

Features

- Universal AC Input (85-264VAC)
- Long 7 Year Warranty
- Protections: SCP, OVP, OCP, OTP
- 100% Full Load burn-in test
- DC OK Indicator LED with Relay Contacts
- cooling by free air convection, 5000m operation
- UL, CSA & CE certified with CB Report

RECOM
AC/DC Converter

REDIN45

**45 Watt
DIN-Rail
Power
Supply**



Description

This DIN-rail mounted power supply uses high reliability components to give a long, trouble-free life. The power supply can be end mounted to save space or side mounted for use in low-profile cabinets. Relay contacts simplify DC OK monitoring and the units can be deliver 60W start-up power. The REDIN series is fully certified for industrial use and carries a 7-year warranty.

Selection Guide

| Part Number | Input Voltage Range (VAC) | Output Voltage (VDC) | Output Trimming Voltage (VDC) | Rated Current (A) | Efficiency typ. (%) | Max. Capacitive Load (µF) |
|-------------|---------------------------|----------------------|-------------------------------|-------------------|---------------------|---------------------------|
| REDIN45-12 | 85-264 | 12 | 12-15 | 3.75 | 85 | 18800 |
| REDIN45-24 | 85-264 | 24 | 24-28 | 1.875 | 86 | 4700 |

* add suffix /NR for versions without relay

Specifications (measured at TA= 25°C, 230VAC, full load and after warm up)

| BASIC CHARACTERISTICS | | | | |
|--|--|---------------------|--|-------------------|
| Parameter | Condition | Min. | Typ. | Max. |
| Input Voltage Range | all operating conditions | 85VAC | | 264VAC |
| max. Input Voltage | max. 1 second | | | 300VAC 375VDC |
| Output Voltage Adjustment (Factory Setting) ⁽¹⁾ | 12Vout 24Vout | | 12-15VDC (12V±5%) 24-28VDC (24V±5%) | |
| Input Current | full load, 115VAC full load, 230VAC | | | 1.35A 0.75A |
| Inrush Current | cold start at 25°C, 115VAC cold start at 25°C, 230VAC | | | 40A 60A |
| No Load Power Consumption | standard (with Relay) /NR option (no Relay) | | | <1000mW <500mW |
| Leakage Current | 240VAC | | <1.0mA | |
| Start Up time | cold start, 230VAC | | 500ms | 1000ms |
| Rise time | cold start, 230VAC | | 20ms | |
| Hold-up time | full load, 115VAC full load, 230VAC | | 20ms 50ms | |
| Input Frequency | | 47kHz | | 63kHz |
| Efficiency | | see Selection Guide | | |
| Output Ripple and Noise ⁽²⁾ | 12Vout 24Vout | | 60mVp-p 75mVp-p | |
| Over Load | all operating conditions | | 140% for 5 seconds max. | |
| Notes: | | | | |
| Note1: | For more details refer to Vadj. Derating Graph | | | |
| Note2: | Ripple and Noise are measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with 0.1µF & 47µF parallel capacitor. | | | |
| continued on next page | | | | |

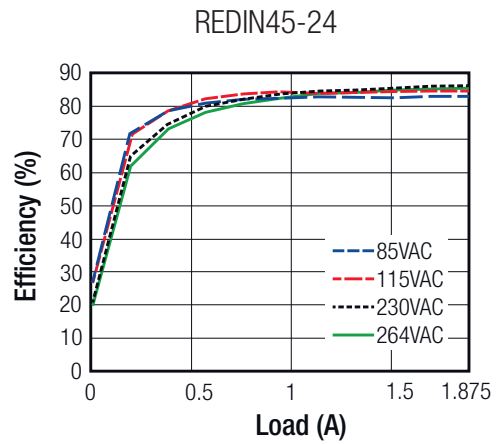
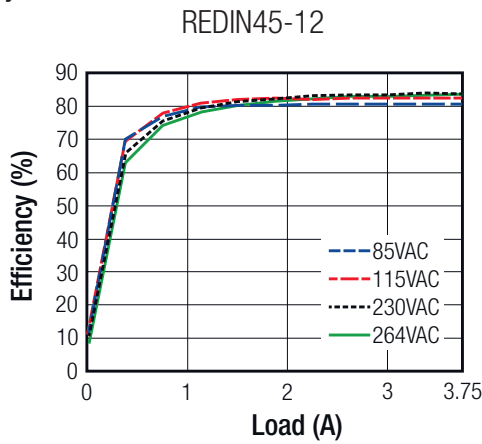


