



Brake Resistors
for
Siemens Frequency Inverter
G110D



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Brake Resistor G110D/ 35W



Description:

Pluggable brake resistor
 Overload protection using PTC technology
 Pluggable to Siemens Frequency Inverter G110D
 contact protection included

Electrical data:

Typical continuous power rating: 35 W
 Energy absorption Q: for 1,2s (1% ED) 660 J
 Impulse power for 1ms duration: 12 kW

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C



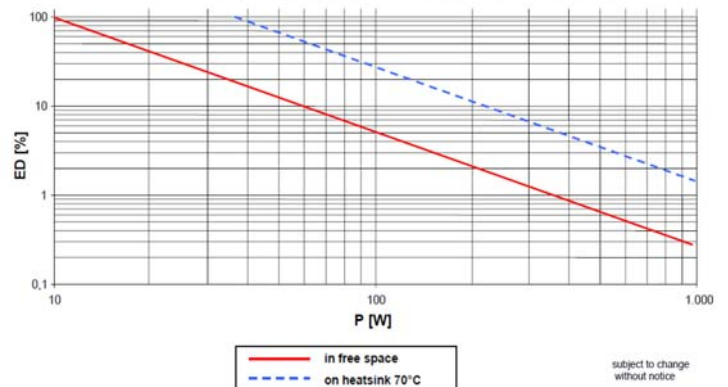
*deviations possible

Suitable for use in protected outdoor applications.

!Attention! Touchable surface can reach 200°C

Operating characteristic of the PTC- Brake Resistor 35W

(Measurement referred to a 120s cycle time)



subject to change without notice

Art.- no.	Pluggable on	Re-sistance value	P _{nom}	Useable with MLFB	FC RatedPower	Type of Resistor
10049610	G110D	350 Ohm	35W	6SL3511-0PE17-5AM0 6SL3511-1PE17-5AM0 6SL3511-0PE21-5AM0 6SL3511-1PE21-5AM0	0,75 kW 0,75 kW 1,5 kW 1,5 kW	Koch PTC 800623
10049611	G110D	175 Ohm	35W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0	3 kW 3 kW	Koch PTC 800634
10049612	G110D	175 Ohm	35W	6SL3511-0PE24-0AM0 6SI3511-1PE24-0AM0	4 kW 4 kW	Koch PTC 800634

Brake Resistor G110D/ 35W



Description:

Pluggable brake resistor
 Overload protection using PTC technology
 Pluggable to Siemens Frequency Inverter G110D
 contact protection preassembled

Electrical data:

Typical continuous power rating: 35 W
 Energy absorption Q: for 1,2s (1% ED) 660J
 Impulse power for 1ms duration: 12 kW

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C



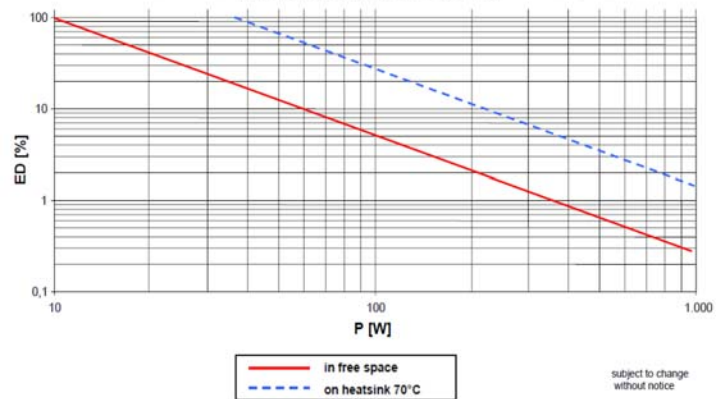
*deviations possible

Suitable for use in protected outdoor applications.

!Attention! Touchable surface can reach 200°C

Operating characteristic of the PTC- Brake Resistor 35W

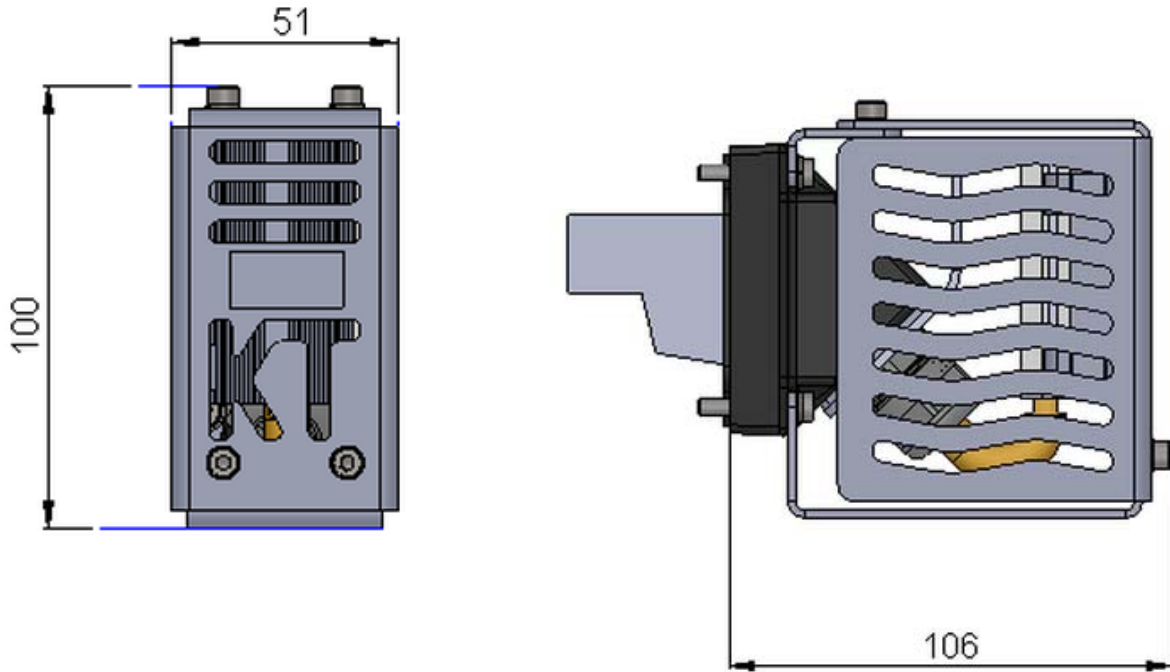
(Measurement referred to a 120s cycle time)



subject to change without notice

Art.- no.	Pluggable on	Re-istance value	P _{nom}	Useable with MLFB	FC RatedPower	Type of Resistor
10049641	G110D	350 Ohm	35 W	6SL3511-0PE17-5AM0 6SL3511-1PE17-5AM0 6SL3511-0PE21-5AM0 6SL3511-1PE21-5AM0	0,75 kW 0,75 kW 1,5 kW 1,5 kW	Koch PTC 800623
10049642	G110D	175Ohm	35 W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0	3 kW 3 kW	Koch PTC 800634
10049643	G110D	175 Ohm	35 W	6SL3511-0PE24-0AM0 6SL3511-1PE24-0AM0	4 kW 4 kW	Koch PTC 800634

Dimensions: G110D/ 35W



Brake Resistor G110D/ 140W



Description:

Pluggable brake resistor
 Overload protection using PTC technology
 Pluggable to Siemens Frequency Inverter
 G110D
 contact protection preassembled

Electrical data:

Typical continuous power rating: 140 W
 Energy absorption Q: for 1,2s (1% ED) 2160 J
 Impulse power for 1ms duration: 20 kW

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C

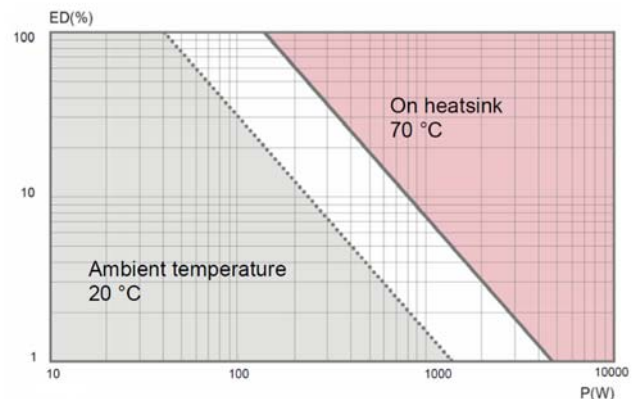
Suitable for use in protected outdoor applications.



