

## Record Plus

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*Miniature circuit breakers* A

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*Busbar systems* C

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*Overload relays* G

*Control and signalling units* H

*Manual motor starters* I

***Moulded case circuit breakers*** J

*Air circuit breakers* K

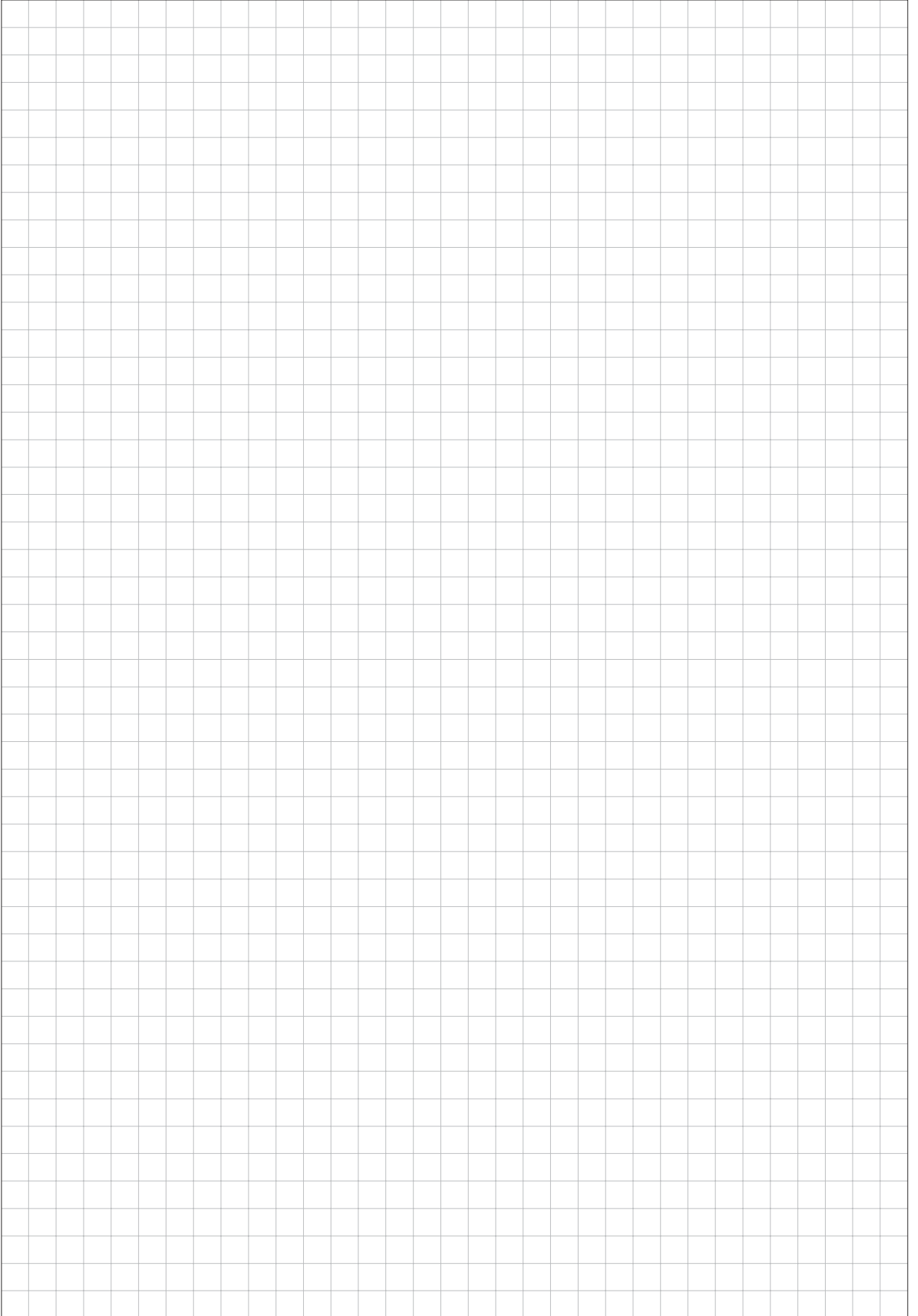
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*General purpose enclosures* M

*System enclosures* N

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**Notes**



# MCCBs Record Plus

## Certification

The **Record Plus™** line of moulded case circuit breakers has been designed to comply with the following standards.

**EN 60947 Low-voltage switchgear and controlgear**

- EN 60947-1: General rules
- EN 60947-2: Circuit-breakers
- EN 60947-3: Switches, disconnectors, switch-disconnectors and fuse-combination units
- EN 60947-4-1: Contactors and motorstarters  
Section One: Electromechanical contactors and motorstarters
- EN 60947-5-1: Control circuit devices and switching elements. Section One: Electromechanical control circuit devices

In order to meet the international standards mentioned above, the following European standards had to be fulfilled: **BS, VDE, UTE, KEMA, CEI**

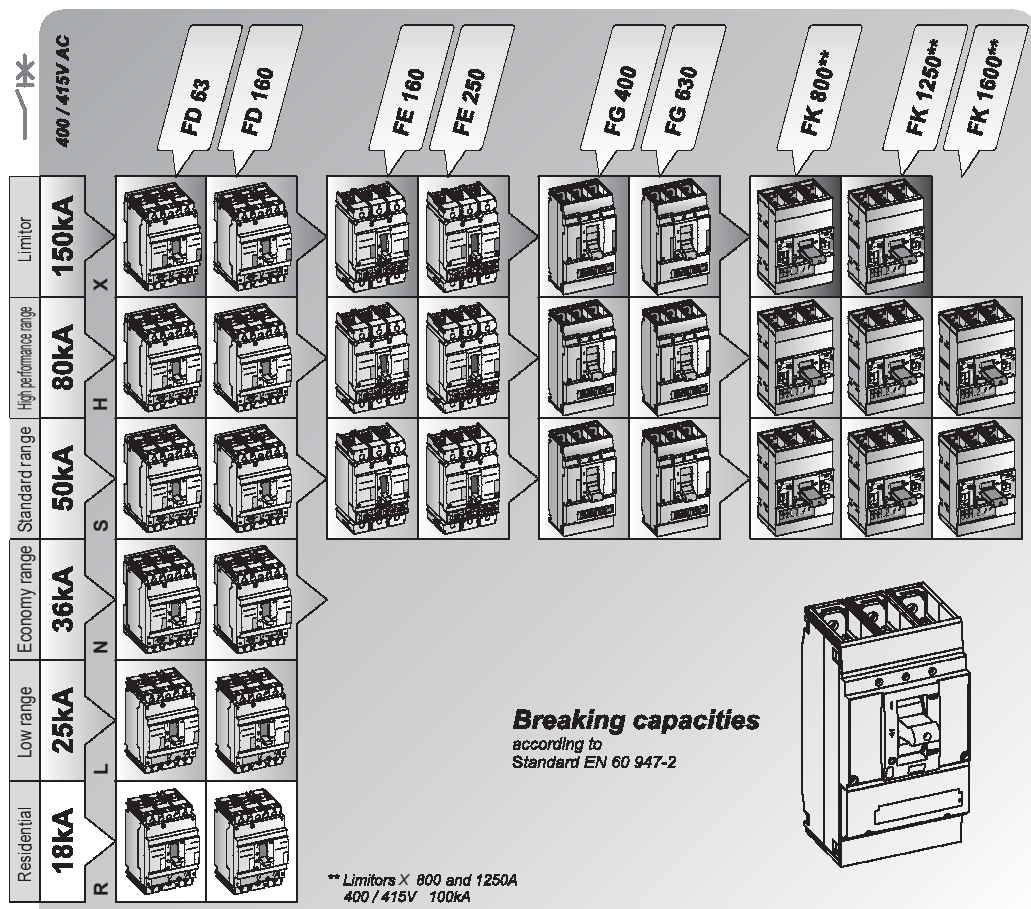
Further tests are being undertaken at the moment to meet the requirements of the following regulatory authorities:

- UL (R) (489, 486 standards)
- CCC (China)
- CSA (Canada)
- Bureau Veritas
- Det Norske Veritas
- JIS (Japan)
- NEMA (USA)
- Germanischer Lloyd
- Lloyd's Register of Shipping
- NOM RINA

Please contact us to check the availability of individual certificates.

This has been verified by two testing authorities: LOVAG and KEMA/Dekra (appropriate certificates are available on request)

## Overview frame sizes



- Frame size FD 63 / 160 = circuit breaker type MM 169
- Frame size FE 160 / 250 = circuit breaker type MC 169 / 259
- Frame size FG 400 / 630 = circuit breaker type MC 409 / 639
- Frame size FK 800 / 1250 / 1600 = circuit breaker type MC 809 / 1259 / 1609



## MCCB Record Plus type MM 169

### Frame size FD

### Breaking capacities

Icu = 400 / 415 V/AC

Breaker type	MM. 169R	MM. 169L	MM. 169N	MM. 169S	MM. 169H	MM. 169X
Denomination	R	L	N	S	H	X
Icu (kAeff)	18	25	36	50	80	150

### Protection

Rated current (A)	Frame size	Trip unit	Trip unit	Trip unit	Trip unit
		L	S	G	M
8	FD 160				S, H, X
12,5					S, H, X
16		R, L	N, S, H, X		
20		R, L	N, S, H, X		S, H, X
25		R, L	N, S, H, X	S, H	
30					S, H, X
32		R, L	N, S, H, X	S, H	
40		R, L	N, S, H, X	S, H	
50		R, L	N, S, H, X	S, H	S, H, X
63		R, L	N, S, H, X	S, H	
80		R, L	N, S, H, X	S, H	S, H, X
100		R, L	N, S, H, X	S, H	S, H, X
125		R, L	N, S, H, X	S, H	
160		R, L	N, S, H, X	S, H	

#### L (LTM)

Line protection

thermal / magnetic protection

#### S (LTMD)

selective protection

thermal / magnetic protection

#### G (GTM)

Generator protection

thermal / magnetic protection

#### M (Mag. Break)

Magnetic protection only

#### T (Y)

non automatic, switch only

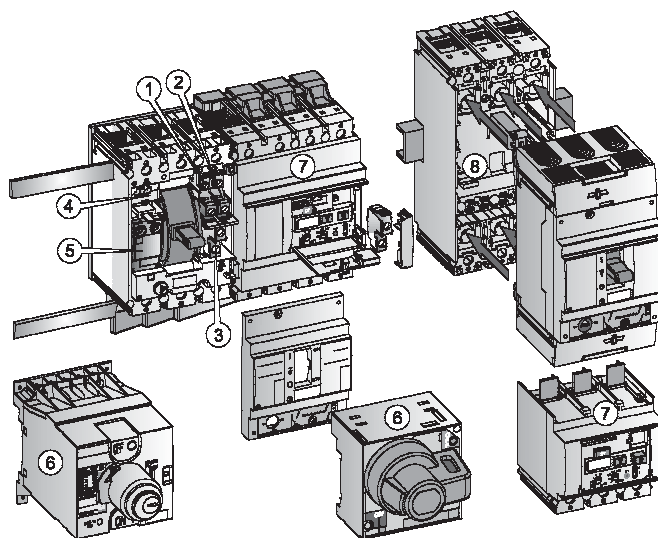
not mentioned in schedule

### No of poles

Rated current	Trip unit	Trip unit	Trip unit	Trip unit
	L	S	G	M
3 pole / 3 trips	R, L	N, S, H, X	S, H	S, H, X
4 pole / 3 trips				S, H, X
4 pole / 4 trips	R, L	N, S, H, X	S, H	

- ① Auxiliary contact left mounted (NO or NC)
- ② Auxiliary contact right mounted (NO or NC)
- ③ Bell Alarm trip unit (NO or NC)
- ④ Bell Alarm mechanism (CO)<sup>(1)</sup>
- ⑤ Shunt or Undervoltage release
- ⑥ Operators
  - Rotary handle
  - Electrical operator
- ⑦ RCD, side or bottom mounted (Insert indicates Bell alarm contact mounting)
- ⑧ Plug in system<sup>(1)</sup>

