

## Enamelled Wirewound Power Resistors Axial Leads



### FEATURES

- High dissipation up to 30 W (25 °C)
- Fire proof
- Excellent endurance typical drift  $\pm 1.5\%$  after 1000 h
- Conformal vitreous enamel
- All welded construction
- Low ohmic values 0.33  $\Omega$  available
- Termination: Sn/Ag/Cu
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

As a result of more than 50 years of experience and continuous improvements the RWM series of resistors features proven reliability in AC or DC applications.

The high quality of the RWM resides mainly in the use of a proprietary Vishay Sfernice enamel fired at high temperature and free from any compound liable to corrode the resistive wire.

The performance of this series of professional resistors fully meets the requirements of the following specifications:

- NF C 83-210-001
- CECC 40201-001
- BS - CECC 40201-002

DIMENSIONS in millimeters						
	<b>RWM 6 x 34</b>	<b>RWM 8 x 34</b>	<b>RWM 8 x 45</b>	<b>RWM 10 x 45</b>	<b>RWM 10 x 64</b>	<b>RWM 10 x 65</b>
A	33.7 $\pm$ 1	33.7 $\pm$ 1	45.8 $\pm$ 2	45.8 $\pm$ 2	63.8 $\pm$ 1	63.8 $\pm$ 1
Ø B	7.4 $\pm$ 1.5	7.4 $\pm$ 1.5	9.4 $\pm$ 1.5	9.4 $\pm$ 1.5	9.4 $\pm$ 1.5	9.4 $\pm$ 1.5
Weight in g	4	4	8	8	14	14

STANDARD ELECTRICAL SPECIFICATIONS					
MODEL	SIZE	RESISTANCE RANGE $\Omega$	RATED POWER $P_{25\text{ }^\circ\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE $\pm\%$
RWM 6 x 34	0634	0.33 to 36K	8	500	1, 2, 5
RWM 8 x 34	0834	0.33 to 36K	11	650	1, 2, 5
RWM 8 x 45	0845	0.47 to 62K	11	650	1, 2, 5
RWM 10 x 45	1045	0.47 to 62K	25	800	1, 2, 5
RWM 10 x 64	1064	0.68 to 100K	25	800	1, 2, 5
RWM 10 x 65	1065	0.68 to 100K	30	800	1, 2, 5



<b>TECHNICAL SPECIFICATIONS</b>							
<b>VISHAY SFERNICE SERIES AND STYLE</b>		<b>RWM 6 x 34</b>	<b>RWM 8 x 34</b>	<b>RWM 8 x 45</b>	<b>RWM 10 x 45</b>	<b>RWM 10 x 64</b>	<b>RWM 10 x 65</b>
Power Rating	at +70 °C	7 W	9.5 W	9.5 W	21 W	21 W	25.8 W
	at +25 °C	8 W	11 W	11 W	25 W	25 W	30 W
	With Surface Temp. ≤ +450 °C	12 W	14 W	20 W	25 W	25 W	30 W
Ohmic Range in Relation to Tolerance ± 5 % E24 Series		0.33 Ω 36 kΩ	0.33 Ω 36 kΩ	0.47 Ω 62 kΩ	0.47 Ω 62 kΩ	0.68 Ω 100 kΩ	0.68 Ω 100 kΩ
Qualified Ohmic Range NF C 83-210		0.33 Ω 15 kΩ	-	0.47 Ω 33 kΩ	-	-	-
Limiting Element Voltage		500 V	650 V	650 V	800 V	800 V	800 V
Critical Resistance		31 kΩ	-	38 kΩ	25.6 kΩ	25.6 kΩ	21.3 kΩ

<b>PERFORMANCE</b>			
<b>CECC 40201 - EN 140-201</b>			<b>TYPICAL DRIFTS</b>
<b>TESTS</b>	<b>CONDITIONS</b>	<b>REQUIREMENTS</b>	
Short Time Overload	10 $P_r$ during 10 s 25 °C ambient	± (2 % + 0.1 Ω)	± (0.5 % + 0.05 Ω)
Temperature Cycling (5 cycles)	-55 °C +200 °C	± (1 % + 0.05 Ω)	± (0.5 % + 0.05 Ω)
Humidity (Steady State)	56 days 40 °C ambient - R.H. 95 %	± (5 % + 0.1 Ω)	± (0.5 % + 0.05 Ω)
Terminal Strength	Tensile test: 20 N 2 successive bending 2 full rotations of 180°	± (1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Load Life	1000 h at $P_r$ 90°/30° cycle 25 °C ambient	± (5 % + 0.1 Ω)	± (1.5 % + 0.05 Ω)

**OVERLOAD**

Heavy overloads can be endured in the form of short pulses < 0.1 s. Particular requirements should be submitted to Vishay Sfernice, specifying peak voltage, cycle and environmental conditions.

