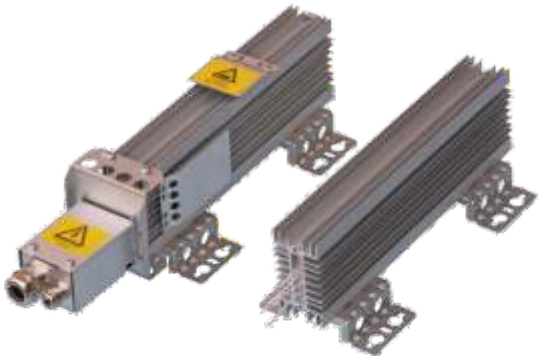
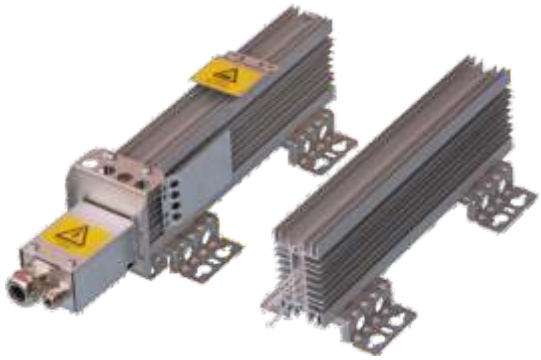
GCR Aluminum Power Resistors





GCR belonging to our medium range of Alpha Aluminium Housed Compact Brake Resistors is electrically insulated and can easily be integrated in compact constructions and it is specially constructed for high pulse loads compared to the average load.

The resistors comply with IP21 / 1X giving electrical and thermal protecion. The resistors are Silicone free .The power range is from 140 W to 2900 W steady state load and pulse loads of 60 tmes compared to the nominal load in one second each 120s.

KWX has developed thermal models for all resistor types and resistor values. By using these models we are able to calculate the temperature rises in the resistor wire and on the surface for all possible load applicaions.We offer our assistance to our customers to find the optimum solution for any situation. All types are equipped with thermo watch.

ALPHA GCR DT is a range of compact Aluminum Profile Brake Resistors with protection class IP21. The resistors are supplied with an internal 200° C thermostat and equipped with a connection box, which contains cable glands and cable connection to the resistor and the thermostat.

Construction

Power cables are connected through a pg16 cable gland with integrated braid connection. The range of outer diameter of the power cable is 15- 18mm. The power cables (0.5 – 10 mm²) are connected to a terminal block with screw connections. The PE is connected directly to the connector box with a screw. The cable for the temperature switch is connected to a terminal block (0.5-4mm²) via a M12 gland with clamping range 3 – 7mm

High Temperature Warning

The GCR DT resistors have a “High Temperature” warning label on the profile. The resistors can optionally be supplied with a Protecting Grating

