

60ACDR1S_S4 series

60W - Single Output AC-DC Converter

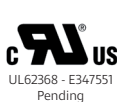


AC-DC Converter

60 Watt

- ⊕ 90-264VAC/120-370VDC input voltage range
- ⊕ Over voltage category III
- ⊕ No load power consumption <0.3W
- ⊕ No fan - free air convection
- ⊕ 4000VAC isolation
- ⊕ Fits TS-35/7.5 or TS-35/15 Din rail
- ⊕ Short circuit protection (SCP)
- ⊕ Over voltage protection
- ⊕ Over current protection
- ⊕ Output voltage adjustment (by potentiometer)
- ⊕ Operating temperature -30°C up to +70°C (with derating)

Introducing our new 60ACDR1S_S4 series DIN rail power supplies — engineered for reliable performance in demanding industrial environments. The series features a wide 90–264VAC / 120–370VDC input voltage range and complies with Overvoltage Category III requirements. With no-load power consumption below 0.3W and fanless cooling by free air convection, it delivers efficient, low-maintenance operation. Designed for safety and flexibility, the 60ACDR1S_S4 series offers 4000VAC isolation, fits TS-35/7.5 and TS-35/15 DIN rails, and includes comprehensive protections such as short circuit, overvoltage, and overcurrent protection. The output voltage can be adjusted via potentiometer, and the units operate reliably in temperatures from -30°C to +70°C with derating.



Common specifications

Short circuit protection	When there is a short circuit fault at the output terminal, the output hiccup mode protection is activated. When the short circuit fault is resolved, the power supply automatically resumes normal output.
Over load protection	105% (min.) 160% (max.) Hiccup mode, when the fault is resolved, the output automatically returns to normal 50% (min.) 100% (max.) Hiccup when output voltage < 50%, constant current mode when output voltage is between 50% and 100%. After the fault is removed, the power supply automatically returns to normal
Over voltage protection	110% (min.) 150% (max.) constant voltage mode, when the fault is resolved, the output automatically returns to normal
Working temperature	-30°C - +70°C (with derating)
Storage temperature	-40°C - +85°C
Working humidity	20–95% RH (non-condensing)
Storage humidity	10–95% RH (non-condensing)
Safety standard	UL 62368-1, CAN/CSA C22.2 No. 62368-1:19, EN 62368-1 IEC 62368-1, GB 4943.1
MTBF (MIL-HDBK-217F)	200,000 hours
Weight	200g (typ.)
Dimension	90 x 58 x 52.5 mm

Output specifications

Item	Operating condition	Min	Typ	Max	Units
Output voltage tolerance	All models	-2		+2	%
Line regulation	All models	-1		+1	%
Load regulation	All models	-1.5%		+1.5%	%
Turn on delay time	115VAC/230VAC, full load			2000	ms
Rise time	115VAC/230VAC, full load			50	ms
Hold up time	230VAC, full load 115VAC, full load	30 12			ms
Temp. coefficient	0–50°C	-0.03		0.03	%/°C

Isolation specifications

Item	Operating conditions	Min	Typ	Max	Units
Isolation and voltage resistance*	Test time 1 minute, leakage current less than 7mA / input-output	4000			VAC
Isolation impedance	Test voltage: 500VDC / input-output	100			MΩ

Note: *The minimum isolation withstand voltage of this product is 4000VAC. If higher testing standards are used, please contact our sales representative.

Input specifications

Item	Operating condition	Min	Typ	Max	Units
Input AC voltage		90		264	VAC
Rated input AC voltage		100		240	VAC
Input DC voltage	When DC input, L is positive and N is negative	120		370	VDC
Input frequency		47		63	Hz
Maximum input current	115VAC, full load 230VAC, full load			1.2 0.6	A
Leakage current	240VAC/50Hz			0.25	mA
Inrush current	115VAC, cold start 230VAC, cold start		30 60		A

Example:

60ACDR1S_12S4

**60 = 60Watt; AC = AC-DC; DR1S = Series; 12 = 12Vout;
S = Single output; 4 = 4kVAC isolation**

60ACDR1S_S4 series

60W - Single Output AC-DC Converter

EMC specifications				
EMC	EMI	Conducted emission	EN 55032	Class B
EMC	EMI	Radiated emission	EN 55032	Class B
EMC	EMI	Harmonic current	EN 61000-3-2	Class A
EMC	EMI	Voltage flicker	EN 61000-3-3	
EMC	EMS	Electro-static discharge	EN 61000-4-2	Air 8kV / contact 4kV
EMC	EMS	Radiated susceptibility	EN 61000-4-3	80MHz–1GHz 10V/m
EMC	EMS	Electrical fast transient	EN 61000-4-4	±2kV
EMC	EMS	Surge immunity	EN 61000-4-5	CM±4kV/DM ±2kV
EMC	EMS	Conducted emission immunity	EN 61000-4-6	10Vr.m.s
EMC	EMS	Power frequency Magnetic field immunity	EN 61000-4-8	30A/m, continuity
EMC	EMS	Voltage dips, drops and interruptions immunity	EN 61000-4-11	100% drop, 0.5 cycles 100% drop, 250 cycles 30% drop, 25 cycles

Note: The power supply is considered as a component which will be installed into a final equipment. All the EMC tests are to be executed by mounting the unit on a metal plate with size 400mm*400mm*3mm. The final equipment must be re-confirmed that it still meets EMC directives.