(1) Not applicable for type MM.169R and MM.169L



## Technical data MCCBs type MM 169

Circuit breaker type		MM 169					
Denomination		R	L	N	S	H	X
<b>EN 60947-2 standard</b>							
Poles	Number of	3.4			3.4		
Rated insulation voltage	Ui (Volts)	500	500	690	750		
Rated impulse withstand voltage	Uimp (Kilovolt)	6	6	8	8		
Rated operational voltage Ue	Volts AC	500	500	500	690		
	Volts DC	-	-	440	500		
<b>Line protection device</b>							
Category of use		A			A		
Suitable for use as a isolator	Positive ON & OFF	yes			yes		
Rated current Ith = Ie	A at 40°C	63 or 160			63 or 160		
Ultimate breaking capacity Icu (kA)	230/240V AC	25	40	50	85	100	200
	400/415V AC	18	25	36	50	80	150
	440V AC	12	14	25	30	65	130 <sup>(2)</sup>
	500V AC	10	12	18	22	36	50 <sup>(2)</sup>
	690V AC	-	-	2	4.5	6	10
	250V DC Single pole	-	-	25	40	65	100
	440V DC Two pole	-	-	25	40	65	100 <sup>(1)</sup>
	500V DC Two pole	-	-	-	40	65 <sup>(1)</sup>	100 <sup>(1)</sup>
	Service breaking capacity Ics (%Icu)	≤ 500V	100%	75%	100%	100%	100%
Single phase breaking capacity I <sub>TP</sub> (kA)	690V AC	-	-	-	100%	75%	50%
	230V AC	16	25	30	50	80	150
Endurance (CO operations)	400/415V AC	-	-	-	4.5	6	10
	Mechanical	10000			25000		
	Electrical at In	5000			10000		
Endurance (On-Tripped operations)	Electrical at In/2	10000			20000		
	Mechanical	4000			10000		
Trip Units	Interchangeable	no			no		
	Thermal Magnetic line	LTM					
	Thermal Magnetic generator				GTM		
	Thermal Magnetic selective				LTMD		
	Magnetic Only				Mag Break™		
	Electronic selective						
	Electronic Enhanced						
Circuit breaker type and denomination		MMT 169			MMT 169		
<b>EN 60947-3 standard</b>							
<b>Non automatic breaker (Switch)</b>							
Rated current In (class AC23)	220V AC to 690V AC	63			160		
Rated making capacity	Icm (kA peak)	1.7			2.8		
Short-term withstand current Icw (kA)	Icw eff. 1 second	1.2			2		
	Icw eff. 3 seconds	1.2			2		
Circuit breaker type							
Denomination					S	H	X
<b>EN 60947-4 standard</b>							
<b>Use in motor circuits</b>							
Rated current Ith	A at 65°C				FD63-50 FD160-100		
Endurance (CO operations)	Mechanical				25000		
	Electrical at In class AC23				10000		
	Operations per hour				120		
Protection	Short-circuit only (separate overload device)				Mag Break™		
	Overload class 10 and Short-circuit						
	Max In (A) class 10				FD63-50 FD160-100		
	Max In (A) class 30				FD63-50 FD160-80		
	Earth fault unit (differential)				type DG / DD / DB		
Circuit breaker / Switch type					MM 169		
<b>Installation</b>							
Mounting	On symmetrical DIN Rail	yes			yes		
	Fixed	yes			yes		
	Plug in	yes			yes		
	Draw out	no			no		
Connection	Front	yes			yes		
	Rear	no			yes		
Dimensions (w x h x d) mm	3 pole, fixed front connection	81 x 130 x 85			81 x 130 x 85		
	4 pole, fixed front connection	108 x 130 x 85			108 x 130 x 85		
Weights (kg)	3 pole, fixed front connection	0.9			0.9		
	4 pole, fixed front connection	1.3			1.3		

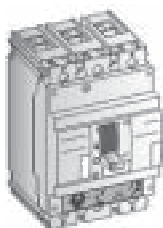
(1) Use 3 poles.

(2) 160A rating only; derate to 65kA at 440V and 36kA at 500V.

## MCCBs Record Plus MML 169 for line protection

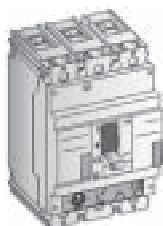
RESIDENTIAL RANGE /  $I_{cu} = 18 \text{ kA} / "R"$

With fixed (18 kA execution) adjustable (25 kA execution) thermal overload trip and fixed short-circuit trip "L"



Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160	16	10 x In	MML 169R 3016	432503	MML 169R 4016	432644
FD 160	20	10 x In	MML 169R 3020	432506	MML 169R 4020	432647
FD 160	25	10 x In	MML 169R 3025	432611	MML 169R 4025	432650
FD 160	32	10 x In	MML 169R 3032	432614	MML 169R 4032	432653
FD 160	40	10 x In	MML 169R 3040	432617	MML 169R 4040	432656
FD 160	50	10 x In	MML 169R 3050	432626	MML 169R 4050	432659
FD 160	63	10 x In	MML 169R 3063	432629	MML 169R 4063	432662
FD 160	80	10 x In	MML 169R 3080	432632	MML 169R 4080	432671
FD 160	100	10 x In	MML 169R 3100	432635	MML 169R 4100	432674
FD 160	125	10 x In	MML 169R 3125	432638	MML 169R 4125	432677
FD 160	160	8 x In	MML 169R 3160	432641	MML 169R 4160	432680

LOW RANGE /  $I_{cu} = 25 \text{ kA} / "L"$



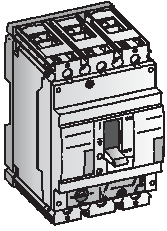
FD 160	12,8-16	10 x In	MML 169L 3016	436653	MML 169L 4016	436727
FD 160	16-20	10 x In	MML 169L 3020	436654	MML 169L 4020	436728
FD 160	20-25	10 x In	MML 169L 3025	436669	MML 169L 4025	436729
FD 160	26-32	10 x In	MML 169L 3032	436670	MML 169L 4032	436730
FD 160	32-40	10 x In	MML 169L 3040	436671	MML 169L 4040	436731
FD 160	40-50	10 x In	MML 169L 3050	436672	MML 169L 4050	436732
FD 160	50-63	10 x In	MML 169L 3063	436677	MML 169L 4063	436733
FD 160	64-80	10 x In	MML 169L 3080	436679	MML 169L 4080	436734
FD 160	80-100	10 x In	MML 169L 3100	435490	MML 169L 4100	436735
FD 160	100-125	10 x In	MML 169L 3125	436724	MML 169L 4125	436736
FD 160	128-160	8 x In	MML 169L 3160	436725	MML 169L 4160	436737

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MML 169 for line protection

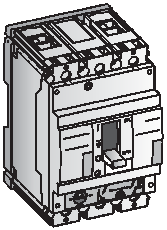
ECONOMY RANGE /  $I_{cu} = 36 \text{ kA}$  / "N"

With selective adjustable thermal overload trip and fixed short-circuit trip "S"



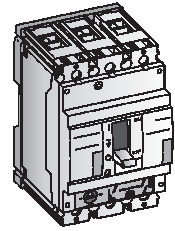
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160	12,8-16	10 x In	MML 169N 3016	430162	MML 169N 4016	430225
FD 160	16-20	10 x In	MML 169N 3020	430164	MML 169N 4020	430227
FD 160	20-25	10 x In	MML 169N 3025	430166	MML 169N 4025	430229
FD 160	25,6-32	10 x In	MML 169N 3032	430168	MML 169N 4032	430231
FD 160	32-40	10 x In	MML 169N 3040	430170	MML 169N 4040	430233
FD 160	40-50	10 x In	MML 169N 3050	430180	MML 169N 4050	430242
FD 160	50,4-63	10 x In	MML 169N 3063	432951	MML 169N 4063	432963
FD 160	64-80	10 x In	MML 169N 3080	432954	MML 169N 4080	432966
FD 160	80-100	10 x In	MML 169N 3100	432957	MML 169N 4100	432969
FD 160	100-125	10 x In	MML 169N 3125	432960	MML 169N 4125	432972
FD 160	128-160	8 x In	MML 169N 3160	433603	MML 169N 4160	433605

STANDARD RANGE /  $I_{cu} = 50 \text{ kA}$  / "S"



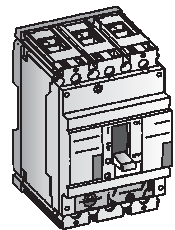
FD 160	12,8-16	10 x In	MML 169S 3016	430617	MML 169S 4016	430739
FD 160	16-20	10 x In	MML 169S 3020	430619	MML 169S 4020	430741
FD 160	20-25	10 x In	MML 169S 3025	430621	MML 169S 4025	430743
FD 160	26-32	10 x In	MML 169S 3032	430623	MML 169S 4032	430745
FD 160	32-40	10 x In	MML 169S 3040	430625	MML 169S 4040	430747
FD 160	40-50	10 x In	MML 169S 3050	430627	MML 169S 4050	430749
FD 160	50-63	10 x In	MML 169S 3063	430629	MML 169S 4063	430751
FD 160	64-80	10 x In	MML 169S 3080	430632	MML 169S 4080	430754
FD 160	80-100	10 x In	MML 169S 3100	430635	MML 169S 4100	430757
FD 160	100-125	10 x In	MML 169S 3125	430638	MML 169S 4125	430760
FD 160	128-160	8 x In	MML 169S 3160	433574	MML 169S 4160	433592

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA}$  / "H"



FD 160	12,8-16	10 x In	MML 169H 3016	430325	MML 169H 4016	430447
FD 160	16-20	10 x In	MML 169H 3020	430327	MML 169H 4020	430449
FD 160	20-25	10 x In	MML 169H 3025	430329	MML 169H 4025	430451
FD 160	26-32	10 x In	MML 169H 3032	430331	MML 169H 4032	430453
FD 160	32-40	10 x In	MML 169H 3040	430333	MML 169H 4040	430455
FD 160	40-50	10 x In	MML 169H 3050	430335	MML 169H 4050	430457
FD 160	50-63	10 x In	MML 169H 3063	430337	MML 169H 4063	430459
FD 160	64-80	10 x In	MML 169H 3080	430340	MML 169H 4080	430462
FD 160	80-100	10 x In	MML 169H 3100	430343	MML 169H 4100	430465
FD 160	100-125	10 x In	MML 169H 3125	430346	MML 169H 4125	430468
FD 160	128-160	8 x In	MML 169H 3160	435823	MML 169H 4160	435841

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA}$  / "X"



FD 160	20-25	10 x In	MML 169X 3025	430509	MML 169X 4025	430582
FD 160	26-32	10 x In	MML 169X 3032	430511	MML 169X 4032	430584
FD 160	32-40	10 x In	MML 169X 3040	430513	MML 169X 4040	430586
FD 160	40-50	10 x In	MML 169X 3050	430515	MML 169X 4050	430588
FD 160	50-63	10 x In	MML 169X 3063	430517	MML 169X 4063	430590
FD 160	64-80	10 x In	MML 169X 3080	430520	MML 169X 4080	430593
FD 160	80-100	10 x In	MML 169X 3100	430523	MML 169X 4100	430596
FD 160	100-125	10 x In	MML 169X 3125	430526	MML 169X 4125	430599
FD 160	128-160	8 x In	MML 169X 3160	435847	MML 169X 4160	435856

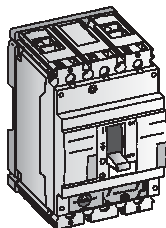
(1) Neutral on the left. If neutral on the right is needed, please contact us.

