

Features

- Universal AC Input (85-264VAC)
- Long 7 Year Warranty
- Protections: SCP, OVP, OCP, OLP, OTP
- 100% Full Load burn-in test
- DC OK Indicator LED (optional with relay output)
- 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 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 (mA)	Efficiency typ. (%)
REDIN45-12	85-264	12	12-15	3.75	84
REDIN45-24	85-264	24	24-28	1.875	86

* add suffix /NR for versions without relay

Specifications (measured at T_A= 25°C, 230VAC, rated load)

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	all operating conditions	85VAC 120VDC		264VAC 250VDC
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.			
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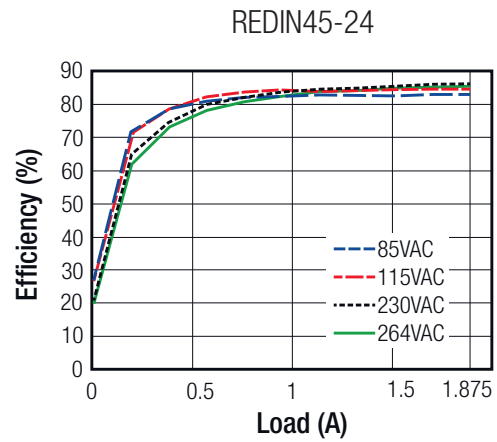
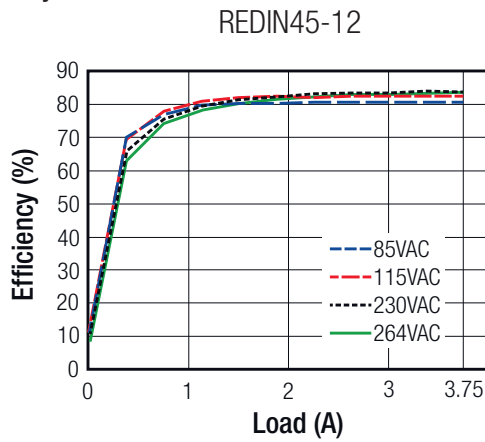


CB-Report
UL-60950-1 Certified
UL-508 Certified
IEC-60950-1 Certified
EN-60715 Compliant
EN-50022 Compliant
CSA C22.2 No. 60950-1-07 Certified

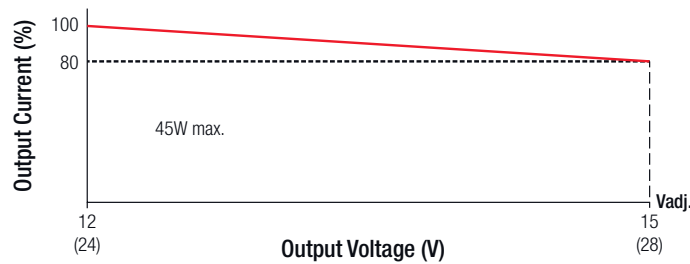
Refer to Applications Notes

Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, rated load)

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

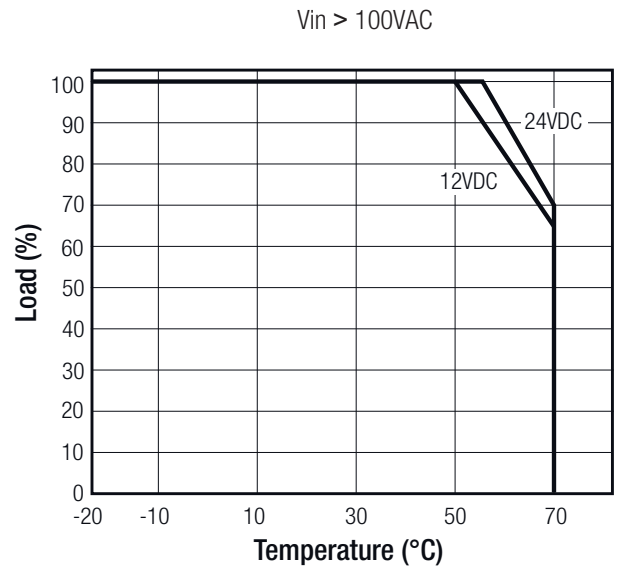
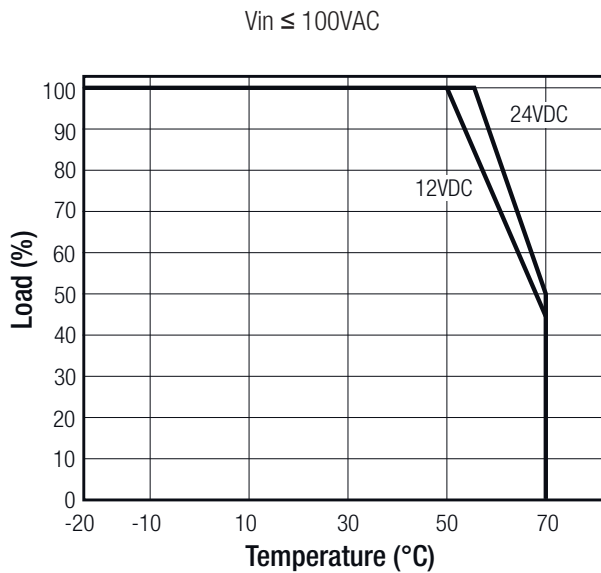
Parameter	Condition	Value
Short Circuit Protection (SCP)	Hiccup	auto-recovery after fault condition
Over Voltage Protection (OVP)	12Vout 24Vout	18VDC max., shut-down latch-off o/p voltage, re-power on to recover 35VDC max., shut-down latch-off o/p voltage, re-power on to recover
Over Current Protection (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, rated load)