Product Selection Guide

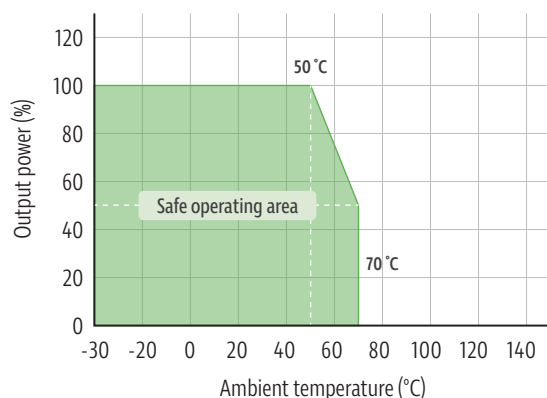
Approval	Part number	Output Power (W)	Output voltage (VDC)	Adjustable output voltage ³	Output Current (A)	Ripple and noise (mV) ²	Efficiency @230VAC (typ.) ¹	Efficiency ⁴ @115 VAC(%) typ.	Efficiency ⁴ @230 VAC(%) typ.
	60ACDR1S_05S4	32.5	5	4.5-5.5	0-6.5	80	85%	84%	85%
	60ACDR1S_12S4	54	12	10.8-13.8	0-4.5	120	88%	87%	88%
	60ACDR1S_15S4	60	15	13.5-18	0-4	120	89%	88%	89%
	60ACDR1S_24S4	60	24	21.6-29	0-2.5	150	90%	89%	90%
	60ACDR1S_48S4	60	48	43.2-55.2	0-1.25	240	91%	90%	91%

Notes:

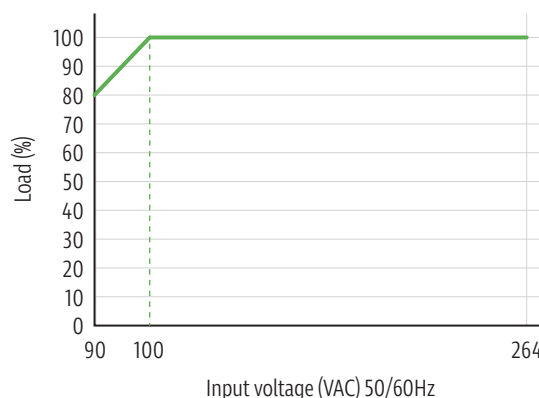
1. All parameters not specially mentioned are measured at rated input voltage, full load and 25°C ambient temperature.
 2. Ripple & noise is measured at 20MHz of oscilloscope bandwidth (oscilloscope probe cap and ground clamp are removed) by using a 20 ±2cm twisted pair-wire terminated with a 47uF electrolytic capacitor and a 0.1uF high frequency capacitor that are connected in parallel at the output end.
 3. Under any steady operating condition, the total output power shall not exceed the rated output power. When the output voltage is raised, the total output power cannot exceed the rated output power. When the output voltage is turned down, the output current cannot exceed the rated output current.
 4. Ambient temp. 25 (±5°C), full load
- * For the product models under development, please contact our sales team or distributor for more information.

Typical characteristics

Temperature derating graph



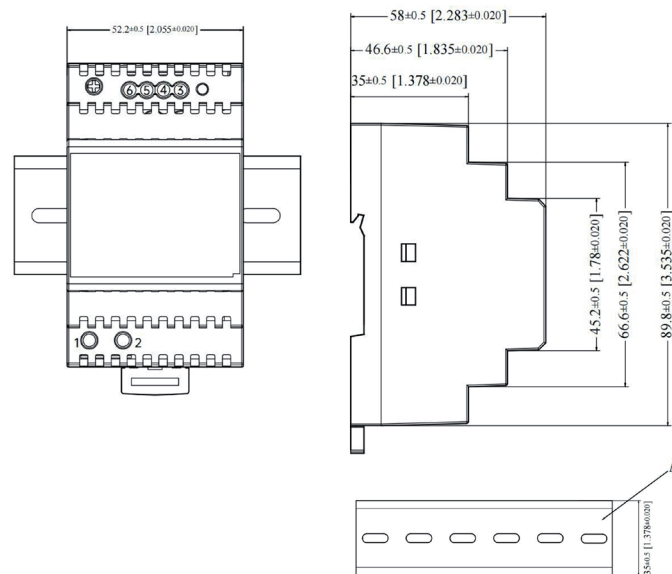
Load vs input voltage



Note:

1. If you need to know more detailed test data when applying, please contact our technical support to obtain application notes for the corresponding product.
2. This product is suitable for use in natural air convection environments. If used in a closed environment, please consult our technical support personnel.

Mechanical dimensions



Input/output pin function

Pin number	Pin	Function	Screw torque requirements
1	L	AC LINE	Screw: M2.5 Torque 4Kgf.cm (0.4N.m)
2	N	AC NEUTRAL	
3	V+	DC output +	
4	V+	DC output +	
5	V-	DC output -	
6	V-	DC output -	

Model No.: TS35/7.5 or TS35/15
Screw: M4 Torque: 8Kgf.cm (0.8N.m)
The screw should extend into the casing no more than 3mm

Note:
Unit: mm [inch]
The unmarked tolerance is ± 0.5 [± 0.020]