



## 30ACDRS\_S Series

30W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Power Supply

## AC-DC Converter 30 Watt

- ⊕ Universal 85-264VAC or 120-370VDC input voltage
- ⊕ Accepts AC or DC input (dual-use of same terminal)
- ⊕ Operating ambient temperature range -40°C to +70°C
- ⊕ High I/O isolation test voltage up to 4000VAC
- ⊕ Industrial product technology design
- ⊕ Low standby power consumption, high efficiency
- ⊕ Over-voltage class III (Designed to meet EN61558-1 safety standards)
- ⊕ Low ripple & noise
- ⊕ Output short circuit, over-current, over-voltage protection
- ⊕ Withstand 300VAC surge input for 5s
- ⊕ DIN rail TS35X7.5/ TS35X15 mountable

The 30ACDRS\_S series is featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety specifications meet IEC/EN61000-4, CISPR32, EN55032, UL62368, IEC62368 and EN62368. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.



Common specifications	
Short circuit protection:	Hiccup, continuous, self-recovery
Operation temperature range:	-40°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	< 95%
Operating Altitude:	2000m
Power Derating:	-40°C to -30°C • 5V/48V Output 3.0 %/°C min • 12V/15V Output 7.0 %/°C min • 24V Output 5.0 %/°C min +50°C to +70°C 2.5 %/°C min 85VAC - 100VAC 1.0 %/°C min
Safety standards:	UL62368-1/IEC62368-1 Safety Approval EN62368-1 (Report) Design refer to EN61558-1
Safety Class:	CLASS II
MTBF (using MIL-HDBK-217F@ 25°C):	>300,000 hours
Case material:	Plastic, heat-resistant (UL94V-0)
Cooling:	Free air convection
Dimensions:	92.66 x 35.00 x 58.00 mm
Weight:	115g Typ.

Output specifications						
Item	Test conditions	Min	Typ	Max	Units	
Output voltage accuracy	0% - 100% load			±2	%	
Line regulation	Rated load			±0.5	%	
Load regulation	230VAC			±1.5	%	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)					
	• 5V Output			80	mV	
	• 12V Output			120	mV	
	• 15V Output			120	mV	
	• 24V Output			150	mV	
	• 48V Output			240	mV	
Temperature Coefficient				±0.02	%/°C	
Switching frequency			65		KHz	
Minimum Load		0			%	
Start-up Time				3	s	
Hold-up Time	115VAC 230VAC			12 60	ms ms	

\* The "parallel cable" method is used for ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

Input specifications						
Item	Test conditions	Min	Typ	Max	Units	
Input Voltage Range	AC input DC input	85 120		264 370	VAC VDC	
Input Frequency		47		63	Hz	
Input Current	115VAC 230VAC			0.9 0.5	A A	
Inrush Current	115VAC 230VAC		25 45		A A	
Leakage Current	264VAC	0.25mA RMS max.				
Hot Plug	Unavailable					

Protection specifications		
Over-load protection		≥120 % Io, self-recovery
Over-voltage protection	5V Output 12V Output 15V Output 24V Output 48V Output	≤7.5V (Output voltage clamp or hiccup) ≤16V (Output voltage clamp or hiccup) ≤20V (Output voltage clamp or hiccup) ≤36V (Output voltage clamp or hiccup) ≤60V (Output voltage clamp or hiccup)

**Example:**  
**30ACDRS\_24S**  
 30 = 30 Watts; AC = AC-DC; DR = Din Rail; S = Case style;  
 24 = Vout; S = Single output

### Note:

- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our company corporate standards;
- We can provide product customization service, please contact our technicians directly for specific information;
- Specifications are subject to change without prior notice.
- Products are related to laws and regulations: see „Features“ and „EMC“;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Isolation specifications						
Item	Test condition	Min	Typ	Max	Units	
Isolation Test (Input - Output)	Electric Strength Test (for 1min., ( leakage current°C 5mA )	4000			VAC	