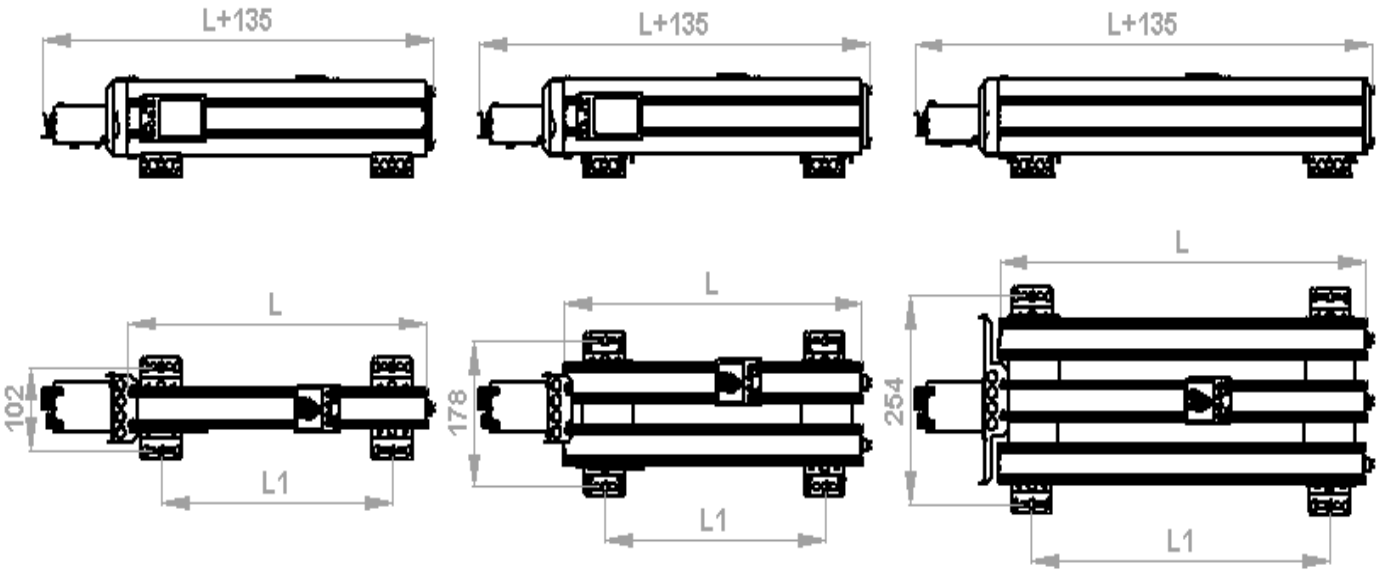
Ordering Information

Type identification:
If you have chosen a GBR Brake Resistor with IP21 protection it is necessary to specify the size (length), the configuration (Number of profiles)and the ohm value.
Please specify your GBR Brake resistor as follows

GCR 645 D (T) 22R 281

- 281 — Configuration: See above, or if XXX > 400: Customer specified version
- 22R — Ohm Value (: 2R2=2.2Ω; 22R=22 Ω; 220R=220Ω; 2K2 = 2.2 kΩ) Standard: 10%
- (T) — T With Thermostat
- 645 — Length of resistor profile in mm.
- D — More configurations (IP23, IP50, Protection grid) can be supplied, please consult KWX Electric A/S for further details.

