



DC/DC STEP DOWN POWER SUPPLY

PRELIMINARY DATA

FEATURES

- MODULE DC/DC STEP DOWN SINGLE OUTPUT
- WIDE RANGE INPUT VOLTAGE 100-370 V<sub>dc</sub>
- OUTPUT POWER 1.8W, 4.5W OR 12W MAX
- OUTPUT VOLTAGE PRECISION 5% FOR 4.5W AND 12W
- OUTPUT VOLTAGE PRECISION 10% FOR 1.8W
- OUTPUT SHORT CIRCUIT PROTECTION

DESCRIPTION

The DC/DC module is a high efficiency DC/DC not insulated switch mode constant voltage generator.

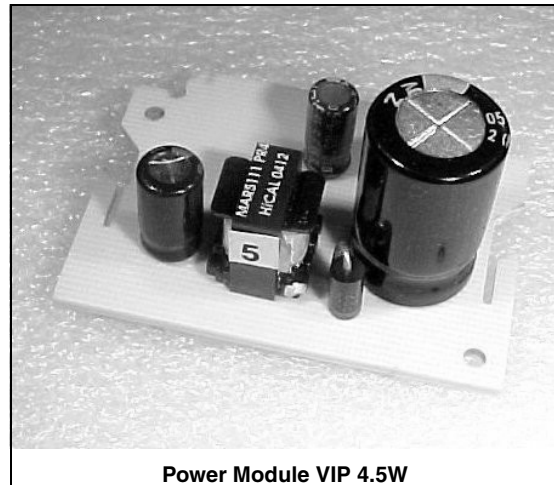
Designed for industrial application where low voltages are required from main.

Step down converter performs a max 1.8W, 4.5 W and 12W power conversion.

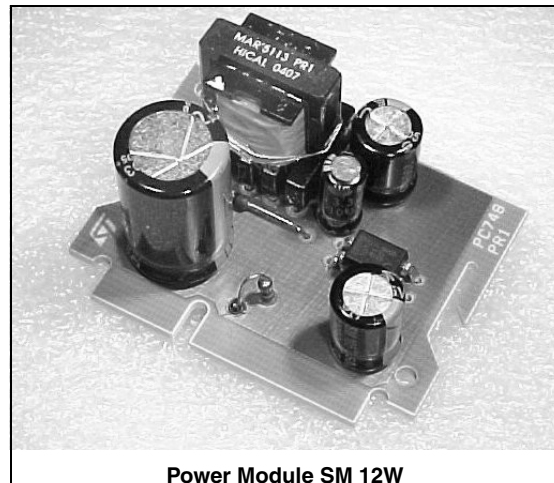
The output voltages and current level are set up by design in accordance with customer requirements.

Typical reference values for the shelf solution are:

- single output -12V, ±10%, 0.15A for 1.8W;
- single output -12V, ±5%, 0.35A for 4.5W;
- single output -12V, ±5%, 1A for 12W.



