

# SDR Series Power Supplies

120-480W, Industrial AC/DC power supply, DIN rail mount

The ruggedized SDR Series industrial power supply is a functional accessory for Allied Telesis products to build a solution suitable for Smart Cities (e.g. Surveillance & Security), Industrial Ethernet, Transportation or any application requiring systems that function in harsh environment with extended operating temperature.



## Overview

The SDR Series are power supplies delivering reliable 120-480W output power.

Housed in compact metal case with DIN-rail clip, it takes special account of the mechanical robustness, electromagnetic compatibility and thermal characteristics to exhibit the required strengths to work satisfactorily in harsh environment where it will be exposed.

Its highly efficient and stable output power has the capability to support 150% of peak load.

The AC/DC rectifier operates over the full range of AC input voltage to fit worldwide power grids. The included active Power Factor Correction circuit (PFC) reduces energy costs by eliminating reactive power and harmonics from power lines. Besides the increment of efficiency, PFC is to comply with international regulations, which established limits on harmonic currents that can appear on the AC main line.

## Key Features

### High efficiency

150% peak Load Efficiency

- ▶ Stable output power with 150% peak current capability
- ▶ Wide input voltage range
- ▶ Protections: peak-current, over-current and over-temperature
- ▶ Extended operating temperature range
- ▶ Metal case
- ▶ DIN rail mount TS-35/7.5 or 15

		SDR-120-48	SDR-240-48	SDR-480-48
OUTPUT	DC VOLTAGE	48Vdc	48Vdc	48Vdc
	RATED CURRENT	2.5A	5A	10A
	CURRENT RANGE	0 ~ 2.5A	0 ~ 5A	0 ~ 10A
	RATED POWER	120W	240W	480W
	PEAK CURRENT	3.75A	7.5A	15A
	PEAK POWER Note.6	180W (3 sec.)	360W (3 sec.)	720W (3sec.)
	RIPPLE & NOISE (max.) Note.2	120mVp-p	50mVp-p	120mVp-p
	VOLTAGE ADJ. RANGE	48 ~ 55V	48 ~ 55V	48 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1500 ms, 60 ms/230VAC 3000 ms, 60 ms/115VAC at full load	650 ms, 60 ms/230VAC 1300 ms, 60 ms/115VAC at full load	1500 ms, 150 ms/230VAC 3000 ms, 150 ms/115VAC at full load
HOLD UP TIME (Typ.)	20 ms/230VAC 20 ms/115VAC at full load	20 ms/230VAC 20 ms/115VAC at full load	14 ms/230VAC at full load	
INPUT	VOLTAGE RANGE	88 ~ 264VAC 124 ~ 370VDC	88 ~ 264VAC 124 ~ 370VDC	90 ~ 264VAC 127 ~ 370VDC
	FREQUENCY RANGE	47 ~ 63Hz	47 ~ 63Hz	47 ~ 63Hz
	POWER FACTOR (Typ.)	0.93/230VAC 0.96/115VAC at full load	0.94/230VAC 0.99/115VAC at full load	0.94/230VAC 0.99/115VAC at full load
	EFFICIENCY (Typ.) Note.8	90.5%	94%	94%
	AC CURRENT (Typ.)	1.4A/115VAC 0.7A/230VAC	2.6A/115VAC 1.3A/230VAC	5A/115VAC 2.5A/230VAC
	INRUSH CURRENT (Typ.)	35A/115VAC 70A/230VAC	33A/115VAC 55A/230VAC	40A/115VAC 80A/230VAC
	LEAKAGE CURRENT	<1mA / 240VAC	<1mA / 240VAC	<0.8mA / 240VAC