ENVIRONMENTAL

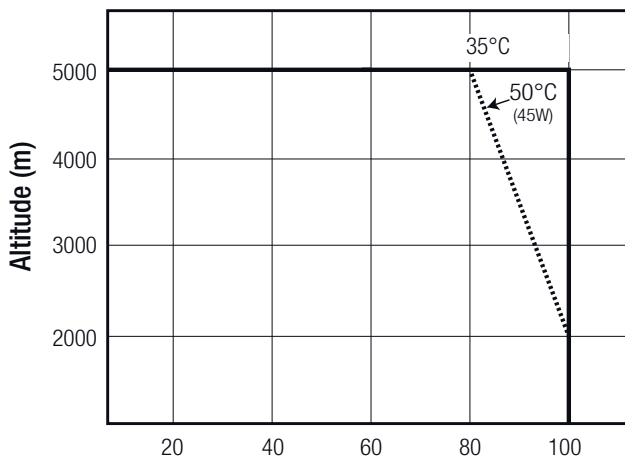
Parameter	Condition	Value
Operating Temperature Range	with derating	-20°C to +70°C (see graph)
Storage Temperature Range		-30°C to +85°C
Operating Humidity	non-condensing	20% - 90%RH
Storage Humidity		10% - 90% RH
Vibration		10-500Hz 2G, 60min.
Shock	3 times each axis	10G / 11ms, along X, Y and Z axis
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

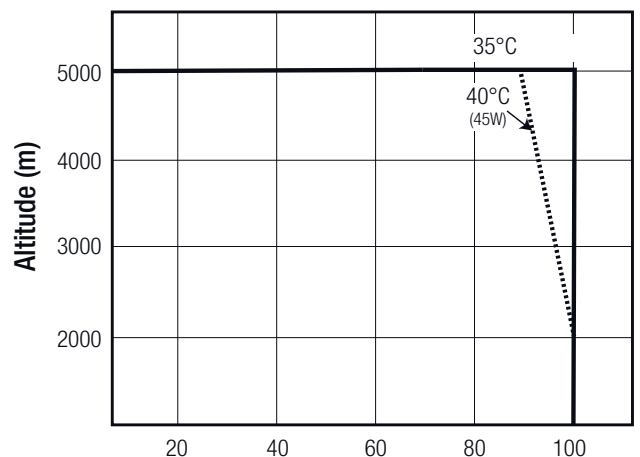


Typical Characteristics

REDIN60-12



REDIN60-24

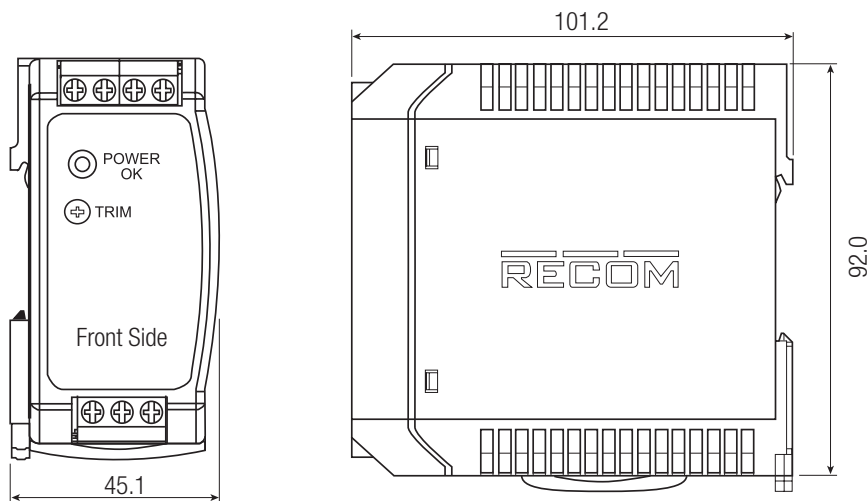


Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, rated load)

