



60ACDRS_S Series

60W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Power Supply

AC-DC Converter 60 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 60ACDRS_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 8.0 %/°C min +50°C to +70°C 2.0 %/°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 52.00 x 58.00 mm |
| Weight: | 175g 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 | | | 100 | 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 | | 15 80 | | ms ms | |

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

| 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 | | | 1.2 0.8 | A A | |
| Inrush Current | 115VAC 230VAC | | 30 60 | | 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:
60ACDRS_S
60 = 60 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.

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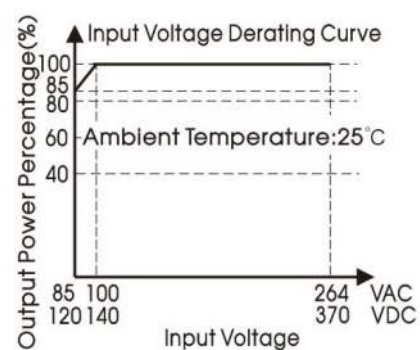
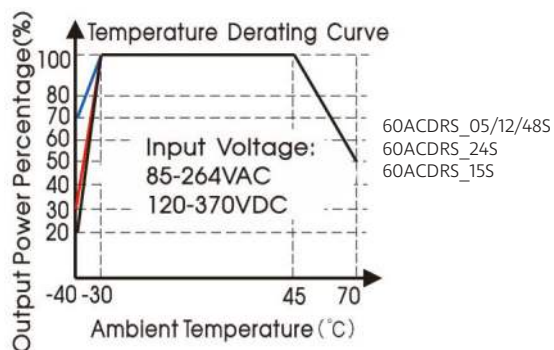
| EMC specifications | | | | |
|--------------------|---|------------------|-----------------------|------------------|
| Emissions | CE | CISPR32/EN55032 | CLASS B | |
| Emissions | RE | CISPR32/EN55032 | CLASS B | |
| Immunity | ESD | IEC/EN61000-4-2 | Contact ±6KV/Air ±8KV | Perf. Criteria A |
| Immunity | 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 | 60ACDRS_05S | 32.5 | 5V | 6.5A | 4.9-5.5 | 84 | 20000 |
| UL | 60ACDRS_12S | 54 | 12V | 4.5A | 10.8-13.8 | 88 | 10000 |
| UL | 60ACDRS_15S | 60 | 15V | 4.0A | 13.5-18.0 | 89 | 8000 |
| UL | 60ACDRS_24S | 60 | 24V | 2.5A | 21.6-29.0 | 90 | 4000 |
| UL | 60ACDRS_48S | 60 | 48V | 1.25A | 43.2-55.2 | 91 | 680 |

* 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.

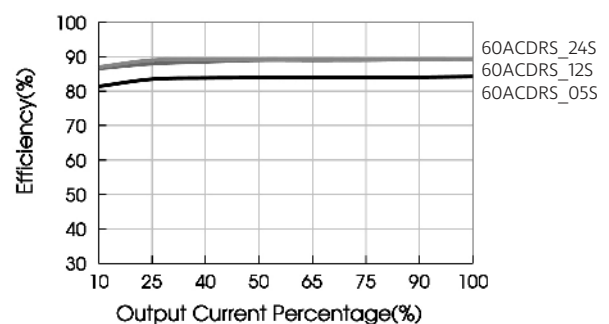
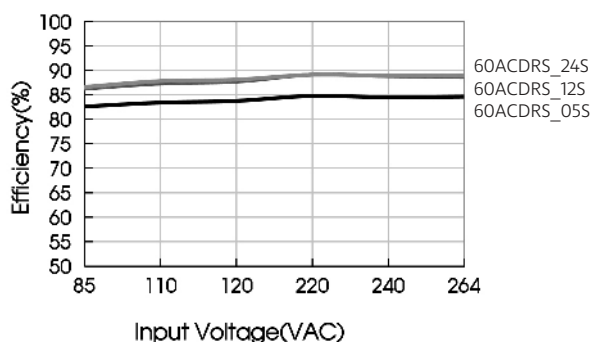
Typical characteristics



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

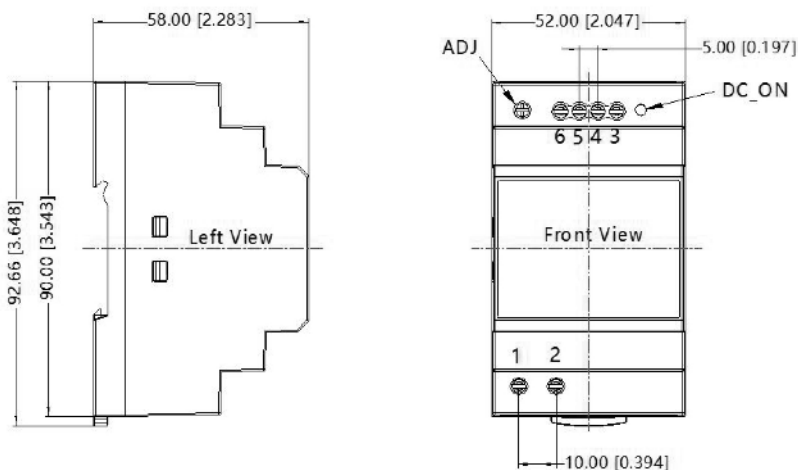


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Mechanical dimensions

THIRD ANGLE PROJECTION 



| Pin-Out | |
|---------|-------|
| Pin | |
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | +Vo |
| 4 | +Vo |
| 5 | -Vo |
| 6 | -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: $\pm 1.00[\pm 0.039]$