Low voltage
Extract from **TeSys** Catalogue | 2022

TeSys Power

Fuse carriers

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Fuse carriers

Fuse carriers

Type of product	Range		Pages
Introduction			B4/2
For protection of control circuits or transformer	Up to 25, 32, 50 or 125 A		B4/3
For protection of control circuits or transformer For North American market	Up to 30 A		B4/5
For protection of motors or transformers	Up to 25, 32, 50 A		B4/6

Technical Data for Designers B4/11

Operation: safety

The fuse carrier performs two basic functions:
- it isolates the downstream circuit by means of a visible break and wide opening contacts,
- it holds the cartridge fuses designed to protect the installation against short-circuits.

The type of cartridge fuse needed to protect the circuit must be determined before selecting the fuse carrier.

Cartridge fuse selection (type, rating, size)

Type

Application	■ Motor protection. ■ Transformer protection.
Solution	■ **aM type** fuses. These fuses are designed to withstand high current peaks of a very short duration. They must be combined with a thermal overload relay coupled with a contactor.
Application	■ Lighting circuit protection. ■ Supply line protection. ■ Furnace protection.
Solution	■ **gG** type fuses, which are more widely used but whose limiting capacity is weaker than that of **aM** type fuses.

Rating

gG fuses
aM fuses

See standard NF C 15-100.
Table 53 A paragraph 532-2-1 and table 52 C paragraph 523-1.

Motors 3 x 220 V		Motors 3 x 400 V		Cartridge fuses type aM		Fuse carrier
P	in	P	in	Size	Rating	
kW	A	kW	A		A	
9	32	15	28.5	10 x 38	32	**LS1D32**
11	39	22	44	14 x 51	50	**GK1EK**
22	75	37	73	22 x 58	80	**GK1FK**

Size

Use the “fuse characteristics” table opposite to select the correct fuse size according to:
- the nominal current of the circuit to be protected,
- the operational voltage.

Fuse carrier selection

Application	**Isolation** of a circuit for safety reasons only.
Solution	The fuse carrier may be fitted with links. The maximum permissible current is indicated in the “pole characteristics” table opposite.
Application	**Isolation** of a circuit and its **protection** against short-circuits.
Solution	Select a fuse carrier according to: ■ the type of cartridge fuse required, ■ the maximum permissible current in the fuse carrier poles (see “pole characteristics” table opposite). If the operational current is greater than the maximum permissible current in the poles of the fuse carrier corresponding to the cartridge fuse size selected, select the fuse carrier the next size up. The **safety** provided by using a fuse carrier can be increased by adding a padlocking device with up to three padlocks.

Recommendations for use

The fuse carrier conforms to utilisation category AC-21A/22A of standard IEC 60947-3. It is therefore recommended that the fuse carrier early break auxiliary contacts always be inserted in the coil circuit of the contactor with which it is in series. If the fuse carrier is not associated with a contactor, it is essential to ensure that it will be operated off-load.

Fuse carriers
Ref.

Product references - DF type

DF101

DF103

DF141

DF143NC

DF221

DF223NC

DF101NV

DF103V

DF141NV

DF143VC

DF221NV

DF223VC

For protection of control circuits or transformers

Fuse carriers (1)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference
A	mm			
25	8.5 x 32	1 P	12	**DF81**
		N	12	**DF10N**
		1 P + N (2)	6	**DF81N**
		2 P	6	**DF82**
		3 P	4	**DF83**
		3 P + N (2)	3	**DF83N**
32	10 x 38	1 P	12	**DF101**
		N	12	**DF10N**
		1 P + N (2)	6	**DF101N**
		2 P	6	**DF102**
		3 P	4	**DF103**
		3 P + N (2)	3	**DF103N**
50	14 x 51	1 P	6	**DF141**
		N	6	**DF14N**
		1 P + N (2)	3	**DF141N**
		2 P	3	**DF142**
		3 P	2	**DF143C** (3)
		3 P + N (2)	1	**DF143NC** (3)
125	22 x 58	1 P	6	**DF221**
		N	6	**DF22N**
		1 P + N (2)	3	**DF221N**
		2 P	3	**DF222**
		3 P	2	**DF223C** (3)
		3 P + N (2)	1	**DF223NC** (3)

