

TeSys Power

Fuse carriers

Product references - DF type



DF101



DF141



DF221



DF101NV



DF141NV



DF221NV



DF103



DF143NC



DF223NC



DF103V



DF143VC



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.

Introduction:
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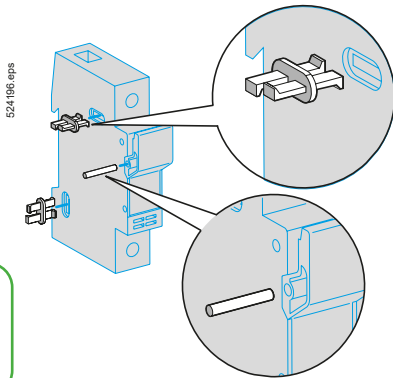
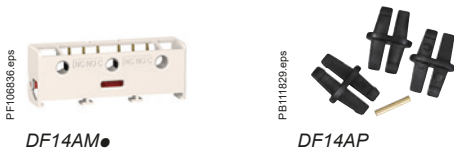
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Fuse carriers





Detail of assembly clip and pin mounting

Fuse carriers



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 A...Z	25	AB1R● ⁽³⁾ 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.

Environment characteristics					
Fuse carrier type		DF8	DF10	DF14	DF22
Conforming to standards		IEC/EN 60947-3, IEC/HD 60269-2	IEC/EN 60947-3 ⁽¹⁾ , IEC/HD 60269-2, R22HL2, UL 4248-1 ⁽²⁾ , CSA C22.2 No 4248-1 ⁽²⁾	IEC/EN 60947-3, UL 4248-1, CSA C22.2 No 4248-1	
Product certification		IEC, EAC, CCC, UKCA	IEC, UL, CSA, EAC, DNV-GL, CCC, UKCA	IEC, UL, CSA, EAC, UKCA	
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		± 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 32	10 x 38	14 x 51	22 x 58					
Rated insulation voltage (Ui) with tubular links, a.c. or D.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 ≤ 20 °C ⁽³⁾										
	With tubular links	A	25	32	50	125				
	With aM cartridge fuses	A	25	32	50	125				
	With gG cartridge fuses	A	25	32	50	100				
Rated conditional short-circuit current Conforming to IEC 60947-3										
	400 V	kA	20	120	120	120				
	500 V	kA	–	120	120	120				
	690 V	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 25 2 x 10	Min. 1 x 2.5 Max. 1 x 35 2 x 25			
	Flexible cable without cable end	mm ²	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 25 2 x 10	1 x 2.5 1 x 35 2 x 16			
	Flexible cable with cable end	mm ²	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 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 ≤ 20 °C ⁽¹⁾	A	5				
Rated operational current		24 V	48 V	127 V	240 V	
	Category AC-15	A	4	4	3	2.5
	Category DC-13	A	3	1	0.2	0.1
Definition of rated characteristics Conforming to IEC 60947-5-1		B300				
Low load operating characteristics	Minimum voltage	V	10			
	Minimum current	mA	30			
Cabling		Faston connectors				

(1) DF101PV excluded.
 (2) DF101PV add UL/CSA 4248-19.
 (3) 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

Number of poles (each side)	1 to 3	4 to 6	≥7
Current derating coefficient	1	0.95	0.9