Frame size FD

J

## MCCBs Record Plus MMG 169 for generator protection

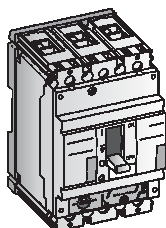
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With adjustable thermal overload trip and fixed short-circuit trip "G"

Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160	20-25	5 x I <sub>n</sub>	MMG 169S 3025	430640	MMG 169S 4025	430762
FD 160	25,6-32	5 x I <sub>n</sub>	MMG 169S 3032	430642	MMG 169S 4032	430764
FD 160	32-40	5 x I <sub>n</sub>	MMG 169S 3040	430644	MMG 169S 4040	430766
FD 160	40-50	5 x I <sub>n</sub>	MMG 169S 3050	430646	MMG 169S 4050	430768
FD 160	50,4-63	5 x I <sub>n</sub>	MMG 169S 3063	430648	MMG 169S 4063	430770
FD 160	64-80	4 x I <sub>n</sub>	MMG 169S 3080	430651	MMG 169S 4080	430773
FD 160	80-100	4 x I <sub>n</sub>	MMG 169S 3100	430654	MMG 169S 4100	430776
FD 160	100-125	4 x I <sub>n</sub>	MMG 169S 3125	430657	MMG 169S 4125	430779
FD 160	128-160	4 x I <sub>n</sub>	MMG 169S 3160	433577	MMG 169S 4160	433595

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$

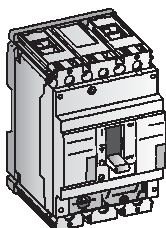


FD 160	20-25	5 x I <sub>n</sub>	MMG 169H 3025	430348	MMG 169H 4025	430470
FD 160	26-32	5 x I <sub>n</sub>	MMG 169H 3032	430350	MMG 169H 4032	430472
FD 160	32-40	5 x I <sub>n</sub>	MMG 169H 3040	430352	MMG 169H 4040	430474
FD 160	40-50	5 x I <sub>n</sub>	MMG 169H 3050	430354	MMG 169H 4050	430476
FD 160	50-63	5 x I <sub>n</sub>	MMG 169H 3063	430356	MMG 169H 4063	430478
FD 160	64-80	4 x I <sub>n</sub>	MMG 169H 3080	430359	MMG 169H 4080	430481
FD 160	80-100	4 x I <sub>n</sub>	MMG 169H 3100	430362	MMG 169H 4100	430484
FD 160	100-125	4 x I <sub>n</sub>	MMG 169H 3125	430365	MMG 169H 4125	430487
FD 160	128-160	4 x I <sub>n</sub>	MMG 169H 3160	435826	MMG 169H 4160	435844

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MMM 169 for motor starter

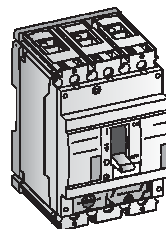
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With adjustable short-circuit trip only "M"

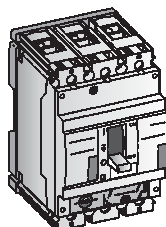
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160	8	10-15 x I <sub>n</sub>	MMM 169S 3007	430601	MMM 169S 4007	430659
FD 160	12,5	10-15 x I <sub>n</sub>	MMM 169S 3012	430603	MMM 169S 4012	430661
FD 160	20	10-15 x I <sub>n</sub>	MMM 169S 3020	430605	MMM 169S 4020	430663
FD 160	30	10-15 x I <sub>n</sub>	MMM 169S 3030	430607	MMM 169S 4030	430665
FD 160	50	10-15 x I <sub>n</sub>	MMM 169S 3050	430609	MMM 169S 4050	430667
FD 160	80	10-15 x I <sub>n</sub>	MMM 169S 3080	430612	MMM 169S 4080	430670
FD 160	100	10-15 x I <sub>n</sub>	MMM 169S 3100	430615	MMM 169S 4100	430673

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$



FD 160	8	10-15 x I <sub>n</sub>	MMM 169H 3007	430309	MMM 169H 4007	430367
FD 160	12,5	10-15 x I <sub>n</sub>	MMM 169H 3012	430311	MMM 169H 4012	430369
FD 160	20	10-15 x I <sub>n</sub>	MMM 169H 3020	430313	MMM 169H 4020	430371
FD 160	30	10-15 x I <sub>n</sub>	MMM 169H 3030	430315	MMM 169H 4030	430373
FD 160	50	10-15 x I <sub>n</sub>	MMM 169H 3050	430317	MMM 169H 4050	430375
FD 160	80	10-15 x I <sub>n</sub>	MMM 169H 3080	430320	MMM 169H 4080	430378
FD 160	100	10-15 x I <sub>n</sub>	MMM 169H 3100	430323	MMM 169H 4100	430381

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA} / "X"$

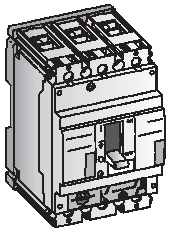


FD 160	20	10-15 x I <sub>n</sub>	MMM 169X 3020	430493	MMM 169X 4020	430532
FD 160	30	10-15 x I <sub>n</sub>	MMM 169X 3030	430495	MMM 169X 4030	430534
FD 160	50	10-15 x I <sub>n</sub>	MMM 169X 3050	430497	MMM 169X 4050	430536
FD 160	80	10-15 x I <sub>n</sub>	MMM 169X 3080	430500	MMM 169X 4080	430539
FD 160	100	10-15 x I <sub>n</sub>	MMM 169X 3100	430503	MMM 169X 4100	430542

(1) Neutral on the left. If neutral on the right is needed, please contact us.



## Non-automatic MCCBs Record Plus MMT 169



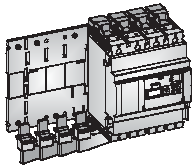
### Without trip unit "T"

Frame size	I <sub>r</sub> A	3 pole		4 pole <sup>(1)</sup>	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160	63	MMT 169 3063	430804	MMT 169 4063	430809
FD 160	160	MMT 169 3160	430807	MMT 169 4160	430812

(1) Neutral on the left. If neutral on the right is needed, please contact us.

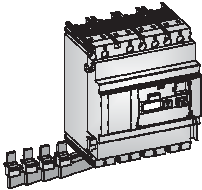
## Residual current devices to fit to MCCBs Record Plus MM 169

Standard for RCD side mounting,  
includes DIN-rail mounting kit  
& multidirectional supply kit



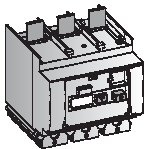
Frame size	Rated voltage V AC	3 pole		4 pole <sup>(1)</sup>	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FD 160 <sup>(1)</sup>	220 / 440	DG3 / MM9-2	431098	DG4 / MM9-2	431113
	400 / 690	DG3 / MM9-4	431092	DG4 / MM9-4	431102

RCD for side connection only,  
includes DIN-rail mounting kit  
& interconnection kit for top or bottom use



FD 160 <sup>(1)</sup>	220 / 440	DD3 / MM9-2	431087	DD4 / MM9-2	431089
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RCD for bottom mounting  
below the trip unit area



FD 160 <sup>(1)</sup>	220 / 440	DB3 / MM9-2	431079	DB4 / MM9-2	431085
	400 / 690	DB3 / MM9-4	431077	DB4 / MM9-4	431081

### Accessories



Bell alarm RCD device	1 NO	FAB AT10	430818	-	-
	1 NC	FAB AT01	430815	-	-

(1) Not possible on MML 169R and MML 169L types from page J.6



## MCCB Record Plus type MC 169 / 259

### Frame size FE

### Breaking capacities

Icu = 400 / 415 V/AC

Breaker type	MC. 169S MC. 259S	MC. 169H MC. 259H	MC. 169X MC. 259X
Denomination	S	H	X
Icu (kAeff)	50	80	150

### Protection

Rated current (A)	Frame size	Trip unit				
		L	S	G	M	E
8	FE 160				S, H, X	
12,5					S, H, X	
16						
20					S, H, X	
25		S, H, X				S, H, X
30					S, H, X	
32	S, H, X					
40	S, H, X					
50	S, H, X				S, H, X	
63	S, H, X					S, H, X
80	S, H, X				S, H, X	
100	S, H, X	S, H, X	S, H, X	S, H, X	S, H, X	
125	S, H, X	S, H, X	S, H, X	S, H, X		S, H, X
160	S, H, X	S, H, X	S, H, X	S, H, X	S, H, X	S, H, X
125	FE 250		S, H, X			S, H, X
160			S, H, X	S, H, X	S, H, X	S, H, X
200			S, H, X	S, H, X	S, H, X	
250			S, H, X	S, H, X	S, H, X	S, H, X

#### L (LTM)

Line protection  
thermal / magnetic protection

#### S (LTMD)

selective protection  
thermal / magnetic protection

#### G (GTM)

Generator protection  
thermal / magnetic protection

#### M (Mag. Break)

Magnetic protection only

#### E (PremEon)

selective electronic trip unit

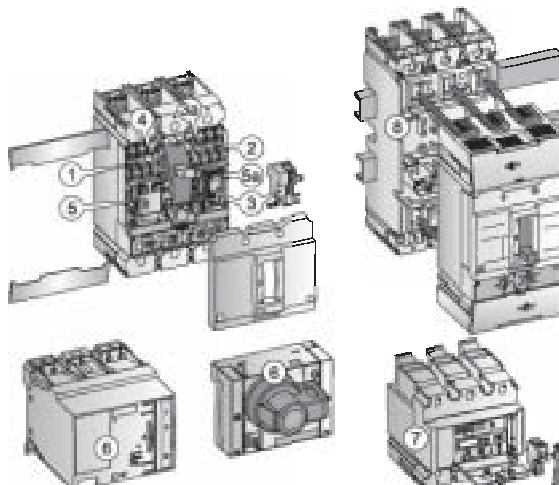
#### T (Y)

non automatic, switch only  
not mentioned in schedule

### No of poles

Rated current	Trip unit				
	L	S	G	M	E
3 pole / 3 trips	S, H, X	S, H, X	S, H, X	S, H, X	S, H, X
4 pole / 3 trips				S, H, X	
4 pole / 4 trips	S, H, X	S, H, X	S, H, X		S, H, X

- ① Auxiliary contact left mounted (NO or NC) 1 or 2 pcs.
- ② Auxiliary contact right mounted (NO or NC) 1 or 2 pcs.
- ③ Bell Alarm thermal magnetic trip unit (NO or NC)
- ③a Bell Alarm electronic trip unit (NO or NC)
- ④ Bell Alarm mechanism (NO or NC)
- ⑤ Shunt or Undervoltage release
- ⑤a Actuator for electronic trip unit
- ⑥ Operators  
Rotary handle  
Electrical operator
- ⑦ Bottom mounted RCD (below trip unit) (Insert indicates Bell alarm contact mounting)
- ⑧ Plug-in or draw-out system



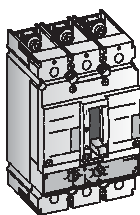
## Technical data MCCBs type MC 169 / 259

Circuit breaker type		MC 169			MC 259		
Denomination		S	H	X	S	H	X
<b>EN 60947-2 standard</b>							
Poles	Number of	3,4			3,4		
Rated insulation voltage	Ui (Volts)	750			750		
Rated impulse withstand voltage	Uimp (Kilovolt)	8			8		
Rated operational voltage Ue	Volts AC	690			690		
	Volts DC	500			500		
<b>Line protection device</b>							
Category of use		A			A		
Suitable for use as a isolator	Positive ON & OFF	yes			yes		
Rated current Ith = Ie	A at 40°C	160			250		
Ultimate breaking capacity Icu (kA)	230/240V AC	85	100	200	85	100	200
	400/415V AC	50	80	150	50	80	150
	440V AC	42	65	130	42	65	130
	500V AC	30	50	100	30	50	100
	690V AC	10	22	75	10	15	22
	250V DC Single pole	50	85	100	50	85	100
	440V DC Two pole	50	85	100 <sup>(1)</sup>	50	85	100 <sup>(1)</sup>
	500V DC Two pole	50	85 <sup>(1)</sup>	100 <sup>(1)</sup>	50	85 <sup>(1)</sup>	100 <sup>(1)</sup>
Service breaking capacity Ics (%Icu)	≤ 500V	100%	100%	100%	100%	100%	100%
	690V AC	100%	75%	25%	100%	75%	50%
Single phase breaking capacity I <sub>TP</sub> (kA)	230V AC	50	80	150	50	80	150
	400/415V AC	15	22	36	10	15	22
Endurance (CO operations)	Mechanical	40000			25000		
	Electrical at In	20000			10000		
	Electrical at In/2	30000			20000		
Endurance (On-Tripped operations)	Mechanical	16000			10000		
Trip Units	Interchangeable	yes			yes		
	Thermal Magnetic line	LTM					
	Thermal Magnetic generator	GTM			GTM		
	Thermal Magnetic selective	LTMD			LTMD		
	Magnetic Only	Mag Break™			Mag Break™		
	Electronic selective	PremEon™			PremEon™		
	Electronic Enhanced						
Circuit breaker type and denomination		MCT 169			MCT 259		
<b>EN 60947-3 standard</b>							
<b>Non automatic breaker (Switch)</b>							
Rated current In (class AC23)	220V AC to 690V AC	160			250		
Rated making capacity	I <sub>cm</sub> (kA peak)	4,9			6,4		
Short-term withstand current I <sub>sw</sub> (kA)	I <sub>sw</sub> eff. 1 second	3			4		
	I <sub>sw</sub> eff. 3 seconds	3			4		
Circuit breaker type		MCM 169			MCM 259		
Denomination		S	H	X	S	H	X
<b>EN 60947-4 standard</b>							
<b>Use in motor circuits</b>							
Rated current Ith	A at 65°C	150			225		
Endurance (CO operations)	Mechanical	40000			25000		
	Electrical at In class AC23	10000			20000		
	Operations per hour	120			120		
Protection	Short-circuit only (separate overload device)	Mag Break™			Mag Break™		
	Overload class 10 and Short-circuit	PremEon™			PremEon™		
	Max In (A) class 10	150			225		
	Max In (A) class 30	150			225		
	Earth fault unit (differential)	type DB 3 / DB 4			type DB 3 / DB 4		
Circuit breaker / Switch type		MC 169			MC 259		
<b>Installation</b>							
Mounting	On symmetrical DIN Rail	no			yes		
	Fixed	yes			yes		
	Plug in	yes			yes		
	Draw out	no			no		
Connection	Front	yes			yes		
	Rear	no			yes		
Dimensions (w x h x d) mm	3 pole, fixed front connection	105 x 170 x 95			105 x 170 x 95		
	4 pole, fixed front connection	140 x 170 x 95			140 x 170 x 95		
Weights (kg)	3 pole, fixed front connection	1.5			1.6		
	4 pole, fixed front connection	2.0			2.1		

(1) Use 3 poles.

