

Features

DIN Rail Series

- 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

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 deliver 60W start-up power. The REDIN45 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 [μ F]
REDIN45-12	85-264	12	12-15	3.75	85	18800
REDIN45-24	85-264	24	24-28	1.875	86	4700

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⁾	REDIN45-12 REDIN45-24		12-15VDC (12V $\pm$ 5%) 24-28VDC (24V $\pm$ 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
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 Range		47Hz		63Hz
Operating Frequency Range			65kHz	
Output Ripple and Noise ⁽²⁾	REDIN45-12 REDIN45-24		60mVp-p 75mVp-p	
Over Load Capability	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 0.1 μ F & 47 μ F parallel capacitor

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RECOM
AC/DC Converter

REDIN45

45 Watt DIN-Rail Power Supply



CB-Report
UL60950-1 certified
IEC/EN60950-1 certified
CSA C22.2 No. 60950-1-07 certified
UL508 certified
CAN/CSA-C22.2 No. 107.1-01 certified
EN55024 certified
EN55032 certified

**SEARCHING FOR
ALTERNATIVES?**

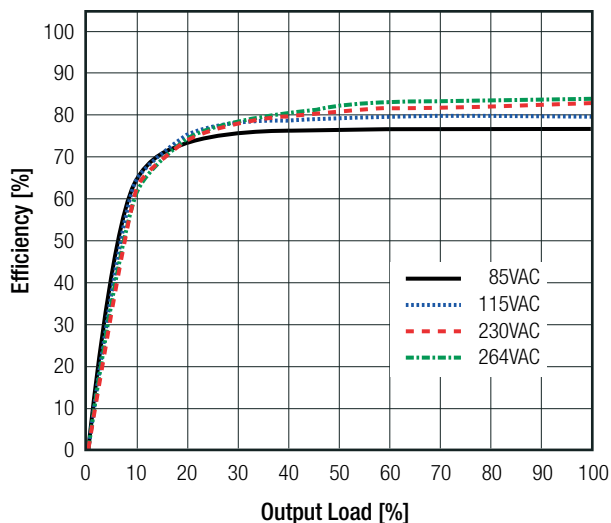
Contact RECOM

<https://recom-power.com/contact.html>

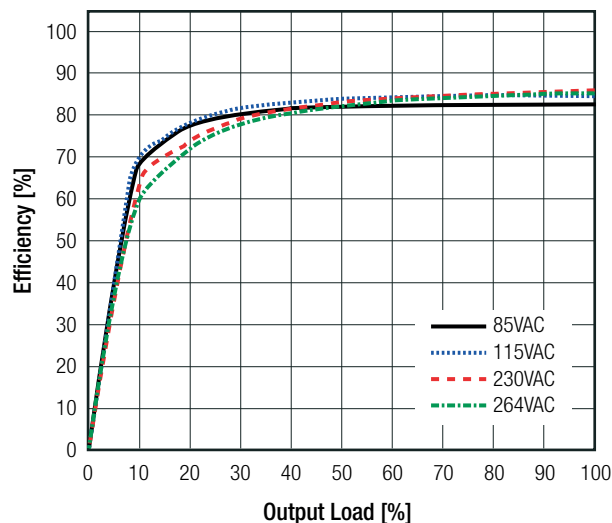
Specifications (measured at $T_a = 25^\circ\text{C}$, 230VAC, full load and after warm up)

Efficiency vs. Load

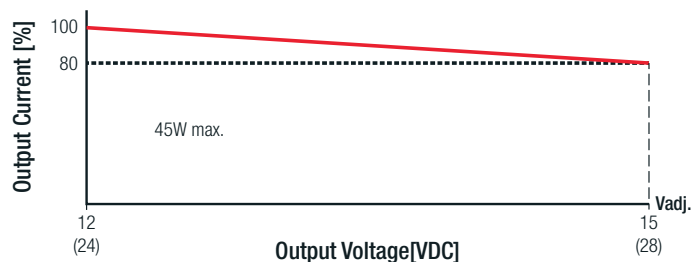
REDIN45-12



REDIN45-24



Vadj. Derating



REGULATION

Parameter	Condition	Value
Line Regulation		$\pm 0.1\%$ typ. / $\pm 1.0\%$ max.
Load Regulation		0.1% typ. / 1.0% max.
Transient Response ⁽³⁾	REDIN45-12 (step load change: 1.875A - 3.75A)	$\pm 5.0\%$ typ.
Dwell Time	REDIN45-24 (step load change: 0.937A - 1.875A)	$\pm 5.0\%$ typ.
Slew Rate		100Hz & 1kHz 50% duty 0.5A / μs