Power Module VIP 4.5W



Power Module SM 12W



Power Module VIP 1.8W

Figure 1. Application Diagram for 1.8W and 4.5W

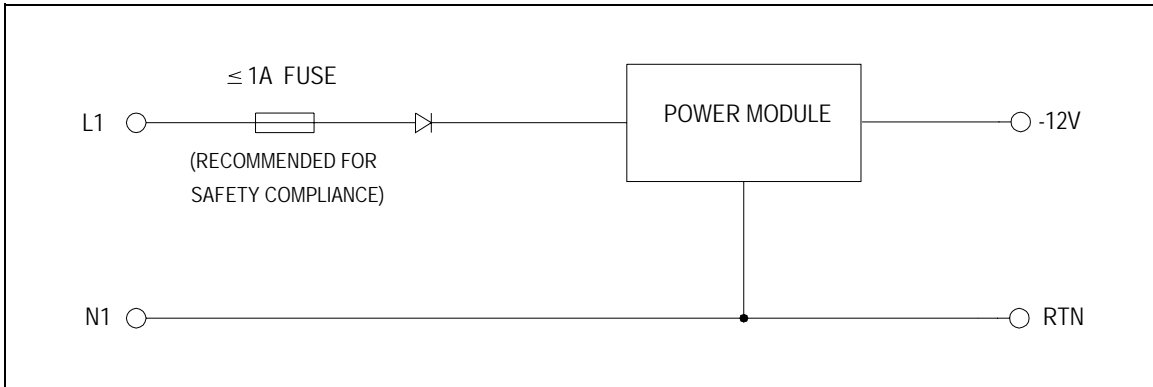
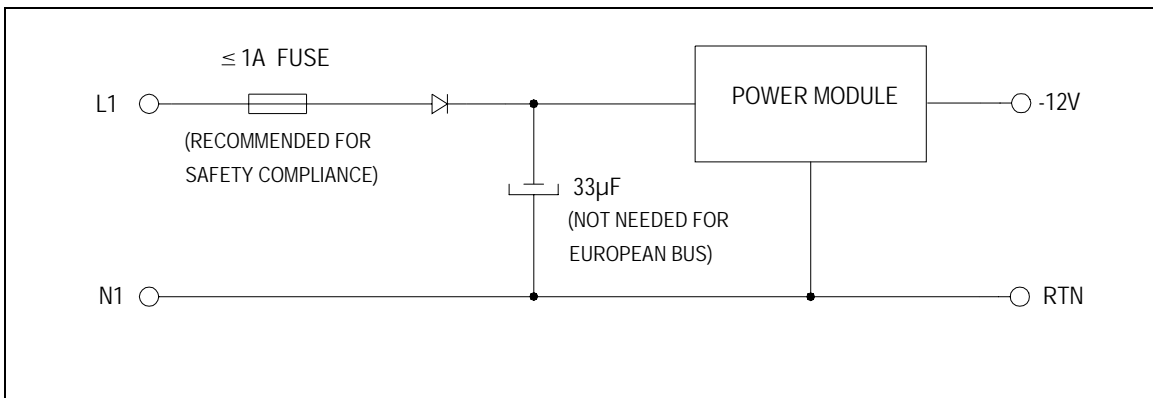


Figure 2. Application Diagram for 12W



**Table 1. Electrical Characteristics** ( $T_{amb}=25^{\circ}C$ , unless otherwise specified.)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$V_i$	Input Voltage	Output Power 1.8W, 4.5W and 12W	100		370	$V_{dc}$
$V_{o1}$	Output Voltage	$V_i = 100$ to $370 V_{dc}$ for 4.5W and 12W	-12.6	-12	-11.4	V
$V_{o2}$	Output Voltage	$V_i = 100$ to $370 V_{dc}$ for 1.8W	-10.8	-12	-13.2	V
$I_{o1}$	Output Current	$V_i = 100$ to $370 V_{dc}$ for 1.8W	0.15			A
$I_{o2}$	Output Current	$V_i = 100$ to $370 V_{dc}$ for 4.5W	0.35			A
$I_{o3}$	Output Current	$V_i = 100$ to $370 V_{dc}$ for 12W	1			A
$V_{or}$	Output Ripple	$V_i = 100$ to $370 V_{dc}$			5%	mVpp
$I_{osc}$	Output short circuit current	$V_i = 100$ to $370 V_{dc}$	Hiccup Mode			A
n	Efficiency	$V_i = 100$ to $370 V_{dc}$ $I_o=0.15$ A for 1.8W	70			%
n	Efficiency	$V_i = 100$ to $370 V_{dc}$ $I_o=0.35$ A for 4.5W	80			%
n	Efficiency	$V_i = 100$ to $370 V_{dc}$ $I_o=1$ A for 12W	83			%
$P_{stand\ by}$	Power losses in no load condition	$V_i = 320 V_{dc}$ $I_o = 0$ mA			0.3	W
$I_{ir}$	Inrush input current	$V_i = 320 V_{dc}$		30		A
$T_{op}$	Operating Ambient Temperature		0		70	$^{\circ}C$
$T_{stg}$	Storage Temperature Range		-20		85	$^{\circ}C$

**AGENCY APPROVALS**

The safety and EMI compliance has to be assured by the user.