## DRB-SDR Series | Industrial AC/DC Power Supplies

		SDR-120-48	SDR-240-48	SDR-480-48
<b>PROTECTION</b>	OVERLOAD (Current)	110 ~ 150% 2 seconds and then shut down, auto-recovery	110 ~ 150% 3 seconds and then shut down, auto-recovery	110 ~ 150% 3 seconds and then shut down, auto-recovery
	OVER VOLTAGE	56 ~ 65V	56 ~ 65V	29 ~ 33V
	OVER TEMPERATURE	95°C±5°C (TSW) detect on heatsink of power switch	95°C±5°C	Shut down o/p voltage, recovers automatically
	DC OK REALY CONTACT RATINGS (max.)	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load	60Vdc/0.3A 30Vdc/1A 30Vac/0.5A	60Vdc/0.3A 30Vdc/1A 30Vac/0.5A resistive load
	WORKING TEMP. Note.5	-25 ~ +70°C (Refer to "Derating Curve")	-25 ~ +70c (derating)	-25 ~ +70°C (Refer to "Derating Curve")
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	20 ~ 95% RH non-condensing	20 ~ 95% RH non-condensing
<b>FUNCTION</b>	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	-40 ~ +85°C, 10 ~ 95% RH	-40 ~ +85°C, 10 ~ 95% RH
<b>ENVIRONMENT</b>	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)	±0.03%/°C (0 ~ 50°C)	±0.03%/°C (0 ~ 50°C)
	VIBRATION	10 ~ 500Hz, 2G	10 ~ 500Hz, 2G	10 ~ 500Hz, 2G
	SAFETY STANDARDS	UL508 TUV BS EN/EN62368-1 AS/NZS 62368.1 EAC TP TC 004 BSMI CNS14336-1 approved (meet BS EN/EN60204-1)	UL508 TUV EN62368-1 EAC TP TC 004 approved EN60204-1	UL508 TUV BS EN/EN62368-1 AS/NZS 62368.1 EAC TP TC 004 BSMI CNS14336-1 approved (meet BS EN/EN60204-1)
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC
	ISOLATION RESISTANCE	I/P-O/P I/P-FG O/P-FG:>100M Ohms / 500VDC / 25°C / 70% RH	I/P-O/P I/P-FG O/P-FG:>100M Ohms / 500VDC / 25°C / 70% RH	I/P-O/P I/P-FG O/P-FG:>100M Ohms / 500VDC / 25°C / 70% RH
<b>INPUT</b>	EMC EMISSION	BS EN/EN55032 (CISPR32) BS EN/EN61204-3 Class B BS EN/EN61000-3-2,-3 EAC TP TC 020 CNS13438 Class B	EN55032 (CISPR32) EN61204-3 Class B EN61000-3-2,-3 EAC TP TC 020	BS EN/EN55032 (CISPR32) BS EN/EN61204-3 Class B BS EN/EN61000-3-2,-3 EAC TP TC 020 CNS13438
	EMC IMMUNITY	EN61000-4-2,3,4,5,6,8,11 EN55024 EN61000-6-2 (EN50082-2) EN61204-3, heavy industry level, criteria A EAC TP TC 020, SEMI F47 approved	EN61000-4-2,3,4,5,6,8,11 EN55024 EN61000-6-2 (EN50082-2) EN61204-3, heavy industry level, criteria A EAC TP TC 020, SEMI F47 approved	EN61000-4-2,3,4,5,6,8,11 EN55024 EN61000-6-2 (EN50082-2) EN61204-3, heavy industry level, criteria A EAC TP TC 020, SEMI F47 approved
<b>OTHERS</b>	MTBF	1764.6K hrs min. Telcordia SR-332 (Bellcore) ; 292.1K hrs min. MIL-HDBK-217F (25°C)	169.3K hrs min. MIL-HDBK-217F (25°C)	964.2K hrs min. Telcordia SR-332 (Bellcore) ; 91.9K hrs min. MIL-HDBK-217F (25°C)
	DIMENSION	40*125.2*113.5 mm (W*H*D)	63*125.2*113.5 mm (W*H*D)	85.5*125.2*128.5 mm (W*H*D)
	Protection Rate	IP20	IP20	IP20

### Notes:

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. Installation clearances : 40 mm on top, 20 mm on the bottom, 5 mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15 mm clearance is recommended.
6. 3 seconds max., please refer to peak loading curves.
7. Derating may be needed under low input voltage. Please check the derating curve for more details.
8. After 30 minutes of burn-in.
9. The ambient temperature derating of 3.5°C/1000 m with fanless models and of 5°C/1000 m with fan models for operating altitude higher than 2000 m (6500 ft).

## Ordering Information

### AT-SDR120-48

120W, 48Vdc, Industrial AC/DC power supply, DIN rail mount.

### AT-SDR240-48

240W, 48Vdc, Industrial AC/DC power supply, DIN rail mount.

### AT-SDR480-48

480W, 48Vdc, Industrial AC/DC power supply, DIN rail mount.