CB-Report
UL-60950-1 Certified
UL-508 Certified
IEC-60950-1 Certified
EN-60715 Compliant
EN-50022 Compliant
CSA C22.2 No. 60950-1-07 Certified

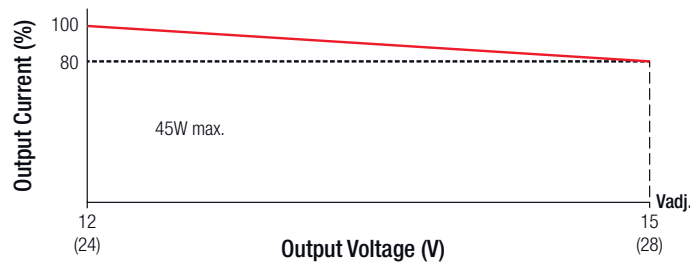
Refer to Applications Notes

Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, full load and after warm up)

Efficiency vs. Load



Vadj. Derating



REGULATION

| Parameter | Condition | Value |
|-----------------------------------|---|----------------------------------|
| Line Regulation | | ± 0.1 typ. / $\pm 1\%$ max. |
| Load Regulation | | ± 0.1 typ. / $\pm 1\%$ max. |
| Transient Response ⁽³⁾ | 12Vout (step load change: 1.875A - 3.75A) 24Vout (step load change: 0.937A - 1.875A) | $\pm 5\%$ typ. $\pm 5\%$ typ. |
| Dwell Time | | 100Hz & 1kHz 50% duty |
| Slew Rate | | 0.5A / μs |

Notes:

Note3: Transient Response + E-CAP loading 3300 μF . Other specs with resistive load only.

PROTECTION

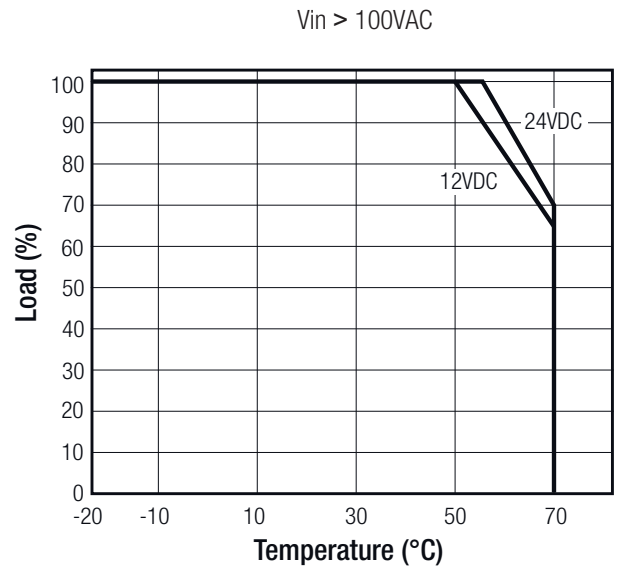
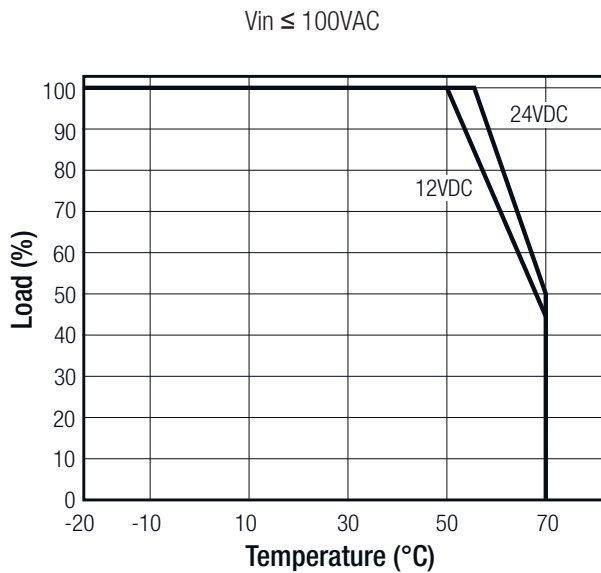
| Parameter | Condition | Value |
|-----------------------------------|--|--|
| Input Fuse | | T2.5A, slow blow type |
| Short Circuit Protection (SCP) | Hiccup | auto-recovery after fault condition |
| Over Voltage Protection (OVP) | 12Vout 24Vout | 18VDC max., shut-down latch-off o/p voltage, re-power on to recover 35VDC max., shut-down latch-off o/p voltage, re-power on to recover |
| Over Current Protection (OCP) | | 150% typ., auto-recovery after fault condition |
| Over Temperature Protection (OTP) | detect on inside ambient | 105 $^\circ\text{C} \pm 5\%$, shut-down latch-off o/p voltage, re-power on to recover |
| Isolation Voltage | I/P to O/P | 3.75kVAC / 1 minute |
| | I/P to FG | 1.88kVAC / 1 minute |
| | O/P to FG | 0.5kVAC / 1 minute |
| Isolation Resistance | 500VDC, 70% RH, I/P to O/P; I/P to FG; O/P to FG | 100M Ω min. |
| Power OK LED | Relay Contacts | 1A, 30VDC / 120VAC |
| | LED/Relay | ON if Vout = 11-16V (12V) / 22-30V (24V) |

Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, full load and after warm up)

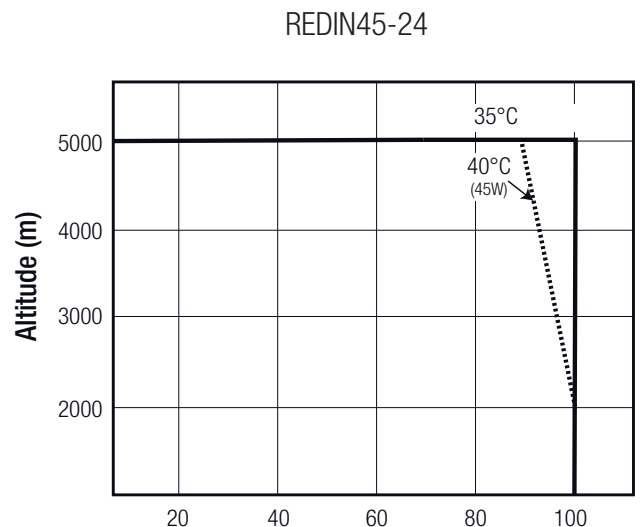
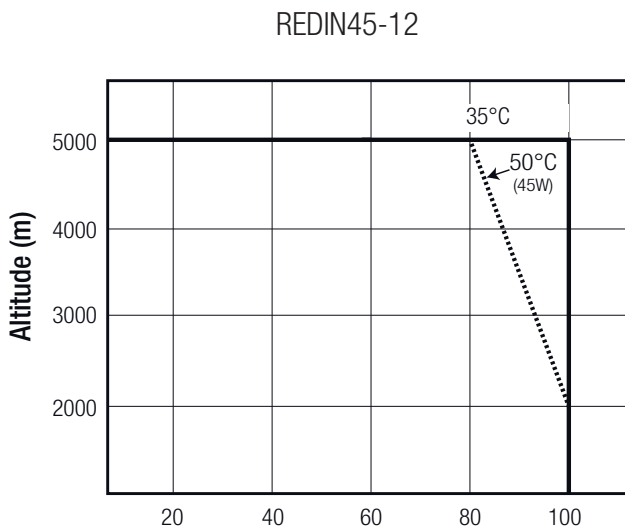
ENVIRONMENTAL