### MCCBs Record Plus MCL 169 for line protection

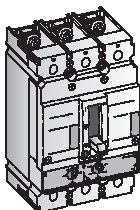
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With adjustable thermal overload trip and fixed (up to  $I_r = 80 \text{ A}$ ) / adjustable short-circuit trip "L"

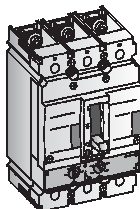
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	20-25	8 x I <sub>r</sub>	MCL169S 3025	435105	MCL169S 4025	435216
FE 160	26-32	8 x I <sub>r</sub>	MCL169S 3032	435108	MCL169S 4032	435219
FE 160	32-40	8 x I <sub>r</sub>	MCL169S 3040	435111	MCL169S 4040	435222
FE 160	40-50	8 x I <sub>r</sub>	MCL169S 3050	435114	MCL169S 4050	435225
FE 160	50-63	8 x I <sub>r</sub>	MCL169S 3063	435117	MCL169S 4063	435228
FE 160	64-80	8 x I <sub>r</sub>	MCL169S 3080	431753	MCL169S 4080	431951
FE 160	80-100	5-10 x I <sub>r</sub>	MCL169S 3100	431759	MCL169S 4100	431957
FE 160	100-125	5-10 x I <sub>r</sub>	MCL169S 3125	431765	MCL169S 4125	431963
FE 160	128-160	5-10 x I <sub>r</sub>	MCL169S 3160	431771	MCL169S 4160	431969

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$



FE 160	20-25	8 x I <sub>r</sub>	MCL 169H 3025	434774	MCL 169H 4025	434885
FE 160	26-32	8 x I <sub>r</sub>	MCL 169H 3032	434777	MCL 169H 4032	434888
FE 160	32-40	8 x I <sub>r</sub>	MCL 169H 3040	434780	MCL 169H 4040	434891
FE 160	40-50	8 x I <sub>r</sub>	MCL 169H 3050	434783	MCL 169H 4050	434894
FE 160	50-63	8 x I <sub>r</sub>	MCL 169H 3063	434786	MCL 169H 4063	434897
FE 160	64-80	8 x I <sub>r</sub>	MCL 169H 3080	431167	MCL 169H 4080	431365
FE 160	80-100	5-10 x I <sub>r</sub>	MCL 169H 3100	431173	MCL 169H 4100	431371
FE 160	100-125	5-10 x I <sub>r</sub>	MCL 169H 3125	431179	MCL 169H 4125	431377
FE 160	128-160	5-10 x I <sub>r</sub>	MCL 169H 3160	431185	MCL 169H 4160	431383

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA} / "X"$

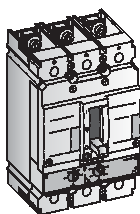


FE 160	20-25	8 x I <sub>r</sub>	MCL 169X 3025	434972	MCL 169X 4025	435051
FE 160	26-32	8 x I <sub>r</sub>	MCL 169X 3032	434975	MCL 169X 4032	435054
FE 160	32-40	8 x I <sub>r</sub>	MCL 169X 3040	434978	MCL 169X 4040	435057
FE 160	40-50	8 x I <sub>r</sub>	MCL 169X 3050	434981	MCL 169X 4050	435060
FE 160	50-63	8 x I <sub>r</sub>	MCL 169X 3063	434984	MCL 169X 4063	435063
FE 160	64-80	8 x I <sub>r</sub>	MCL 169X 3080	431460	MCL 169X 4080	431658
FE 160	80-100	5-10 x I <sub>r</sub>	MCL 169X 3100	431466	MCL 169X 4100	431664
FE 160	100-125	5-10 x I <sub>r</sub>	MCL 169X 3125	431472	MCL 169X 4125	431670
FE 160	128-160	5-10 x I <sub>r</sub>	MCL 169X 3160	431478	MCL 169X 4160	431676

(1) Neutral on the left. If neutral on the right is needed, please contact us.

### MCCBs Record Plus MCS 169 / 259 for line protection

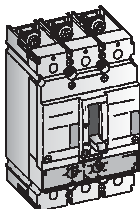
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With selective adjustable thermal overload trip and adjustable short-circuit trip "S"

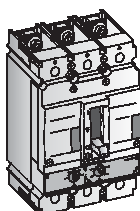
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	80-100	5-10 x I <sub>r</sub>	MCS 169S 3100	432947	MCS 169S 4100	433063
FE 160	100-125	5-10 x I <sub>r</sub>	MCS 169S 3125	432959	MCS 169S 4125	433069
FE 160	128-160	5-10 x I <sub>r</sub>	MCS 169S 3160	432975	MCS 169S 4160	433075
FE 250	100-125	5-10 x I <sub>r</sub>	MCS 259S 3125	432968	MCS 259S 4125	433072
FE 250	128-160	5-10 x I <sub>r</sub>	MCS 259S 3160	432978	MCS 259S 4160	433078
FE 250	160-200	5-10 x I <sub>r</sub>	MCS 259S 3200	432981	MCS 259S 4200	433081
FE 250	200-250	5-10 x I <sub>r</sub>	MCS 259S 3250	432984	MCS 259S 4250	433084

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$



FE 160	80-100	5-10 x I <sub>r</sub>	MCS 169H 3100	431009	MCS 169H 4100	432290
FE 160	100-125	5-10 x I <sub>r</sub>	MCS 169H 3125	431115	MCS 169H 4125	432299
FE 160	128-160	5-10 x I <sub>r</sub>	MCS 169H 3160	431979	MCS 169H 4160	432305
FE 250	100-125	5-10 x I <sub>r</sub>	MCS 259H 3125	431964	MCS 259H 4125	432302
FE 250	128-160	5-10 x I <sub>r</sub>	MCS 259H 3160	432002	MCS 259H 4160	432310
FE 250	160-200	5-10 x I <sub>r</sub>	MCS 259H 3200	432078	MCS 259H 4200	432314
FE 250	200-250	5-10 x I <sub>r</sub>	MCS 259H 3250	432098	MCS 259H 4250	432319

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA} / "X"$

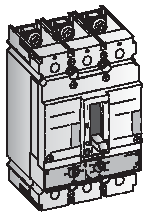


FE 160	80-100	5-10 x I <sub>r</sub>	MCS 169X 3100	432335	MCS 169X 4100	432917
FE 160	100-125	5-10 x I <sub>r</sub>	MCS 169X 3125	432343	MCS 169X 4125	432923
FE 160	128-160	5-10 x I <sub>r</sub>	MCS 169X 3160	432352	MCS 169X 4160	432929
FE 250	100-125	5-10 x I <sub>r</sub>	MCS 259X 3125	432347	MCS 259X 4125	432926
FE 250	128-160	5-10 x I <sub>r</sub>	MCS 259X 3160	432356	MCS 259X 4160	432932
FE 250	160-200	5-10 x I <sub>r</sub>	MCS 259X 3200	432359	MCS 259X 4200	432935
FE 250	200-250	5-10 x I <sub>r</sub>	MCS 259X 3250	432364	MCS 259X 4250	432938

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MCG 169 / 259 for generator protection

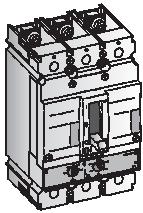
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With adjustable thermal overload trip and fixed (up to  $I_r = 100 \text{ A}$ ) / adjustable short-circuit trip "G"

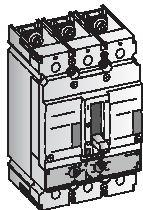
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	80-100	4 x I <sub>r</sub>	MCG 169S 3100	435141	MCG 169S 4100	435252
FE 160	100-125	3-5 x I <sub>r</sub>	MCG 169S 3125	435144	MCG 169S 4125	435255
FE 160	128-160	3-5 x I <sub>r</sub>	MCG 169S 3160	435150	MCG 169S 4160	435261
FE 250	120 -160	3-5 x I <sub>r</sub>	MCG 259S 3160	435153	MCG 259S 4160	435264
FE 250	160 -200	3-5 x I <sub>r</sub>	MCG 259S 3200	435156	MCG 259S 4200	435267
FE 250	200-250	3-5 x I <sub>r</sub>	MCG 259S 3250	435159	MCG 259S 4250	435270

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$



FE 160	80-100	4 x I <sub>r</sub>	MCG 169H 3100	434810	MCG 169H 4100	434921
FE 160	100-125	3-5 x I <sub>r</sub>	MCG 169H 3125	434813	MCG 169H 4125	434924
FE 160	128-160	3-5 x I <sub>r</sub>	MCG 169H 3160	434819	MCG 169H 4160	434930
FE 250	120 -160	3-5 x I <sub>r</sub>	MCG 259H 3160	434822	MCG 259H 4160	434933
FE 250	160 -200	3-5 x I <sub>r</sub>	MCG 259H 3200	434825	MCG 259H 4200	434936
FE 250	200-250	3-5 x I <sub>r</sub>	MCG 259H 3250	434828	MCG 259H 4250	434939

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA} / "X"$

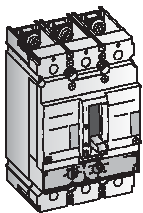


FE 160	80-100	4 x I <sub>r</sub>	MCG 169X 3100	435925	MCG 169X 4100	435994
FE 160	100-125	3-5 x I <sub>r</sub>	MCG 169X 3125	435928	MCG 169X 4125	435997
FE 160	128-160	3-5 x I <sub>r</sub>	MCG 169X 3160	435934	MCG 169X 4160	436004
FE 250	120 -160	3-5 x I <sub>r</sub>	MCG 259X 3160	435937	MCG 259X 4160	436007
FE 250	160 -200	3-5 x I <sub>r</sub>	MCG 259X 3200	435940	MCG 259X 4200	436010
FE 250	200-250	3-5 x I <sub>r</sub>	MCG 259X 3250	435943	MCG 259X 4250	436013

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MCM 169 / 259 for motor starter

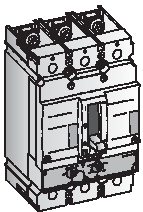
STANDARD RANGE /  $I_{cu} = 50 \text{ kA} / "S"$



With adjustable short-circuit trip only "M"

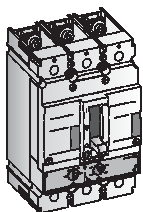
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 4 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	50	7-15 x I <sub>n</sub>	MCM 169S 3050	435087	MCM 169S 4050	435162
FE 160	80	10-15 x I <sub>n</sub>	MCM 169S 3080	435901	-	-
FE 160	100	10-15 x I <sub>n</sub>	MCM 169S 3100	435090	MCM 169S 4100	435165
FE 160	160	10-15 x I <sub>n</sub>	MCM 169S 3160	435096	MCM 169S 4160	435171
FE 250	160	10-15 x I <sub>n</sub>	MCM 259S 3160	435099	MCM 259S 4160	435174
FE 250	200	10-15 x I <sub>n</sub>	MCM 259S 3200	436793	MCM 259S 4200	436796
FE 250	250	10-15 x I <sub>n</sub>	MCM 259S 3250	435102	MCM 259S 4250	435177

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA} / "H"$



FE 160	50	7-15 x I <sub>n</sub>	MCM 169H 3050	434756	MCM 169H 4050	434831
FE 160	80	7-15 x I <sub>n</sub>	MCM 169H 3080	435895	-	-
FE 160	100	10-15 x I <sub>n</sub>	MCM 169H 3100	434759	MCM 169H 4100	434834
FE 160	160	10-15 x I <sub>n</sub>	MCM 169H 3160	434765	MCM 169H 4160	434840
FE 250	160	10-15 x I <sub>n</sub>	MCM 259H 3160	434768	MCM 259H 4160	434843
FE 250	200	10-15 x I <sub>n</sub>	MCM 259H 3200	436780	MCM 259H 4200	435906
FE 250	250	10-15 x I <sub>n</sub>	MCM 259H 3250	434771	MCM 259H 4250	434846

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA} / "X"$

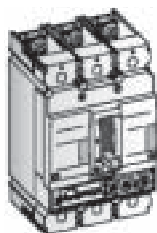


FE 160	50	10-15 x I <sub>n</sub>	MCM 169X 3050	434954	MCM 169X 4050	434996
FE 161	80	10-15 x I <sub>n</sub>	MCM 169X 3080	435898	-	-
FE 160	100	10-15 x I <sub>n</sub>	MCM 169X 3100	434957	MCM 169X 4100	435000
FE 160	160	10-15 x I <sub>n</sub>	MCM 169X 3160	434963	MCM 169X 4160	435006
FE 250	160	10-15 x I <sub>n</sub>	MCM 259X 3160	434966	MCM 259X 4160	435009
FE 250	200	10-15 x I <sub>n</sub>	MCM 259X 3200	436791	MCM 259X 4200	436792
FE 250	250	10-15 x I <sub>n</sub>	MCM 259X 3250	434969	MCM 259X 4250	435012

(1) Neutral on the left. If neutral on the right is needed, please contact us.