TeSys Power

Fuse carriers

Dimensions, schemes - DF type

Dimensions

Modular fuse carriers 25 A and 32 A

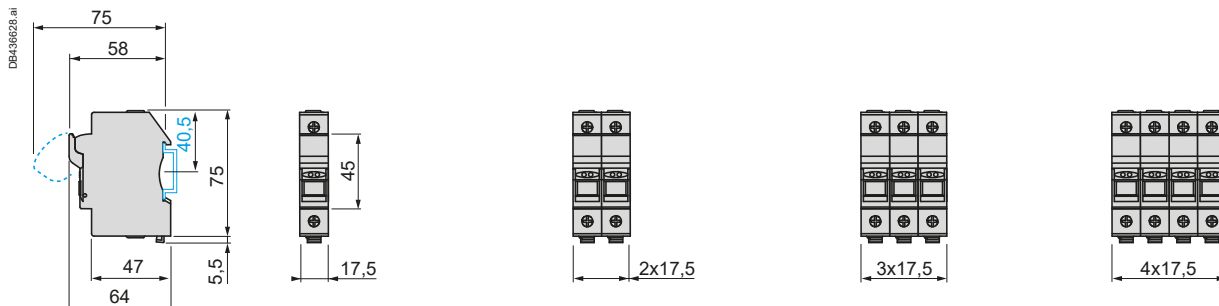
Mounting on 35 mm L rail

DF81 and DF81V
DF101 and DF101V
DF10N

DF81N and DF81NV
DF82 and DF82V
DF101N and DF101NV
DF102 and DF102V

DF83 and DF83V
DF103 and DF103V

DF83N and DF83NV
DF103N and DF103NV



Modular fuse carriers 50 A

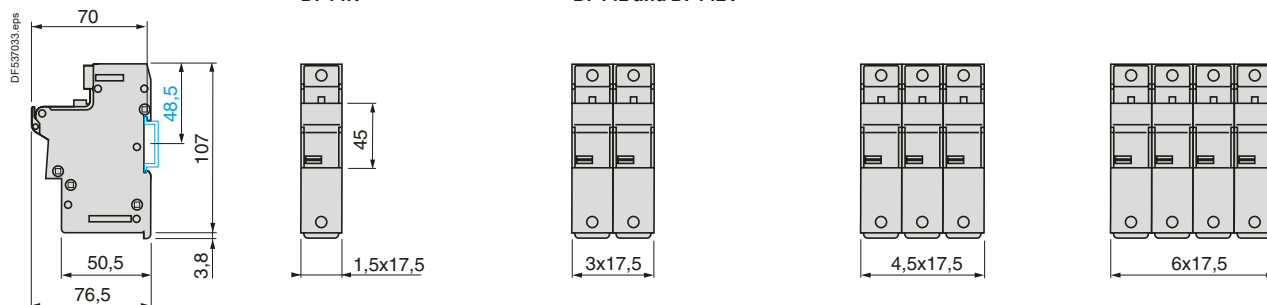
Mounting on 35 mm L rail

DF141 and DF141V
DF14N

DF141N and DF141NV
DF142 and DF142V

DF143C and DF143VC

DF143NC and DF143NVC



Modular fuse carriers 125 A

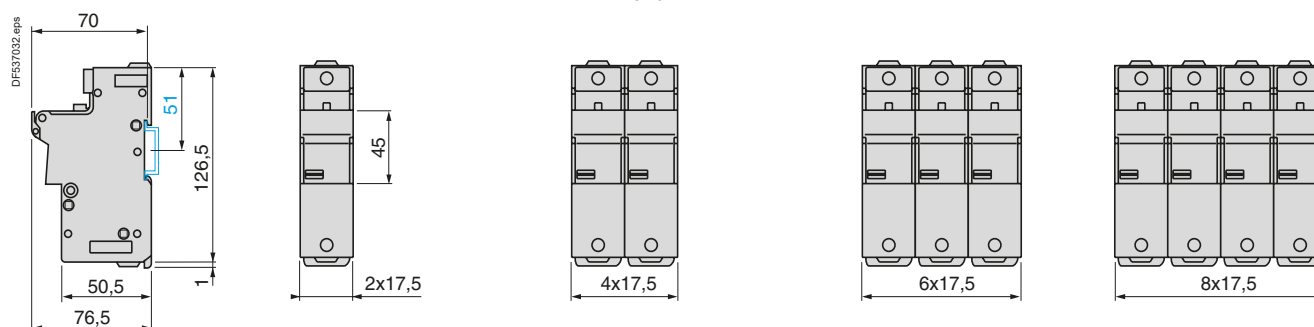
Mounting on 35 mm L rail

DF221 and DF221V
DF22N

DF221N and DF221NV
DF222 and DF222V

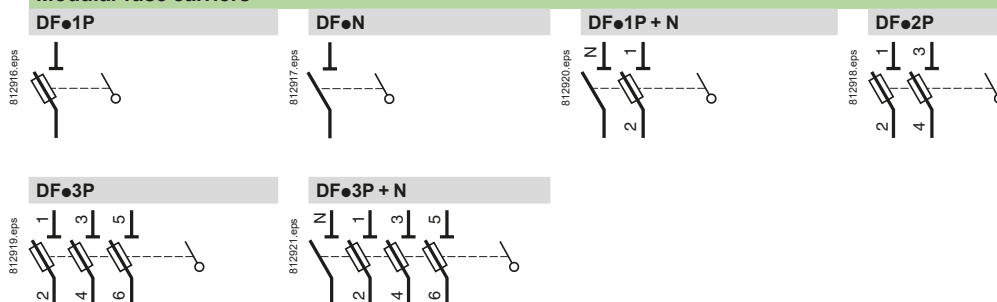
DF223C and DF223VC

DF223NC and DF223NVC



Schemes

Modular fuse carriers



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Fuse carriers for North American market

Characteristics - DF type

Fuse carriers



Ref.



Environment characteristics			
Fuse carrier type		DFCC	
Conforming to standards		UL 4248-1 & 4, CSA 22-2 No 4248-1 & 4	
Product certification		UL, CSA, CCC, UKCA	
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	mm²	Min.	Max.
			1 x 1.5	1 x 16 2 x 6
	Flexible cable without cable end	mm²	1 x 1.5	1 x 10 2 x 6
	Flexible cable with cable end	mm²	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