| Parameter | Condition | Value |
|-----------------------------|---------------------------------------|-----------------------------------|
| Operating Temperature Range | with derating | -20°C to +70°C (see graph) |
| Storage Temperature Range | | -30°C to +85°C |
| Operating Humidity | non-condensing | 20% - 90%RH |
| Storage Humidity | | 10% - 90% RH |
| Vibration | | 10-500Hz 2G, 60min. |
| Shock | 3 times each axis | 10G / 11ms, along X, Y and Z axis |
| Altitude | see derating graph | 5000m |
| MTBF (+25°C) | MIL-HDBK-217F, 115VAC, 60Hz, 75% load | 200 x 10 ³ hours |
| Design Lifetime (+40°C) | | 87.6 x 10 ³ hours |

Derating Graph



Typical Characteristics

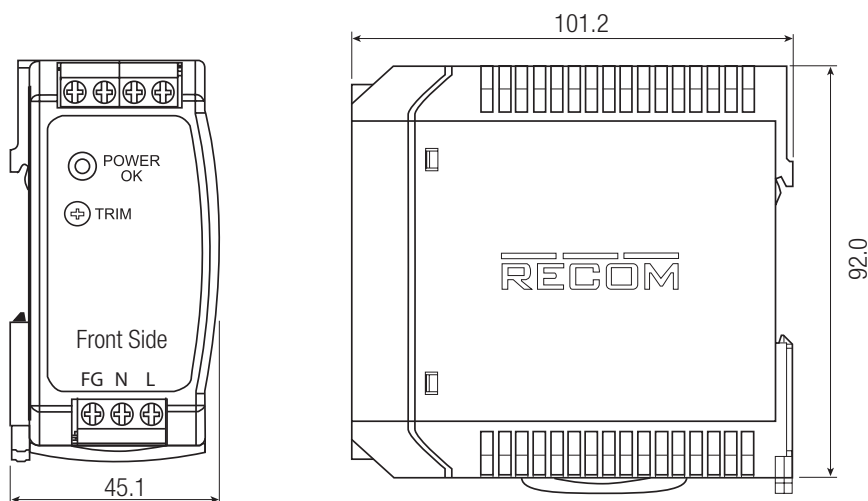


Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, full load and after warm up)

| SAFETY AND CERTIFICATIONS | | |
|---|---|---|
| Certificate Type | Report / File Number | Standard |
| UL General Safety | E224736 | UL-60950-1, 2nd Edition |
| CSA | | UL-508 UL-1310 C22.2 No. 60950-1-07, 2nd Edition |
| IEC/EN General Safety | E224736 | IEC/EN-60950-1, 2nd Edition |
| Chinese Safety Standard | E224736 | GB 4943.1-2011 |
| Certificate Type (Environmental) | Report / Condition | Standard / Criterion |
| EMI Standard | Report: HA150146 | EN-55022, Class B |
| | | EN-55024, Class B |
| | | FCC15, Class B |
| ESD Radiated Immunity Fast Transient Surge Conducted Immunity Power frequency magnetic field immunity test Noise Immunity | R±8kV Contact & Air Discharge 10V/m, 80-300MHz, 80% AM at 1kHz Level 2 $\pm 2\text{kV} / \text{L-N}, \pm 4\text{kV} / \text{L}, \text{N-FG}$ 10Vrms, 0.15-80MHz, 80% AM at 1kHz | EN-61000-4-2, Criteria A EN-61000-4-3, Criteria A EN-61000-4-4, Criteria A EN-61000-4-5, Criteria A EN-61000-4-6, Criteria A EN-61000-4-8, Criteria A EN-61000-4-11, Criteria A EN-61000-4-11, Criteria B EN-61000-4-11, Criteria B |
| Harmonic Immunity Voltage Flicker | 40% reduction, 200ms 70% reduction, 500ms 90% reduction, 5s not applicable input below 75W | EN-61000-3-2 EN-61000-3-3 |

| DIMENSIONS and PHYSICAL CHARACTERISTICS | | |
|---|---------------|-----------------------|
| Parameter | Type | Value |
| Case Material | | UL94V-0 plastic |
| Dimensions (WxHxD) | | 45.1 x 92.0 x 101.2mm |
| Weight | | 332g |
| Packaging Dimensions (LxWxH) | Cardboard Box | 310 x 252 x 285mm |
| Packaging Quantity | Carton | 30pcs |

