

EMT 2400 Series

24 W AC/DC Switch Mode Power Supply for DIN-Rail

CoolPower
Solutions

- REGULATED OUTPUT
- PARALLEL OPERATION
- CURRENT LIMIT
- BATTERY CHARGER
- ADJUSTABLE
- HIGH EFFICIENCY
- WIDE INPUT RANGE
- TRANSIENT PROTECTED
- HOLD-UP > 20mSec.



Description:

The EMT 2400 Series are a compact line of wide Input Switch Mode Power Supplies for DIN Rail mounting, and can be delivered with different output voltages, to supply any electronic or electromechanical Load.

The unit is fully voltage regulated with current limit, and stand a short, with no internal losses and no time limit. Units can be connected in parallel or in series, to fit into any present or future applications. This feature give you the possibility to reduce service- and stock expenses.

The wide Input voltage range and the Hold-up time > 20 mSec. together with transient protection and low P/S capacitance, will make your Process Electronics more resistant to external noise sources, and reduce the chance of "Process Dropout".

Unit is supplied with a voltage adjust for any adaption, and the possibility to charge Lead Acid Batteries with 2,3V/cell.

The EMT 2400 Series are mounted in a fully Isolated plastic Housing with fixed Screw Terminals.

General information @ 25 °C:

Input Voltage	85-265 VAC 120-375 VDC	Crepage	8 mm
Input Power	< 40 VA	Hold-Up Time	> 20 mSec.
Input Frequency	45 - 65 Hz	MTBF	> 650.000 Hours (HRD4)
Filter	High efficiency Commonmode filter	EMC	EN 55022 - VDE 0871
Fuse	T 1A Not serviceable	Safety	IEC950, EN 60950
Inrush	< 20A	Outline	84 x 79 x 25 mm
Protection	275 VAC VARISTOR	Weight	APPR. 150 g
Efficiency	79 - 86 %	Operating Temp.	0 - 55C See Curve FIG.2
Frequency	100 - 250 KHz	Storage Temp.	-40 - +85 C
P/S Capacity	< 1,2 nF PRIM/SEC	Prefusing	MAX 30 A
Isolation	PRIM/SEC 3750 V	Start	45 VAC

Output:

	EMT 2424	EMT 2415	EMT 2412	EMT 24D12
Voltage	+24 VDC	+15 VDC	+12 VDC	+/- 12 VDC
Power	24 W MAX	20 W MAX	18 W MAX	18 W MAX
Current Limit	1 A See Curve FIG.1	1,3 A See Curve FIG.1	1,5 A See Curve FIG.1	+/- 0,75 A
Adjust Range	23,5 - 27,6 VDC	14,5 - 17,0 VDC	11,8 - 13,8 VDC	+/- 11,8 - 13,8 VDC
Ripple	< 0,4 %	< 0,8 %	< 1,0 %	< 1,0 %
Load Reg.	< 0,7 %	< 1,0 %	< 1,5 %	< 1,5 %
Line Reg.	< 0,1 %	< 0,1 %	< 0,1 %	< 0,1 %
Parallel Opr.	95 % Power Share	90 % Power Share	85 % Power Share	85 % Power Share
Factory Adj.	24,05 VDC +/-0,01V @ NO LOAD	15,10 VDC +/-0,01V @ NO LOAD	12,10 VDC +/-0,01V @ NO LOAD	+/- 12,05 VDC +/-0,01V @ NO LOAD

Note: Output Power and Current Limit decreases with low Input Voltage (Min. Input = Appr. 80 % - See Fig.6)

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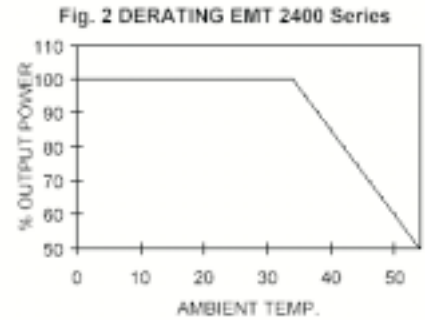
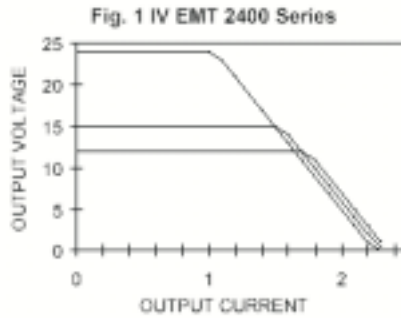
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Current Limit:

As in Fig. 1, Curves show the Current Limit Points for the different Output Voltages, and unit will decrease Input Power in Current Limit, so that unit can be under constant short, without any Powerlosses.