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

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference
A	mm			
25	8.5 x 32	1 P	12	**DF81V**
		1 P + N (2)	6	**DF81NV**
		2 P	6	**DF82V**
		3 P	4	**DF83V**
		3 P + N (2)	3	**DF83NV**
32	10 x 38	1 P	12	**DF101V**
		1 P + N (2)	6	**DF101NV**
		2 P	6	**DF102V**
		3 P	4	**DF103V**
		3 P + N (2)	3	**DF103NV**
50	14 x 51	1 P	6	**DF141V**
		1 P + N (2)	3	**DF141NV**
		2 P	3	**DF142V**
		3 P	2	**DF143VC** (3)
		3 P + N (2)	1	**DF143NVC** (3)
125	22 x 58	1 P	6	**DF221V**
		1 P + N (2)	3	**DF221NV**
		2 P	3	**DF222V**
		3 P	2	**DF223VC** (3)
		3 P + N (2)	1	**DF223NVC** (3)

(1) Each pole can be marked. A clip-in marker holder is provided for this purpose. Clip-in markers type AB1R● or AB1G● can also be used. DF8●●● and DF10●●● are pad lockable fuse carriers.
(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.

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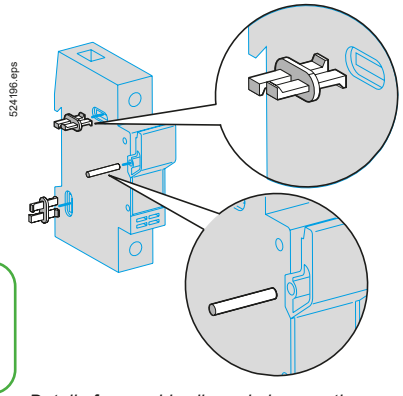
Characteristics: page B4/12
Dimensions: page B4/13
Schemes: page B4/13

Product references - DF type

DF14AM●

DF14AP



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
DF14 (3 P or 3 P + N)	14 x 51	1	1	**DF14AM1**
		2	1	**DF14AM2**
DF22 (3 P or 3 P + N)	22 X 58	1	1	**DF22AM1**
		2	1	**DF22AM2**

Fuse carrier assembly kits (2)

Fuse carriers to be assembled	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference
DF8	8.5 x 32	1 pin, 2 clips	12	**DF10AP**
DF10	10 x 38			
DF14	14 x 51	1 pin, 3 clips	10	**DF14AP**
DF22	22 x 58	1 pin, 3 clips	10	**DF22AP**

Marking accessories

Description	Composition	Marking	Sold in lots of	Unit reference
Clip-in markers	Strip of 10 identical numbers or letters	0…9	25	**AB1R●** (3)
		A…Z	25	**AB1G●** (3)

Substitution

Fuse carriers

Old range			New range	
Reference	Size of cartridge fuse or link	Composition	Reference w/o indicator	Reference with indicator
DF6AB08	8.5 x 32	1 P	**DF81**	**DF81V**
DF6AB10	10 x 38	1 P	**DF101**	**DF101V**
DF6N10	8.5 x 32 or 10 x 38	1 N	**DF10N**	**–**
GK1CC	8.5 x 32	1 P + N	**DF81N**	**DF81NV**
GK1CD	8.5 x 32	2 P	**DF82**	**DF82V**
GK1CF	8.5 x 32	3 P	**DF83**	**DF83V**
GK1CH	8.5 x 32	3 P + N	**DF83N**	**DF83NV**
GK1DC	10 x 38	1 P + N	**DF101N**	**DF101NV**
GK1DD	10 x 38	2 P	**DF102**	**DF102V**
GK1DF	10 x 38	3 P	**DF103**	**DF103V**
GK1DH	10 x 38	3 P + N	**DF103N**	**DF103NV**
GK1EB	14 x 51	1 P	**DF141**	**DF141V**
GK1EN	14 x 51	1 N	**DF14N**	**–**
GK1EC	14 x 51	1 P + N	**DF141N**	**DF141NV**
GK1ED	14 x 51	2 P	**DF142**	**DF142V**
GK1EF	14 x 51	3 P	**DF143C**	**DF143VC**
GK1EH	14 x 51	3 P + N	**DF143NC**	**DF143NVC**
GK1FB	22 x 58	1 P	**DF221**	**DF221V**
GK1FN	22 x 58	1 N	**DF22N**	**–**
GK1FC	22 x 58	1 P + N	**DF221N**	**DF221NV**
GK1FD	22 x 58	2 P	**DF222**	**DF222V**
GK1FF	22 x 58	3 P	**DF223C**	**DF223VC**
GK1FH	22 x 58	3 P + N	**DF223NC**	**DF223NVC**

Fuse carrier assembly kits

Old range		New range
Reference	Size of cartridge fuse or link	Reference
GK1AP2	8.5 x 32 or 10 x 38	**DF10AP**
GK1AP3	8.5 x 32 or 10 x 38	**DF10AP**
	14 x 51	**DF14AP**
GK1AP4	8.5 x 32 or 10 x 38	**DF10AP**
	22 x 58	**DF22AP**
GK1AP5	14 x 51	**DF14AP**
GK1AP6	14 x 51	**DF14AP**
	22 x 58	**DF22AP**
GK1AP9	22 x 58	**DF22AP**

