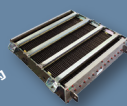




産業用電力巻線抵抗器

高電力と高エネルギー金属
抵抗器向けの専用
ソリューション

FOLDED METAL AND GRID



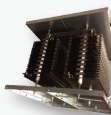
間接冷却式抵抗器、
最大電力2500W

WCR



高電流性能、全溶接構造
により100 kWまでカスタ
マイズ可能パッケージを提供

GRE SERIES



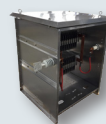
優れた放熱性により大容量

EDGU SERIES



中性点接地（方式）
システム電圧13.8 kV、
1000 Aまでの高電流
グリッド抵抗器

NGR



直接冷却式抵抗器、
最大電力9000 W

DCRF





INDUSTRIAL POWER WIREWOUND RESISTORS

Focus Products

The DNA of tech™

Wirewound							
Series	Resistance Range	Power Rating	Tolerance (± %)	Operating Temp. Range	TCR	Sizes	Limiting Element Voltage
 RWM	0.1 Ω to 100 kΩ	3 W to 30 W	1, 2, 5	-55 °C to +350 °C	+75 ppm/K	0410, 0422, 0526, 0622, 0826, 0634, 0834, 0845, 1045, 1064, 1065	120 V to 800 V
	Conformal vitreous enamel and high power rating up to 30 W						
 RWST	2.7 Ω to 430 kΩ	95 W to 700 W	5, 10	-55 °C to +450 °C	+75 ppm/K	25138, 25168, 30250, 40370, 50373	Up to 5000 V
	Rugged construction for use in severe environmental conditions and power from 95 W to 800 W						
 RSO	0.068 Ω to 68 Ω	160 W to 1000 W	10	-55 °C to +450 °C	+100 ppm/K	25138, 25168, 30250, 40370, 50373	Up to 4500 V
	High power rating from 160 W to 1 kW						
 RSSD	0.12 Ω to 560 Ω	16 W to 600 W	5, 10, 20	-55 °C to +450 °C	+100 ppm/K	0834, 1050, 1370, 1694, 20117, 25138, 25168, 30250, 40370, 50373	Up to 3500 V
	High power rating from 16 W to 600 W						
 RT	1 Ω to 33 kΩ	-	10	-55 °C to +320 °C	+100 ppm/K	Dia. 22.5 to 143	300 V to 1500 V
	Vitreous-style wirewound rheostats from 25 W to 500 W						
 CT	0.33 Ω to 270 kΩ	270 W to 1100 W	5, 10	-55 °C to +450 °C	+75 ppm/K	40168, 44250, 54362, 64362	1900 V to 4200 V
	High energy pulse capability up to 25 kJ						
 VN	1 Ω to 470 kΩ	22 W to 600 W	5	-55 °C to +450 °C	+75 ppm/K	1052, 1370, 1694, 20117, 2584, 25110, 25138, 25168, 30153, 30250, 42362	450 V to 4500 V
	Complete vitreous range for use in most severe applications; non-inductive available						
 VC	0.068 Ω to 68 Ω	90 W to 1000 W	5, 10	-55 °C to +450 °C	+180 ppm/K	2584, 25110, 25138, 25168, 30153, 30250, 42362, 50370	Up to 4500 V
	Vitreous corrugated power rating from 90 W to 1000 W						
 G200	0.1 Ω to 120 kΩ	4 W to 17 W	2, 5, 10	-55 °C to +350 °C	+100 ppm/K to +180 ppm/K	0414, 0719, 0933, 0947	200 V to 650 V
	Axial vitreous wirewound resistor						
 GWK	1.8 Ω to 330 kΩ	10 W to 260 W	2, 5, 10	-55 °C to +350 °C	+100 ppm/K to +180 ppm/K	Refer to GWK datasheet	280 V to 4000 V
	Easy to change when mounted with spring clips; non-inductive version available						
 GBS	0.1 Ω to 75 Ω	50 W to 1000 W	5, 10	-55 °C to +350 °C	-10 ppm/K to +750 ppm/K	Refer to GBS datasheet	250 V to 3000 V
	Complete vitreous coating for perfect humidity protection						
 GWS	3.3 Ω to 300 kΩ	10 W to 500 W	2, 3, 5, 10	-55 °C to +350 °C	+100 ppm/K to +180 ppm/K	Refer to GWS datasheet	250 V to 2300 V
	Vitreous wirewound resistor with lugs						
 RW	0.39 Ω to 390 kΩ	11 W to 480 W	5, 10	-55 °C to +350 °C	-10 ppm/K to +180 ppm/K	13114 to 36305	120 V to 6000 V
	Vitreous wirewound resistor up to 480 W and up to 6000 V according to MIL-PRF-26; non-inductive type available						

Wirewound Water Cooled							
Series	Resistance Range	Power Rating	Tolerance (± %)	Operating Temp. Range	TCR	Sizes	Limiting Element Voltage
 WCR	4.7 Ω to 56 kΩ	1500 W to 2500 W	5	-55 °C to +120 °C	+100 ppm/°C	30250, 38250, 38300	Up to 3500 V
	High power; indirect water-cooled; with power ratings from 1500 W to 2500 W						
 DCRF	0.756 Ω to 27 kΩ	1500 W to 9000 W	5, 10	-55 °C to +120 °C	+100 ppm/°C	382178, 38224, 38270, 38316, 38362, 38410	Up to 3600 V
	High power; direct water-cooled; with power ratings from 1500 W to 2500 W						

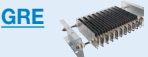


INDUSTRIAL POWER WIREWOUND RESISTORS

Focus Products

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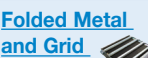
High Power Grid and Wirewound Resistors