*deviations possible

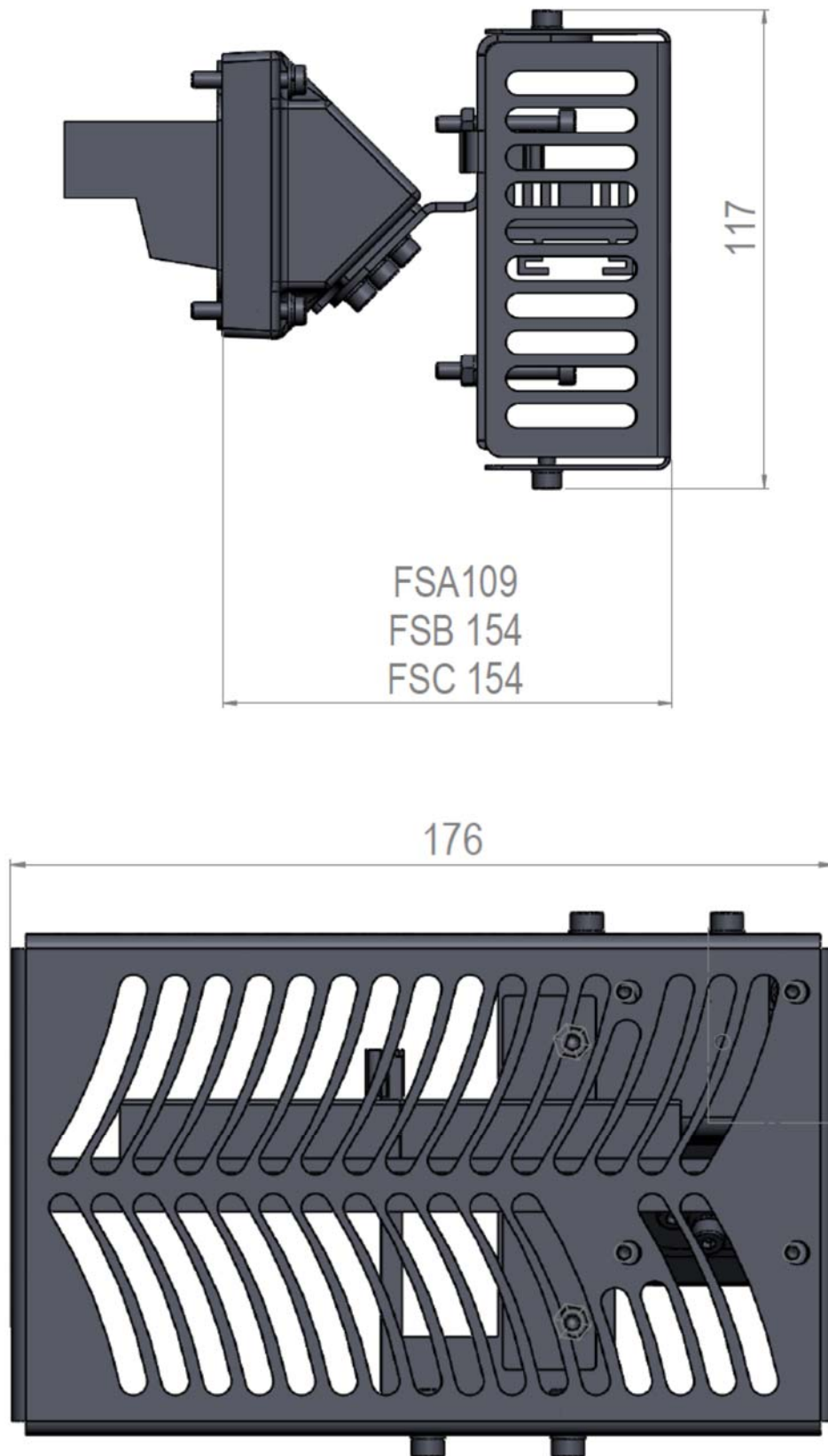
!Attention! Touchable surface can reach 200°C

Pulse carrying capacity / PTC-Brake resistor 140 W / 437,5 R
 (Cycle time 120s)



Art.- no.	Pluggable on	Resistance value	Pnom	Useable with MLFB	FC Rated Power	Type of Resistor
10049661	G110D FSA	4375 Ohm	140W	6SL3511-0PE17-5AM0	0,75 kW	Koch PTC 800683
				6SL3511-1PE17-5AM0	0,75 kW	
				6SL3511-0PE21-5AM0	1,5 kW	
				6SL3511-1PE21-5AM0	1,5 kW	
				6SL3511-0PE23-0AM0	3 kW	
				6SL3511-1PE23-0AM0	3 kW	
10049662	G110D FSB/ G110D FSC	4375 Ohm	140W	6SL3511-0PE24-0AM0	4 kW	Koch PTC 800683
				6SL3511-1PE24-0AM0	4 kW	
				6SL3511-0PE25-5AM0	5 kW	
				6SL3511-1PE25-5AM0	5 kW	
				6SL3511-0PE27-5AM0	7,5 kW	
				6SL3511-1PE27-5AM0	7,5 kW	

Dimensions: G110D/ 140W



Brake Resistor G110D/ 100W



Description:

pluggable brake resistor
 Pluggable to Siemens Frequency Inverter G110D
 Mounted with Top iron sheet
 silicon free

Electrical Data:

Power Rating: 100Watt
 (at 35% ED, Ta = 20°C, C = 250W)

Energy absorption Q:
 for 1,2s (1%ED) 4 kJ
 for 7,2s (6% ED) 8 kJ

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C
 With protection tube PA black

Suitable for use in protected outdoor applications.

!Attention! touchable surface can reach 200°C

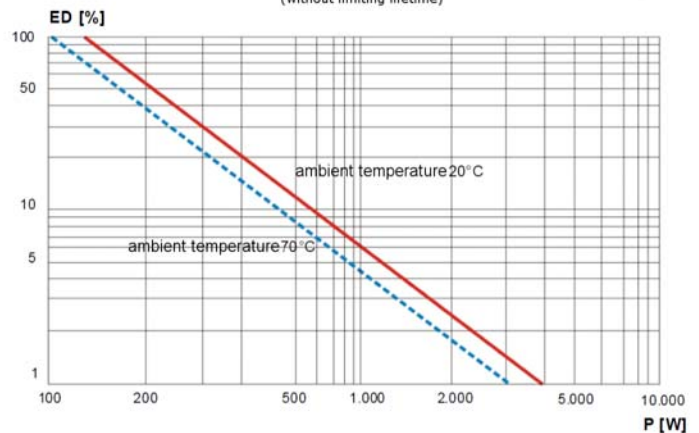


*deviations possible



pulse carrying brake resistor wire BWx250xxx

(without limiting lifetime)