Notes:

Note3: Transienst 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)			auto-recovery after fault condition, Hiccup Mode
Over Voltage Protection (OVP)	REDIN45-12		18VDC max., shut-down latch-off o/p voltage, re-power on to recover
	REDIN45-24		35VDC max., shut-down latch-off o/p voltage, re-power on to recover
Over Voltage Category			OVCII
Over Current Protection (OCP)			150% typ., auto-recovery after fault condition is removed
Over Temperature Protection (OTP)	detect on inside ambient		105°C $\pm 5\%$, shut-down latch-off o/p voltage, re-power on to recover
Isolation Voltage	tested for 1 minute	I/P to O/P	3.75kVAC
		I/P to FG	1.88kVAC
		O/P to FG	0.5kVAC

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

PROTECTION

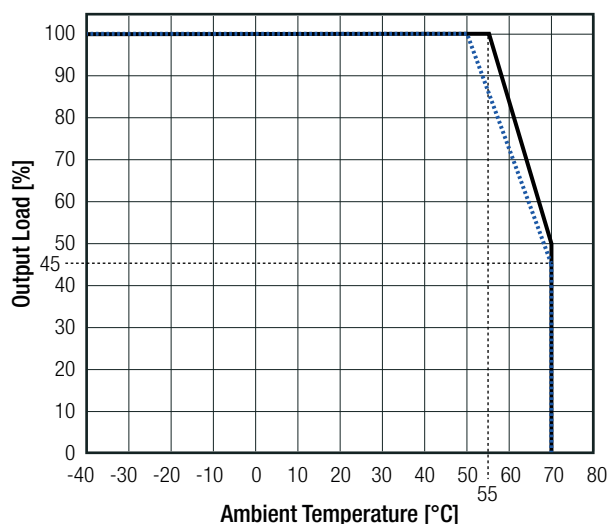
Parameter	Condition	Value
Isolation Resistance	500VDC, 70% RH, I/P to O/P; I/P to FG; O/P to FG	100M Ω min.
Leakage Current		<1.0mA
Power OK LED	Relay Contacts LED/Relay	1A, 30VDC / 120VAC ON if $V_{out} = 11-16$ (12V) / 22-30V (24V)

ENVIRONMENTAL

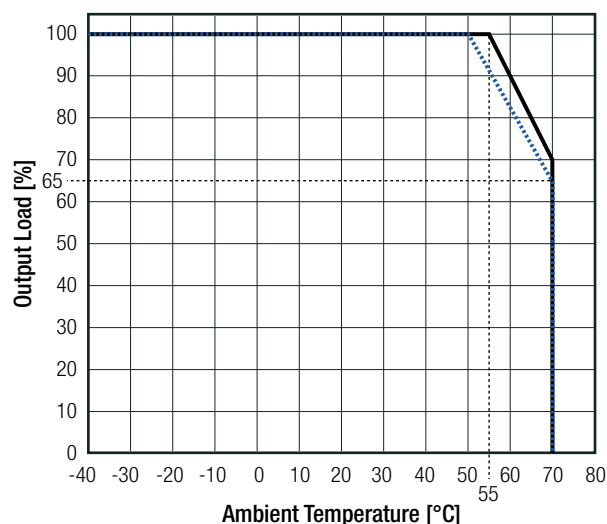
Parameter	Condition	Value
Operating Temperature Range	with derating	-20°C to +70°C (see graph)
Operating Humidity	non-condensing	20% - 90%RH
Vibration		10-500Hz 2G, 60min.
Shock	3 times each axis	10G / 11ms, along X, Y and Z axis
Altitude	see derating graph	5000m
MTBF (+25°C)	according to MIL-HDBK-217F,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

