



**120 Watt
AC/DC Modules, DIN Rail
Series DVM120-DR**



Features

- Input: 90 – 264VAC & 127 – 370VDC
- Active PFC
- Regulated Output, Low Ripple & Noise
- Isolation I/O 3000VAC
- Efficiency up to 94%
- 150% Peak Load Output for 3 Seconds
- Meet UL61010
- Meet Safety UL62368, IEC62368, EN62368
- Slim Design with 35mm
- DC OK Function
- Over-Voltage,-Current,-Temperature Protection
- Short Circuit Protection
- Operating Temperature Range -40°C to +70°C
- DC ON Output Status Indicator LED
- OVC II
- Meet CISPR32 / EN55032 Class B

MODEL NUMBER	OUTPUT VOLTAGE [VDC]	OUTPUT CURRENT MAX. [A]	OUTPUT VOLTAGE ADJUSTABLE RANGE [V]	EFF. TYP. [%] (NOTE 1)	OUTPUT POWER [W]	CAP. LOAD MAX. [μ F]
DVM120-S12DR	12	10	11,8-14	93	100	80000
DVM120-S24DR	24	5	23,5-28	94	100	50000
DVM120-S48DR	48	2,5	47-53	94	100	30000

Note:

1. At 230VAC

INPUT SPECIFICATIONS:

Input Voltage Range.....	AC Input	90 to 264VAC
	DC Input	127 to 370VDC
Input Frequency.....		47 to 63Hz
Input Current.....		115VAC 1,5A / 230VAC 0,75A max.
Inrush Current.....	Cold start	115VAC 15A / 230VAC 30A typ.
Power Factor	115VAC	0,98 typ.
	230VAC	0,94 typ.
Start-up Delay Time	230VAC	300ms typ.

OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	Full Load Range	±1% typ.
Line Regulation.....	Rated Load	±0,5% typ.
Load Regulation	0% - 100% Load	±1,0% typ.
Min. Load		0%
Ripple & Noise (Note 1) (20MHz Bandwidth)	Vo 12V	100mVp-p max.
	Vo 24V	100mVp-p max.
	Vo 48V	200mVp-p max.
Short Circuit Protection Recovery time <10s after short circuit disappear	Constant Current hiccup mode, Continuous, self-recovery	
Over Current Protection	Normal & High Temperature	105%-200%Io, self-recovery
	Low Temperature	≥105% full load after derating, self-recovery
Over Voltage Protection	Vo 12V	≤18Vdc, (Output voltage turn off, re-power on for recover)
	Vo 24V	≤35Vdc, (Output voltage turn off, re-power on for recover)
	Vo 48V	≤60Vdc, (Output voltage turn off, re-power on for recover)
Over Temperature Protection	Protection Start	90°C typ.
	Protection Release	60°C min.
DC OK Signal	Resistive Load	30VDC / 1A max.
Stand-by Power Consumption		2W typ.
Hold-up Time		20ms typ.

GENERAL SPECIFICATIONS:

Isolation Voltage (Test for 1min., leakage current<15mA)	Input/Output	3000Vac min.
	Input / PE	1500Vac min.
	Output / PE	500Vac min.
Insulation Resistance (at 500VDC).....	Input/Output, Input/PE, Output/PE	50MΩ min.
Operating Temperature Range		-40°C to +70°C
Derating		see Derating Curve
Input Voltage Derating		see Derating Curve
Storage Temperature Range		-40°C to +85°C
Cooling.....		Free Air Convection
Storage Humidity (non condensing)		20% min. / 95% max.
Operating Humidity (non condensing)		95% max.
Switching Frequency		100kHz typ.
Efficiency		see table
MTBF (MIL-HDBK-217@25°C).....		>300.000h

SAFETY:

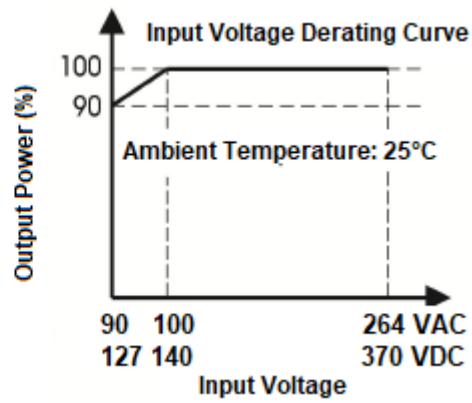
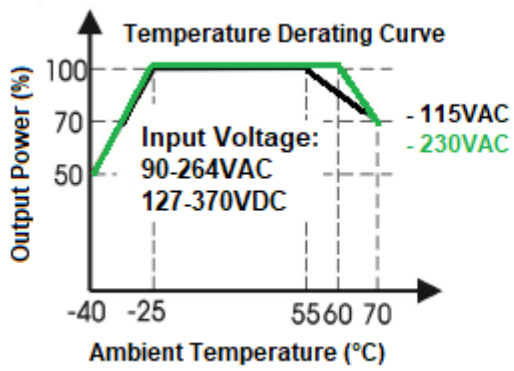
EMI.....	CE/RE	CISPR32/EN55032 Class B
Harmonic Current		IEC/EN61000-3-2 CLASS A
Immunity	IEC/EN61000-4-2, IEC/EN61000-4-3, IEC/EN61000-4-4, IEC/EN61000-4-5, IEC/EN61000-4-6, IEC/EN61000-4-11	
Safety Standards meet.....		IEC/EN/UL62368-1, UL61010-1
Safety Class.....		CLASS I

MECHANICAL SPECIFICATIONS:

Mounting		Rail TS35
Case Material		Metal and Plastic
Dimension		32 x 124 x 110 (mm)
Weight.....		490g typ.

NOTE:

- The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<90% RH with nominal input voltage and rated output load;
- The room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
- All index testing methods in this datasheet are based on our company corporate standards;
- In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
- The out case needs to be connected to the earth PE of system when the terminal equipment in operating, see "Dimensions and Recommended Layout" ;
- The output voltage can be adjusted by the output adjustable resistance ADJ, turn it up clockwise;
- The units are Open Type Power Supplies, which need to be mounted in a fire, mechanically and electrically safe enclosure;
- If the equipment is used in a manner not specified by manufacture, the protection provided by the equipment may be impaired.



Note:

1. With an AC input voltage between 90 -100VAC and a DC input between 127-140VDC the output power must be derated as per the temperature derating curves;
2. This product is suitable for applications using natural air cooling.

Dimension

Note:

Unit: mm [inch]

DC ON: Output status indicator LED

ADJ: Output adjustable resistor

Wire range: 26-10 AWG (12-10AWG for Pin7)