subject to change without notice

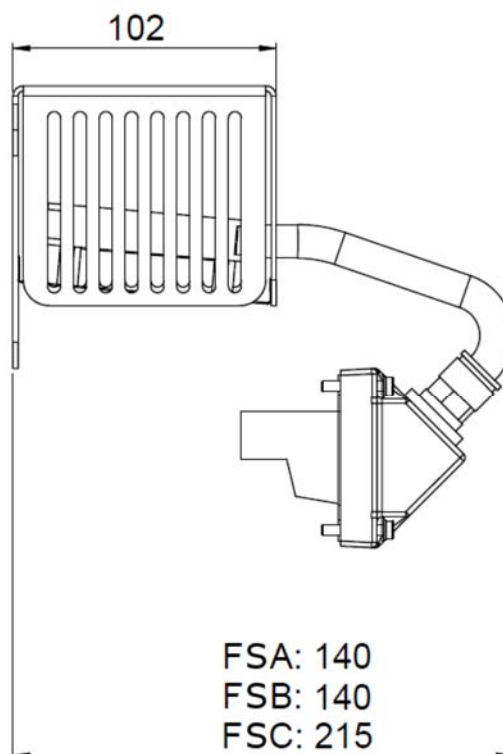
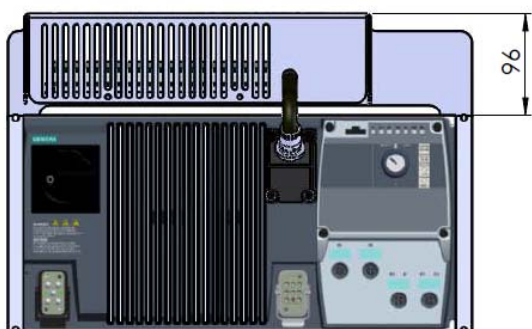
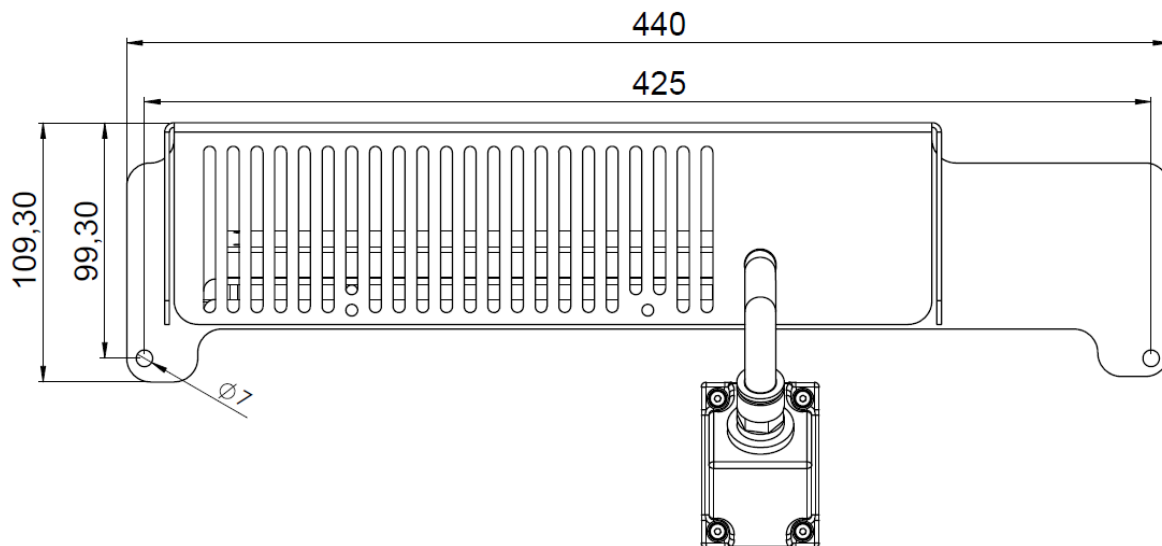
Art.- no.	Pluggable on	Re- sistance value	P _{nom}	P _{max} (35% ED, 20°C)	Useable with MLFB	FC RatedPower	Type of Resistor
10058131	G110D FSA	200 Ohm	100W	250W	6SL3511-0PE17-5AM0 6SL3511-1PE17-5AM0 6SL3511-0PE21-5AM0 6SL3511-1PE21-5AM0	0,75 kW 0,75 kW 1,5 kW 1,5 kW	Koch BWD 250200
10058141	G110D FSA/ G110D FSB	100 Ohm	100W	250W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0 6SL3511-0PE24-0AM0 6SL3511-1PE24-0AM0	3 kW 3 kW 4 kW 4 kW	Koch BWD 250100
10058151	G110D FSC	47 Ohm	100W	250W	6SL3511-0PE25-0AM0 6SL3511-1PE25-0AM0 6SL3511-0PE27-0AM0 6SL3511-1PE27-0AM0	5,5 kW 5,5 kW 7,5 kW 7,5 kW	Koch BWD 250047

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 Web: www.knorrtec.de

Dimensions: G110D/ 100W



Brake Resistor G110D/ 200W



Description:

Pluggable brake resistor
 Pluggable to Siemens Frequency Inverter
 G110D
 Mounted with Top iron sheet
 Silicon free

Electrical Data:

Power Rating: 200Watt
 (at 35% ED, Ta = 20°C, C = 500W)

Energy absorption Q:
 for 1,2s (1%ED) 7,5 kJ
 for 7,2s (6% ED) 15 kJ

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C
 With protection tube PA black

Suitable for use in protected outdoor applications.

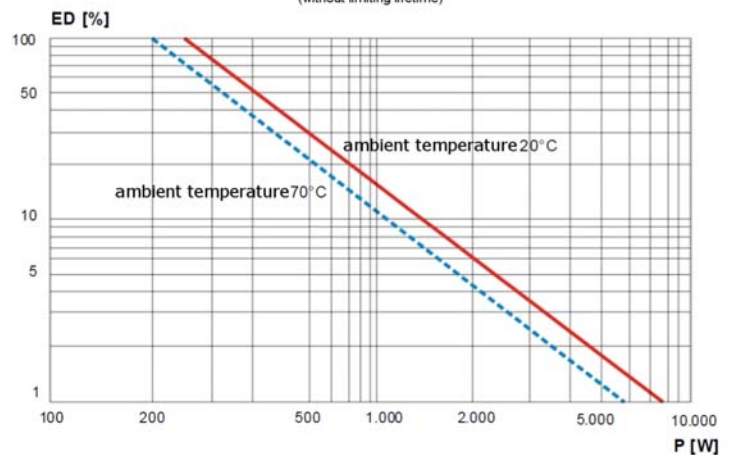
!Attention! touchable surface can reach 200°C



