



## 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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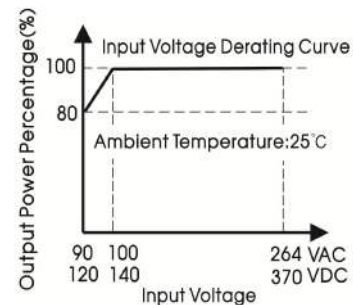
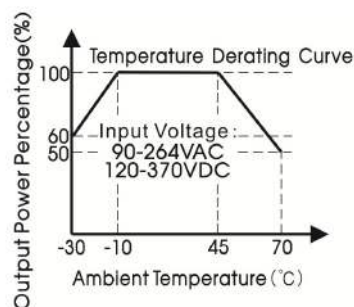
EMC specifications				
Emissions	CE	CISPR32/EN55032	CLASS B	
Emissions	RE	CISPR32/EN55032	CLASS B	
Emissions	THD	IEC/EN 61000-3-2	CLASS A	
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A
Immunity	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
Immunity	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria 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

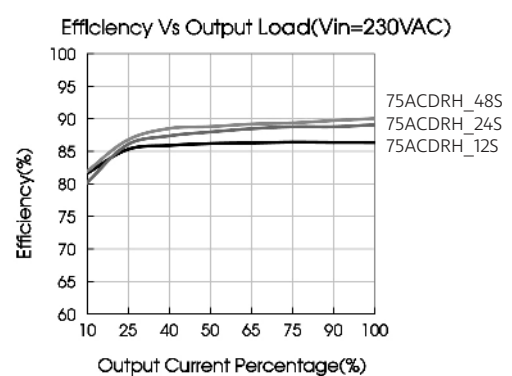
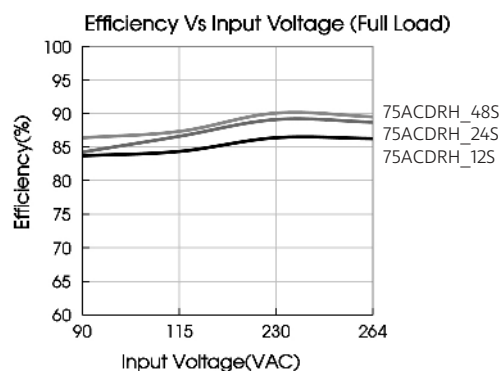
\* The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

## 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.

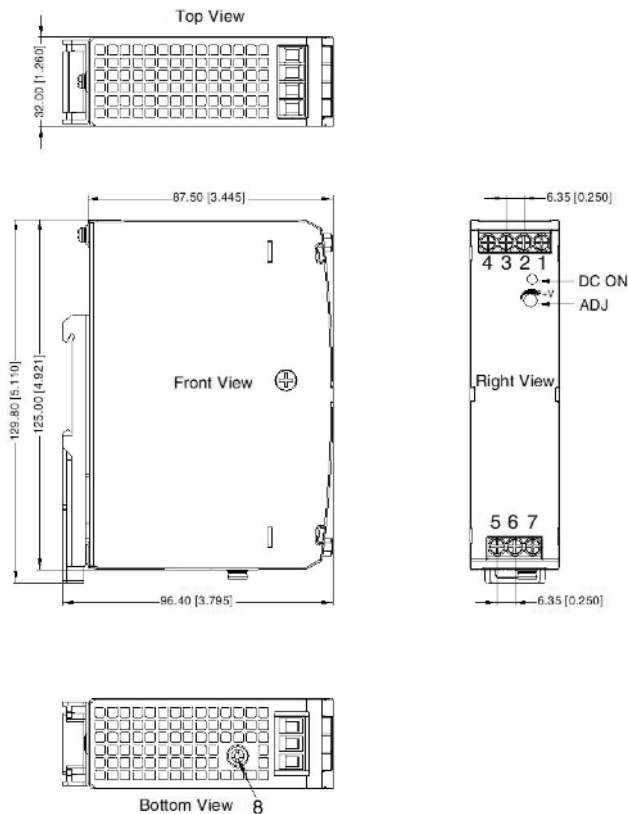
## Efficiency



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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:  $\pm 1.00 [\pm 0.039]$