Figure 3. Mechanical Data for 1.8W (dimensions in mm)

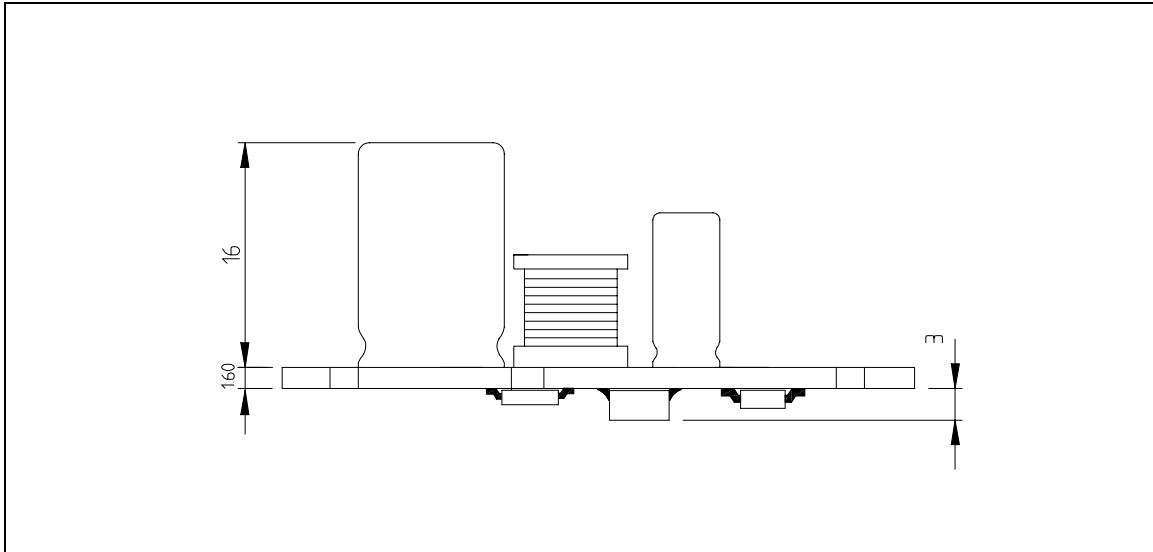


Figure 4. Mechanical Data for 4.5W (dimensions in mm)

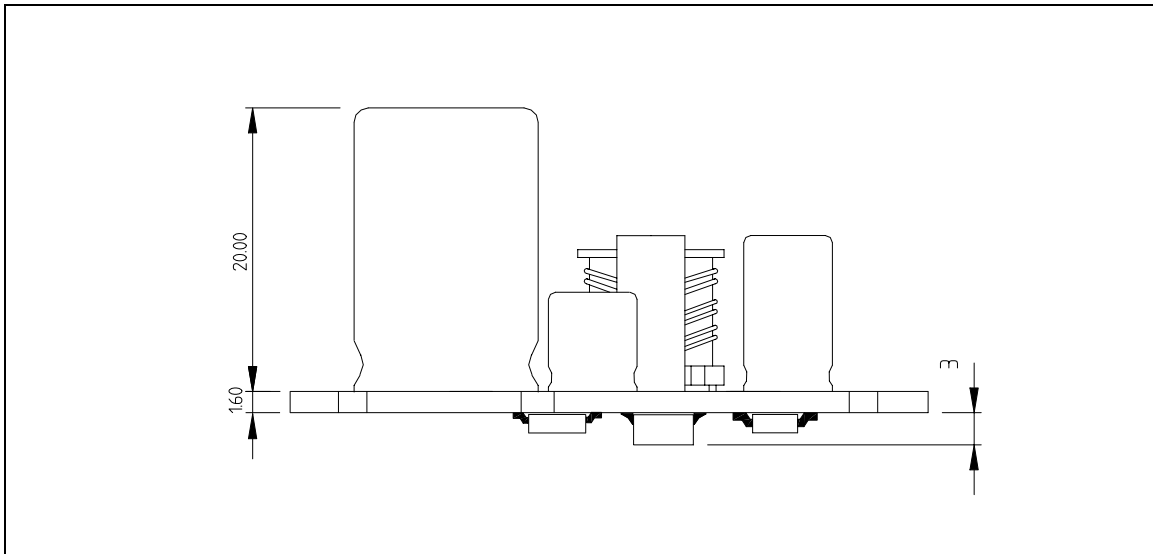


Figure 5. Mechanical Data for 12W (dimensions in mm)