Derating Graph

$V_{in} \leq 100\text{VAC}$

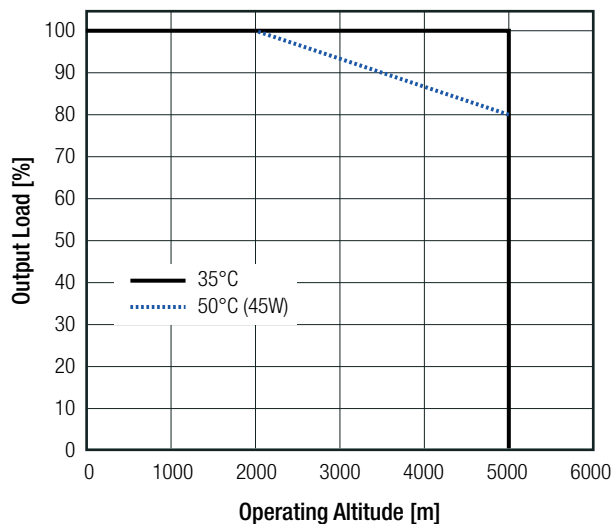


$V_{in} > 100\text{VAC}$

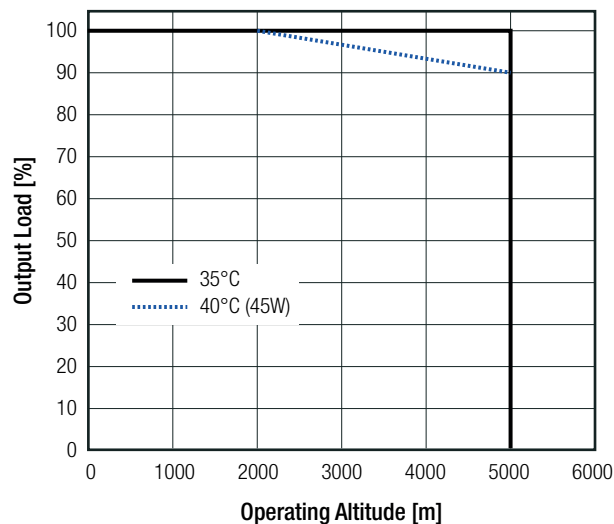


Typical Characteristics

REDIN45-12



REDIN45-24



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

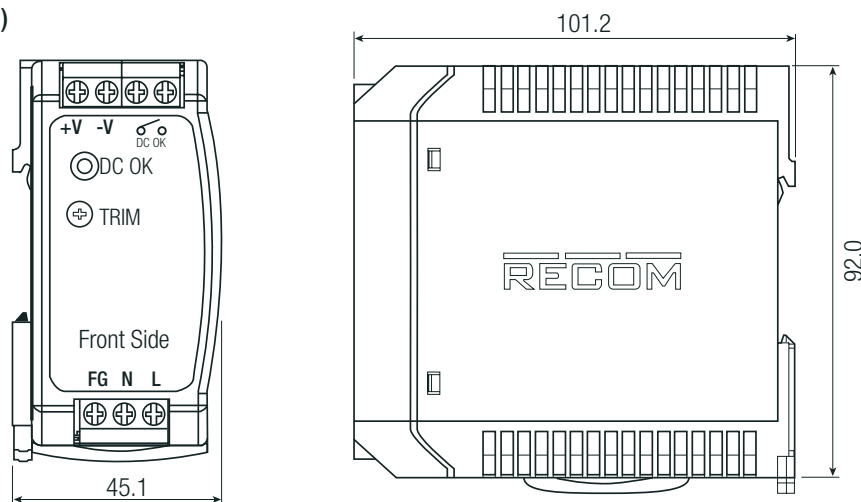
SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment - General Requirements for Safety	E224736-A23	UL60950-1 2nd Edition 2011 CAN/CSA-C22.2 No. 60950-1-07 2nd Edition 2011
Industrial Control Equipment	E470721	CAN/CSA-C22.2 No. 107.1-01, 3rd Edition 2011 UL508, 17th Edition 2013
Information Technology Equipment - General Requirements for Safety	E224736-A23	EN60950-1:2006 + A2:2013 IEC60950-1:2005 2nd Edition + A1:2009
EAC	RU-AT.37.02367	TP TC 004/2011
RoHS2		RoHS 2011/65/EU