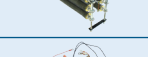
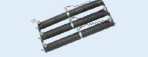
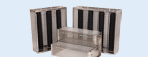
Series	Power Min. (W)	Power Max. (W)	Resistance Min. (Ω)	Resistance Max. (Ω)	Tolerance ($\pm$ %)	Operating Temp. Range	Temperature Rise
 EDGU	400	1600	0.053	5.44	10	-55 °C to +350 °C	375 K above an ambient of 40 °C
Open coil construction allows efficient heat dissipation and easily accommodates reasonable overloads and surges							
 GRE	1300	24000	0.02	110	10	-55 °C to +415 °C	375 K above an ambient of 40 °C
Robust all-welded grid resistors allow for high current capability in a customizable package up to 100 kW and within IP00-IP20 or IP23-rated enclosures							
 GREM	8000	8000	0.067	24.273	10	-55 °C to +415 °C	375 K above an ambient of 40 °C
Improved watt density EDG type resistors in GRE1 type package							
 MCR	20	125	0.2	76 k	5, 10	-40 °C to +300 °C	300 K above an ambient of 25 °C
Metal case, heat sinkable resistor; high power to size ratio							
 RBEF, RBSF	40	2000	0.01	391	10	-55 °C to +415 °C	375 K above an ambient of 40 °C
High temperature, enamel-coated resistor designed with maximum active mass for excellent pulse handling abilities in a wide range of sizes							
 RDEF, RDSF	8	1150	0.12	227 K	5	-55 °C to +350 °C	325 K above an ambient of 25 °C
High temperature, enamel-coated resistor available with non-inductive windings and a wide resistance range							

Neutral Grounding and High-Current Grid Resistors

Series	System Voltage (kV)	Line-Neutral-Voltage (kV)	Current (A)	Resistance Range (Ω)	Tolerance ($\pm$ %)
 NGR	2.4 to 13.8	1.39 to 8.0	100 to 1000	1.39 to 80	10
Stainless steel resistive element; high thermal capacity to absorb high current; custom design on demand					

Custom Load Banks and Resistors

Series	Resistance Range	Power Rating	Tolerance ($\pm$ %)	Operating Temp. Range	TCR
 GBS Array	On demand	On demand	5, 10	-55 °C to +350 °C	100 ppm/K to 180 ppm/K
Custom resistor bank based on GBS series					
 Folded Metal and Grid Resistors	< 10 Ω	5 kW up to 5 MW	5, 10	-55 °C to +450 °C	On request
Custom braking and crowbar resistors with power capability up to 5 MW for railway, mining, and inverters applications					

Series	Description
	Resistors with Mounting Hardware Many standard hardware options allow resistors to be purchased fully assembled allowing easy integration into the final assembly
	Resistor Assemblies Assemblies with one or more different types of resistors on frames are available for use as specialty load banks
	Resistors with Leads Value-added wiring and connectors allow for a "plug-and-play" solution that easily integrates into the final assembly
	Special Resistors Custom resistors are designed-to-order by our engineers and can be customized to fit unique electrical and mechanical constraints
	Resistors in Enclosures Available in indoor or outdoor enclosures (IP00, IP20, or IP23); resistors can be pre-wired and assembled for power ratings between 300 W and 100 kW
	Pre-Wired Resistor Assemblies Assemblies are wired in parallel or series to meet the needs of the application; terminal blocks and thermal switches are also available
	C52TF Assembly Custom resistors assembly with insulating mechanical supports

For further information, please contact us at:

ww1resistors@vishay.com, mcbfixedresistors@vishay.com, powresistor@vishay.com, vishaymilwaukeeeresistor@vishay.com

幅広い産業用途に最適な 高電力巻線抵抗器



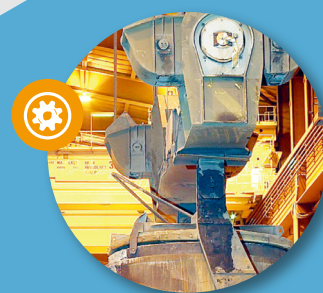
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ビシェイ産業用電力巻線抵抗器の利点

- 5 MW までの高電力抵抗器
- 強制冷却無しで最大6.7 MJのエネルギージュール吸収
- 幅広い種類の高電力抵抗器 – 巻線、波紋状リボン、鋼製グリッド
- 高電力プロジェクト向けのカスタマイズされた抵抗器と抵抗器バンク

以下の用途に最適

- HVDCスナバ、高調波フィルタ、スナバ放電フィルタ
- 高電力インバータとドライブ（回路）
- 高電力ダイナミックブレーキ抵抗器
- 再生可能エネルギー – チョッパ抵抗器、ブレーキ抵抗器、および巻線形誘導発電機用のバール型抵抗器



ビシェイの抵抗器は幅広い用途で過電圧保護を提供します



ビシェイの抵抗器は有害な電気信号を排除します



ビシェイの抵抗器は安定した電力網向けに高パルスエネルギーを提供します



Useful Links

- メタルプレート / グリッドテクノロジー概要
www.vishay.com/resistors-linear/metal-plate-grid/
- パルスエネルギー計算機
www.vishay.com/resistors/pulse-energy-calculator/
- 産業用電力巻線抵抗器のセクションガイド
www.vishay.com/doc?49438
- ビシェイDraloric/ Beyschlagブランド抵抗器ソリューション
www.vishay.com/doc?48367
- カスタマイズされたステンレス鋼ブレーキ抵抗器
www.vishay.com/doc?32529



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COMPLIANT

HALOGEN
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