*deviations possible



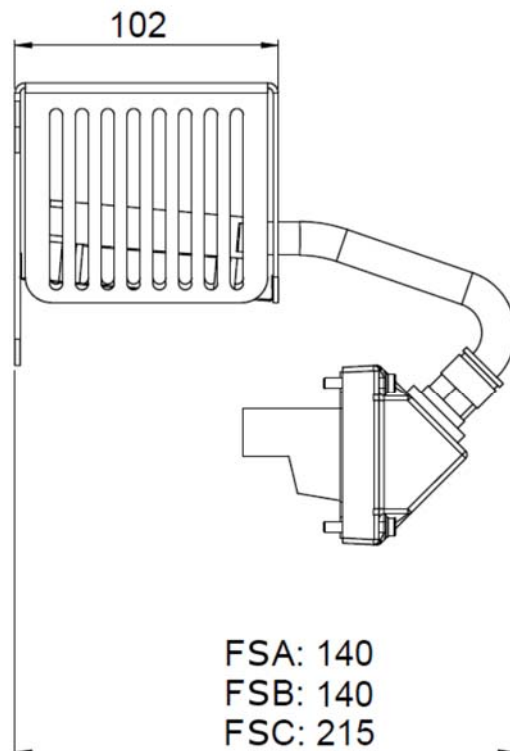
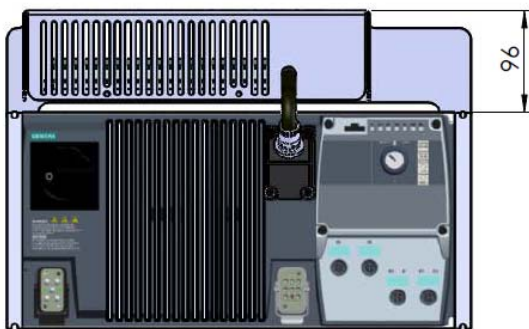
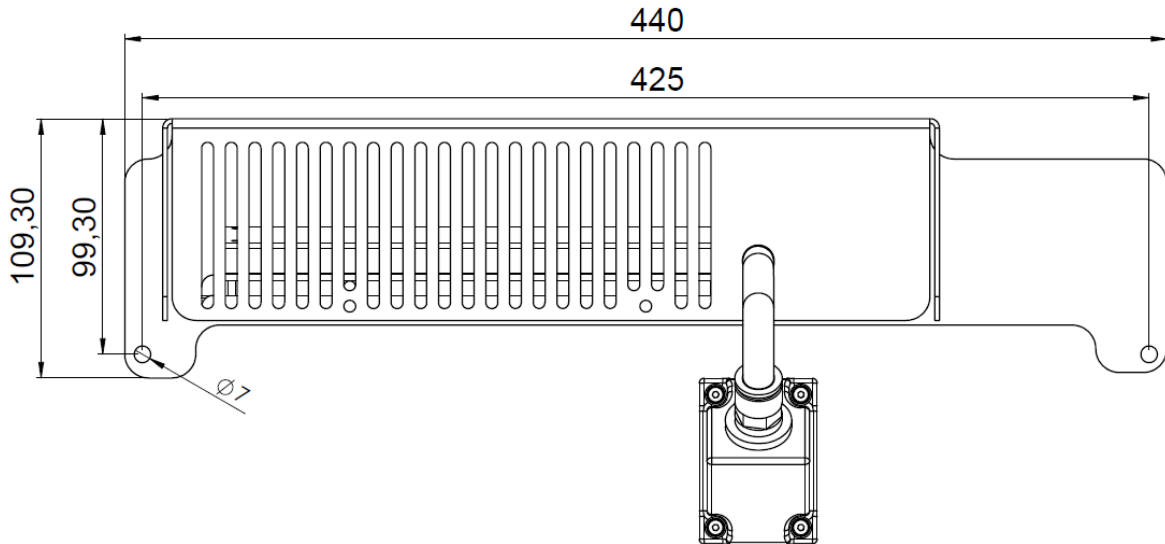
pulse carrying brake resistor wire BWx500xxx
 (without limiting lifetime)



subject to change without notice

Art.- no.	Pluggable on	Resistance value	Pnom	Pmax (35% ED, 20°C)	Useable with MLFB	FC Rated-Power	Type of Resistor
10058101	G110D FSA	200 Ohm	200W	500W	6SL3511-0PE17-5AM0 6SL3511-1PE17-5AM0 6SL3511-0PE21-5AM0 6SL3511-1PE21-5AM0	0,75 kW 0,75 kW 1,5 kW 1,5 kW	Koch BWD 500200
10058111	G110D FSA/ G110D FSB	100 Ohm	200W	500W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0 6SL3511-0PE24-0AM0 6SL3511-1PE24-0AM0	3 kW 3 kW 4 kW 4 kW	Koch BWD 500100
10058121	G110D FSC	47 Ohm	200W	500W	6SL3511-0PE25-5AM0 6SL3511-1PE25-5AM0 6SL3511-0PE27-5AM0 6SL3511-1PE27-5AM0	5,5 kW 5,5 kW 7,5 kW 7,5 kW	Koch BWD 500047

Dimensions: G110D/ 200W



Brake Resistor G110D/ 400W



Description:

Pluggable brake resistor
 Pluggable to Siemens Frequency Inverter
 G110D
 Mounted with Top iron sheet
 Silicon free

Electrical Data:

Power Rating: 400Watt
 (at 35% ED, Ta = 20°C, C = 1000W)

Energy absorption Q:
 for 1,2s (1%ED) 13 kJ
 for 7,2s (6% ED) 26 kJ

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C
 With protection tube PA black

Suitable for use in protected outdoor applications.

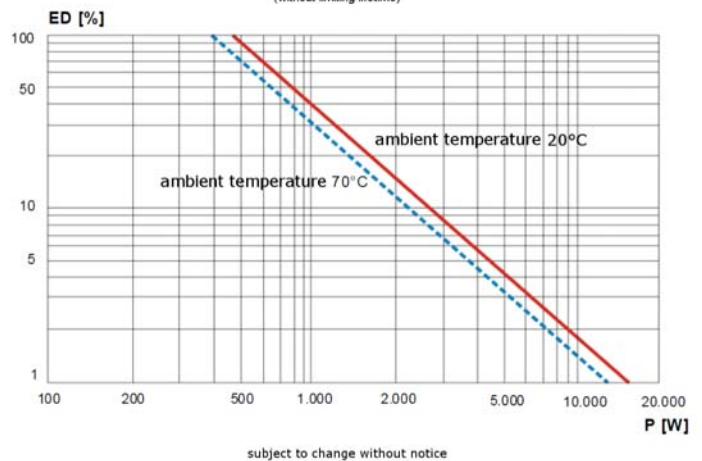
!Attention! touchable surface can reach 200°C



*deviations possible

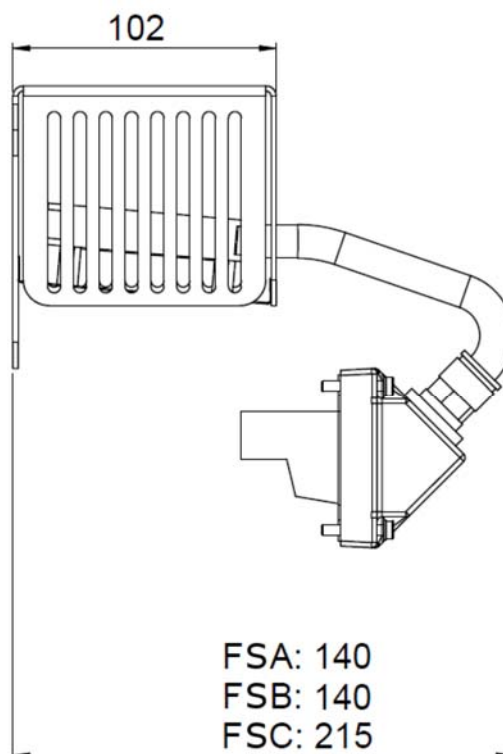
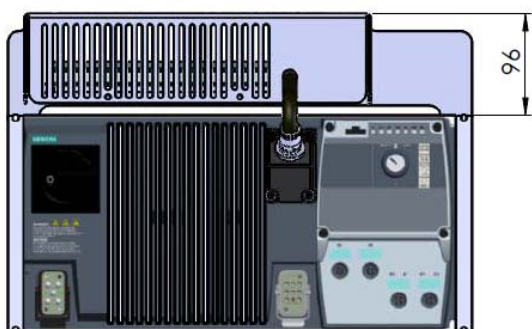
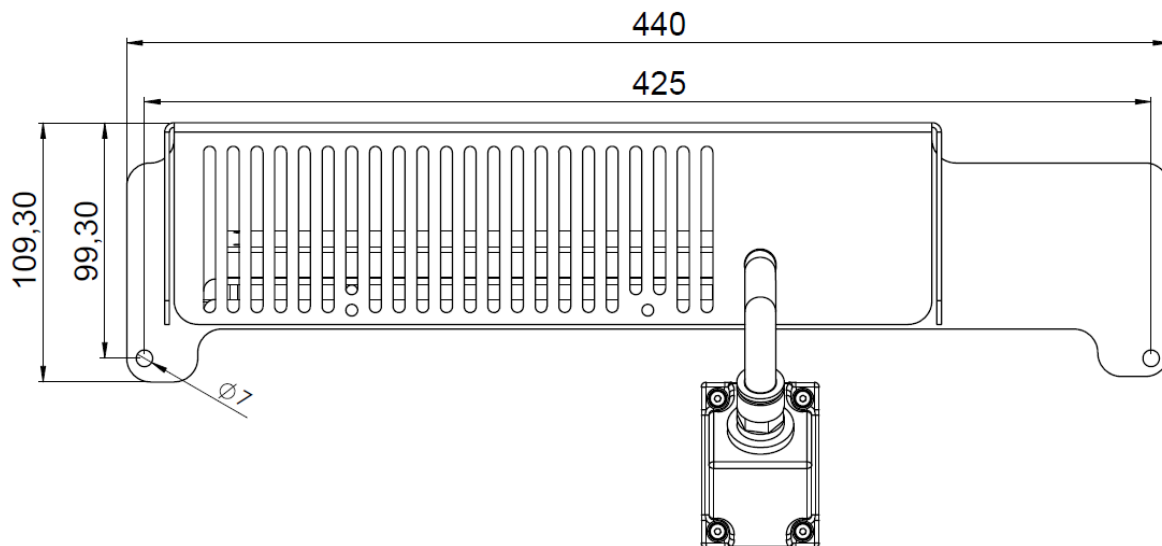