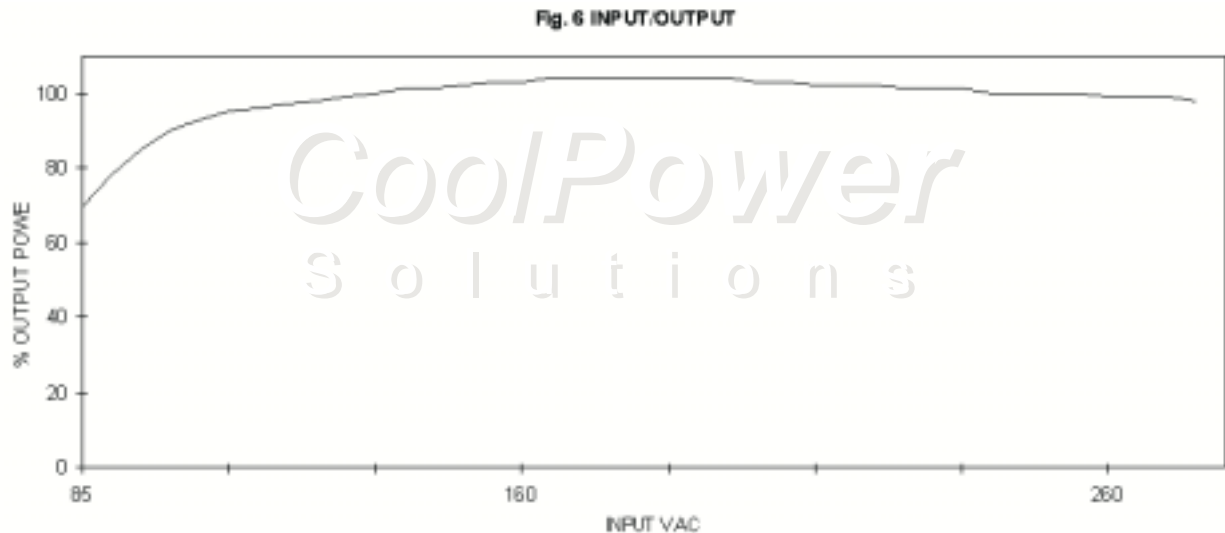


Low AC/DC input:

Observe Fig. 6 when running units with a low input AC or DC voltage.

Power out / Current limit will decrease and in the 90 – 130 VAC range, unit will deliver app. 80 % of rated output power.

Units will run from a lower input voltage, but a highly decreased output power.



PARALLEL OPERATION:

Unit is factory adjusted to above voltages....if changed, readjust unit to wanted output voltage (+/-mV) with no load for each unit, before connecting in parallel.

When connecting wires to units in parallel, make these wires from units to common tie point of the same length, to ensure that power supplies see the load with the same impedance, especially when units are of the high current.

Abovementioned will obtain the best powershare and control under parallel operation.

BATTERY CHARGING:

By charging lead acid batteries, adjust unit to the shown charge voltage with no load connected.

This will keep your battery charged to app. 90 % under normal temp. conditions, in normal standby operation.

Or contact your local battery supplier, for technical information around charge voltage in standby operation, and readjust unit to desired voltage, with no load.

Battery	Charge Voltage
12V	13.8
24V	27.6
48V	55.2

MOUNTING:

When mounting two or more units side by side, please use below table to determine horizontal clearance between units, or to other units on the DIN-rail. Keep wires, mechanicals or any part away from the top/bottom stated in table as top/bottom clearance, and do not mount unit in no other position but upright position, to ensure proper airflow.

Horizontal clearance	> 5mm
Top clearance	> 10mm
Bottom clearance	> 8mm

Above will allow max. performance and lifetime, for units running with max. output power for a longer period of time.

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