Output: 12V: 16-10AWG, 24V: 20-10AWG, 48V: 22-10AWG

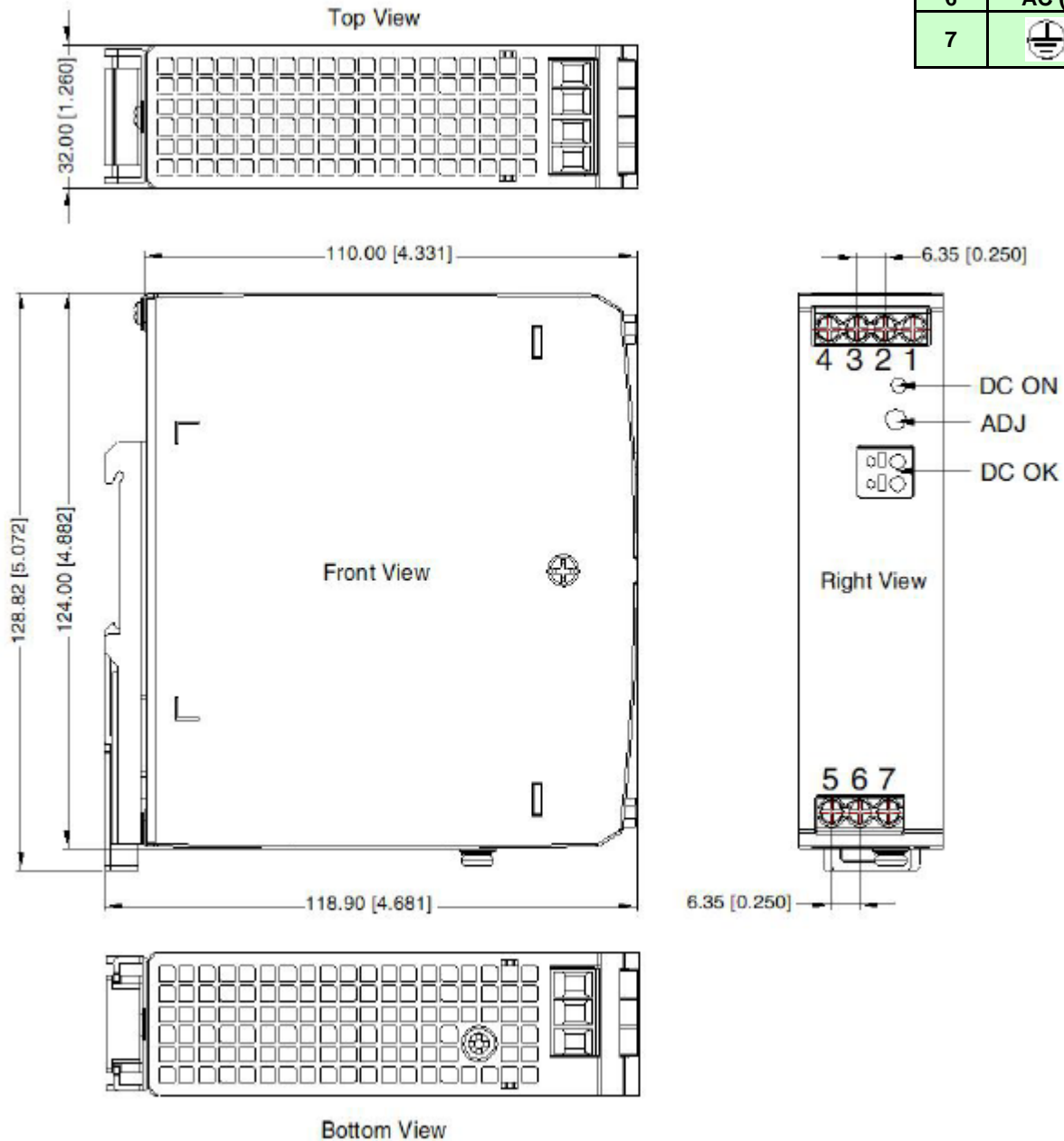
DC OK: 24-16AWG

Tightening torque: Max. 0.79 ±0.079 Nm

Mounting Rail: TS35, Rail needs to connect safety ground

General tolerances: ±1.00mm [±0.039]

Pin	Single Output
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC (N)
6	AC (L)
7	



Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

WARNING Risk of electrical shock, fire, personal injury or death:

1. Do not use the power supply without proper grounding (Protective Earth). Use the terminal on the input block for earth connection and not one of the screws on the housing;
2. Turn power off before working on the device, protect against inadvertent re-powering;
3. Make sure that the wiring is correct by following all local and national codes;
4. Do not modify or repair the unit;
5. Do not open the unit as high voltages are present inside;
6. Use caution to prevent any foreign objects from entering the housing;
7. Do not use in wet locations or in areas where moisture or condensation can be expected;
8. Do not touch during power-on, and immediately after power-off, hot surfaces may cause burns;
9. For ambient temperature ≤60°C, use ≥90°C - copper wire only; for ambient temperature >60°C to 85°C, use ≥105°C - copper wire only; use only wires with a minimum dielectric strength of 300V (input) and 60V (output);

Technische Änderungen vorbehalten / Specifications are subject to change without notice