pulse carrying brake resistor wire BWx1000xxx
 (without limiting lifetime)



Art.- no.	Pluggable on	Re- sistance value	Pnom	Pmax (35% ED, 20°C)	Useable with MLFB	FC RatedPower	Type of Resistor
10058181	G110D FSA/ G110D FSB	100 Ohm	400W	1000W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0 6SL3511-0PE24-0AM0 6SL3511-1PE24-0AM0	3 kW 3 kW 4 kW 4 kW	Koch BWD 1000100
10058161	G110D FSC	47 Ohm	400W	1000W	6SL3511-0PE25-5AM0 6SL3511-1PE25-5AM0 6SL3511-0PE27-5AM0 6SL3511-1PE27-5AM0	5,5 kW 5,5 kW 7,5 kW 7,5 kW	Koch BWD 1000047

Dimensions: G110D/ 400W



Brake Resistor G110D/ 800W



Description:

Pluggable brake resistor
 Pluggable to Siemens Frequency Inverter
 G110D
 Wall mounted
 Silicon free

Electrical Data:

Power Rating: 800Watt
 (at 35% ED, $T_a = 20^\circ\text{C}$, $C = 2000\text{W}$)
 Energy absorption Q: for 1,2s (1%ED) 26 kJ
 for 7,2s (6% ED) 52 kJ

Technical Data:

Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to $+40^\circ\text{C}$
 Storage temperature: -25°C to $+70^\circ\text{C}$
 With protection tube PA black

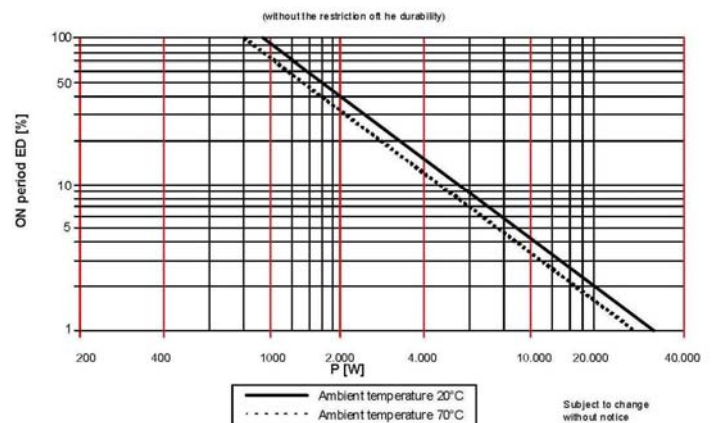


*deviations possible

Suitable for use in protected outdoor applications.

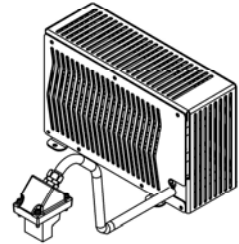
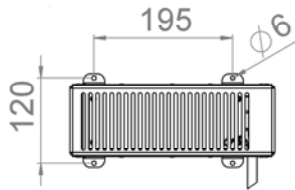
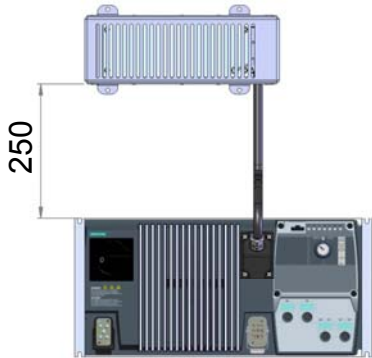
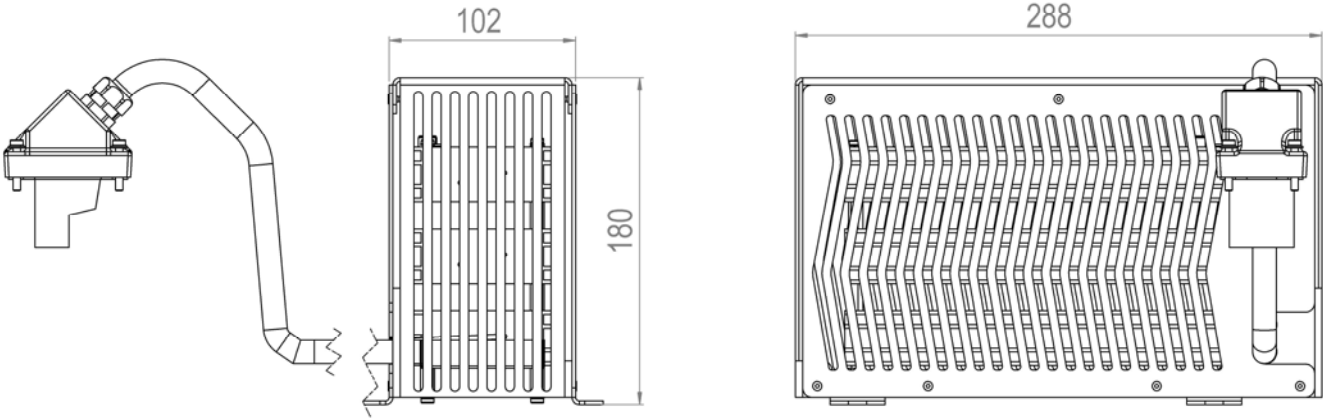
!Attention! touchable surface can reach 200°C

Pulse carrying capacity, brake resistor



Art.- no.	Pluggable on	Re-sistance value	P_{nom}	P_{max} (35% ED, 20°C)	Useable with MLFB	FC RatedPower	Type of Resistor
10062151	G110D FSC	47 Ohm	800W	2000W	6SL3511-0PE25-5AM0 6SL3511-1PE25-5AM0 6SL3511-0PE27-5AM0 6SL3511-1PE27-5AM0	5,5 kW 5,5 kW 7,5 kW 7,5 kW	2x Koch BWD 1000xxx

Dimensions: G110D/ 800W



Brake Resistor G110D/ 1200W



Description:

Pluggable brake resistor
 Pluggable to Siemens Frequency Inverter
 G110D
 Console assembly
 Silicon free

Electrical Data:

Power Rating: 1200Watt
 (at 35% ED, Ta = 20°C, C = 3000W)

Energy absorption Q:
 for 1,2s (1%ED) 39 kJ
 for 7,2s (6% ED) 78 kJ

Technical Data:

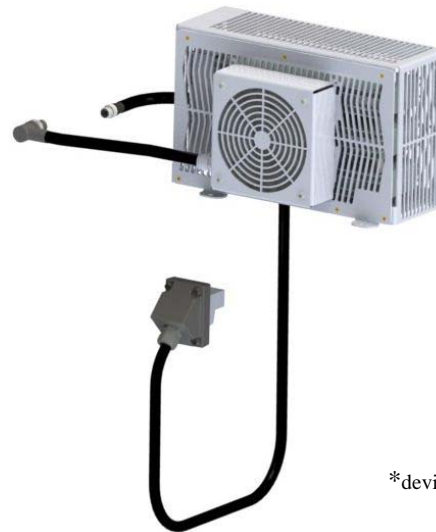
Protection IP 65 ref. DIN EN 60529
 (when fitted and screwed in)
 Operating temperature: -25°C to +40°C
 Storage temperature: -25°C to +70°C
 With protection tube PA black
 Thermo switch for overload protection

Suitable for use in protected outdoor applications.