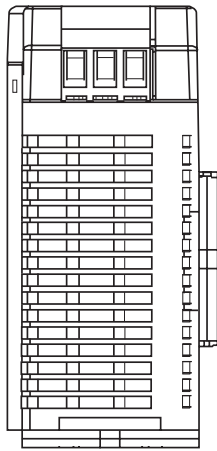
Mechanical Dimensions



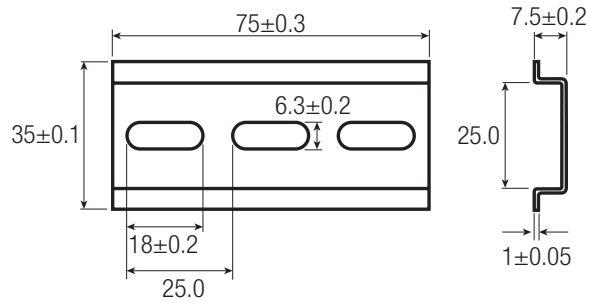
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Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, full load and after warm up)

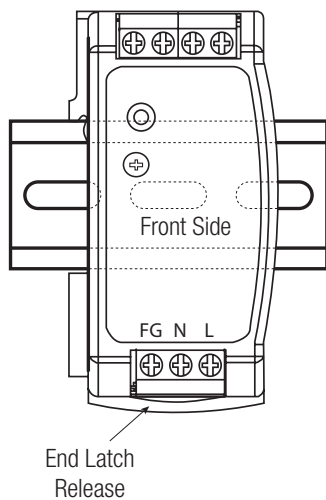
Mechanical Dimensions



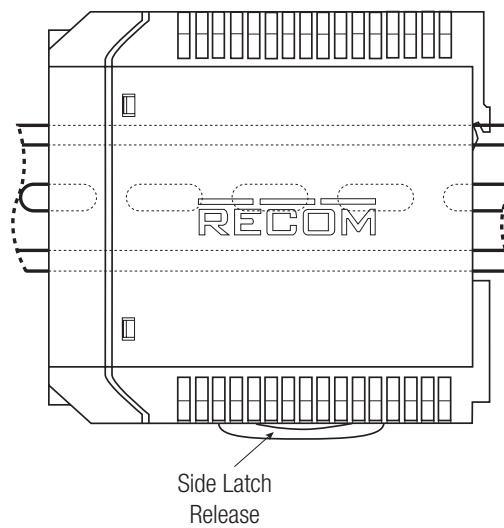
DIN-RAIL mounting bracket
(75mm) included