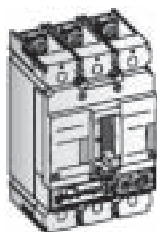
**MCCBs Record Plus MCA 169 / 259 with PremEon™ S electronic trip units**

**STANDARD RANGE / Icu = 50 kA / "S"**



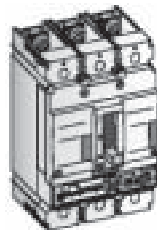
Frame size	Ir A	Irm A	3 pole		4 pole <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	25	2 - 13 x lr	MCA169S3025	437633	MCA169S4025	437637
FE 160	63	2 - 13 x lr	MCA169S3063	437641	MCA169S4063	437645
FE 160	125	2 - 13 x lr	MCA169S3125	437649	MCA169S4125	437653
FE 160	160	2 - 13 x lr	MCA169S3160	437657	MCA169S4160	437661
FE 250	125	2 - 13 x lr	MCA259S3125	437886	MCA259S4125	437890
FE 250	160	2 - 13 x lr	MCA259S3160	437665	MCA259S4160	437669
FE 250	250	2 - 13 x lr	MCA259S3250	437673	MCA259S4250	437677

**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FE 160	25	2 - 13 x lr	MCA169H3025	437634	MCA169H4025	437638
FE 160	63	2 - 13 x lr	MCA169H3063	437642	MCA169H4063	437646
FE 160	125	2 - 13 x lr	MCA169H3125	437650	MCA169H4125	437654
FE 160	160	2 - 13 x lr	MCA169H3160	437658	MCA169H4160	437662
FE 250	125	2 - 13 x lr	MCA259H3125	437887	MCA259H4125	437891
FE 250	160	2 - 13 x lr	MCA259H3160	437666	MCA259H4160	437670
FE 250	250	2 - 13 x lr	MCA259H3250	437674	MCA259H4250	437678

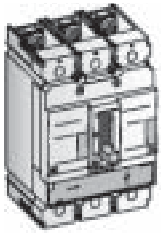
**LIMITOR RANGE / Icu = 150 kA / "X"**



FE 160	25	2 - 13 x lr	MCA169X3025	437635	MCA169X4025	437639
FE 160	63	2 - 13 x lr	MCA169X3063	437643	MCA169X4063	437647
FE 160	125	2 - 13 x lr	MCA169X3125	437651	MCA169X4125	437655
FE 160	160	2 - 13 x lr	MCA169X3160	437659	MCA169X4160	437663
FE 250	125	2 - 13 x lr	MCA259X3125	437888	MCA259X4125	437892
FE 250	160	2 - 13 x lr	MCA259X3160	437667	MCA259X4160	437671
FE 250	250	2 - 13 x lr	MCA259X3250	437675	MCA259X4250	437679

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## Non-automatic MCCBs Record Plus MCT 169 / 259



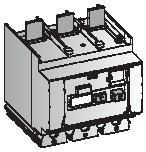
### Without trip unit "T"

Frame size	I <sub>r</sub> A	3 pole		4 pole <sup>(1)</sup>	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	160	MCT 169 3160	431990	MCT 169 4160	431996
FE 250	250	MCT 259 3250	431993	MCT 259 4250	431999

(1) Neutral on the left. If neutral on the right is needed, please contact us.

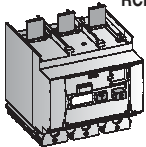
## Residual current devices to fit to MCCBs Record Plus MC 169 / 259

RCD for bottom mounting



Frame size	Rated voltage V AC	3 pole		4 pole	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FE 160	220 / 440	DB3 / M91-2	431137	DB4 / M91-2	431160
FE 160	400 / 690	DB3 / M91-4	431121	DB4 / M91-4	431148

RCD for bottom mounting



FE 250	220 / 440	DB3 / M92-2	431142	DB4 / M92-2	431162
FE 250	400 / 690	DB3 / M92-4	431127	DB4 / M92-4	431154

Accessories



Bell alarm RCD device	1 NO	FAB AT10	430818
	1 NC	FAB AT01	430815



## MCCB Record Plus type MC 409 / 639

### Frame size FG

### Breaking capacities

Icu = 400 / 415 V/AC

Breaker type	MC. 409S MC. 639S	MC. 409H MC. 639H	MC. 409X MC. 639X
Denomination	S	H	X
Icu (kAeff)	50	80	150

### Protection

Rated current (A)	Frame size	Trip unit	Trip unit	Trip unit
		M	E	F
250	FG 400		S, H, X	S, H, X
350		S, H, X	S, H, X	S, H, X
400			S, H, X	S, H, X
400	FG 630		S, H, X	S, H, X
500		S, H, X	S, H, X	S, H, X
630			S, H, X	S, H, X

### No of poles

Rated current	Trip unit	Trip unit	Trip unit
	M	E	F
3 pole / 3 trips	S, H, X	S, H, X	
4 pole / 3 trips	S, H, X		
4 pole / 4 trips		S, H, X	

#### L (LTM)

Line protection  
thermal / magnetic protection

#### M (Mag. Break)

Magnetic protection only

#### E (SMR1)

selective electronic trip unit

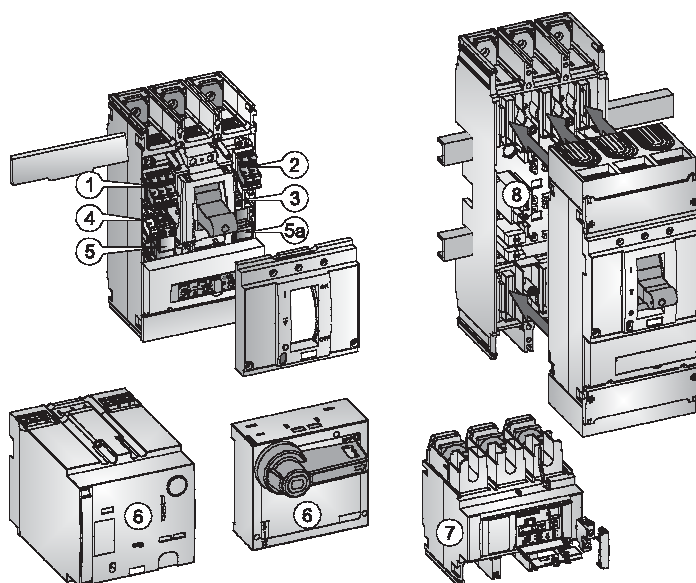
#### F (PremEon)

Modular electronic protection  
with enhanced functionality

#### T (Y)

non automatic, switch only  
not mentioned in schedule

- ① Auxiliary contact left mounted (NO or NC) 1, 2 or 3 pcs.
- ② Auxiliary contact right mounted (NO or NC) 1 or 2 pcs.
- ③ Bell Alarm thermal magnetic trip unit (NO or NC)
- ③a Bell Alarm electronic trip unit (NO or NC)
- ④ Bell Alarm mechanism (NO or NC)
- ⑤ Shunt or Undervoltage release
- ⑤a Actuator for electronic trip unit
- ⑥ Operators  
Rotary handle  
Electrical operator
- ⑦ Bottom mounted RCD (below trip unit) (Insert indicates Bell alarm contact mounting)
- ⑧ Plug-in or draw-out system





## Technical data MCCBs type MC 409 / 639

Circuit breaker type Denomination		MC 409			MC 639		
		S	H	X	S	H	X
<b>EN 60947-2 standard</b>							
Poles	Number of	3.4			3.4		
Rated insulation voltage	Ui (Volts)	750			750		
Rated impulse withstand voltage	Uimp (Kilovolt)	8			8		
Rated operational voltage Ue	Volts AC	690			690		
	Volts DC	-			-		
<b>Line protection device</b>							
Category of use		B <sup>(1)</sup>			B <sup>(1)</sup>		
Suitable for use as a isolator	Positive ON & OFF	yes			yes		
Rated current Ith = Ie	A at 40°C	400			630		
Ultimate breaking capacity Icu (kA)	230/240V AC	85	100	200	85	100	200
	400/415V AC	50	80	150	50	80	150
	440V AC	42	65	130	42	65	130
	500V AC	30	50	100	30	50	100
	690V AC	10 <sup>(2)</sup>	22 <sup>(2)</sup>	75 <sup>(2)</sup>	10	22	40 <sup>(2)</sup>
	250V DC Single pole						
	440V DC Two pole						
Service breaking capacity Ics (%Icu)	≤ 500V	100%	100%	100%	100%	100%	100%
	690V AC	100%	45%	25%	100%	45%	25%
Single phase breaking capacity I <sub>TP</sub> (kA)	230V AC	50	80	150	50	80	150
	400/415V AC	10	(3)	(3)	10	(3)	(3)
Endurance (CO operations)	Mechanical	20000			20000		
	Electrical at In	7500			5000		
	Electrical at In/2	15000			10000		
Endurance (On-Tripped operations)	Mechanical	8000			18000		
	Trip Units	Interchangeable			yes		
		Thermal Magnetic line					
		Thermal Magnetic generator					
		Thermal Magnetic selective					
		Magnetic Only			Mag Break™		
		Electronic selective			PremEon™		
		Electronic Enhanced			SMR2		
Circuit breaker type and denomination		MCT 409			MCT 639		
<b>EN 60947-3 standard</b>							
<b>Non automatic breaker (Switch)</b>							
Rated current In (class AC23)	220V AC to 690V AC	400			630		
Rated making capacity	I <sub>cm</sub> (kA peak)	8.5			11.3		
Short-term withstand current I <sub>sw</sub> (kA)	I <sub>sw</sub> eff. 1 second	5			6.5		
	I <sub>sw</sub> eff. 3 seconds	5			6.5		
<b>EN 60947-4 standard</b>							
<b>Use in motor circuits</b>							
Rated current Ith	A at 65°C	350			500		
Endurance (CO operations)	Mechanical	20000			20000		
	Electrical at In class AC23	7500			5000		
	Operations per hour	120			60		
Protection	Short-circuit only (separate overload device)	Mag Break™			Mag Break™		
	Overload class 10 and Short-circuit	PremEon™ or SMR2			PremEon™ or SMR2		
	Max In (A) class 10	350			500		
	Max In (A) class 30	350			500		
	Earth fault unit (differential)	type DB 3 / DB 4			type DB 3 / DB 4		
Circuit breaker / Switch type		MC 409			MC 639		
<b>Installation</b>							
Mounting	On symmetrical DIN Rail	no			no		
	Fixed	yes			yes		
	Plug in	yes			yes		
	Draw out	yes			yes		
Connection	Front	yes			yes		
	Rear	yes			yes		
Dimensions (w x h x d) mm	3 pole, fixed front connection	140 x 265 x 115			140 x 265 x 115		
	4 pole, fixed front connection	185 x 265 x 115			185 x 265 x 115		
Weights (kg)	3 pole, fixed front connection	4.5			4.5		
	4 pole, fixed front connection	6.0			6.0		

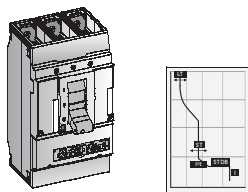
(1) 350A and 500A executions only.