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)	Condition	Standard / Criterion
EMI Standard		EN-55011, Class B
		EN-55022, Class B
		EN55024 FCC, Class B
ESD	$\pm 8\text{kV}$ Contact & Air Discharge 10V/m, 80-3000MHz, 80% AM at 1kHz Level 2	EN-61000-4-2, Criteria A
Radiated Immunity		EN-61000-4-3, Criteria A
Fast Transient	$\pm 2\text{kV}$ / L-N, $\pm 4\text{kV}$ / L, N-FG 10Vrms, 0.15-80MHz, 80% AM at 1kHz	EN-61000-4-4, Criteria A
Surge		EN-61000-4-5, Criteria A
Conducted Immunity	40% reduction, 200ms 70% reduction, 500ms 90% reduction, 5s	EN-61000-4-6, Criteria A
Power frequency magnetic field immunity test		EN-61000-4-8, Criteria A
Noise Immunity		EN-61000-4-11, Criteria A
Harmonic Immunity	not applicable input below 75W	EN-61000-4-11, Criteria B
Voltage Flicker		EN-61000-3-2 EN-61000-3-3

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

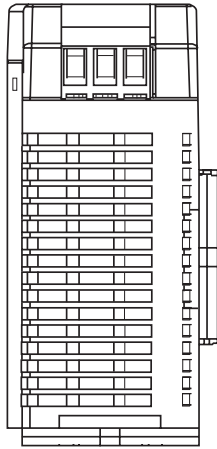
Mechanical Dimensions



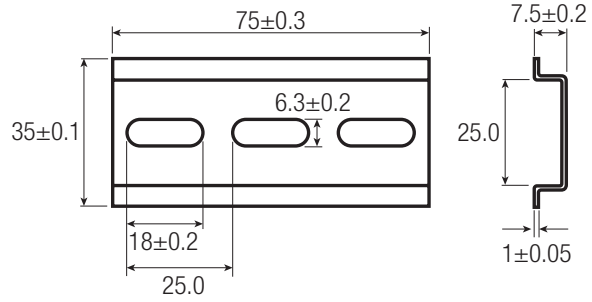
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Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, rated load)

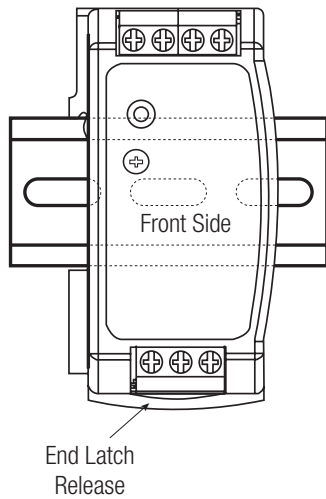
Mechanical Dimensions



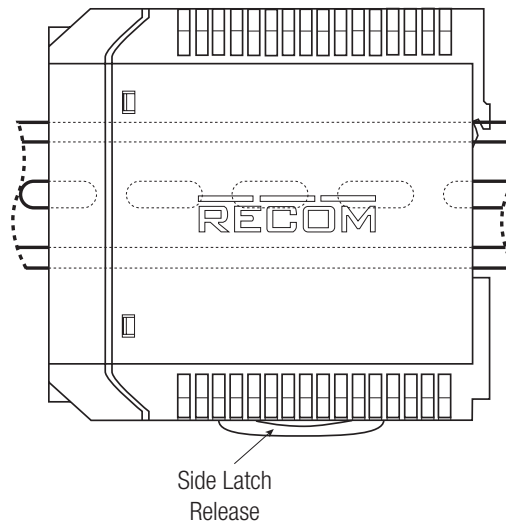
DIN-RAIL mounting bracket
(75mm) included



