



## 75ACDRH\_S Series

75W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Enclosed Switching Power Supply

# AC-DC Converter 75 Watt

- + Universal 90 - 264VAC or 120-370VDC input voltage
- + Accepts AC or DC input (dual-use of same terminal)
- + Operating ambient temperature range -30°C to +70°C
- + High I/O isolation test voltage up to 4000VAC
- + Low ripple & noise
- + Output short circuit, over-current, over-voltage, over-temperature protection
- + DIN rail TS-35/7.5 or 15 mountable
- + Suitable for small chassis and narrow space installation
- + Safety according to UL61010, EN62368

The 75ACDRH\_S series is featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. These light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international UL61010, EN62368 standards for EMC and safety.



### Common specifications

Short circuit protection: (Recovery time < 3s after the short circuit disappear.)	Constant current, continuous, self-recovery
Operation temperature range:	-30°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	10% ~ 95% RH
Operating humidity range:	20% ~ 95% RH
Operating Altitude:	2000m
Power Derating:	-30°C to -10°C 2.0 %/°C min. +45°C to +70°C 2.0 %/°C min. 90VAC - 100VAC 2.0 %/VAC min.
Safety standards:	Meet UL61010/EN62368
Safety Certification:	EN62368 (Pending)
Safety Class:	CLASS I
MTBF(using MIL-HDBK-217F@25°C):	>300,000 hours
Case material:	Metal (AL1100, SGCC)
Cooling:	Free air convection
Dimensions:	32.00 x 125.00 x 87.50mm
Weight:	350g Typ.

### Input specifications

Item	Test conditions	Min	Typ	Max	Units
Input Voltage Range	AC input	90		264	VAC
	DC input	120		370	VDC
Input Frequency		47		63	Hz
Input Current	115VAC			2	A
	230VAC			1	A
Inrush Current	115VAC		25		A
	230VAC		45		A
Leakage Current	240VAC	0.5mA			
Hot Plug	Unavailable				

### Isolation specifications

Item	Test conditions	Min	Typ	Max	Units
Isolation Test	Electric strength test for 1min., leakage current <10mA				
		• Input - ↓	2000		VAC
		• Input - output	4000		VAC
		• Output - ↓	1500		VAC
Insulation Resistance	At 500VDC				
		• Input - ↓	50		MΩ
		• Input - output	50		MΩ
		• Output - ↓	50		MΩ

### Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Full load range • 12V • 24V/48V		±2.0		%
			±1.0		
Line regulation	Rated load			±0.5	%
Load regulation	0% - 100% load			±1.0	%
Ripple & noise*	20MHz bandwidth (peak-to-peak value) • 12V Output • 24V Output • 48V Output			80	mV
				120	mV
				150	mV
Temperature coefficient			±0.03		%/°C
Switching frequency			65		KHz
Minimum load		0			%
Start-up time				3	s
Hold-up time	115VAC	12			ms
	230VAC	60			ms

\* Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.

### Protection specifications

Over-current Protection	• Normal temp. • Low temp., high temp.	105%-150% Io, constant current mode, automatic recover after fault condition is removed ≥105%Io, constant current mode, automatic recover after fault condition is removed
Over-voltage protection	• 12V Output • 24V Output • 48V Output	≤17V * ≤33V * ≤60V *

\*Output voltage turn off, re-power on for recover

### Example:

#### 75ACDRH\_48S

75 = 75 Watts; AC = AC-DC; DR = Din Rail; H = Case style (housing); 48 = 48Vout; S = Single Output

### Note:

- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% RH with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our company corporate standards;
- 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;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see „Features“ and „EMC“;
- The out case needs to be connected to PE ( ) of system when the terminal equipment in operating;
- The output voltage can be adjusted by the ADJ, clockwise to increase;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
- 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.