(2) On use of FG 400 and FG 630L type at 690V, one long and widened terminal shield is required.

(3) Please contact us.

### MCCBs Record Plus MCB 409 / 639 for motorstarter

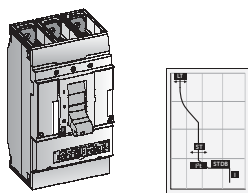
**STANDARD RANGE / Icu = 50 kA / "S"**



With electronic adjustable short-circuit trip only incl. rating plug "M"

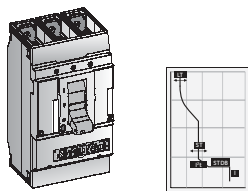
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400	350	2-13 x I <sub>r</sub>	MCB409S3400	438568	MCB409S4400	438572
FG 630	500	2-13 x I <sub>r</sub>	MCB639S3500	438584	MCB639S4500	438588

**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FG 400	350	2-13 x I <sub>r</sub>	MCB639H3500	438585	MCB409H4400	438573
FG 630	500	2-13 x I <sub>r</sub>	MCB639H3500	438585	MCB639H4500	438589

**LIMITOR RANGE / Icu = 150 kA / "X"**

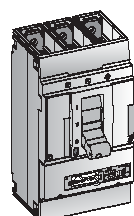


FG 400	350	2-13 x I <sub>r</sub>	MCB409X3400	438570	MCB409X4400	438574
FG 630	500	2-13 x I <sub>r</sub>	MCB639X3500	438586	MCB639X4500	438590

(1) Neutral on the left. If neutral on the right is needed, please contact us.

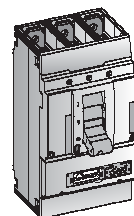
### MCCBs Record Plus MCA 409 / 639 with PremEon™ S electronic trip units

**STANDARD RANGE / Icu = 50 kA / "S"**



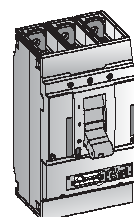
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole		4 pole <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400	250	2-13 x I <sub>r</sub>	MCA409S3250	438528	MCA409S4250	438532
FG 400	400	2-10 x I <sub>r</sub>	MCA409S3400	438536	MCA409S4400	438540
FG 630	400	2-13 x I <sub>r</sub>	MCA639S3400	438544	MCA639S4400	438548
FG 630	630	2-10 x I <sub>r</sub>	MCA639S3630	438552	MCA639S4630	438556

**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FG 400	250	2-13 x I <sub>r</sub>	MCA409H3250	438529	MCA409H4250	438533
FG 400	400	2-10 x I <sub>r</sub>	MCA409H3400	438569	MCA409H4400	438541
FG 630	400	2-13 x I <sub>r</sub>	MCA639H3400	438545	MCA639H4400	438549
FG 630	630	2-10 x I <sub>r</sub>	MCA639H3630	438553	MCA639H4630	438557

**LIMITOR RANGE / Icu = 150 kA / "X"**

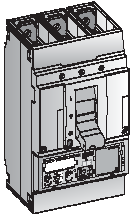


FG 400	250	2-13 x I <sub>r</sub>	MCA409X3250	438530	MCA409X4250	438534
FG 400	400	2-10 x I <sub>r</sub>	MCA409X3400	438570	MCA409X4400	438542
FG 630	400	2-13 x I <sub>r</sub>	MCA639X3400	438546	MCA639X4400	438550
FG 630	630	2-10 x I <sub>r</sub>	MCA639X3630	438554	MCA639X4630	438558

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MCF 409 / 639 with selective electronic trip unit type SMR2

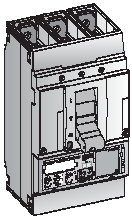
STANDARD RANGE /  $I_{cu} = 50 \text{ kA}$  / "S"



Without rating plug "F"

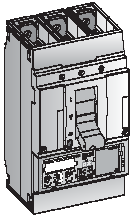
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole		4 pole <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400	250	2-13 x I <sub>r</sub>	MCF 409S 3250	434161	MCF 409S 4250	434177
FG 400	350	2-13 x I <sub>r</sub>	MCF 409S 3350	434485	MCF 409S 4350	435291
FG 400	400	2-10 x I <sub>r</sub>	MCF 409S 3400	434162	MCF 409S 4400	434178
FG 630	400	2-13 x I <sub>r</sub>	MCF 639S 3400	434163	MCF 639S 4400	434179
FG 630	500	2-13 x I <sub>r</sub>	MCF 639S 3500	434827	MCF 639S 4500	434875
FG 630	630	2-10 x I <sub>r</sub>	MCF 639S 3630	434164	MCF 639S 4630	434180

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA}$  / "H"



FG 400	250	2-13 x I <sub>r</sub>	MCF 409H 3250	434113	MCF 409H 4250	436221
FG 400	350	2-13 x I <sub>r</sub>	MCF 409H 3350	434395	MCF 409H 4350	434422
FG 400	400	2-10 x I <sub>r</sub>	MCF 409H 3400	434114	MCF 409H 4400	436222
FG 630	400	2-13 x I <sub>r</sub>	MCF 639H 3400	436219	MCF 639H 4400	434131
FG 630	500	2-13 x I <sub>r</sub>	MCF 639H 3500	434608	MCF 639H 4500	434635
FG 630	630	2-10 x I <sub>r</sub>	MCF 639H 3630	436220	MCF 639H 4630	434132

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA}$  / "X"

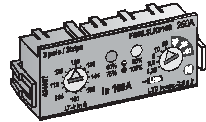
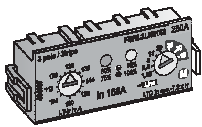


FG 400	250	2-13 x I <sub>r</sub>	MCF 409X 3250	434137	MCF 409X 4250	434153
FG 400	350	2-13 x I <sub>r</sub>	MCF 409X 3350	435283	MCF 409X 4350	434470
FG 400	400	2-10 x I <sub>r</sub>	MCF 409X 3400	434138	MCF 409X 4400	434154
FG 630	400	2-13 x I <sub>r</sub>	MCF 639X 3400	434139	MCF 639X 4400	434155
FG 630	500	2-13 x I <sub>r</sub>	MCF 639X 3500	434653	MCF 639X 4500	434797
FG 630	630	2-10 x I <sub>r</sub>	MCF 639X 3630	434140	MCF 639X 4630	434156

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## Rating plugs for trip unit type SMR2 for MCCBs Record Plus MCF 409 / 639

FOR LINE PROTECTION, ADJUSTABLE  $I_r = 0,64 - 1 \times I_n$  AND SWITCHABLE FOR LINE OR MOTOR PROTECTION



Frame size FG 400 / 630

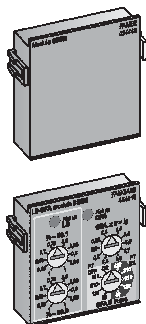
Frame size	I <sub>r</sub> A	3 pole 3 trips		4 pole 4 trips	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400	160	RPM43250-160	436749	RPM44250-160	434559
FG 400	250	RPM43250-250	436656	RPM44250-250	434562
FG 400	250	RPM43400-250	436747	RPM44400-250	434568
FG 400	350	RPM43400-350	436748	RPM44400-350	434582
FG 400	400 <sup>(2)</sup>	RPM43400-400	436721	RPM44400-400	434584
FG 630	250	RPM63400-250	436739	RPM64400-250	434492
FG 630	400	RPM63400-400	436746	RPM64400-400	434493
FG 630	400	RPM63630-400	436726	RPM64630-400	434496
FG 630	500	RPM63630-500	436738	RPM64630-500	434502
FG 630	630 <sup>(3)</sup>	RPM63630-630	436722	RPM64630-630	434532

(1) Neutral on the left. If neutral on the right is needed, please contact us.

(2) 400 A unit for line protection only.

(3) Motor protection mode limited to 500 A.

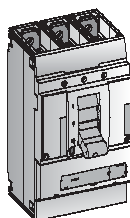
### Extension modules for the trip unit SMR2



1 piece only, replaced the filler module of the trip unit

For trip unit	Description	Cat. No.	Ref. No.
SMR 2	Groundfault Protection + Fault type indicators	FAM GFT2	436190
SMR 2	2 channel load shedding device + Modbus communication Rtu + Fault type indicators	FAM SM2 FAM ST2	436192 436197
SMR 2	Fault type indicators + Modbus communication Rtu	FAM MT2	436191
SMR 2	Spare filler module	FAM B2	434448

### Non-automatic MCCBs Record Plus MCT 409 / 639

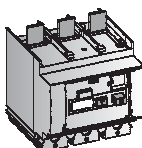


Without trip unit "T"

Frame size	I <sub>r</sub> A	3 pole 3 trips		4 pole <sup>(1)</sup>	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400	300	MCT 409 3400	431661	MCT 409 4400	431673
FG 630	630	MCT 639 3630	431667	MCT 639 4630	431689

(1) Neutral on the left. If neutral on the right is needed, please contact us.

### Residual current devices to fit to MC 409 / 639



RCD for bottom mounting

Frame size	Rated voltage V / AC	3 pole		4 pole	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 400 / 630	220 / 440	DB3 / M96-2	431169	DB4 / M96-2	431180
	400 / 690	DB3 / M96-4	431164	DB4 / M96-4	431176



Accessories


bell alarm RCD device	1 NO			FAB AT10	430818
	1 NC			FAB AT01	430815

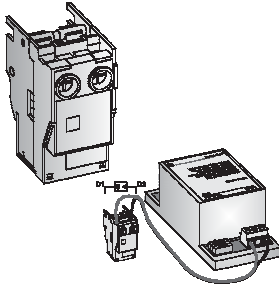
(1) Neutral on the left. If neutral on the right is needed, please contact us.

## Accessories for MCCBs Record Plus MM 169, MC 169 / 259 / 409 / 639

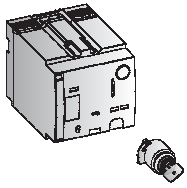
### INTERNAL ACCESSORIES

### For mounting with circuit breaker type

Description	MM 169 FD 160		MC 169 / 259 FE 160/250		MC 409 / 639 FG 400/630		
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
<b>Contacts</b> 	Aux. switch / right mounted						
	1NO	FAS 10R	430837	FAS 10R	430837	FAS 10R	430837
	1NO	FAS 01R	430831	FAS 01R	430831	FAS 01R	430831
	Aux. switch / left mounted						
	1NO	FAS 10L	430834	FAS 10L	430834	FAS 10L	430834
	1NO	FAS 01L	430828	FAS 01L	430828	FAS 01L	430828
	Bell alarm RCD device						
	1NO	FAB AT10	430818	FAB AT10	430818	FAB AT10	430818
	1NO	FAB AT01	430815	FAB AT01	430815	FAB AT01	430815
	Bell alarm mechanism <sup>(1)</sup>						
	1CO	FDB AM11	430880	-	-	-	-
	1NO	-	-	FAB AT10	430818	FAB AT10	432003
1NO	-	-	FAB AT01	430815	FAB AT01	432000	

<b>Releases</b> 	Shunt trip						
	12 V DC	FAS HTB	431960	FAS HTB	431960	FAS HTB	431960
	24 V AC/DC	FAS HTD	430843	FAS HTD	430843	FAS HTD	430843
	48 V AC/DC	FAS HTF	430846	FAS HTF	430846	FAS HTF	430846
	110/130 V AC/DC	FAS HTJ	430849	FAS HTJ	430849	FAS HTJ	430849
	220/240 V AC 250 V DC	FAS HTN	430852	FAS HTN	430852	FAS HTN	430852
	400/480 V AC	FAS HTU	430855	FAS HTU	430855	FAS HTU	430855
	Undervoltage relay						
	24 V AC/DC	FAU VRD	430861	FAU VRD	430861	FAU VRD	430861
	48 V AC/DC	FAU VRF	430864	FAU VRF	430864	FAU VRF	430864
	110/130 V AC/DC	FAU VRJ	430867	FAU VRJ	430867	FAU VRJ	430867
	220/240 V AC 250 V DC	FAU VRN	430870	FAU VRN	430870	FAU VRN	430870
	400/480 V AC	FAU VRU	430873	FAU VRU	430873	FAU VRU	430873
	220/240 V AC	FAU VDN	430858	FAU VDN	430858	FAU VDN	430858