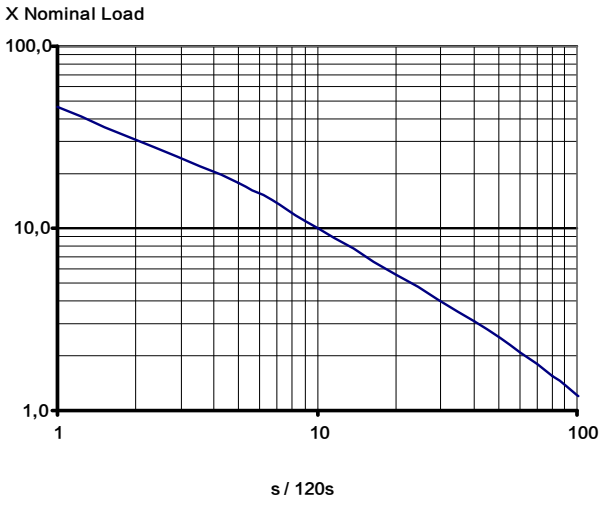
Dimensions



Type	L ±2	L1± 2	Weight	Type	L ±2	L1± 2	Weight
GCR-V 135 D T 281	135	-	1.3 Kg	GCR-V 345 D T 282	345	245	4 Kg
GCR-V 191 D T 281	191	91	1.8 Kg	GCR-V 445 D T 282	445	345	5 Kg
GCR-V 241 D T 281	241	141	2.0 Kg	GCR-V 545 D T 282	454	445	6 Kg
GCR-V 295 D T 281	295	195	2.1 Kg	GCR-V 645 D T 282	645	545	7 Kg
GCR-V 345 D T 281	345	245	2.5 Kg	GCR-V 345 D T 283	345	345	8 Kg
GCR-V 445 D T 281	445	345	2.9 Kg	GCR-V 445 D T 283	445	345	9Kg
GCR-V 545 D T 281	545	445	3.6 Kg	GCR-V 545 D T 283	545	445	10 Kg
GCR-V 645 D T 281	645	545	4.3 Kg	GCR-V 645 D T 283	645	545	11Kg
GCR-V 720 D T 281	720	620	5.0 Kg	GCR-V 720 D T 283	720	620	12Kg

Derating Curve

The curves show the pulse load ability compared to the nominal load for the GCR resistors under the following conditions:The load is a periodic pulse load with a constant period time of 120 sec and a pulse width from one second to 40 sec.



KHX. By mean of individual thermal models we can simulate the rises of temperatures in the components and on the surfaces during and between specified pulses.

Applications And Ratings

Ratings Resistors with 200C T.W.

TYPE GCR DT -V: Profile vertically -H: Profile horizontally, optional, same power as -H D: Box IP21 H: High Pulse (HELIX) T: Internal T.W. 281 Configuration*)	PN W @40C Approved UL508	Max Surface temp. C @40C	Pulse Load in 1 s each 120s. P1/120 kW @40C	Pulse Load in 5 s each 120 s. P5/120 kW @40C	Pulse Load in 10s each 120 s. P10/120 kW @40C	Pulse Load in 40 s each 120 s P40/120 kW @40C	Time Const. sec. (Steady state)	R - k 5%, 10%
GCR-V 135 D T 281	140	230	6.3	1.9	1.5	0.50	1000	4 – 0.4
GCR-V 191 D T 281	190	230	8.5	3.1	1.9	0.70	1000	5 – 0.5
GCR-V 241 D T 281	250	230	11.2	4	2.5	0.75	1000	10 – 0.5
GCR-V 295 D T 281	300	230	13.5	4.8	3.0	0.9	1000	10 – 0.8
GCR-V 345 D T 281	380	240	17.1	6.1	3.8	1.1	1000	10 – 1.0
GCR-V 445 D T 281	480	250	21.6	7.8	4.8	1.4	1000	16 – 1.2
GCR-V 545 D T 281	620	270	27.9	10.4	6.2	1.8	1000	20 – 1.4
GCR-V 645 D T 281	790	300	35.5	12.8	8	2.4	1000	20 – 1.6
GCR-V 345 D T 282	760	250	34	12.3	7.7	2.2	1000	5 – 0.5
GCR-V 445 D T 282	960	270	43	15.5	9.7	2.8	1000	8 – 0.6
GCR-V 545 D T 282	1240	300	55	20	12.5	3.7	1000	10 – 0.8
GCR-V 645 D T 282	1580	340	71	25	16	4.7	1000	10 – 0.8
GCR-V 345 D T 283	1140	250	51	18	11.5	3.4	1000	3 – 0.3
GCR-V 445 D T 283	1440	270	64	23	14.5	4.3	1000	5 – 0.3
GCR-V 545 D T 283	1860	300	83	30	18	5.5	1000	6.5 – 0.3
GCR-V 645 D T 283	2370	340	106	38	24	7.1	1000	6.5 – 0.3
GCR-V 720 D T 283	2900	350	116	41	27	8.7	1000	6.5 – 0.3

Performance Characteristics

Temperature Coefficient:	<100ppm
Dielectric strength:	2500VAC 1 minute
Working Voltage:	UL: 600VAC / CE: 690VAC; 1100VDC
Isolation Resistance:	> 20 M
Overload:	5-10x in10 sec; 25-35 x in 1 s
Environmental:	-40 C 90 C
Derating :	Linear: 40C = P_N to 70C = 0.5*PN
Thermo watch contact	N.C. 2A, 250V
Approvals	UL 508