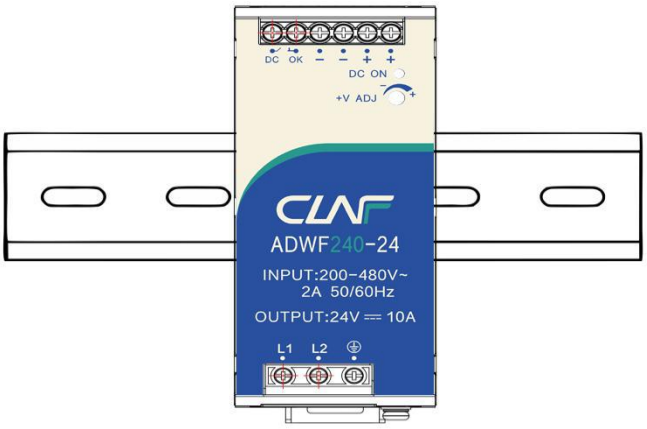
Note: ① With an AC input between 180-200VAC and a DC input between 254-282VDC, the output power must be derated as per temperature derating curves;

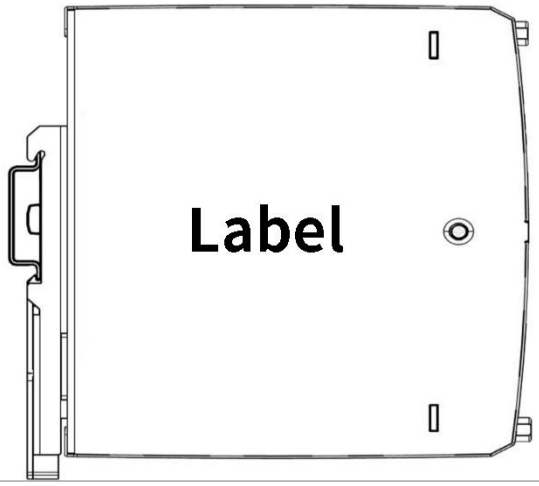
② This product is suitable for applications using natural air cooling;





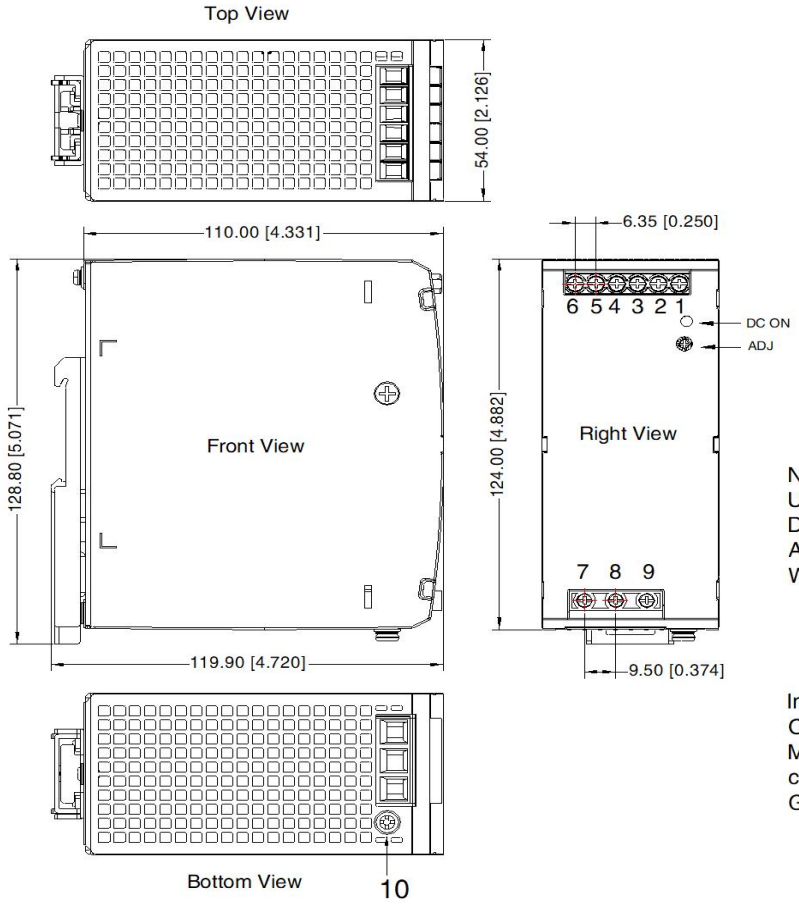
Installation Diagram





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



THIRD ANGLE PROJECTION

Pin–Out	
Pin	Mark
1	+Vo
2	+Vo
3	–Vo
4	–Vo
5	DC OK
6	
7	L1
8	L2
9	⏚

9、10 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
(12–10AWG for pin9)
Output: 24V: 16–10AWG
48V: 18–10AWG
DC OK: 24–16AWG
Input Tightening torque: Max 1.0 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 out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.