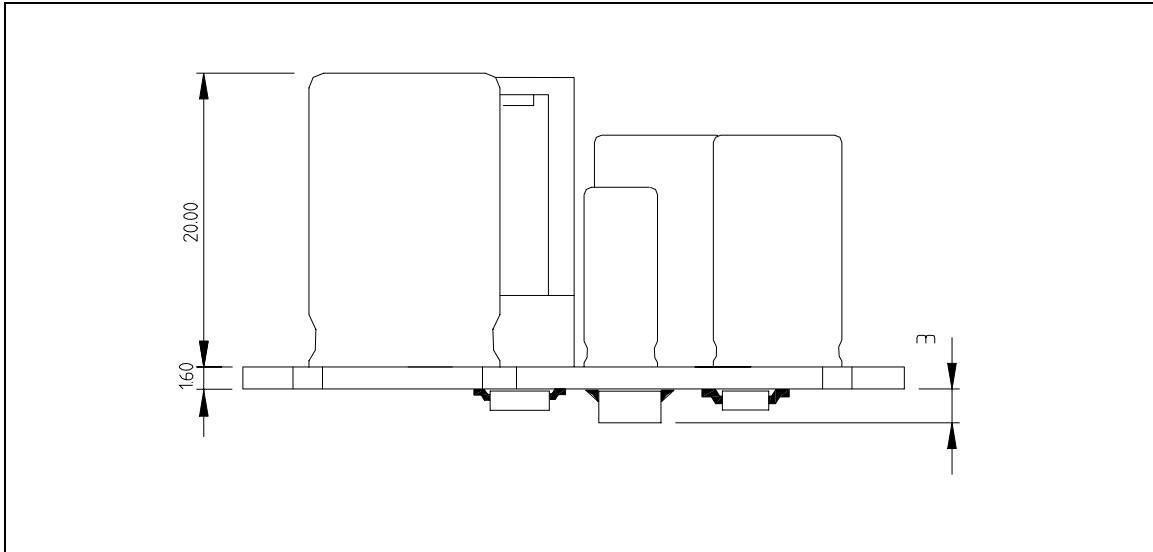


Figure 6. Mechanical Data for 1.8W (dimensions in mm)

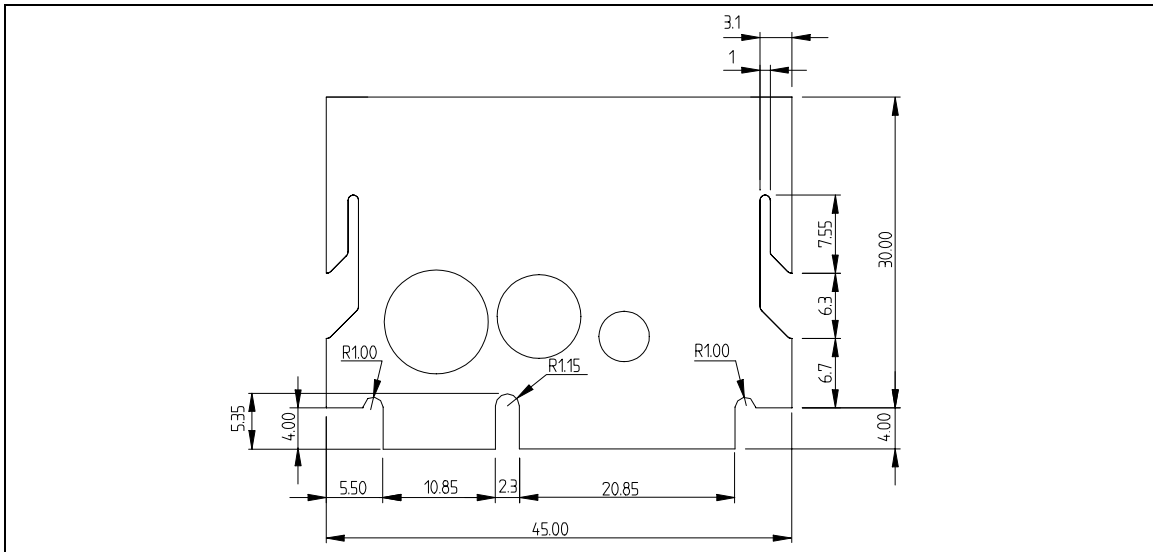


Figure 7. Mechanical Data for 4.5W (dimensions in mm)