EMC Compliance	Report / Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN55032:2015
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55024:2010 + A1:2015
ESD Electrostatic discharge immunity test	Air +/-2, 4, 8kV, Contact +/-2, 4kV	IEC61000-4-2:2008; Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	IEC61000-4-3:2006 + A1:2007 + A2:2010; Criteria A
Fast Transient and Burst Immunity	AC Power Port: +/-1.0kV	IEC61000-4-4:2012; Criteria A
Surge Immunity	AC Power Port: L-N +/-0.5, 1, 2kV L-PE, N-PE +/-0.5, 1, 2, 4kV	IEC61000-4-5:2014; Criteria A
Immunity to conducted disturbances, induced by radio-frequency fields	AC Power Port 3V	IEC61000-4-6:2013; Criteria A
Power Magnetic Field Immunity	50Hz, 1A/m	IEC61000-4-8:2009; Criteria A
Voltage Dips and Interruptions	Voltage Dips >95% Voltage Dips 30% Voltage Interruptions > 95%	IEC61000-4-11:2004; Criteria A IEC61000-4-11:2004; Criteria A IEC61000-4-11:2004; Criteria B
Limits of Harmonic Current Emissions		EN61000-3-2:2014, Class A
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013
Limitations on the amount of electromagnetic interference allowed from digital and electronic devices		47 CFR FCC Part 15 Subpart B 2010-01-07, Class B

DIMENSION and PHYSICAL CHARACTERISTICS

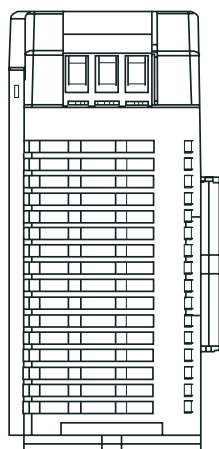
Parameter	Type	Value
Material	case	plastic, (UL94V-0)
Dimension (WxHxD)		45.1 x 92.0 x 101.2mm
Weight		332g

Dimension Drawing (mm)


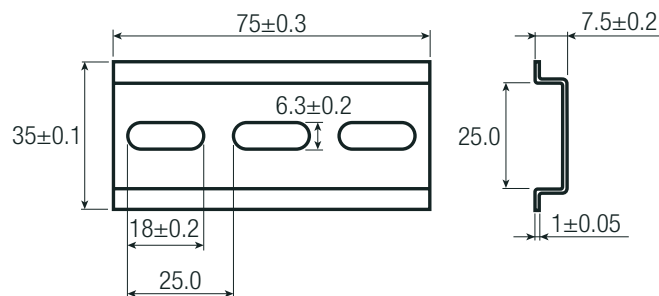
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Specifications (measured at $T_a = 25^\circ\text{C}$, 230VAC, full load and after warm up)

Dimension Drawing (mm)