(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**.*

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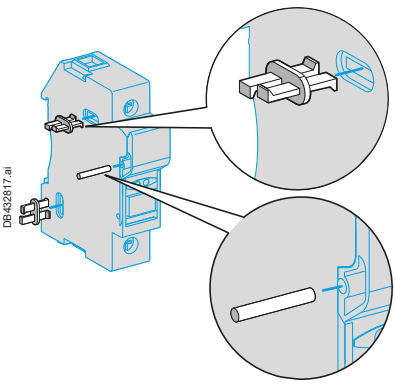
Life Is On Schneider Electric

For protection of control circuits or transformers

References

DFCC1

DFCC3V



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
A				
30	Class CC	1 P	12	**DFCC1**
		2 P	12	**DFCC2**
		3 P	6	**DFCC3**

Fuse carriers with "blown fuse" indicators (LED) (1) (2)

Conventional thermal current (Ith)	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference
A				
30	Class CC	1 P	12	**DFCC1V**
		2 P	6	**DFCC2V**
		3 P	6	**DFCC3V**

Fuse carrier assembly kits (3)

Fuse carriers to be assembled	Size of cartridge fuse or link	Composition	Sold in lots of	Unit reference
DFCC	Class CC	1 pin, 2 clips	12	**DF10AP**

Marking accessories

Description	Composition	Marking	Sold in lots of	Unit reference
Clip-in markers	Strip of 10 identical numbers or letter	0…9	25	**AB1R●** (4)
		A…Z	25	**AB1G●** (4)

(1) Each pole can be marked. A clip-in marker holder is provided for this purpose. Clip-in markers type AB1R● or AB1G● can also be used. DFCC fuse holders are pad lockable.
(2) Operational voltage of the blown fuse indicator: 230 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: **AB1R1** or **AB1GA**.*

Product references - LS, GK type

LS1D323

LS1D32

GK1EK

LS1D32

+ LA8D324

For protection of motors or transformers

3-pole basic blocks

Connection by spring terminals

Rating	Cartridge fuse size	Number of early break contacts (1)	Single-phase protection device (2)	Reference (3)	Weight kg
25 A	10 x 38	– (4)	Without	**LS1D323**	0.270

Connection by screw clamp terminals or connectors

32 A	10 x 38	– (4)	Without	**LS1D32**	0.300
50 A	14 x 51	1	Without	**GK1EK**	0.430
			With	**GK1EV**	0.470
		2	Without	**GK1ES**	0.470
			With	**GK1EW**	0.510

4-pole basic blocks

Connection by screw clamp terminals or connectors

32 A	10 x 38	– (4)	Without	**LS1D32 + LA8D324** (5)	0.300
50 A	14 x 51	1	Without	**GK1EM**	0.570
			With	**GK1EY**	0.600
		2	Without	**GK1ET**	0.610
			With	**GK1EX**	0.650

Fuse carriers for the North American market

25 and 30 A basic blocks: please consult your Regional Sales Office.

(1) With 1 or 2 early break contacts to be inserted in the contactor control circuit.
(2) Fuse carriers with single-phase protection device must be fitted with striker fuses.
(3) LS1D: clips directly onto a 35 mm ⊥ rail or screw fixing.
GK1: clips directly onto a 35 mm ⊥ rail or Telequick mounting plate.
(4) Addition of add-on contact block, see page B4/7.
(5) Can be mounted on left-hand or right-hand side of the basic block.

Fuse carriers

Product references - for LS, GK type

PG112152.eps

GK1AP05

Add-on contact blocks

Description	For use on	Mounting	Maximum number	Type of contacts	Sold in lots of	Unit reference
Instantaneous auxiliary contacts (early break contacts)	LS1D32	Front	1	N/O + N/C	10	**GVAE11**
				N/O + N/O	10	**GVAE20**
	LS1D323	Front	1	N/O + N/C	10	**GVAE113**
				N/O + N/O	10	**GVAE203**

Operators

For fuse carrier		For mounting on	Reference
Rating	Number of poles		
Side handles			
125 A	3 or 4	Right-hand side	**GK1AP07**
		Left-hand side	**GK1AP08**
Front handles (1)			
32 - 50 - 125 A			Fitted as standard
External handles			
32 A	3 or 4	Right-hand side (IP54)	**LS1D32005** (2)
		Left-hand side (IP54)	**LS1D32006**
50 A	3 or 4	Right-hand side	**GK1AP05**
		Left-hand side	**GK1AP06**