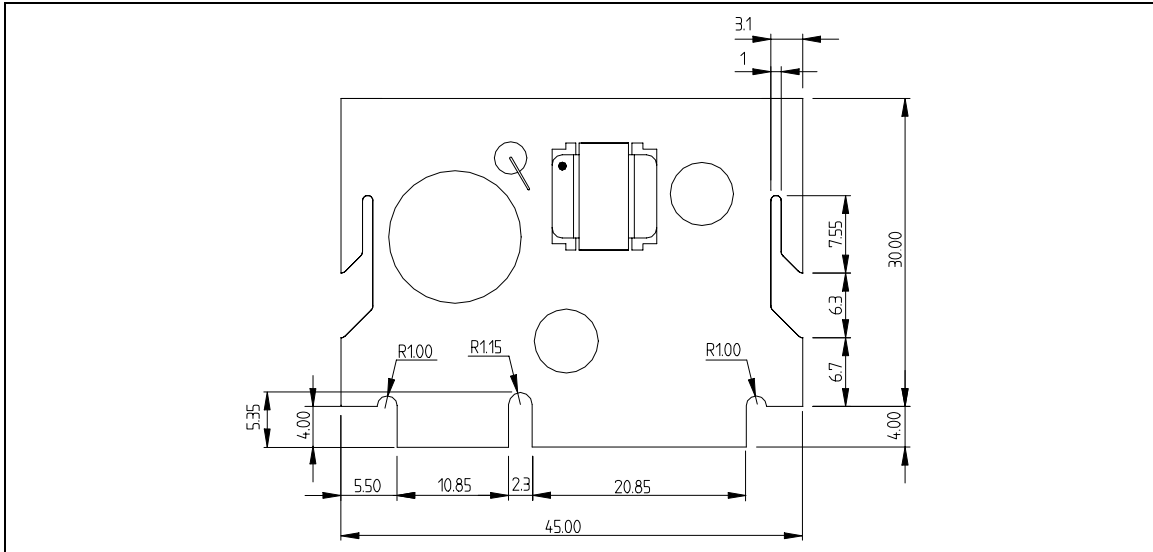


Figure 8. Mechanical Data for 12W (dimensions in mm)

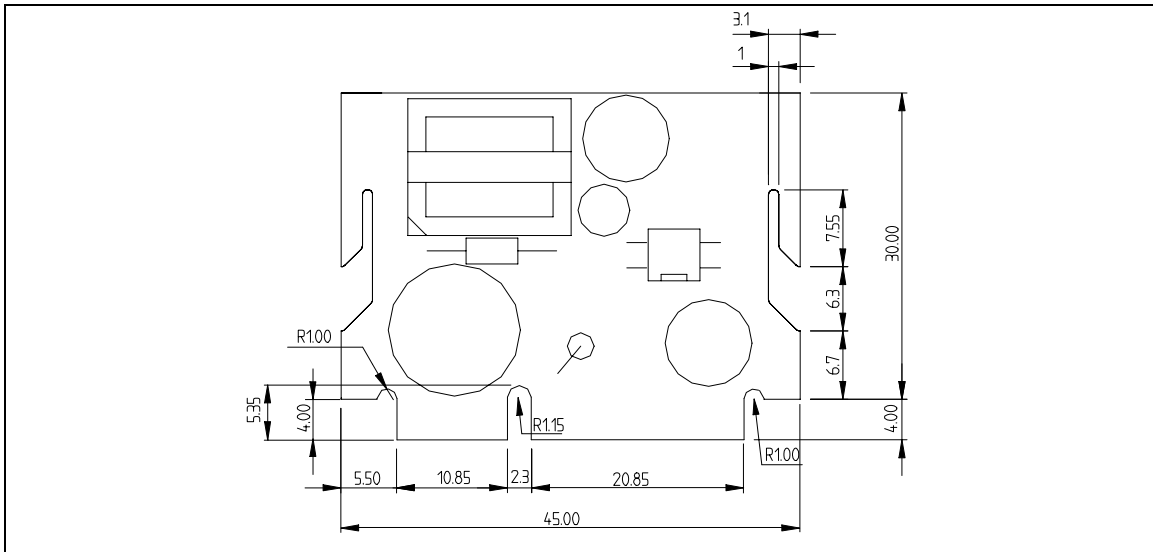


Figure 9. Mechanical Data (dimensions in mm)