!Attention! touchable surface can reach 200°C

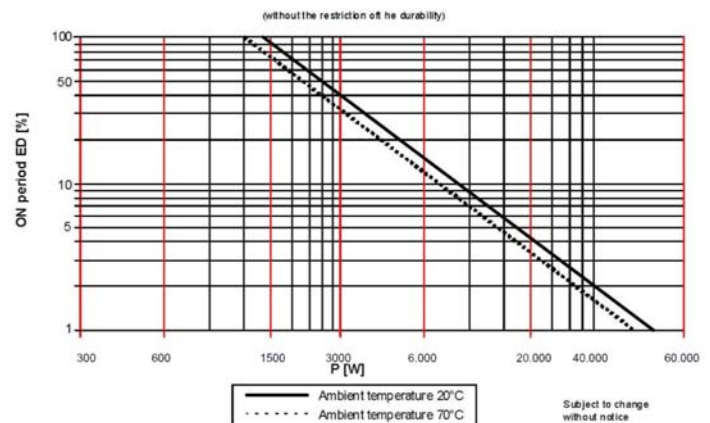
Accessories for emergency stop:

For evaluation the temperature switch is the
 Circuit Breaker Contactor necessary.
 (See page 17)



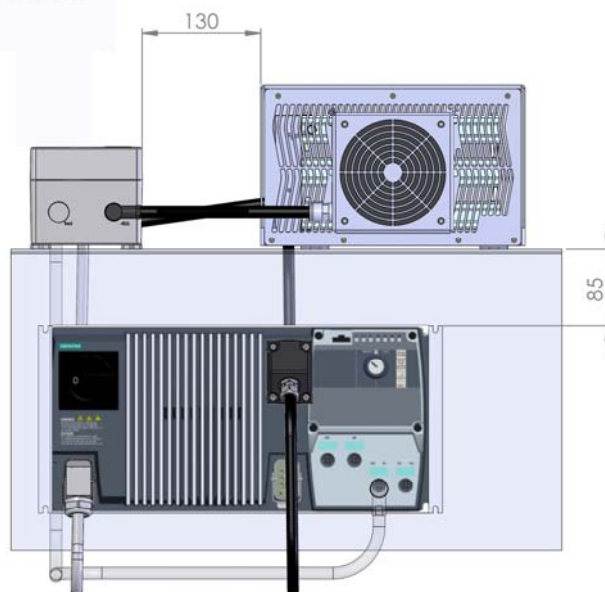
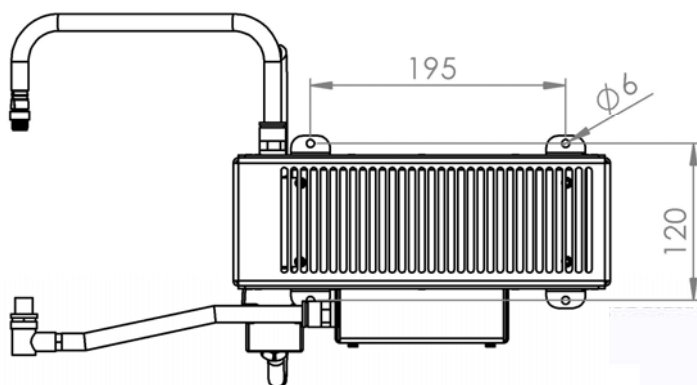
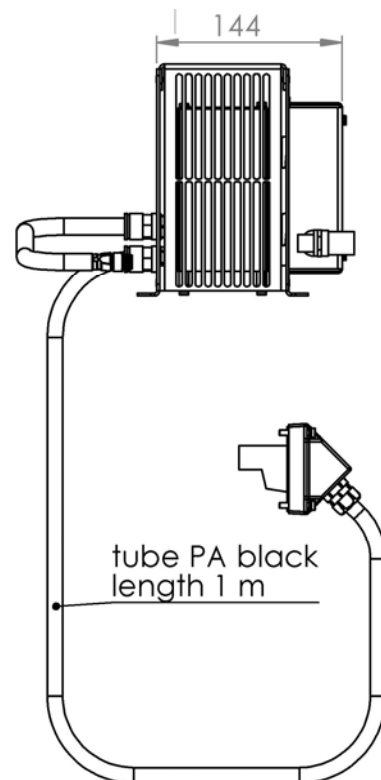
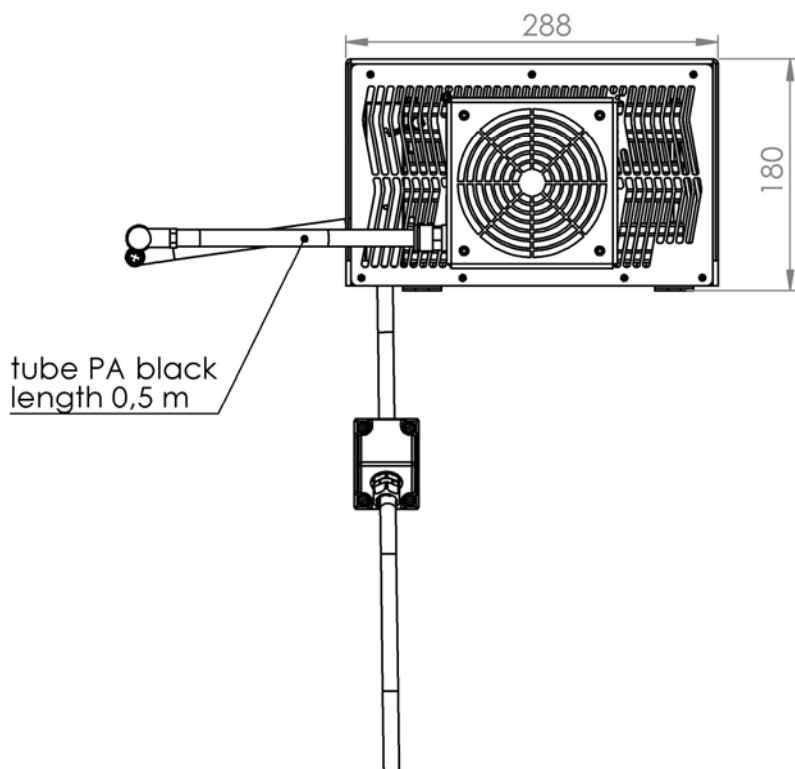
*deviations possible

Pulse carrying capacity, brake resistor



Art.- no.	Pluggable on	Resistance value	P _{nom}	P _{max} (35% ED, 20°C)	Useable with MLFB	FC Rated Power	Type of Resistor
10063163	G110D FSA B	80 Ohm	1200W	3000W	6SL3511-0PE23-0AM0 6SL3511-1PE23-0AM0 6SL3511-0PE24-0AM0 6SL3511-1PE24-0AM0	3 kW 3 kW 4 kW 4 kW	3x Koch BWD 1000xxx

Dimensions: G110D/ 1200W



Circuit Breaker Contactor 400V



Art.- no. 10061900

Description:

Circuit Breaker Contactor for 400VAC devices

Electrical data:

Operating voltage: 400 V3AC
 Power rating: 15 kW
 Tripping: 24V input
 Digital output (Switching status): 24VDC

Interface:

400V in: Stiff ISO23580 4+2+PE
 Mounted housing, plastic
 400V out: Buchse ISO23580 4+2+PE
 in Grommet housing, metal
 Cable non-halogen at plastic hose,
 length 1 m.