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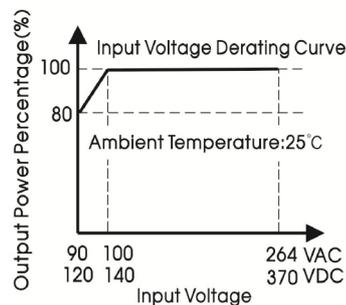
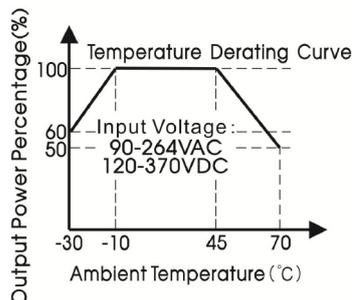
EMC specifications				
Emissions	CE	CISPR32/EN55032	CLASS B	
Emissions	RE	CISPR32/EN55032	CLASS B	
Emissions	THD	IEC/EN 61000-3-2	CLASS A	
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A
Immunity	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
Immunity	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria A
Immunity	Surge	IEC/EN61000-4-5	line to line ±2KV/line to ground ±4KV	perf. Criteria A
Immunity	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
Immunity	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

## Product Selection Guide

Approval	Part Number	Power [W]	Nominal Output [Vo, VDC]	Rated Current [Io/A]	Output Voltage Adjustable [Range, V]*	Efficiency at 230VAC [%, Typ.]	Capacitive Load [µF, Max.]
	75ACDRH_12S	75.6	12V	6.3A	12-14	86	6000
	75ACDRH_24S	76.8	24V	3.2A	24-28	89	1500
	75ACDRH_48S	76.8	48V	1.6A	48-53	90	1000

\* 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.

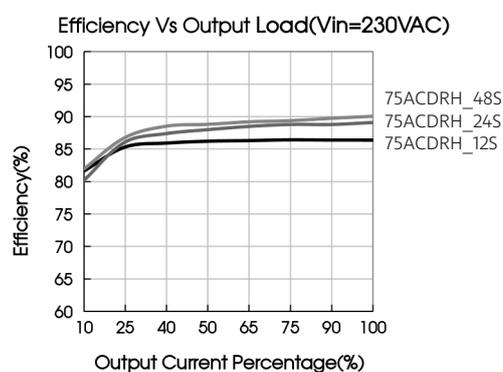
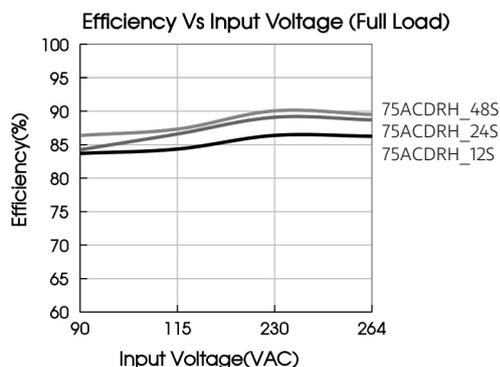
## Typical characteristics



Note:

1. With an AC input voltage between 90-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult our FAE.

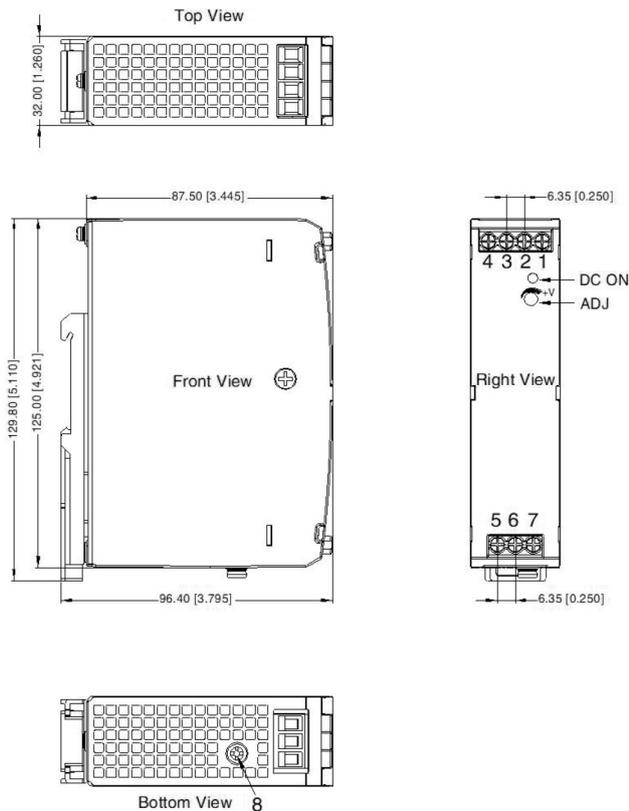
## Efficiency

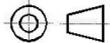


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### Mechanical dimensions



THIRD ANGLE PROJECTION 

Pin-Out	
Pin	Mark
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	

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

#### Note:

Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: 26-10 AWG

Tightening torque: Max 0.4 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances:  $\pm 1.00[\pm 0.039]$