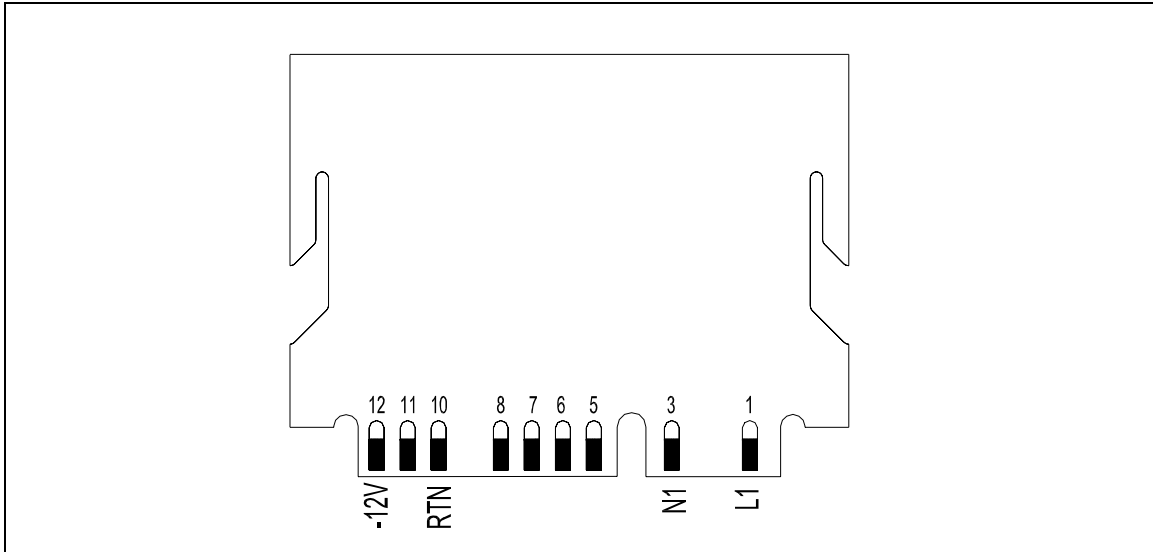


Figure 10. Ordering Information Scheme

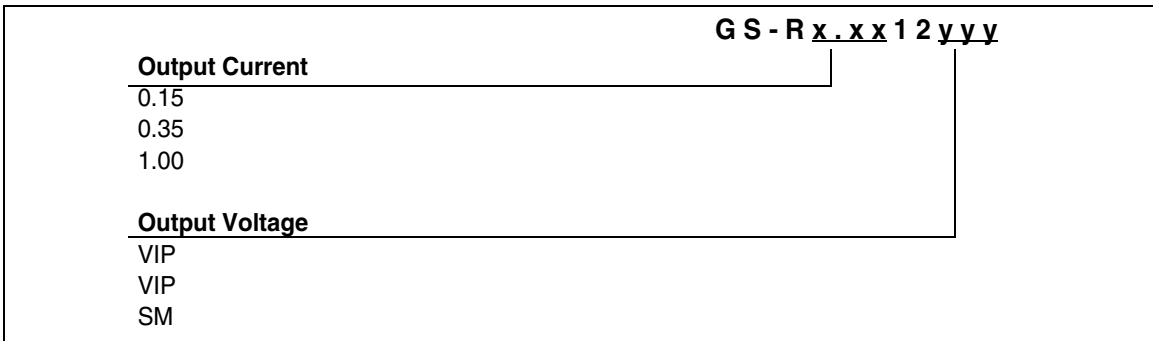


Table 2. Revision History

Date	Revision	Description of Changes
14-Dec.-2004	1	First Release

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