

Applications	Control of lighting, heating, hot water systems, ventilation systems and small motors	
Functions	GC contactors for standard applications	GY "Dual tariff" contactors
Rating	16...63 A	16...63 A
Number of 17.5 mm modules (variable, depending on size and number of poles)	1...3	1...4
Device type	GC	GY
Pages	20005/2	20015/2



Control of lighting heating, hot water systems, ventilation systems and small motors



Impulse relays

16 A

1

GF 16

20081/2

Direct control of motors



Rotary switch disconnectors

25...80 A

2.5

VVD, VVE

Please consult your Regional Sales Office

Fuse protection



Single, 2, 3 or 4-pole fuse carriers, with or without neutral

Up to 125 A

1...8

DF8, DF10, DF14, DF22

0210Q/2

Motor control and protection



Thermal-magnetic motor circuit-breakers

0.1...32 A

2.5

GV2 M

24508/3

Applications

Protection of control circuits or transformers



Breaking under load

–

Fuse type

NF C or DIN

Cartridge fuses

1...125 A

Device type

Fuse carriers

References

DF

Pages

23042/3

Protection of motors

Protection of motors or variable speed drives



Yes, only if combined with a contactor

Yes

NF C or DIN

NF C, DIN, BS or UL

1...125 A

1...1250 A

Fuse carriers

Switch-disconnector-fuses

LS1 and GK1

GS

23027/2

0229Q/2

Fuse carrier type		DF8	DF10	DF14	DF22
Environment characteristics					
Conforming to standards		IEC 60947-3, UL 512, CSA 22-2 n° 39			
Protective treatment		"TH"			
Degree of protection	Conforming to IEC 60529	IP 20			
Ambient air temperature	Storage	°C	- 40...+ 80		
	For operation, with derating (1)	°C	- 20...+ 60		
Operating positions	Without derating	± 23° in relation to normal mounting plane			
Flame resistance	Conforming to IEC 60695-2-1	°C	960		

Pole characteristics										
Fuse size	mm	8.5 x 31.5	10 x 38		14 x 51		22 x 58			
Rated insulation voltage (Ui) with tubular links, a.c. supply	V	500	690		690		690			
Rated impulse withstand voltage (Uimp)	kV	6	6		8		8			
Conventional thermal current (Ith) for ambient air temperature ≤ 40 °C (1) With tubular links	A	25	32		50		125			
	A	25	32		50		125			
	A	25	32		50		100			
Rated conditional short-circuit current Conforming to IEC 60947-3	kA	20	120		120		120			
	kA	–	120		120		120			
	kA	–	–		80		80			
Peak withstand current (dynamic stress) Conforming to IEC 60269-1 With tubular links	kA	11	15		15		19			
Cabling (number of conductors x c.s.a.) Solid cable	mm ²	Min.	1 x 1.5	Max. 1 x 16 2 x 6	Min. 1 x 1.5	Max. 1 x 16 2 x 6	Min. 1 x 2.5	Max. 1 x 25 2 x 10	Min. 1 x 2.5	Max. 1 x 35 2 x 25
		Flexible cable without cable end	1 x 1.5	1 x 10 2 x 6	1 x 1.5	1 x 10 2 x 6	1 x 2.5	1 x 25 2 x 10	1 x 2.5	1 x 35 2 x 16
		Flexible cable with cable end	1 x 1.5	1 x 10 2 x 6	1 x 1.5	1 x 10 2 x 6	1 x 2.5	1 x 25 2 x 10	1 x 2.5	1 x 35 2 x 16
Tightening torque	Nm	2.2			3.5		4			

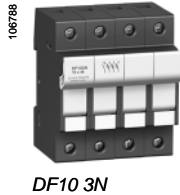
Characteristics of early break and signalling contacts DF14 AM and DF22 AM									
Rated insulation voltage (Ui) a.c. supply	V	250							
Conventional thermal current (Ith) for ambient air temperature ≤ 40 °C (1)	A	5							
Rated operational current	A	24 V	48 V		127 V		240 V		
		Category AC-15	4	4		3		2.5	
	A	3	1		0.2		0.1		
Definition of rated characteristics		Conforming to IEC 60947-5-1 B300							
Low load operating characteristics	V	Minimum voltage 10							
	mA	Minimum current 30							
Cabling		Faston connectors							

(1) For use in an installation with ambient temperature > 20 °C, apply a derating coefficient:

