

DL2-60-U series

60W Constant Voltage class II DIN-Rail Power Supply



■ Features:

- Universal AC input / Full range: 85 – 264VAC and 120 – 370VDC
 - High Dielectric Strength: IN/OUT up to 4000VAC
 - Protections: Over current / Short circuit / Over Voltage
 - Wide operating ambient temperature range: -40°C ÷ +70°C
- Over-voltage category OVC III (designed to meet EN61558-1)
 - Low no load power consumption
 - Isolation class II design
- Designet to install on TS35x7.5/TS35x15 Din Rail



MODEL NUMBERING

DL2	-	60	-	X	-	U
SERIES		RATED OUTPUT POWER		RATED OUTPUT VOLTAGE		INPUT VOLTAGE RANGE
DIN RAIL. PLASTIC CASE, CLASS II POWER SUPPLY, CONSTANT VOLTAGE DESIGN	60 MEANS 60W (NOT FOR ALL VOLTAGE VERSIONS, PLEASE CHECK DETAILS IN BELOW SPECIFICATION – OUTPUT SECTION)	X = 05	5V	U means 85~264VAC / 120~370VDC		
		X = 12	12V			
		X = 15	15V			
		X = 24	24V			
		X = 48	48V			

ELECTRICAL SPECIFICATION

MODEL	DL2-60-05-U	DL2-60-12-U	DL2-60-15-U	DL2-60-24-U	DL2-60-48-U
OUTPUT					
RATED VOLTAGE	5V	12V	15V	24V	48V
RATED CURRENT	6.5A	4.5A	4.0A	2.5A	1.25A
ADJUSTABLE VOLTAGE RANGE (MIN.)	4.9V ÷ 5.5V	10.8V ÷ 13.8V	13.5V ÷ 18.0V	21.6V ÷ 29V	43.2V ÷ 55.2V
RATED POWER	32.5W	54W	60W	60W	60W
LINE REGULATION	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
LOAD REGULATION	± 1.5%	± 1.5%	± 1.5%	± 1.5%	± 1.5%
RIPPLE & NOISE (MAX.) [2]	100mV _{p-p}	120mV _{p-p}	120mV _{p-p}	150mV _{p-p}	240mV _{p-p}
SETUP TIME, HOLD UP TIME (TYP.)	3000ms, 80ms / 230VAC at full load; 3000ms, 15ms / 115VAC at full load				
CAPACITIVE LOAD (MAX.)	20000µF	10000µF	8000µF	4000µF	680µF
INPUT					
VOLTAGE RANGE	85 ÷ 264VAC				
	120 ÷ 370VDC				
FREQUENCY RANGE	47 ÷ 63Hz				
EFFICIENCY (TYP.)	84%	88%	89%	90%	91%
AC CURRENT (MAX.)	0.8A / 230VAC; 1.2A / 115VAC				
INRUSH CURRENT (TYP.)	60A / 230VAC; 30A / 115VAC				
NO LOAD POWER CONSUMPTION (MAX.)	0.3W	0.3W	0.3W	0.3W	0.4W

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PROTECTIONS

OVER CURRENT	Range: above 120% rated current
	Type: hiccup mode, auto-recovery.
SHORT CIRCUIT	Type: hiccup mode, auto-recovery.
OVER VOLTAGE	$\leq 7.5\text{VDC}$ $\leq 16\text{VDC}$ $\leq 20\text{VDC}$ $\leq 36\text{VDC}$ $\leq 60\text{VDC}$
	Type: hiccup mode or output voltage clamp

WORKING ENVIRONMENT

WORKING TEMPERATURE	$-40^{\circ}\text{C} \div 70^{\circ}\text{C}$ (Refer to Derating Curve)
STORAGE TEMPERATURE AND HUMIDITY	$-40^{\circ}\text{C} \div 85^{\circ}\text{C}$, 10 \div 95% RH non-condensing
TEMPERATURE COEFFICIENT (TYP.)	$\pm 0.02\%$ / $^{\circ}\text{C}$
OPERATING ALTITUDE (MAX.)	2000m

