

Richardson Electronics — Your Global Source for High-Power CW Microwave Solutions

Founded in 1947, Richardson Electronics, Ltd. has a rich and unique history of engineering solutions and distributing electronic components for the global RF and wireless communications, electron device, industrial power conversion and display systems markets.



Richardson Electronics' Corporate Headquarters, main warehouse and manufacturing facilities in LaFox, IL

Headquartered outside Chicago, in La Fox, Illinois, Richardson Electronics serves clients throughout the world's major economic regions. The company distributes and manufactures high-power, high-frequency electronic components, sub-assemblies and sub-systems for many diverse markets, including Semiconductor Equipment, Laser, Medical, Marine, Avionics, Microwave & RF Industrial Heating, Radio & TV Broadcasting, Radar and Communication.

The CW Microwave Division within Richardson Electronics offers a wide range of products including complete turn-key microwave generators, magnetron heads, power supplies, magnetrons, waveguide components and RF coils. Our Engineered Solutions are driven by our customer needs, and we add value through design-in support, systems integration, prototype design and manufacturing and testing. We employ technical field engineers to work with our customer to understand their requirements and identify possible solutions through new and existing products.



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Industrial Microwave Product Guide

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Microwave Generators — 2450MHz

Generator System	Microwave Power (kW)	Cooling	Magnetron Head	Power Supply
GEN1.2KW, SM445†	1.2	Air or Water	TMA / TMO / MHx.x	SM445
GEN2.0KW; SM745†	2.0	Air or Water	TMA / TMO / MHx.x	SM745
GEN2.0KW; SM840†	2.0	Air or Water	TMA / TMO / MHx.x	SM840
GEN3.0KW; SM1250†	3.0	Air or Water	TMA / TMO / MHx.x	SM1250
GEN6KW, MG10-Series†	6.0	Water	UWHEAD6.0	MG10
GEN6KW, SM1280-Series‡	6.0	Water	TM066	SM1280
GEN10KW, SM1690-Series‡	10.0	Water	TM100	SM1690
GEN15KW, MPS-Series‡	15.0	Water	UWHEAD15	MPS24
GEN20KW, MPS-Series‡	20.0	Water	UWHEAD20	MPS28
GEN30KW, MPS-Series‡	30.0	Water	UWHEAD30	MPS48

† Generators have standard WR340 waveguide output. Other output options available upon request
 ‡ Generators have standard WR430 waveguide output. Remote Head or Integrated systems available.

Microwave Generators — 915MHz

Generator System	Microwave Power (kW)	Power Supply Options	Input Power
GEN5KW915	5.0	Switch-mode or Conventional	3Ø; 400 & 480
GEN30KW915	30.0	Switch-mode or Conventional	3Ø; 400 & 480
GEN60KW915	60.0	Switch-mode or Conventional	3Ø; 400 & 480
GEN75KW915	75.0	Switch-mode or Conventional	3Ø; 400 & 480
GEN100KW915	100.0	Switch-mode or Conventional	3Ø; 400 & 480

Generators have standard WR975 waveguide output.
 Generators require both air and water cooling.

Power Supplies: Magnetron Power Range .8kW-6.0kW @ 2450MHz

Model Number	Electric Output Power (W)	Microwave Power (kW)	Input Mains (V _{AC})	Output Ripple	Dimensions (mm)	Weight (kg)
CM340	1300	0.88	1Ø; 180 - 265	High	280 x 180 x 178	6.3
CM440	1550	1.25	1Ø; 180 - 265	High	280 x 180 x 178	6.3
SM445	1800	1.25	2Ø; 180 - 265	Low <5%	375 x 450 x 85	11
FR/CR840T	3000	2.0	3Ø; 400	Low <5%	170 x 190 x 387	10
SM745	2800	2.0	2Ø; 180 - 265	Low <5%	375 x 450 x 85	11
SM840	3000	2.0	2Ø; 180 - 265	Low <5%	420 x 450 x 85	12.2
SM1150	5000	3	3Ø; 208 & 400	Low <5%	420 x 450 x 130	17.3
SM1250	5000	3	3Ø; 208 & 400	Low <5%	420 x 450 x 130	17.3
SM1280	8600	6	3Ø; 208, 400 & 480	Low <3%	482 x 444 x 301	35
MG10	8600	6	3Ø; 208, 400 & 480	Low <5%	482 x 482 x 266	34
SM1690	14000	10	3Ø; 400	Low <5%	482 x 444 x 301	35