	20° C	30° C	40° C	50° C	60° C
Maximum temperature	20° C	30° C	40° C	50° C	60° C
Max. relative humidity	95 %	90 %	80 %	50 %	50 %
Current derating coefficient	1	0.95	0.9	0.8	0.7



DF10 1



DF10 3N



DF14 1



DF14 3NC



DF22 1



DF22 3NC



DF10 1NV



DF10 3V



DF14 1NV



DF14 3VC



DF22 1NV



DF22 3VC

Fuse carriers (1)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight
A	mm				kg
25	8.5 x 31.5	1 P	12	DF8 1	0.061
		N	12	DF10 N	0.071
		1 P + N (2)	6	DF8 1N	0.132
		2 P	6	DF8 2	0.122
		3 P	4	DF8 3	0.183
		3 P + N (2)	3	DF8 3N	0.254
32	10 x 38	1 P	12	DF10 1	0.061
		N	12	DF10 N	0.071
		1 P + N (2)	6	DF10 1N	0.132
		2 P	6	DF10 2	0.122
		3 P	4	DF10 3	0.183
		3 P + N (2)	3	DF10 3N	0.254
50	14 x 51	1 P	6	DF14 1	0.140
		N	6	DF14 N	0.150
		1 P + N (2)	3	DF14 1N	0.290
		2 P	3	DF14 2	0.280
		3 P	2	DF14 3C (3)	0.420
		3 P + N (2)	1	DF14 3NC (3)	0.570
125	22 x 58	1 P	6	DF22 1	0.218
		N	6	DF22 N	0.238
		1 P + N (2)	3	DF22 1N	0.456
		2 P	3	DF22 2	0.436
		3 P	2	DF22 3C (3)	0.654
		3 P + N (2)	1	DF22 3NC (3)	0.892

Fuse carriers with "blown fuse" indicators (neon) (1) (4)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight
A	mm				kg
25	8.5 x 31.5	1 P	12	DF8 1V	0.064
		1 P + N (2)	6	DF8 1NV	0.135
		2 P	6	DF8 2V	0.125
		3 P	4	DF8 3V	0.186
		3 P + N (2)	3	DF8 3NV	0.257
32	10 x 38	1 P	12	DF10 1V	0.064
		1 P + N (2)	6	DF10 1NV	0.135
		2 P	6	DF10 2V	0.125
		3 P	4	DF10 3V	0.186
		3 P + N (2)	3	DF10 3NV	0.257
50	14 x 51	1 P	6	DF14 1V	0.143
		1 P + N (2)	3	DF14 1NV	0.293
		2 P	3	DF14 2V	0.283
		3 P	2	DF14 3VC (3)	0.423
		3 P + N (2)	1	DF14 3NVC (3)	0.573
125	22 x 58	1 P	6	DF22 1V	0.221
		1 P + N (2)	3	DF22 1NV	0.459
		2 P	3	DF22 2V	0.439
		3 P	2	DF22 3VC (3)	0.657
		3 P + N (2)	1	DF22 3NVC (3)	0.895

(1) Each pole can be marked. A clip-in marker holder is provided for this purpose. Clip-in markers type AB1 R● or AB1 G● can also be used.

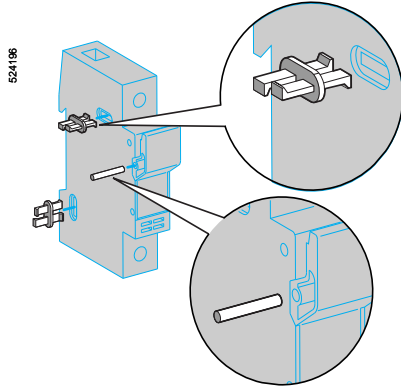
(2) N: neutral pole fitted with a locked tubular link as standard.

(3) A letter "C" in the reference indicates that the fuse carrier can be fitted with auxiliary early break, "blown fuse" signalling and "fuse present" signalling contacts.

(4) Operational voltage of the blown fuse indicator: 110 V...690 V.