### OPERATORS

	Electrical operators						
	24 V AC/DC	F/MM9-24U	430928	F/M92-24U	432054	F/M96-24U	432819
	48 V AC/DC	F/MM9-48U	430931	F/M92-48U	432057	F/M96-48U	432822
	60 V AC/DC	F/MM9-60U	430934	F/M92-60U	432060	F/M96-60U	432825
	110 V AC/DC	F/MM9-110U	430937	F/M92-110U	432063	F/M96-110U	432828
	220/250 V AC/DC	F/MM9-220U	430940	F/M92-220U	432066	F/M96-220U	432831
	400/440 V AC	F/MM9-400A	430922	F/M92-400A	435814	F/M96-400A	432813

	Keylock type Ronis for operator <sup>(2)</sup>						
		FD1 BRE	430877	FE1 BRE	430877	FD1 BRE	430877

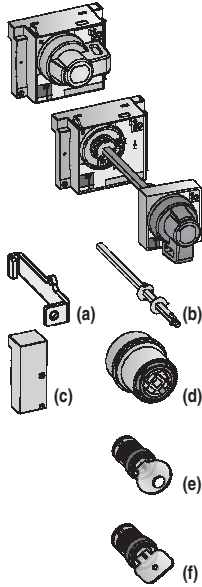
	Keylock type Profalux for operator <sup>(2)</sup>						
		FD1 BPE	430876	FD1 BPE	430876	FD1 BPE	430876

## Accessories for MCCBs Record Plus MM 169, MC 169 / 259 / 409 / 639

### ROTARY HANDLES

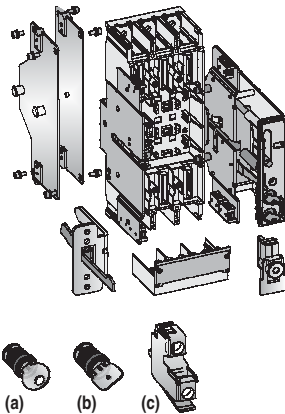
#### For mounting with circuit breaker type

Description	MM 169 FD 160		MC 169 / 259 FE 160/250		MC 409 / 639 FG 400/630	
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.
<b>Contacts</b>						
Direct on device						
Grey	MDG / MM9	436538	MDG / M92	436552	MDG / M96	436567
Red	MDR / MM9	436540	MDR / M92	436555	MDR / M96	436568
<b>Rotary handle for use through door/cover<sup>(3)</sup></b>						
Grey	MDBG / MM9	436532	MDBG / M92	436547	MDBG / M96	436562
Red	MDBR / MM9	436535	MDBR / M92	436548	MDBR / M96	436564
Grey + aux. contact 2 x NO <sup>(4)</sup>	MDBHG / MM9	436541	MDBHG / M92	436560	MDBHG / M96	436576
Red + aux. contact 2 x NO <sup>(4)</sup>	MDBHR / MM9	436542	MDBHR / M92	436561	MDBHR / M96	436577
<b>Panel or door mounted</b>						
Grey (max. 350 mm)	MRBG / MM9	436536	MRBG / M92	436550	MRBG / M96	436565
Red (max. 350 mm)	MRBR / MM9	436537	MRBR / M92	436551	MRBR / M96	436566
Grey + aux. contact 2 x NO <sup>(4)</sup>	MRBHG / MM9	436545	MRBHG / M92	436560	MRBHG / M96	436576
Red + aux. contact 2 x NO <sup>(4)</sup>	MRBHR / MM9	436546	MRBHR / M92	436561	MRBHR / M96	436577
<b>Accessories</b>						
Flex operator adaptor push to trip, 2 pcs (a) <sup>(5)</sup>	-	-	FEN FT	433531	-	-
Extension shaft kid (max. 600mm) (b) <sup>(5)</sup>	FDN RE	430986	FDN RE	430986	FGNRE	434735
Side-by-side installation adapter kit (c) <sup>(6)</sup>	FDN R4	430971	FEN R4	432099	-	-
Adapter for drawout (d)	-	-	ADW / M96	432122	ADW / M96	433894
<b>Keylock type Ronis 1104B nr. 1027 (e)<sup>(2)</sup></b>						
1053 (e) <sup>(2)</sup>	FA1 BR1	430088	FA1 BR1	430088	FA1 BR1	430088
2932 (e) <sup>(2)</sup>	FA1 BR2	430089	FA1 BR2	430089	FA1 BR2	430089
2911 (e) <sup>(2)</sup>	FA1 BR3	430504	FA1 BR3	430504	FA1 BR3	430504
2936 (e) <sup>(2)</sup>	FA1 BR4	430505	FA1 BR4	430505	FA1 BR4	430505
2940 (e) <sup>(2)</sup>	FA1 BR5	430506	FA1 BR5	430506	FA1 BR5	430506
2940 (e) <sup>(2)</sup>	FA1 BR6	430507	FA1 BR6	430507	FA1 BR6	430507
Ronis lock with random key (e) <sup>(2)</sup>	FA1 BRH	430068	FA1 BRH	430068	FA1 BRH	430068
Profalux lock with random key (f) <sup>(2)</sup>	FA1 BPH	430813	FA1 BPH	430813	FA1 BPH	430813



### DRAW-OUT SYSTEM

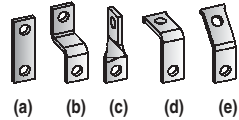
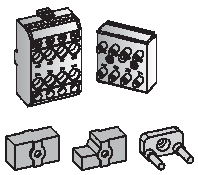
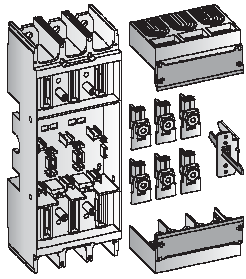
Complete set, 3 pole (fixed and moveable part)	-	-	-	-	EE3 / M96	432912
Complete set, 4 pole (fixed and moveable part)	-	-	-	-	EE4 / M96	432915
<b>Accessories for aux. disconnects see plug-in system</b>						
Key-lock system Ronis in draw-out position (a)	-	-	FE1 BRW	432188	FG1 BRW	433407
Key-lock system Profalux in draw-out position (b)	-	-	FE1 BPW	432184	FG1 BPW	433406
<b>Position indication contact</b>						
1NC (c)	-	-	FAS 01L	430828	FAS 01L	430828
1NO (c)	-	-	FAS 10L	430834	FAS 10L	430834



- (1) For Type MM 169 rated current max. 125 A
- (2) Key included.
- (3) Add door flange FD FH to allow use of the door interlock opinions.
- (4) On request 1NO + 1NC is available.
- (5) Only for use with panel or door mounted type.
- (6) Not for use with panel or door mounted type.

## Accessories for MCCBs Record Plus MM 169, MC 169 / 259 / 409 / 639

### PLUG-IN SYSTEM



### For mounting with circuit breaker type



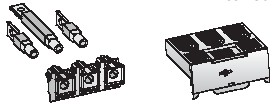
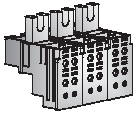
Description	MM 169 FD 160		MC 169 / 259 FE 160/250		MC 409 / 639 FG 400/630		
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
Complete set for breaker, 3 pole <sup>(1)</sup>	RC3 / MM9	430895	RC3 / M92	432036	RC3 / M96	431057	
Fixed part for breaker, 3 pole <sup>(1)</sup>	RF3 / MM9	430901	RF3 / M92	432042	RF3 / M96	431985	
Mobile part for breaker, 3 pole <sup>(1)</sup>	RM3 / MM9	430907	RM3 / M92	432048	RM3 / M96	432798	
Fixed part for breaker, 3 pole & RCD <sup>(1)</sup>	RFR3 / MM9	433491	RFR3 / M92	431841	-	-	
Mobile part for breaker, 3 pole & RCD <sup>(1)</sup>	RM3 / MM9	430907	RM3 / M92	432048	-	-	
Complete set for breaker, 4 pole <sup>(1)</sup>	RC4 / MM9	430898	RC4 / M92	432039	RC4 / M96	431066	
Fixed part for breaker, 4 pole <sup>(1)</sup>	RF4 / MM9	430904	RF4 / M92	432045	RF4 / M96	432795	
Mobile part for breaker, 4 pole <sup>(1)</sup>	RM4 / MM9	430910	RM4 / M92	432051	RM4 / M96	432801	
Fixed part for breaker, 4 pole & RCD <sup>(1)</sup>	RFR4 / MM9	433495	RFR4 / M92	431847	-	-	
Mobile part for breaker, 4 pole & RCD <sup>(1)</sup>	RM4 / MM9	430910	RM4 / M92	432051	-	-	
Auxiliary disconnects complete set, 8 pole	FAP FM	430824	FAP FM	430824	FAP FM	430824	
Auxiliary disconnects fixed part set, 8 pole	FAP F8	430823	FAP F8	430823	FAP F8	430823	
Auxiliary disconnects mobile part set, 8 pole	FAP M8	430826	FAP M8	430826	FAP M8	430826	
Plug and socket, 10 pole	FAP PS	430827	FAP PS	430827	FAP PS	430827	
Insertion prevention lit (of wrong A rating)	FAP IP	430825	FAP IP	430825	FAP IP	430825	
<b>CONNECTIONS</b>							
Extenders	3 pole standard flat type (a)	FDB ES3	430887	FEB ES3	432026	FGB ES3	431696
	heightened type (b)	FDB EH3	430885	FEB EH3	432024	FGB EH3	431691
	twisted 90° type (c)	FDB EA3	430883	FEB EA3	432022	FGB EA3	431686
	angled 45° type (d)	-	-	FEB E43	432018	-	-
	angled 90° type (e)	-	-	FEB E93	432020	-	-
4 pole	standard flat type (a)	FDB ES4	430888	FEB ES4	432027	FGB ES4	431697
	heightened type (b)	FDB EH4	430886	FEB EH4	432025	FGB EH4	431695
	twisted 90° type (c)	FDB EA4	430884	FEB EA4	432023	FGB EA4	431690
	angled 45° type (d)	-	-	FEB E44	432019	-	-
	angled 90° type (e)	-	-	FEB E94	432021	-	-
Spreaders flat	3 pole pole spacing 35 mm	FDB SS3	430891	-	-	-	-
	pole spacing 45 mm	-	-	FEB SS3	432032	-	-
	pole spacing 70 mm	-	-	-	-	FGB SS3	431981
	3 pole pole spacing 35 mm	FDB SS4	430892	-	-	-	-
	pole spacing 45 mm	-	-	FEB SS4	432033	-	-
	pole spacing 70 mm	-	-	-	-	FGB SS4	431982

(1) For Type MM 169 rated current max. 125 A

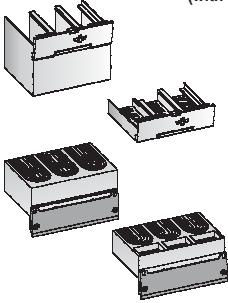
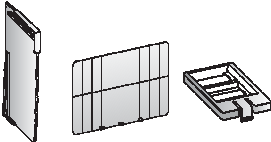
### Accessories for MCCBs Record Plus MM 169, MC 169 / 259 / 409 / 639

#### CONNECTIONS

#### For mounting with circuit breaker type

Description	MM 169 FD 160		MC 169 / 259 FE 160/250		MC 409 / 639 FG 400/630		
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
<b>External box clamps</b> 	3 pole set, cable Cu/Al 95 mm <sup>2</sup>	FDT CA1316	433400	-	-	-	
	4 pole set, cable Cu/Al mm <sup>2</sup>	FDT CA1416	433401	-	-	-	
	3 pole set, cable Cu/Al 70 -185 mm <sup>2</sup>	-	-	FET CA1323	432160	-	
	4 pole set, cable Cu/Al 70 - 185 mm <sup>2</sup>	-	-	FET CA1423	432158	-	
<b>Internal box clamps</b> 	3 pole set, cable Cu/Al 2.5 - 95 mm <sup>2</sup>	-	-	FET CA1316	432156	-	
	4 pole set, cable Cu/Al 2.5 - 95 mm <sup>2</sup>	-	-	FET CA1416	432158	-	
	3 pole set, cable Cu/Al 16 -150 mm <sup>2</sup>	-	-	FET CA1320	432157	-	
	4 pole set, cable Cu/Al 16 -150 mm <sup>2</sup>	-	-	FET CA1420	432159	-	
	3 pole set, cable Cu/Al 1x240 & 1x300 mm <sup>2</sup>	-	-	-	-	FGT CA230B	433412
	4 pole set, cable Cu/Al 1x240 & 1x300 mm <sup>2</sup>	-	-	-	-	FGT CA240B	433413
<b>Rear connections</b> 	3 pole set, 2 short & 1 long	FDB RC3	430889	FEB RC3	432028	FGB RC3	431701
	4 pole set, 2 short & 1 long	FDB RC4	430890	FEB RC4	432029	FGB RC4	431702
	3 pole set, 3 short	-	-	FEB RCS3	432190	FGB RCS3	432193
	4 pole set, 4 short	-	-	FEB RCS4	432191	FGB RCS4	432194
<b>External connections</b> 	3 pole set, 6 x 25 or 6 x 35 mm <sup>2</sup>	-	-	FET CA630A	880954	-	
	4 pole set, 6 x 25 or 6 x 35 mm <sup>2</sup>	-	-	FET CA640A	880955	-	