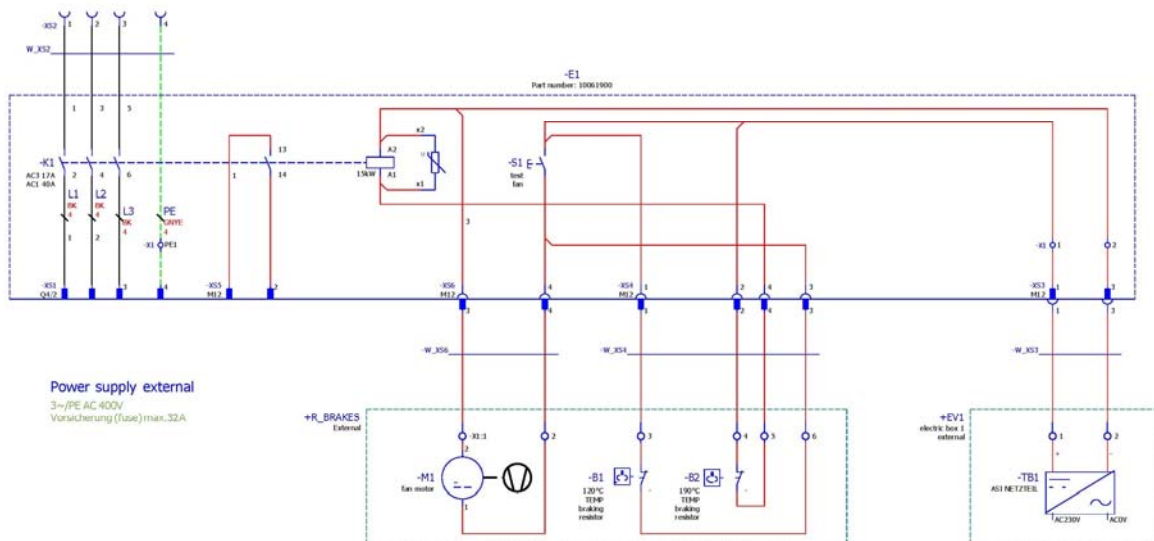
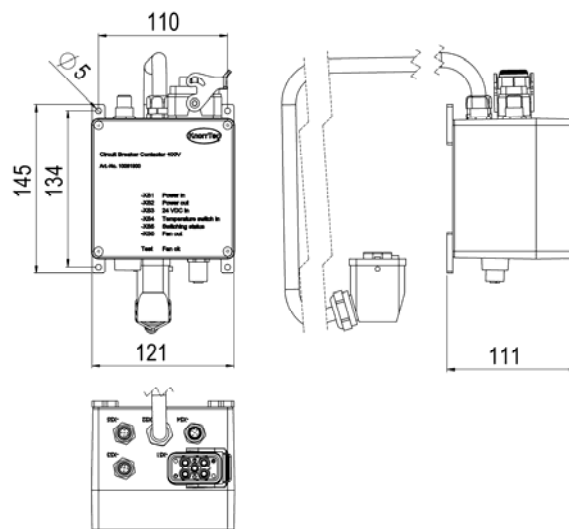
Output: M12 A male 5 pin
 Input Temp.switch: M12 A female 5 pin
 24VDC in: M12 A male 5 pol
 Fan out: M12 A female 5 pol
 Test switch: switch on fan

Plastic housing PC
 Dimensions 120x120x105 mm
 Protection class IP 65

Operating temperature:
 -25°C to +40°C
 Storage temperature:
 -25°C to +70°C

Suitable for use in protected outdoor applications.

Connecting cable M12, length: 1 m (cable with plastic hose) is included.



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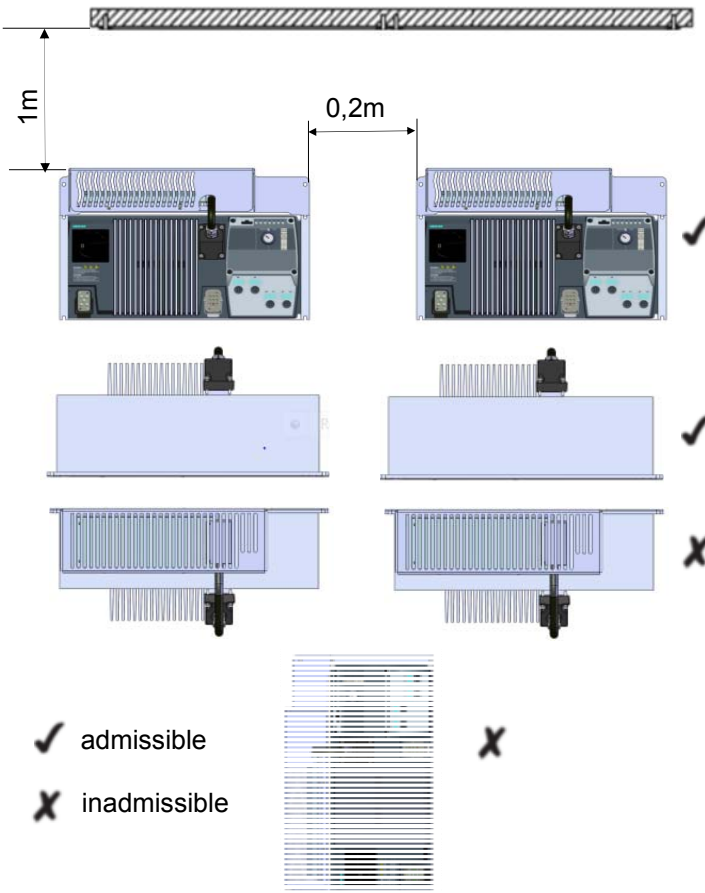
Email: info@knorrtec.de
 Web: www.knorrtec.de

**Instruction for mounting on top:
Brake resistors
for Siemens SINAMICS G110D**



Mounting Alignment:

The correct mounting alignment of the inverter and the brake resistor is shown in the figure below.



Assembly and Installation:

The brake resistors are used as load resistors on a frequency converter.

Read the documentation for the frequency converter and note the connection and safety instructions there before you start work.

Installation must only be performed by authorised specialist personnel.

During assembly and disassembly connections must be de-energized .

> ATTENTION :

In operation, there is a risk of burn!
In the case of error, the cause of the error must be rectified before the replacement of the brake resistor.

Installation

The brake resistor is mounted together with the two upper fastening screws of the frequency inverter. The braking resistor must be secured to a heat resistant surface.

Since the brake resistor can get extremely hot during operation, it **MUST NOT** be mounted near any material or equipment that can be adversely affected by extreme heat.

It is highly recommend that the clearance distance above the braking resistor housing is at least 1 metre; since, in case of extreme heat, there is enough distance to allow the heat of the braking resistor to dissipate more efficiently.

Connecting up

Remove the cover plate at the frequency converter from the brake resistor port. Plug in the connector of the brake resistor. Tighten up the 4 locking screws. Only in this way a safe operation and the degree of protection IP65 is ensured.



ATTENTION
- HOT SURFACE-
RISK OF BURN

Touchable surface can reach 200 °C.
Risk of burn on contact with body parts. Take appropriate protective measures in order to meet the basic safety and health protection requirements.