DF14 AM●



Detail of assembly clip and pin mounting

Accessories

Auxiliary early break and "blown fuse" signalling contacts (1)

Fuse carriers to be equipped	Size of cartridge fuse or link	Number of contacts	Sold in lots of	Unit reference	Weight kg
DF14 (3 P or 3 P + N)	14 x 51	1	1	DF14 AM1	0.025
		2	1	DF14 AM2	0.029
DF22 (3 P or 3 P + N)	22 X 58	1	1	DF22 AM1	0.032
		2	1	DF22 AM2	0.035

Fuse carrier assembly kits (2)

Fuse carriers to be assembled	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight kg
DF8	8.5 x 31.5	1 pin, 2 clips	12	DF10 AP	0.001
DF10	10 x 38				
DF14	14 x 51	1 pin, 3 clips	10	DF14 AP	0.003
DF22	22 x 58	1 pin, 3 clips	10	DF22 AP	0.003

Marking accessories

Description	Composition	Marking	Sold in lots of	Unit reference	Weight kg
Clip-in markers	Strip of 10 identical numbers or letters	0...9	25	AB1 R● (3)	0.002
		A...Z	25	AB1 G● (3)	0.002

Substitution

Fuse carriers

Old range			New range	
Reference	Size of cartridge fuse or link	Composition	Reference w/o indicator	Reference with indicator
DF6 AB08	8.5 x 31.5	1 P	DF8 1	DF8 1V
DF6 AB10	10 x 38	1 P	DF10 1	DF10 1V
DF6 N10	8.5 x 31.5 or 10 x 38	1 N	DF10 N	–
GK1 CC	8.5 x 31.5	1 P + N	DF8 1N	DF8 1NV
GK1 CD	8.5 x 31.5	2 P	DF8 2	DF8 2V
GK1 CF	8.5 x 31.5	3 P	DF8 3	DF8 3V
GK1 CH	8.5 x 31.5	3 P + N	DF8 3N	DF8 3NV
GK1 DC	10 x 38	1 P + N	DF10 1N	DF10 1NV
GK1 DD	10 x 38	2 P	DF10 2	DF10 2V
GK1 DF	10 x 38	3 P	DF10 3	DF10 3V
GK1 DH	10 x 38	3 P + N	DF10 3N	DF10 3NV
GK1 EB	14 x 51	1 P	DF14 1	DF14 1V
GK1 EN	14 x 51	1 N	DF14 N	–
GK1 EC	14 x 51	1 P + N	DF14 1N	DF14 1NV
GK1 ED	14 x 51	2 P	DF14 2	DF14 2V
GK1 EF	14 x 51	3 P	DF14 3C	DF14 3VC
GK1 EH	14 x 51	3 P + N	DF14 3NC	DF14 3NVC
GK1 FB	22 x 58	1 P	DF22 1	DF22 1V
GK1 FN	22 x 58	1 N	DF22 N	–
GK1 FC	22 x 58	1 P + N	DF22 1N	DF22 1NV
GK1 FD	22 x 58	2 P	DF22 2	DF22 2V
GK1 FF	22 x 58	3 P	DF22 3C	DF22 3CV
GK1 FH	22 x 58	3 P + N	DF22 3NC	DF22 3NVC

Fuse carrier assembly kits

Old range		New range
Reference	Size of cartridge fuse or link	Reference
GK1 AP2	8.5 x 31.5 or 10 x 38	DF10 AP
GK1 AP3	8.5 x 31.5 or 10 x 38	DF10 AP
	14 x 51	DF14 AP
GK1 AP4	8.5 x 31.5 or 10 x 38	DF10 AP
	22 x 58	DF22 AP
GK1 AP5	14 x 51	DF14 AP
GK1 AP6	14 x 51	DF14 AP
	22 x 58	DF22 AP
GK1 AP9	22 x 58	DF22 AP

(1) These auxiliary contacts provide the following functions: early break, "blown fuse" signalling (if the fuse carrier is fitted with striker fuses) and "fuse present" signalling.

(2) 1 pin and 2 clips are required to assemble two DF8 or DF10 fuse carriers together.

1 pin and 3 clips are required to assemble two DF14 or DF22 fuse carriers together.

(3) When ordering, replace the ● in the reference with the number or letter required. Example: AB1-R1 or AB1-GA.