END MOUNTING



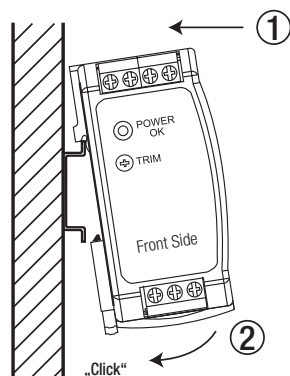
SIDE MOUNTING



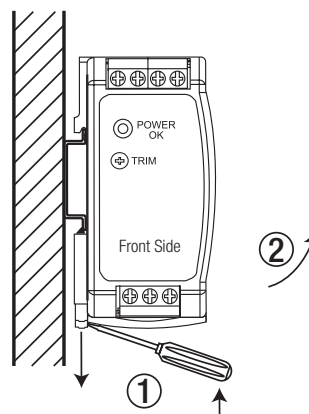
Tolerance: $\pm 0.5\text{mm}$

Mounting Instruction

Mounting



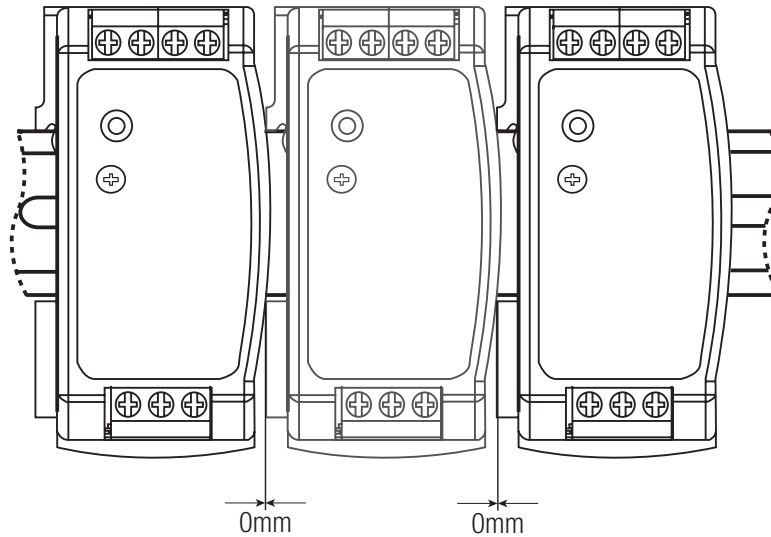
Releasing



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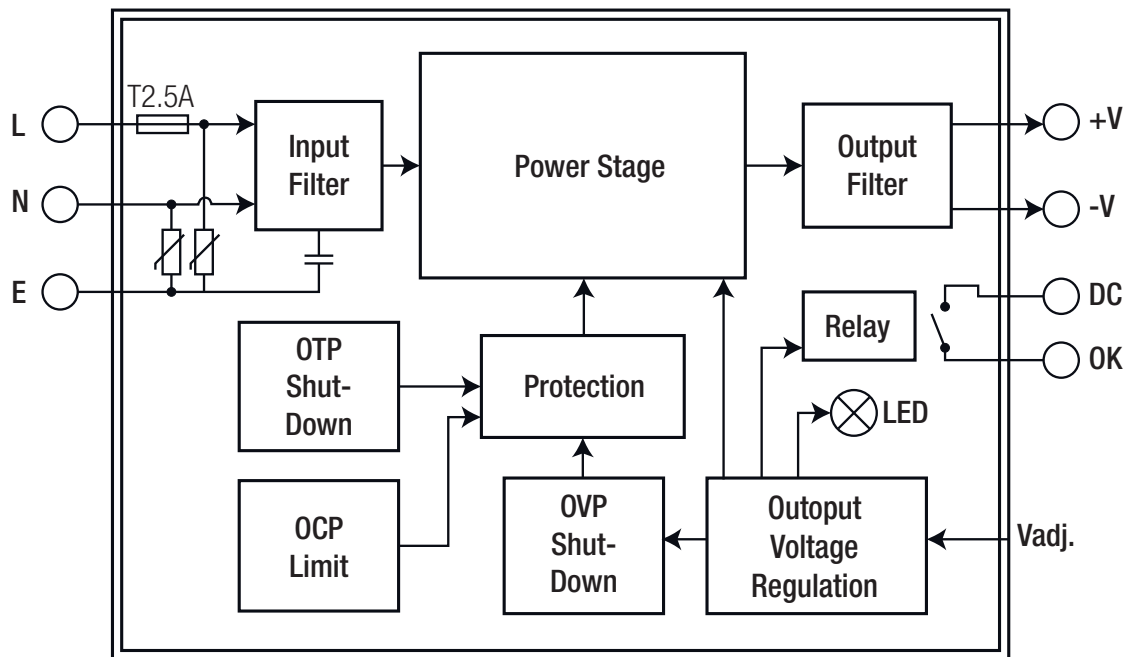
Specifications (measured at $T_A = 25^\circ\text{C}$, 230VAC, rated load)

Mounting Multiple Power Supplies



no spacers between
supplies required

Functional Diagram



The product information and specifications are subject to change without prior notice. All products are designed for non-safety critical commercial and industrial applications. The buyer agrees to implement safeguards that anticipate the consequences of any failures that might cause harm, loss of life and/or property damage.