Power Supplies: High Power Multi-Chassis

Model Number	Electric Output Power (kW)	Microwave Power (kW)	Input Mains (V _{AC})	Inverter Unit	Overall Dimensions (mm)	Weight (kg)
MPS24	24	15	3Ø; 400 & 480	1 x SM1816	444 x 475 x 440	71
MPS48	48	30	3Ø; 400 & 480	2 x SM1816	755 x 475 x 440	126
MPS72	72	60	3Ø; 400 & 480	3 x SM1816	1066 x 475 x 440	181
MPS96	96	75	3Ø; 400 & 480	4 x SM1816	1377 x 475 x 440	236
MPS120	120	100	3Ø; 400 & 480	5 x SM1816	1688 x 475 x 440	291

* Inverter chassis require both air and water cooling.

Power Supplies: Pulse Power

Model Number	Electric Power (W)	Microwave Power CW/Pulse (kW)	Input Power (V)	Output Ripple	Dimensions (mm)	Weight (kg)
PM740	2500	1.7/8.0	3Ø; 400	Low	480x122x430	19

Magnetron Heads: 2450MHz — .8-10kW @ 2450MHz

Model Number	Power (kW)	Configuration	Cooling
MHx.xW-S	1.2, 2.0, 3.0, 6.0	Standard	Water
TMA	.8, 1.2, 2.0, 3.0	Standard	Air
TMO	.8, 1.2, 2.0, 3.0	Standard	Water
MHx.xW-S-CH	1.2, 2.0, 3.0, 6.0	Compact w/ Isolauncher	Water
TXA	1.2, 2.0, 3.0	Open Frame	Air
TXO	1.2, 2.0, 3.0	Open Frame	Water
TMO66	6.0	Standard	Air & Water
TM100	10.0	Standard	Air & Water
TIOxO	1.2, 2.0, 3.0	Compact w/ Isolauncher	Water

* Generators have standard WR340 waveguide output. Other output options available upon request.

Magnetrons — 2450MHz

Model Number	Power (kW)	Cooling
2M107A	0.88	Air; Water
2M246	1.0	Air
2M137/YJ1540	1.25	Air; Water
2M121/NL10254	1.45	Air; Water
2M130/NL10250	2.0	Air; Water
NL10230	3.0	Air; Water
2M251/2M252	3.0	Air; Water
YJ1600	6.0	Air & Water
AM3881	6.0	Air & Water
NL10245	10.0	Air & Water
NL20245	20.0	Air & Water
NL30245	30.0	Air & Water

Magnetrons — 896, 915, 922MHz

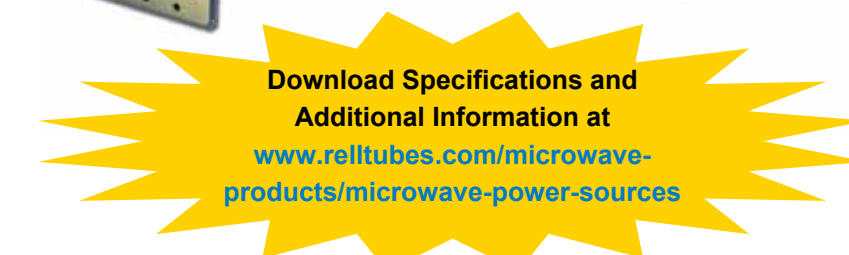
Model Number	Power (kW)
NL10257	5.0
NLM915-30	30.0
NLM915-60	60.0
NLM915-75	75.0
NLM915-100	100.0

* Magnetrons require both air and water cooling.

Waveguide Components

Type	Frequency		
	2450MHz	915MHz	5.8GHz
Auto-tuners	x	x	—
Circulators & Isolators	x	x	x
Directional Couplers	x	x	x
Isolauncher	x	—	x
Manual Tuners	x	x	x
Quartz Windows	x	x	x
Sliding Shorts	x	x	x
Water-loads	x	x	x
Waveguide Bends	x	x	x
Waveguide Coaxial Transitions	x	x	x
Waveguide Transitions	x	x	-
Waveguides & Flanges*	x	x	x

* Waveguides & Waveguide Assemblies from WR75 to WR975 are available upon request.



Richardson Electronics has the industrial microwave products you need...

- 2450MHz – Output power range from 100W to 30kW in WR284, WR340, and WR430 waveguide
- 915MHz/896MHz/922MHz – Power range from 5kW to 100kW in WR975 waveguide
- 5.8GHz – Output power capabilities at 700W & 1000W in WR159 waveguide

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