END MOUNTING



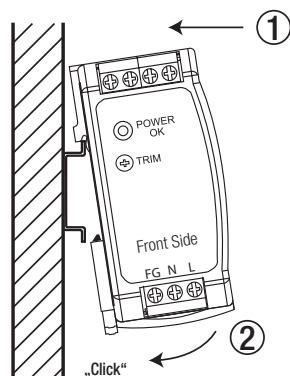
SIDE MOUNTING



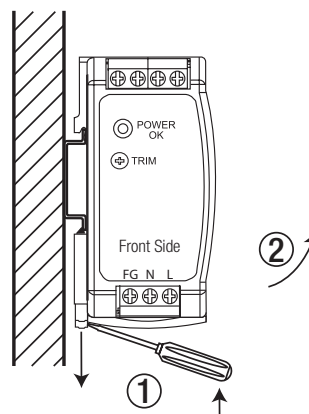
Tolerance: $\pm 0.5\text{mm}$

Mounting Instruction

Mounting



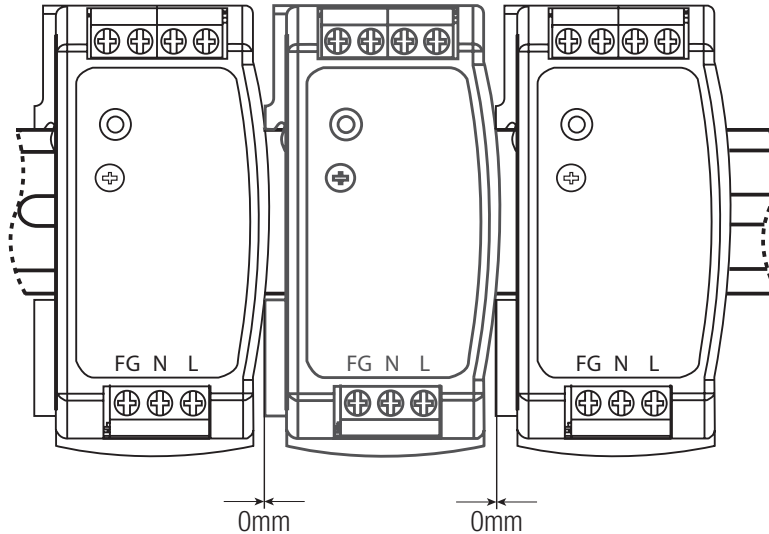
Releasing



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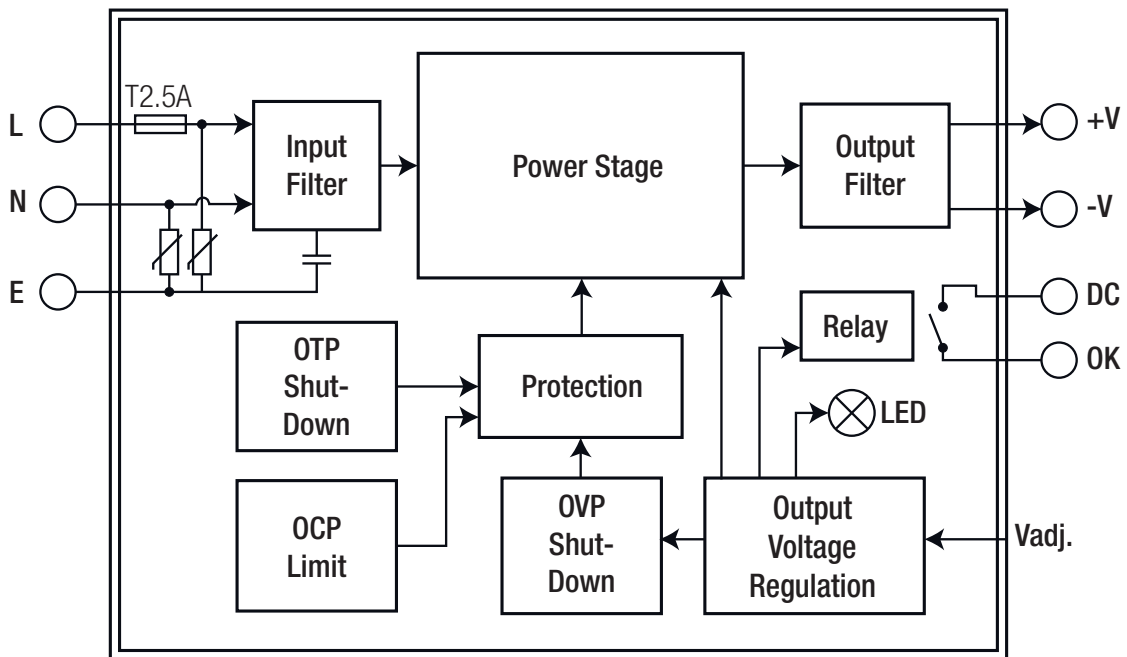
Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, full load and after warm up)

Mounting Multiple Power Supplies



no spacers between
supplies required

Functional Diagram



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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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