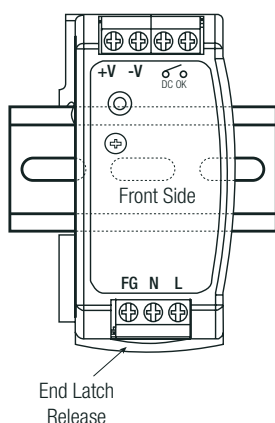


**DIN-RAIL mounting bracket
(75mm) included**

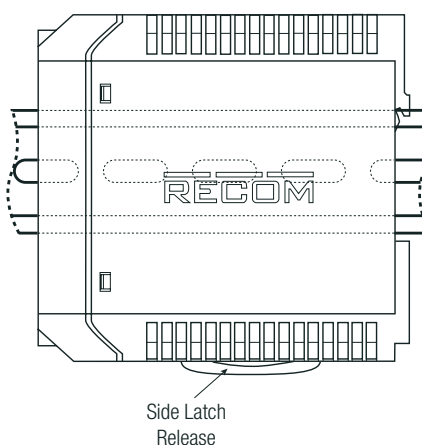


INSTALLATION

END MOUNTING

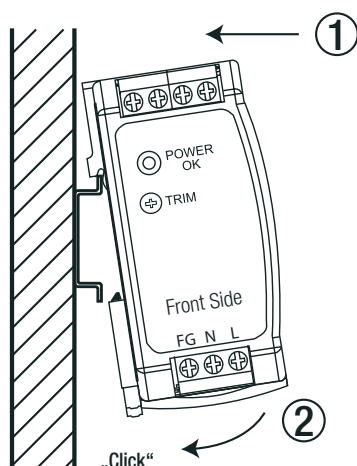


SIDE MOUNTING

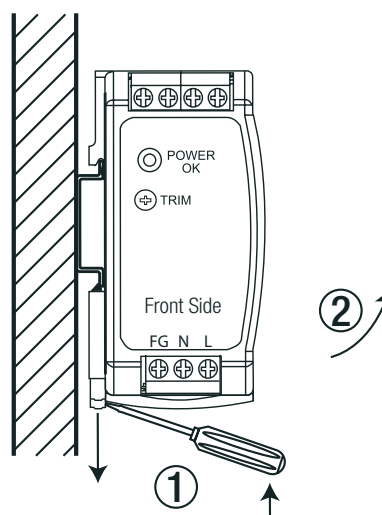


Mounting Instruction

Mounting



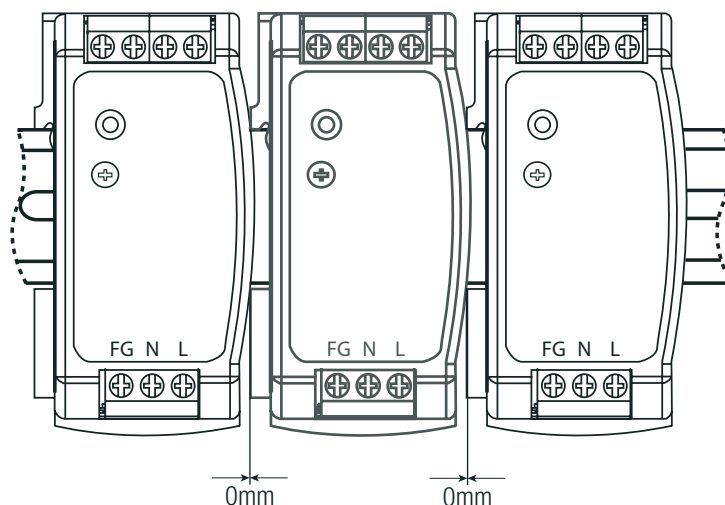
Releasing



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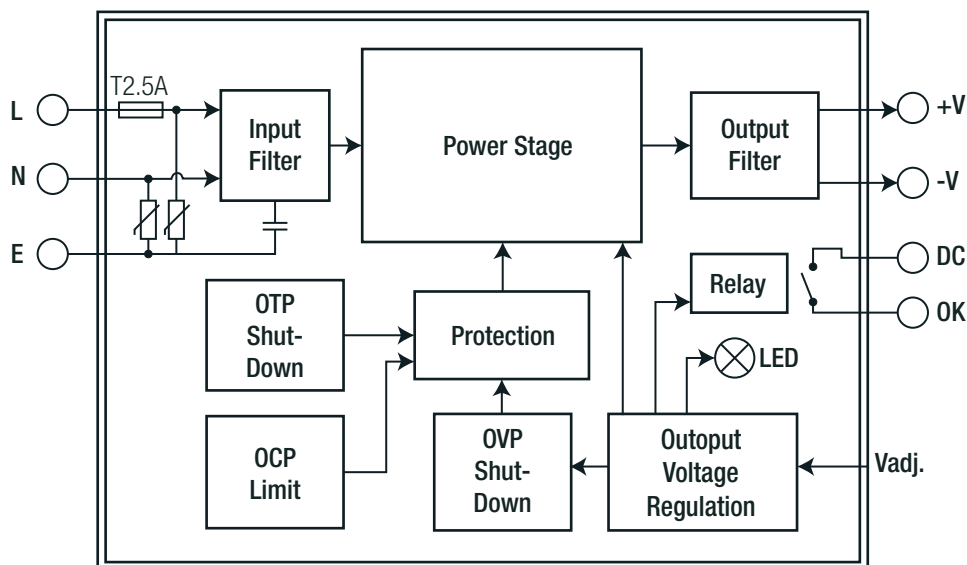
Specifications (measured at $T_a = 25^\circ\text{C}$, 230VAC, full load and after warm up)

Mounting Multiple Power Supplies



no spacers between supplies required

BLOCK DIAGRAMM



PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	cardboard box	116.0 x 97.0 x 54.0mm
Packaging Quantity		1pcs
Storage Temperature Range		-30°C to +85°C
Storage Humidity		10% - 90% RH

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