



Type series FGF.. 61..

1,0 – 22 kW with 2 terminals



Wirewound lamina type fixed resistor, degree of protection IP 20^①, in zinc plated steel sheet enclosure, with max. 2 terminals in different form for the resistor and optional 2 terminals for temperature switch, either in the housing or in an attached terminal box, with optionally integrated thermal overload relay or DC-Powerswitch. In low induction and low noise version by support straps of aluminium. Chart with type selection on the next page.

^① mounted on an appropriate surface

Technologies

- low induction and low noise
- big weight of wire, therefore, high energy absorption capacity
- extremely compact construction form
- continuous dissipation up to 22 kW
- for mounting on the switch cabinet
- for wall mounting, perforated steel sheet at top and bottom, terminals at bottom
- type and size of terminals are selectable according to the mounting place and connections technics in the matrix
- optional with temperature switch (type FGF.Q*)
- optional with thermal overload-relay (type FGFT)
- optional in intrinsically safe version with FRIZLEN DC-POWERSWITCH^② (type FGFX)

Application

This unit are fitting especially for mounting on, beside or in a switch cabinet by their relatively flat and compact construction in 5 widths with various connections and monitoring possibilities (Please mind the description of the types).

An important application is the use as braking resistor for motor/generator drive of motors with frequency converter with low noise for elevators and lifts in apartment houses and hospitals or hoists in theatre and opera house.

You will find further indications for dimensioning of a resistor for short time dissipation in chapter Technical Details pages T513E up to T517E.

Remark

When resistor is integrated into a switch cabinet we recommend to provide a corresponding forced ventilation by the user for better removal of larger dissipations.

Description of the different types

Type FGFQ:

Version with 2 flat type terminals up to max. 35 A rated current in the attached terminal box with cable gland. An additional temperature switch is not possible.

Type FGFK(Q*):

Version like FGFQ, with a bigger attached terminal box with cable glands, the space is sufficient for 2 terminals up to M8 (max. 115 A rated current), and for 2 additional porcelain terminals for an optional temperature switch (FGFKQ).

Type FGFL(Q*):

Version, where all terminals are mounted on the terminal strip inside the housing. Terminals up to M8 (max. 115 A rated current) are accessible after disassembling a part of the cover. If equipped with temperature switch, there are 2 additional porcelain terminals on the terminal strip (Type FGFLQ).No cable glands.

Type FGFT:

Version with integrated thermal overload relay in the attached terminal box with cable glands up to max. 80 A rated current. With integrated short-circuit and overload signalling. Connection directly at the overload relay.

Type FGFX:

Intrinsically safe version with integrated FRIZLEN DC-POWERSWITCH in the attached terminal box with cable glands, up to max. 40 A rated current. With integrated short-circuit and overload protection inclusive switching off the resistor and signalling. Connection directly at the FRIZLEN DC-POWERSWITCH^②.

^②DGBM Nr. 20 2009 015 851.9

Attention: Only for DC voltage up to 850 VDC.

Rated current and cross section of terminals and devices

See technical details on page T517E.

* Remark to the types FGFQK and FGFLQ with temperature switch: The maximum number of lamina type resistors has to be reduced by 2 for all 5 widths of housing.

Monitoring options of the type series FGF.. 61..

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1. Signalling–no disconnection!

This warning has to be considered by the customer, e.g. by a warning or disconnection of the mains through the customer. Details, on page T514E.

1a) with temperature switch (FGF.Q)

Different types can be equipped for temperature monitoring with a temperature switch which monitors an overloading of the resistor by a normally closed contact free of potential (NCC).

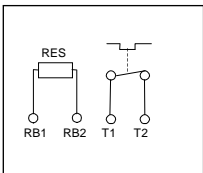
Connections pls. look at picture 1a)

1b) with thermal overload relay (FGFT)

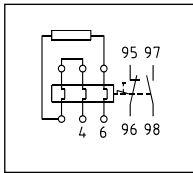
An eventual overload of the resistor is monitored by the thermal overload relay which is mounted in the attached terminal box. This is accomplished by NCC and NOC contacts. Also for signalling high short time peak power.