Padlocking devices (3)

For fuse carrier			Reference
Rating	Number of poles	Single-phase protection device	
32 A	3 or 4	Without	integral
50 A	3	Without	**GK1AV07**
		With	**GK1AV08**
	4	Without	**GK1AV08**
		With	**GK1AV09**

Links

Tubular links

For fuse carrier		Sold in lots of	Unit reference
Rating	Number of poles		
32 A	3 or 4	10	**DK1CB92** (4)
50 A	3 or 4	10	**DK1EB92** (5)
125 A	3 or 4	10	**DK1FA92** (5)

(1) Fitted as standard on 32, 50 and 125 A fuse carriers type GK1.
*(2) Reference **LS1D32005** replaces reference DK1FB005.*
*(3) For the 125 A rating, use side handles **GK1AP07** or **GK1AP08**.*
*(4) For use on a neutral circuit, the tubular link can be interlocked with special device **LA8D25906** (sold in lots of 10).*
(5) 50 A fuse carriers type GK1 are fitted with an interlocked neutral tubular link as standard.

Accessories for LS1D32 (screw clamp terminals)

Description	Application	Sold in lots of	Unit reference
Plate for mounting	LS1D32 and contactor LC1D09...D38 with front faces aligned	1	**LAD311**
Combination blocks	Between LS1D32 and contactor LC1K or LP1K	10	**GV2AF01**
	Between LS1D32 and contactor LC1D09...D38	10	**GV2AF3**
	Between LS1D32 mounted on LAD311 and contactor LC1D09...D38	10	**GV2AF4**

Description	Application	Pitch mm	Reference
Sets of 3-pole 63 A busbars	2 tap-offs	45	**GV2G245**
		54	**GV2G254**
		72	**GV2G272**
	3 tap-offs	45	**GV2G345**
		54	**GV2G354**
	4 tap-offs	45	**GV2G445**
		54	**GV2G454**
		72	**GV2G472**
	5 tap-offs	54	**GV2G554**

Description	Application	Sold in lots of	Unit reference
Protective end cover	For unused busbar outlets	5	**GV1G10**
Terminal block Connection from the top	For supply to one or more GV2G busbar sets	1	**GV1G09**
Cover for terminal block	For mounting in modular panels	10	**LA9E07**
Padlocking device	For use with up to 4 padlocks (not supplied) Ø6 mm shank max	1	**GV2V03**

Accessories for LS1D323 (spring terminals)

Description	Application	Reference
Plate for mounting	LS1D323 and contactor LC1D09...D38 with front faces aligned	**LAD311**

Description	Extension by	Number of starters	Reference
Power splitter box, 63 A	LAD32●	2	**LAD322**
		4	**LAD324**

Description	Kit contents	Reference
Assembly and power connection kit for LS1D323 and LC1D093...D323	1 LAD311 plate for mounting LS1D323 2 LAD341 power connection modules - between LS1D323 and power splitter box - between LS1D323 and contactor	**LAD352**

Description	Maximum capacity	Application	Sold in lots of	Unit reference
Upstream terminal block	16 mm²	Power supply to 1 or 2 power splitter boxes	1	**LAD3B1**
Downstream terminal block	16 mm²	Connection of motor cables	1	**LAD331**
Cable end reducer	–	For connection of conductors from 1 to 1.5 mm²	20	**LAD99**

Product references

DF101	DF81N
DF101N	DF81NV
DF101NV	DF81V
DF101PV	DF82
DF101V	DF82V
DF102	DF83
DF102V	DF83N
DF103	DF83NV
DF103N	DF83V
DF103NV	DFCC1
DF103V	DFCC1V
DF10AP	DFCC2
DF10N	DFCC2V
DF141	DFCC3
DF141N	DFCC3V
DF141NV	DK1CB92
DF141V	DK1EB92
DF142	DK1FA92
DF142V	DK1HC92
DF143C	DK1KC92
DF143NC	GK1AP05
DF143NVC	GK1AP06
DF143VC	GK1AP07
DF14AM1	GK1AP08
DF14AM2	GK1AV07
DF14AP	GK1AV08
DF14N	GK1AV09
DF221	GK1EK
DF221N	GK1EM
DF221NV	GK1ES
DF221V	GK1ET
DF222	GK1EV
DF222V	GK1EW
DF223C	GK1EX
DF223NC	GK1EY
DF223NVC	LA8D324
DF223VC	LS1D30
DF22AM1	LS1D32
DF22AM2	LS1D32005
DF22AP	LS1D32006
DF22N	LS1D323
DF81	

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