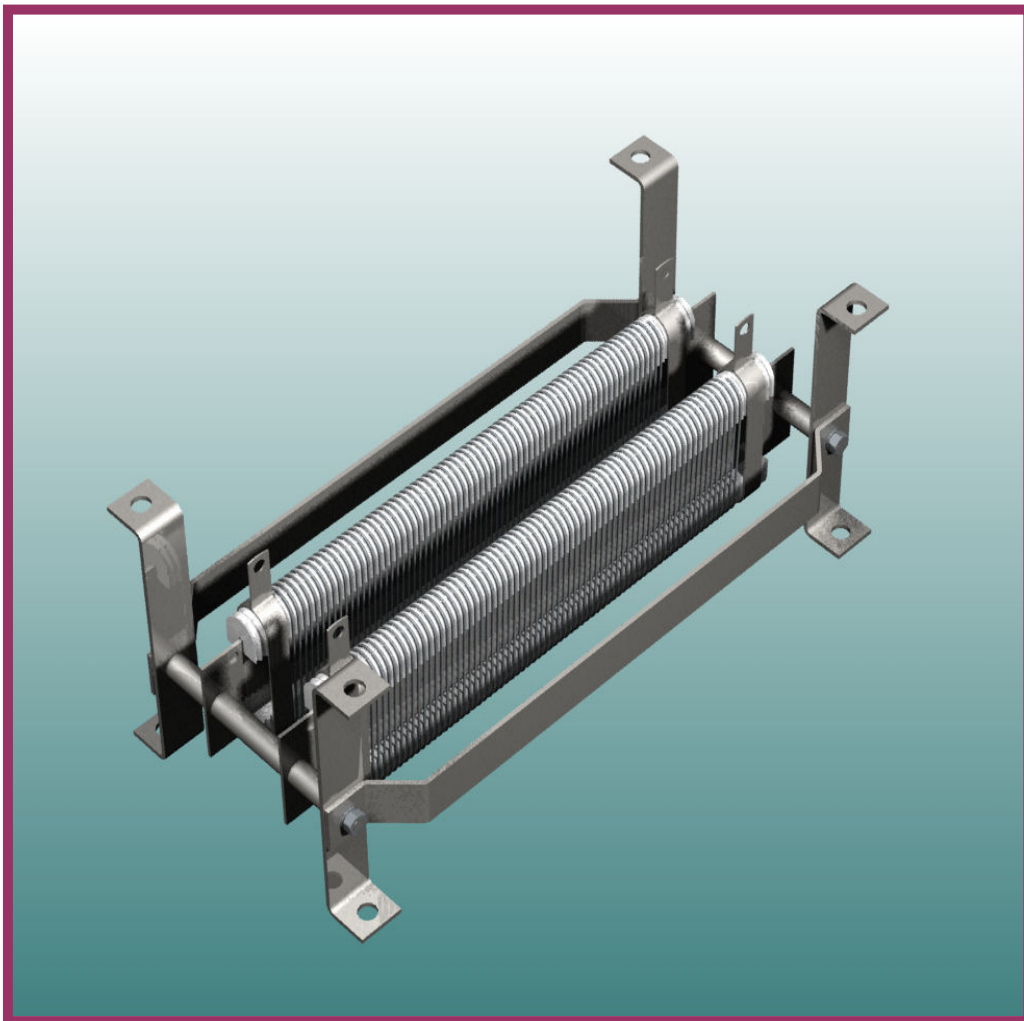


Λ LAMBDA OBR

OPEN WIREWOUND BRAKE RESISTORS
OEM TYPES



LAMBDA OBR is a range of Open wire wound Brake Resistors. They are especially suitable for customer specified constructions with specific demands to mechanical sizes. The resistors are supplied as single components or as stacked resistor banks. The resistors have protection class IP00, but we can supply Lambda resistors mounted in housings with protection class IP20 up to IP23.

Construction

The resistor wire is wound around special ceramic insulators with grooves keeping the wire in the right position. Metal plates support the insulators as shown on the drawing below. For higher insulation levels, than specified in this data sheet, the supporting metal plates are insulated with ceramic insulators. The resistors have solid terminals with screw holes for M5 screw connection. The terminals are connected to the resistor wire by either welding or screw connection.

External Connection

Power cables can be connected to the terminals either by normal screw connection or welded on the factory.

Load ability of Lambda Resistors depends on the mechanical size and the specific resistor wire. The table shows some examples of the power of some Lambda components. When Lambda components are stacked in resistor banks the load / component must be reduced.