Connections pls. look at picture 1b)

Pic. 1a)



P 1b)



2. Disconnecting and signalling!

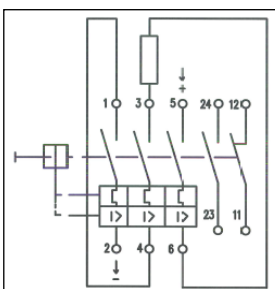
with FRIZLEN DC-POWERSWITCH (FGFX) up to 850 VDC up to 40 A

This type series with integrated overload switch in the attached terminal box is able to protect the integrated resistor from constant overload and from too high short time peak power, e.g. caused by a false operational mode or a fault by an short circuited chopper transistor.

This option for protection not only signals the hardware default, it switches off the object / the resistor absolutely reliable! Possible damage in the environment by overheating and burning are effectively avoided.

After a successful fault clearance the DC-Powerswitch can be switched on like a normal automatic cutout.

Connections pls. look at picture



Decision matrix

type \ properties	FGFG	FGFK	FGF KQ	FGFL	FGF LQ	FGFT	FGFX
with temperature - switch (TS)			X		X		
thermal overload relay (up to max. 80 A rated current)						X	
with FRIZLEN DC - POWERSWITCH up to 40 A							X
terminals in attached terminal box (with cable gland)	X	X	X			X	X
terminals inside the unit (without cable-gland)				X	X		
flat terminals up to max. 35 A	X	X	X	X	X		
device terminals up to max. 60 A		X	X				
bolt terminals M6 up to max. 60 A		X	X	X	X		
bolt terminals M8 up to max. 115 A		X	X	X	X		
PA cage clamp terminals up to max. 30 A		X	X				

Electrical and mechanical data

Types FGFG, FGFK, FGFKQ, FGFL, FGFLQ, FGFT, FGFX	power in kW at 40°C and 100% DCF	Production Range Ω-value		max. number of laminas LBS6 type	dimension in mm				max. weight in kg
		from	up to		A	B	C2 ②	C3 ③	
FGF.. 61008..	4,0	0,3	160	8	270	295	330	355	7,5
FGF.. 61010..	5,0	0,3	128	10	270	295	330	355	8,5
FGF.. 61112..	6,0	0,4	107	12	270	295	330	355	9,5
FGF.. 61114..	7,0	0,5	92	14	370	395	430	455	12
FGF.. 61216..	8,0	0,6	80	16	370	395	430	455	13
FGF.. 61218..	9,0	0,6	72	18	570	595	630	655	18
FGF.. 61221..	10,5	0,8	61	21	570	595	630	655	20
FGF.. 61224..	12,0	0,9	54	24	570	595	630	655	22
FGF.. 61327..	13,5	1,0	48	27	770	795	830	855	29
FGF.. 61330..	15,0	1,1	43	30	770	795	830	855	31
FGF.. 61334..	17,0	1,2	38	34	770	795	830	855	33
FGF.. 61438..	19,0	1,4	34	38	970	995	1030	1055	40
FGF.. 61442..	21,0	1,5	31	42	970	995	1030	1055	42
FGF.. 61444..	22,0	1,6	29	44	970	995	1030	1055	44

This table represents only a selection of our program. All number of laminas between 2 pcs. (1,0 kW) and 44 pcs. (22 kW) corresponding to our types are available.

Type code and selection of units see on this pages T527E and T528E.

e.g.: 2 device terminals + temperature switch (2 terminals) => FGFKQ 61...04

② dim. C2 is only valid for type FGFG (dimension sheet 15M0057)

③ dim. C3 is only valid for types FGFK, FGFX and FGFT (dim.sheet 15M0768)

for type FGFL dim. „B“ is valid, as design without term.box (dim.sheet 15M0767)