**RECOMMENDATIONS FOR USE**

Since these components are high dissipation power resistors, customers are advised to use a high melting point solder.

For low ohmic values, the measurement becomes critical and the connecting wires resistance is to be included. The value is measured at 5 mm from the resistor body.

**Group Mounting**

In a still atmosphere, a distance between axes equal to five times the resistor's diameter is recommended.

**Cabinet Mounting**

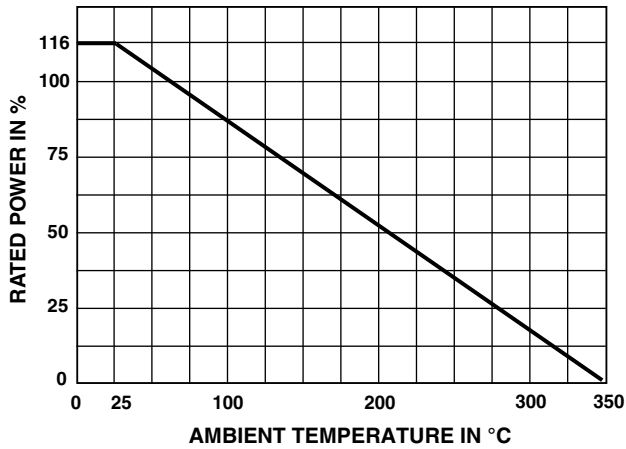
- Unventilated box: Dissipation should be reduced (see dimensional drawing).
- Forced ventilation: If conditions are appropriate, dissipation may be doubled or even trebled.
- In any case: The surface temperature at the hottest point should not exceed 450 °C.

These aspects should be considered by the end user.

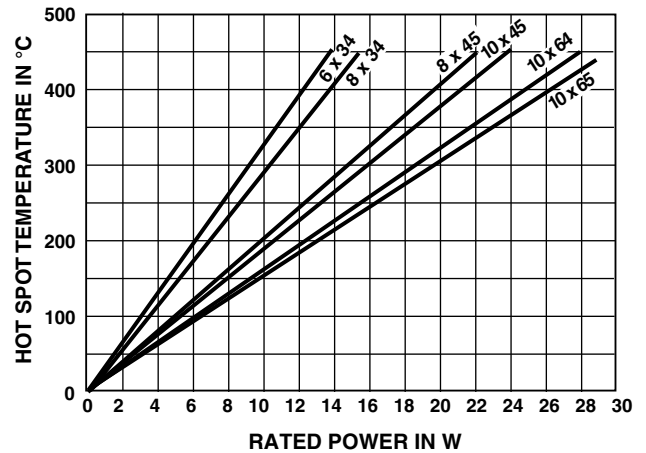
<b>ELECTRICAL SPECIFICATIONS</b>		
Tolerance	Standard	± 5 % (NI ± 10 %)
	On request	± 1 % and ± 2 % (NI ± 5 %)
Temperature Coefficient		+75 ppm/°C typical
Dielectric Withstanding Voltage NF EN140000		500 V <sub>RMS</sub> - 1 min - 10 mA
Inductance		Non inductive (Ayrton-Perry) winding available



**POWER RATING**



**TYPICAL TEMPERATURE RISE**



**MARKING**

Vishay Sfernice trademark, model and style if applicable, ohmic value, resistance tolerance, manufacturing date (year - month).

ORDERING INFORMATION							
RWM	6 x 34		XXX	1U2	± 5 %	BO50	e1
MODEL	STYLE	NI OPTIONAL	SPECIAL DESIGN	OHMIC VALUE	TOLERANCE	PACKAGING	LEAD (Pb)-FREE
		Non inductive winding	Method N° optional	Custom items are subject to extra charge and minimum order. Please see price list.			

GLOBAL PART NUMBER INFORMATION																		
R	W	M	0	6	3	4		1	R	2	0	J	S	0	9		E	1
GLOBAL MODEL	SIZE	OPTION	OHMIC VALUE					TOLERANCE	PACKAGING	SPECIAL	LEAD (Pb)-FREE							
RWM	d x L: 0634 0834 0845 1045 1064 1065	Blank or N (non inductive winding)	The first three digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point. 48R7 = 48.7 Ω 1R20 = 1.2 Ω 1002 = 10 000 Ω R330 = 0.33 Ω ...					F = 1 % G = 2 % J = 5 % K = 10 %	Size 0845, 1045, 1064, 1065: B25 = box (50 pieces)  Size 0634: S09 = bag (50 pieces)	As applicable. Ex: AD5	Sn(99), Ag(0.3), Cu(0.7): E1							



## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.