Ratings of some OBR resistor sizes:
Many other resistor values and mechanical sizes available

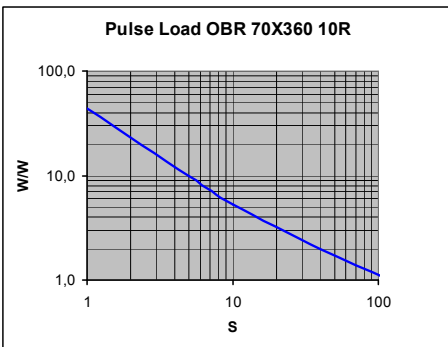
TYPE OBR B/L B: Width of support plate L Length of Isolators	R	PN W @40°C	Pulse Load in 1 s each 120s. P1/120 kW @40°C	Pulse Load in 5 s each 120 s. P5/120 kW @40°C	Pulse Load in 10s each 120 s. P10/120 kW @40°C	Pulse Load in 40 s each 120 s P40/120 kW @40°C	Time Const. sec. (Steady state)	R Ω ±10% Rating
OBR 40 / 180	10	220	7	1.8	0.9	0.38	22	0.5 – 50
OBR 40 / 180	20	250	7	1.7	0.9	0.38	18	0.5 – 50
OBR 40 / 240	5	360	15	4	2	0.68	33	0.5 – 68
OBR 40 / 240	10	350	12	3.2	1.8	0.64	26	0.5 – 68
OBR 65 / 300	2.2	530	21	5	2.7	0.94	36	1 – 120
OBR 65 / 300	5	510	19	4.5	2.5	0.85	26	1 – 120
OBR 65 / 300	10	580	17	4.4	2.5	0.85	28	1 – 120
OBR 65 / 300	22	580	19	4.6	2.6	0.94	23	1 – 120
OBR 70 / 360	2.2	900	47	11	6	1.8	43	1.2 – 160
OBR 70 / 360	5	810	34	9	4.9	1.5	31	1.2 – 160
OBR 70 / 360	10	730	32	8.5	4.5	1.4	33	1.2 – 160
OBR 70 / 360	20	920	35	9.5	5	1.5	27	1.2 – 160
OBR 80 / 420	2.2	960	51	14	7	2.5	47	1.5 – 200
OBR 80 / 420	5	1000	46	11.5	6	1.8	33	1.5 – 200
OBR 80 / 420	10	900	43	11.5	5.9	1.8	36	1.5 – 200
OBR 80 / 420	20	920	35	9.5	5	1.5	28	1.5 – 200

General Specifications	
Temperature Coefficient:	<±200ppm
Dielectric strength:	2500VAC 1 minute
Working Voltage:	UL: 600VAC / CE: 690VAC; 1100VDC
Isolation Resistance:	> 20 MΩ
Overload:	5-10x in 5 sec; 25-35 x in 1 s
Environmental:	-40 °C – 90 °C
De-rating :	Linear: 40°C = P _N to 70°C = 0.5*P _N

PN: NOMINAL POWER WITH NATURAL COOLING and mounted in a horizontal/vertical position (like shown on the picture below)
WIRE TEMPERATURE: Peak: 500 K; Steady state 350K.

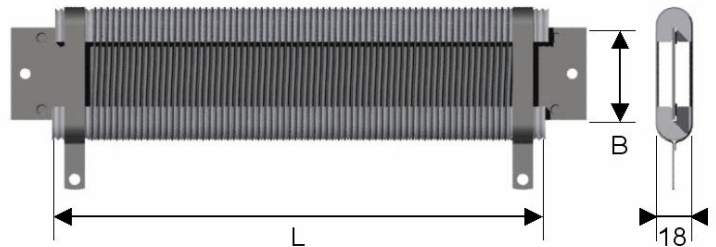
PULSE LOAD

The curves show the pulse load ability compared to the nominal load for the CCR 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.



For all other load conditions please contact DANOTHERM. By mean of individual thermal models we can simulate the rises of temperatures of the resistor wire during and between the specified pulses.

Mechanical Drawing of resistor component

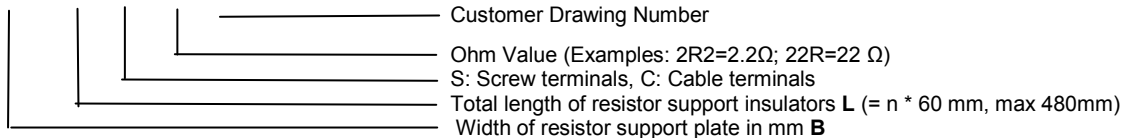


Type	B ± 2	L ± 2	Weight	Type	B ± 2	L1 ± 2	Weight
OBR 40 / 180	40	180	0.35	OBR 70 / 360	70	360	1.1
OBR 40 / 180	40	180	0.35	OBR 70 / 360	70	360	0.95
OBR 40 / 240	40	240	0.5	OBR 70 / 360	70	360	0.92
OBR 40 / 240	40	240	0.5	OBR 70 / 360	70	360	0.93
OBR 65 / 300	65	300	0.76	OBR 80 / 420	80	420	1.4
OBR 65 / 300	65	300	0.72	OBR 80 / 420	80	420	1.2
OBR 65 / 300	65	300	0.7	OBR 80 / 420	80	420	1.15
OBR 65 / 300	65	300	0.7	OBR 80 / 420	80	420	1.1

Type identification:

Please specify your CBR Brake resistor as follows

OBR 45 / 300 S 22R XXX



More configurations (IP23, IP50, Protection grid) can be supplied, please consult Danotherm Electric A/S for further details.