Dimensions

Modular fuse carriers 25 A and 32 A

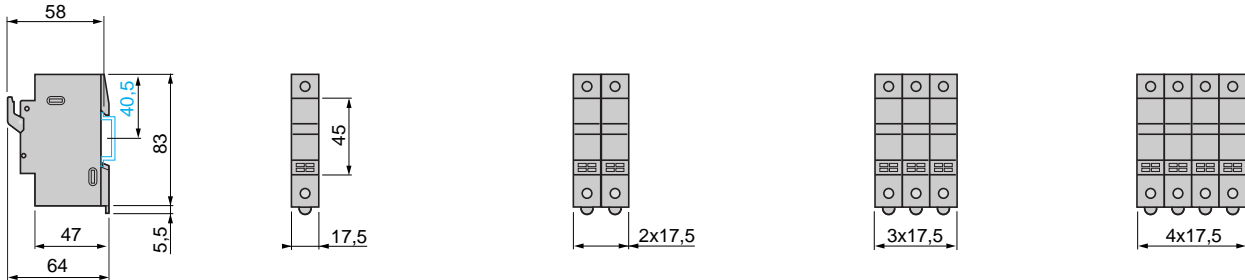
Mounting on 35 mm L rail

DF8 1 and DF8 1V
DF10 1 and DF10 1V
DF10 N

DF8 1N and DF8 1NV
DF8 2 and DF8 2V
DF10 1N and DF10 1NV
DF10 2 and DF10 2V

DF8 3 and DF8 3V
DF10 3 and DF10 3V

DF8 3N and DF8 3NV
DF10 3N and DF10 3NV



Modular fuse carriers 50 A

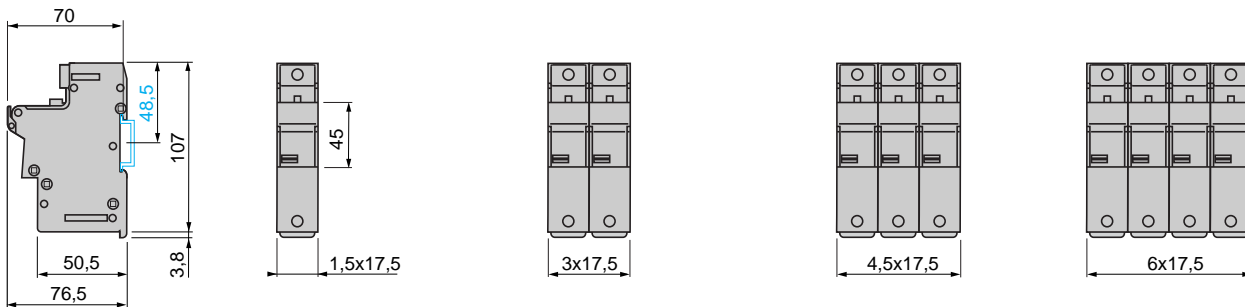
Mounting on 35 mm L rail

DF14 1 and DF14 1V
DF14 N

DF14 1N and DF14 1NV
DF14 2 and DF14 2V

DF14 3C and DF14 3VC

DF14 3NC and DF14 3NVC



Modular fuse carriers 125 A

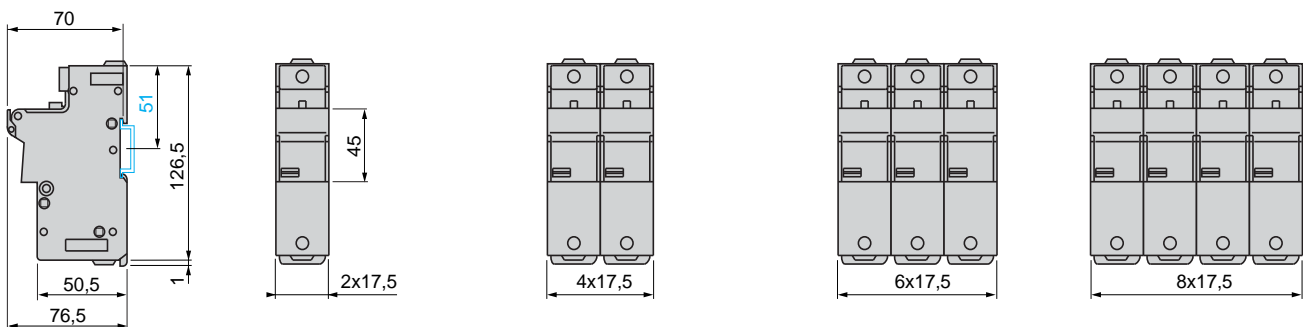
Mounting on 35 mm L rail

DF22 1 and DF22 1V
DF22 N

DF22 1N and DF22 1NV
DF22 2 and DF22 2V

DF22 3C and DF22 3VC

DF22 3NC and DF22 3NVC



Schemes

Modular fuse carriers

DF• 1P

DF• N

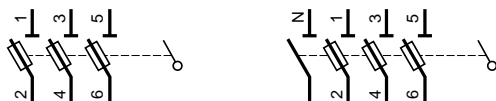
DF• 1P + N

DF• 2P



DF• 3P

DF• 3P + N



Environment characteristics			
Fuse carrier type		DFCC	
Conforming to standards		IEC 60947-3, UL 512, CSA 22-2 n° 39	
Protective treatment		"TH"	
Degree of protection	Conforming to IEC 60529	IP 20	
Ambient air temperature	Storage	°C	- 40...+ 80
	For operation, with derating (1)	°C	- 20...+ 60
Operating positions	Without derating	± 23° in relation to normal vertical mounting plane	
Flame resistance	Conforming to IEC 60695-2-1	°C	960