WARNING



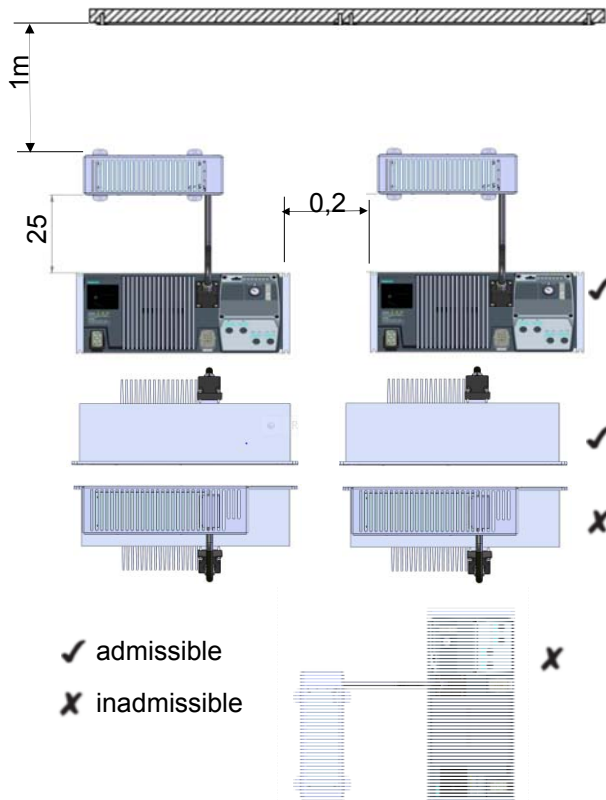
- ▶ Safe operation and performance to specification can only be guaranteed if this equipment is installed by suitably qualified personnel.
- ▶ Make sure that the resistor to be fitted to the SINAMICS G110D is adequately rated to handle the required level of power dissipation.
- ▶ Using an incorrect braking resistor can cause severe damage to the associated inverter and may result in a fire.
- ▶ All applicable installation, usage and safety regulations regarding high voltage installations must be complied with.
- ▶ If the inverter is already in use, disconnect the prime power and wait at least five minutes for the capacitors to discharge before commencing installation.
- ▶ The Inverter must be earthed.
- ▶ Braking resistors get hot during operation - do not touch. Provide adequate clearance and ventilation.



To enable the Braking Resistor function, set P1237 = 1.

Mounting Alignment:

The correct mounting alignment of the inverter and the brake resistor is shown in the figure below.



ATTENTION - HOT SURFACE- RISK OF BURN

Touchable surface can reach 200 °C. Risk of burn on contact with body parts. Take appropriate protective measures in order to meet the basic safety and health protection requirements.



WARNING



- ▶ Safe operation and performance to specification can only be guaranteed if this equipment is installed by suitably qualified personnel.
- ▶ Make sure that the resistor to be fitted to the SINAMICS G110D is adequately rated to handle the required level of power dissipation.
- ▶ Using an incorrect braking resistor can cause severe damage to the associated inverter and may result in a fire.
- ▶ All applicable installation, usage and safety regulations regarding high voltage installations must be complied with.
- ▶ If the inverter is already in use, disconnect the prime power and wait at least five minutes for the capacitors to discharge before commencing installation.
- ▶ The Inverter must be earthed.
- ▶ Braking resistors get hot during operation - do not touch. Provide adequate clearance and ventilation.



Assembly and Installation:

The brake resistors are used as load resistors on a frequency converter.

Read the documentation for the frequency converter and note the connection and safety instructions there before you start work.

Installation must only be performed by authorised specialist personnel.

During assembly and disassembly connections must be de-energized .

> ATTENTION :

In operation, there is a risk of burn!

In the case of error, the cause of the error must be

Installation

The brake resistor is mounted together with the two upper fastening screws of the frequency inverter. The braking resistor must be secured to a heat resistant surface.

Since the brake resistor can get extremely hot during operation, it **MUST NOT** be mounted near any material or equipment that can be adversely affected by extreme heat.

It is highly recommend that the clearance distance above the braking resistor housing is at least 1 metre; since, in case of extreme heat, there is enough distance to allow the heat of the braking resistor to dissipate more efficiently.

Connecting up

Remove the cover plate at the frequency converter from the brake resistor port. Plug in the connector of the brake resistor. Tighten up the 4 locking screws. Only in this way a safe operation and the degree of protection IP65 is ensured.

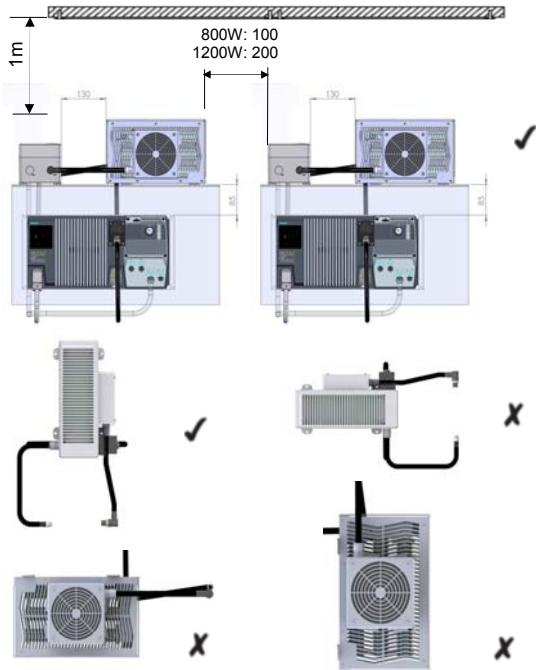
To enable the Braking Resistor function, set P1237 = 1.

**Instruction for mounting on top:
Brake resistors
for Siemens SINAMICS G110D**



Mounting Alignment:

The correct mounting alignment of the inverter and the brake resistor is shown in the figure below.



✓ admissible

✗ inadmissible



ATTENTION
- HOT SURFACE-
RISK OF BURN

Touchable surface can reach 200 °C.
Risk of burn on contact with body parts. Take appropriate protective measures in order to meet the basic safety and health protection requirements.

WARNING



- ▶ Safe operation and performance to specification can only be guaranteed if this equipment is installed by suitably qualified personnel.
- ▶ Make sure that the resistor to be fitted to the SINAMICS G110D is adequately rated to handle the required level of power dissipation.
- ▶ Using an incorrect braking resistor can cause severe damage to the associated inverter and may result in a fire.
- ▶ All applicable installation, usage and safety regulations regarding high voltage installations must be complied with.
- ▶ If the inverter is already in use, disconnect the prime power and wait at least five minutes for the capacitors to discharge before commencing installation.
- ▶ The Inverter must be earthed.
- ▶ Braking resistors get hot during operation - do not touch. Provide adequate clearance and ventilation.

To enable the Braking Resistor function, set P1237 = 1.

Assembly and Installation:

The brake resistors are used as load resistors on a frequency converter.

Read the documentation for the frequency converter and note the connection and safety instructions there before you start work.

Installation must only be performed by authorised specialist personnel.

During assembly and disassembly connections must be de-energized .

> ATTENTION :

In operation, there is a risk of burn!

In the case of error, the cause of the error must be rectified before the replacement of the brake resistor.

Installation

The brake resistor is mounted together with the two upper fastening screws of the frequency inverter. The braking resistor must be secured to a heat resistant surface.

Since the brake resistor can get extremely hot during operation, it **MUST NOT** be mounted near any material or equipment that can be adversely affected by extreme heat.

It is highly recommend that the clearance distance above the braking resistor housing is at least 1 metre; since, in case of extreme heat, there is enough distance to allow the heat of the braking resistor to dissipate more efficiently.

Connecting up

Remove the cover plate at the frequency converter from the brake resistor port. Plug in the connector of the brake resistor. Tighten up the 4 locking screws. Only in this way a safe operation and the degree of protection IP65 is ensured.

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