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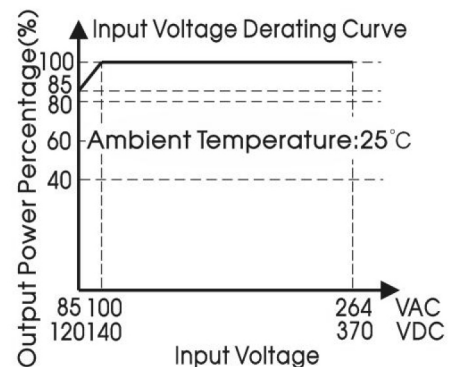
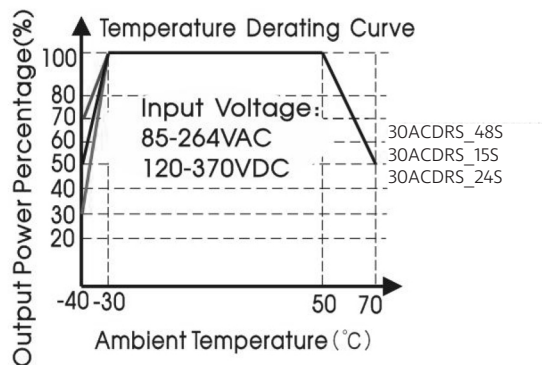
EMC specifications				
Emissions	CE	CISPR32/EN55032	CLASS B	
Emissions	RE	CISPR32/EN55032	CLASS B	
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A
Immunity	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
Immunity	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria A
Immunity	Surge	IEC/EN61000-4-5	line to line ±2KV	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 A

## Product Selection Guide

Approval	Part Number	Power [W]	Output [Vo, VDC]	Rated Current [A]	Output Voltage Adjustable [Range, V]*	Efficiency at 230VAC [%, Typ.]	Capacitive Load [µF, Max.]
UL	30ACDRS_05S	15	5V	3A	4.9-5.5	82	12000
UL	30ACDRS_12S	24	12V	2A	10.8-13.8	88	6000
UL	30ACDRS_15S	30	15V	2A	13.5-18.0	89	5000
UL	30ACDRS_24S	36	24V	1.5A	21.6-29.0	88	1400
UL	30ACDRS_48S	36	48V	0.75A	43.2-55.2	90	600

\* 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

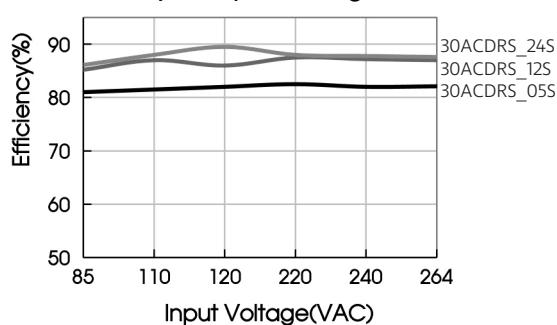


Note:

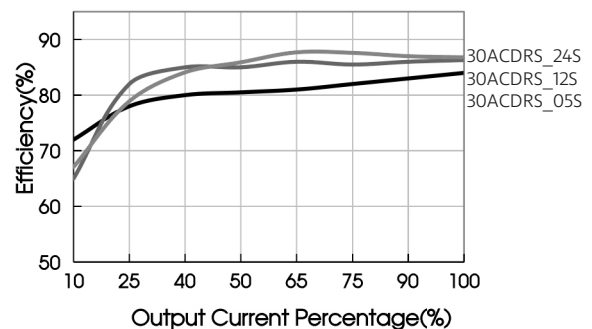
1. With an AC input between 85-100VAC and a DC input between 120-140VDC, the output power must be derated as per temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.

## Efficiency

Efficiency Vs Input Voltage (Full Load)



Efficiency Vs Output Load (Vin=230VAC)

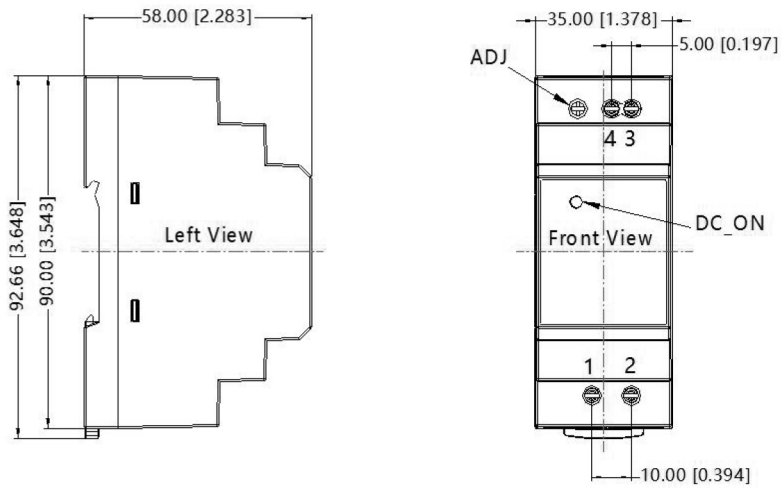


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### Mechanical dimensions

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	
1	AC(N)
2	AC(L)
3	-Vo
4	+Vo

**Note:**

Unit: mm[inch]

ADJ: adjustable resistance to change output voltage

Wire range: 24-12 AWG

Tightening torque: Max 0.4 N·m

Mounting rail: TS35

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