SAFETY AND EMC REGULATIONS

SAFETY STANDARDS	Compliance to EN62368-1; Designed to meet EN61558-1
WITHSTAND VOLTAGE	IN/OUT: 4000VAC (< 5mA / 1min)
EMC EMISSION	Compliance to EN55032
EMC IMMUNITY	Compliance to: EN55035; EN61000-4-2, -3, -4, -5, -6, -11
HARMONIC CURRENT	Compliance to: EN61000-3-2 class A, EN61000-3-3

OTHERS

MTBF (MIN.)	300 000h / 25°C per MIL-HDBK-217F
DIMENSIONS	92.66 x 52.00 x 58.00mm (L x W x H)
CASE MATERIAL	Black plastic heat-resistant (UL94V-0)
NET WEIGHT	0.175kg

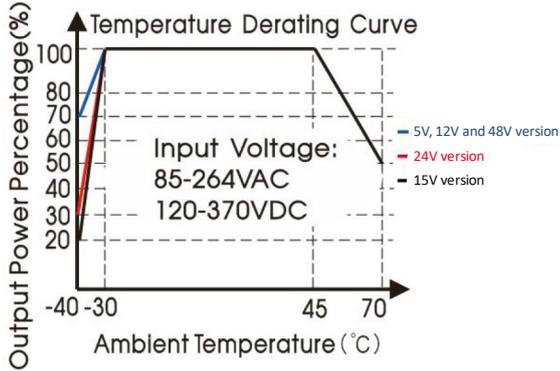
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, 25°C of ambient temperature and humidity <75% RH.
2. Ripple & noise is measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a $0.1\mu\text{F}$ i $47\mu\text{F}$ parallel capacitor.
3. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC Directives.
4. Specifications are subject to change without prior notice.

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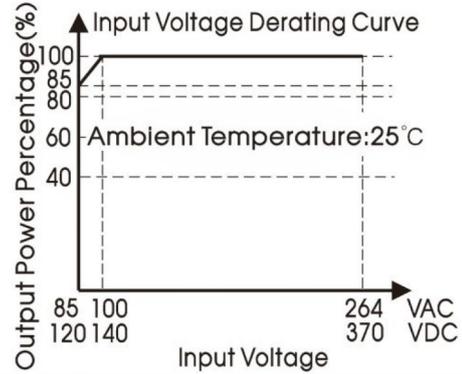
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DERATING CURVE

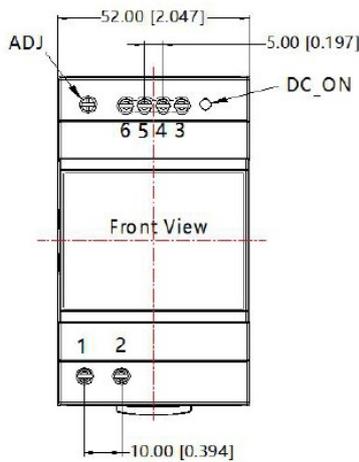
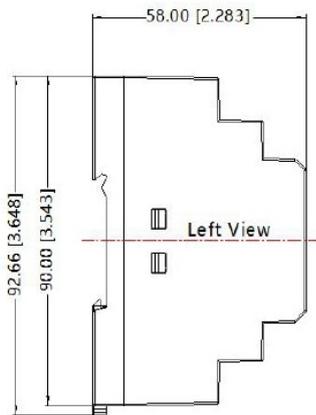


STATIC CHARACTERISTIC



MECHANICAL SPECIFICATION

THIRD ANGLE PROJECTION



Pin-Out	
Pin	DL2-60-U
1	AC(L)
2	AC(N)
3	+Vo
4	+Vo
5	-Vo
6	-Vo

Note:
 Unit: mm[inch]
 ADJ: adjustable resistance to change output voltage
 Wire range: 24-12 AWG
 Tightening torque: Max 0.4 N·m
 Mounting rail: TS35
 General tolerances: $\pm 1.00[\pm 0.039]$

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