Pole characteristics			
Fuse carrier type		DFCC	
Fuse size		Class CC	
Rated insulation voltage (U_i) with tubular links, a.c. supply	V	600	
Rated impulse withstand voltage (U_{imp})	kV	6	
Conventional thermal current (I_{th}) for ambient air temperature ≤ 40 °C (1)	With tubular links	A	30
	With aM cartridge fuses	A	30
	With gG cartridge fuses	A	30
Short-circuit current withstand With UL 248-4 Class CC fuses	Conforming to UL 512 at 600 V	kA	200
Cabling (number of conductors x c.s.a.)	Solid cable	mm ²	1 x 1.5 1 x 16 2 x 6
	Flexible cable without cable end	mm ²	1 x 1.5 1 x 10 2 x 6
	Flexible cable with cable end	mm ²	1 x 1.5 1 x 10 2 x 6
Tightening torque		Nm	2.2

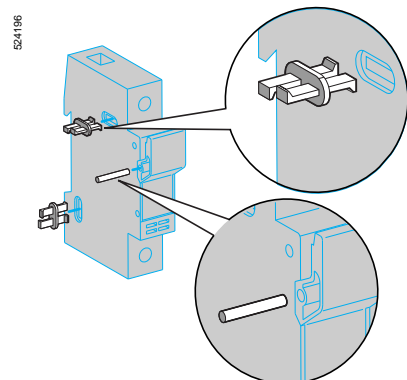
(1) For use in an installation with ambient temperature > 20 °C, apply a derating coefficient:

Maximum temperature	20° C	30° C	40° C	50° C	60° C
Max. relative humidity	95 %	90 %	80 %	50 %	50 %
Current derating coefficient	1	0.95	0.9	0.8	0.7

Protection components

Fuse carriers for the North American market, conforming to standards UL and CSA,

References



Detail of assembly clip and pin mounting

Fuse carriers (1)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight
					kg
30	Class CC	1 P	12	DFCC 1	0.061
		2 P	12	DFCC 2	0.122
		3 P	6	DFCC 3	0.183

Fuse carriers with "blown fuse" indicators (neon) (1), (2)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight
					kg
30	Class CC	1 P	12	DFCC 1V	0.064
		2 P	6	DFCC 2V	0.125
		3 P	6	DFCC 3V	0.186

Fuse carrier assembly kits (3)

Fuse carriers to be assembled	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference	Weight
DFCC	Class CC	1 pin, 2 clips	12	DF10 AP	0.001

Marking accessories

Description	Composition	Marking	Sold in lots of	Unit reference	Weight
Clip-in markers	Strip of 10 identical numbers or letter	0...9	25	AB1 R● (4)	0.002
		A...Z	25	AB1 G● (4)	0.002

(1) Each pole can be marked. A clip-in marker holder is provided for this purpose.

Clip-in markers type AB1 R● or AB1 G● can also be used.

(2) Operational voltage of the blown fuse indicator: 110 V...690 V.

(3) 1 pin and 2 clips are required to assemble two DFCC fuse carriers together.

(4) When ordering, replace the p in the reference with the number or letter required.

Example: AB1 R1 or AB1 GA.

Dimensions

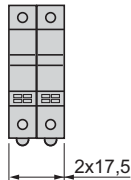
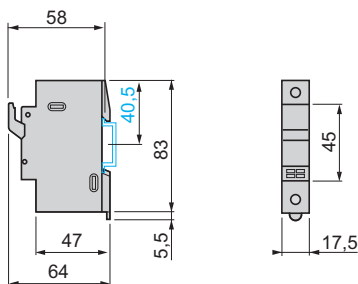
Modular fuse carriers 30 A

Mounting on 35 mm rail

DFCC 1 and DFCC 1V

DFCC 2 and DFCC 2V

DFCC 3 and DFCC 3V



Schemes

Modular fuse carriers

DFCC 1P

DFCC 2P

DFCC 3P