#### INSTALLATION ACCESSORIES

<b>Terminal shields (with finishing cover)</b> 	Long, set of 2 pcs, 3 pole	FDJ L3	430951	FEJ L3	432079	-	
	Long, set of 2 pcs, 4 pole	FDJ L4	430954	FEJ L4	432082	-	
<b>Specific to connection area</b> 	Medium, set of 2 pcs, 3 pole	-	-	-	-	FGJ M3	432846
	Medium, set of 2 pcs, 4 pole	-	-	-	-	FGJ M4	432849
	Short, set of 2 pcs 3 pole	FDJ S3	430960	FEJ S3	432088	FGJ S3	432855
	Short, set of 2 pcs 4 pole	FDJ S4	430963	FEJ S4	432091	FGJ S4	432858
	Phase separators, set of 12 pcs	FDJ P	430957	FEJP	432085	FGJ P	432852
	Backplate, set of 2 pcs (3 or 4 pole)	FDJ B	430945	FEJB	432073	FGJ B	432840
	Finger protection IP XXB, set of 12 pcs	FDJ K	430069	-	-	-	-

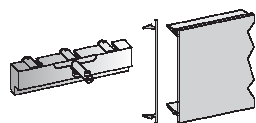


## Accessories for MCCBs Record Plus MM 169, MC 169 / 259 / 409 / 639

### PLUG-IN SYSTEM

### For mounting with circuit breaker type

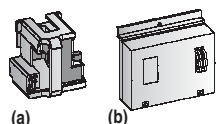
		MM 169 FD 160		MC 169 / 259 FE 160/250		MC 409 / 639 FG 400/630	
Description		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.



#### Covers

Cut-out adaptor, breaker + trip unit, 3pole	FDU F3	430830	-	-	-	-
Cut-out adaptor, breaker + trip unit, 4pole	FDU F4	430832	-	-	-	-
Cut-out filler for cover plate(64mm) length 1.2 m	FBF6	883970	FBF6	883970	-	-

#### Padlocking devices for toggle operator



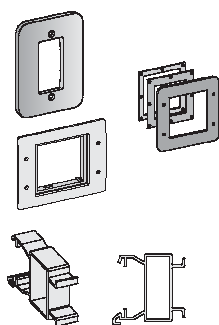
Padlocking removeable (a)	FD1 PR	430879	FD1 PR	430879	FG1 PR	431409
Padlocking fixed (b)	FD1 PF	430878	FE1 PF	432017	FG1 PF	431408

#### Circuit indication/coding



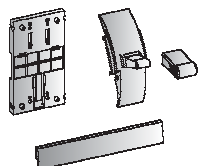
Set 20 blank labels	FAC	430821	FAC	430821	FAC	430821
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#### Door flanges



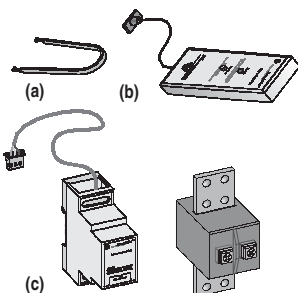
Breaker front face or RCD, 3pole	DFD F3	430941	-	-	-	-
Breaker front face or RCD, 4pole	DFD FF4	430942	-	-	-	-
Breaker front face, 3 pole	-	-	FEF F3	432067	-	-
Breaker front face, 4 pole	-	-	FEF F4	432068	-	-
RCD unit face for 3 and 4 pole	-	-	FDF F3	430941	FDF F3	430941
Front face toggle handle area	-	-	FEFT	432071	FGFT	432836
Rotary handle (through cover plate model)	DFDH	430829	DFDH	430829	DFDH	430829
Electrical operator	FDFE	432010	FEFE	430943	FGFE	430544

#### Spare parts



DIN rail adaptor kit, 3 pole	FDK D3	430966	-	-	-	-
DIN rail adaptor kit, 4 pole	FDK D4	430967	-	-	-	-
Finishing cover, set of 2 pcs, 3 pole	FDDA3	431025	FEUA3	432162	FGUA3	432908
Finishing cover, set of 2 pcs, 4 pole	FDDA4	431026	FEUA4	432163	FGUA4	432909
Spare toggle handle, set of 5 pcs	FDUT	433539	FEUT	433540	FGUT	433541

### ACCESSORIES FOR ELECTRONIC TRIP UNITS TYPE SMR1 AND SMR2



Rating plug tool for type SMR1 and SMR2 (a)	-	-	FAR	433500	FAR	433500
Battery test device for type SMR1 and SMR2 (b)	-	-	FAT	431402	FAT	431402
Long time module for type SMR1 and SMR2 (c)	-	-	LTM / M92	433005	LTM / M92	433005
Ground fault sensor 250 A for type SMR2	-	-	-	-	FGG S0250	431870
Ground fault sensor 400 A for type SMR2	-	-	-	-	FGG S0400	432838
Ground fault sensor 630 A for type SMR2	-	-	-	-	FGG S0630	432839



## MCCB Record Plus type MC 809/1259/1609

### Frame size FK

### Breaking capacities

Icu = 400 / 415 V/AC

Breaker type	MC. 809S MC. 1259S MC. 1609S	MC. 809H MC. 1259H MC. 1609H	MC. 809X MC. 1259X MC. 1609X
Denomination	S	H	X
Icu (kAeff)	50	80	100

### Protection

Icu = 400 / 415 Vac

Rated current (A)	Frame size	Trip unit	Trip unit	Trip unit	Trip unit	Trip unit
		L	M	E	E...D	E...G
60	FG 800	S, H, X				
800		S, H, X	S, H, X	S, H, X	S, H	S, H
1000	FG 1250	S, H, X		S, H, X	S, H	S, H
1250		S, H, X	S, H, X	S, H, X	S, H	S, H
1600	FG 1600			S, H	S, H	S, H

### No of poles

Rated current	Trip unit	Trip unit	Trip unit	Trip unit	Trip unit
	L	M	E	E...D	E...G
3 pole / 3 trips	S, H, X	S, H, X	S, H, X	S, H	S, H
4 pole / 3 trips	S, H, X	S, H, X	S, H, X	S, H	S, H

#### L (LTM)

Line protection  
thermal / magnetic protection

#### M (Mag. Break)

Magnetic protection only

#### E (SMR1e)

selective electronic trip unit

#### E...D (SMR1s)

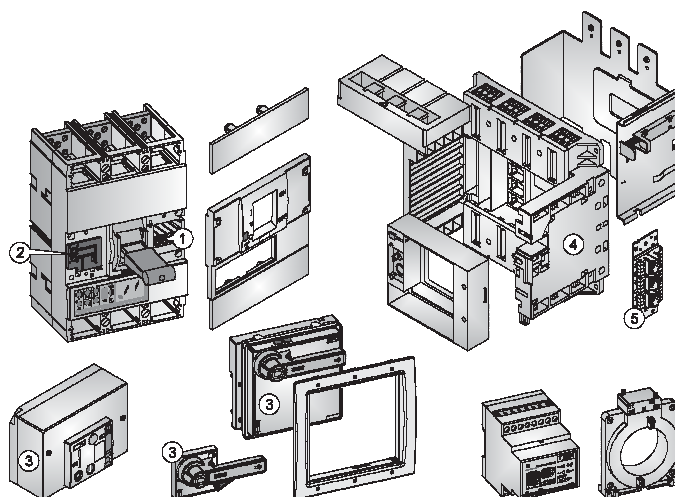
Modular electronic protection  
with enhanced functionality

#### E...G (SMR1s)

Modular electronic protection  
with enhanced functionality  
and ground fault

#### T (Y)

non automatic, switch only  
not mentioned in schedule



- ① Bell Alarm contact with a maximum of: 3 aux. contacts (CO)
- ② Shunt or Undervoltage release
- ③ Operators  
Rotary handle  
Electrical operator
- ④ Draw out system
- ⑤ Connectors for auxiliary wiring
- ⑥ RCD with separate sensor

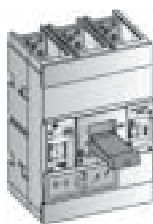
## Technical data MCCBs type MC 809 / 1259 / 1609

Circuit breaker type Denomination		MC 809			MC 639			MC 1609	
		S	H	X	S	H	X	S	H
<b>EN 60947-2 standard</b>									
Poles	Number of	3.4			3.4			3.4	
Rated insulation voltage	Ui (Volts)	1000			1000			1000	
Rated impulse withstand voltage	Uimp (Kilovolt)	8			8			8	
Rated operational voltage Ue	Volts AC	690			690			690	
	Volts DC	500			500			500	
<b>Line protection device</b>									
Category of use		B			B			B	
Suitable for use as a isolator	Positive ON & OFF	yes			yes			yes	
Rated current Ith = Ie	A at 40°C	800			1250			1600	
Ultimate breaking capacity Icu (kA)	230/240V AC	85	100	170	85	100	170	85	100
	400/415V AC	50	80	100	50	80	100	50	80
	440V AC	42	65	80	42	65	80	42	65
	500V AC	36	42	50	36	42	50	36	42
	690V AC	20	25	30	20	25	30	20	25
	250V DC Single pole	50 <sup>(2)</sup>	60 <sup>(2)</sup>	80 <sup>(2)</sup>	50 <sup>(2)</sup>	60 <sup>(2)</sup>	80 <sup>(2)</sup>	-	-
	440V DC Two pole	36 <sup>(2)</sup>	50 <sup>(2)</sup>	60 <sup>(2)</sup>	36 <sup>(2)</sup>	50 <sup>(2)</sup>	60 <sup>(2)</sup>	-	-
	500V DC Two pole	36 <sup>(2)</sup>	50 <sup>(2)</sup>	60 <sup>(2)</sup>	36 <sup>(2)</sup>	50 <sup>(2)</sup>	60 <sup>(2)</sup>	-	-
Service breaking capacity Ics (%Icu)	≤ 500V	100%	75%	50%	100%	75%	50%	100%	75%
	690V AC	100%	75%	50%	100%	75%	50%	100%	75%
Single phase breaking capacity I <sub>TP</sub> (kA)	230V AC	50	80	100	50	80	100	50	80
	400/415V AC	20	25	30	20	25	30	20	25
Endurance (CO operations)	Mechanical	10000			10000			10000	
	Electrical at In	4000			3000			2000	
	Electrical at In/2	8000			6000			4000	
Endurance (On-Tripped operations)	Mechanical	4000			3000			2000	
Trip Units	Interchangeable	no			no			no	
	Thermal Magnetic line	LTM			LTM				
	Thermal Magnetic generator								
	Thermal Magnetic selective								
	Magnetic Only								
	Electronic selective				SMR1e				
	Electronic Enhanced				SMR1s&g				
Circuit breaker type and denomination		MCT 809			MCT 1259			MCT 1609	
<b>EN 60947-3 standard</b>									
<b>Non automatic breaker (Switch)</b>									
Rated current In (class AC23)	220V AC to 690V AC	800			1250			1600	
Rated making capacity	I <sub>cm</sub> (kA peak)	14.1			21.2			28.3	
Short-term withstand current I <sub>sw</sub> (kA)	I <sub>sw</sub> eff. 1 second	10			15			20	
	I <sub>sw</sub> eff. 3 seconds	10			15			20	
<b>EN 60947-4 standard</b>									
<b>Use in motor circuits</b>									
Rated current Ith	A at 65°C	720			1000				
Endurance (CO operations)	Mechanical	10000			10000				
	Electrical at In class AC23	4000			3000				
	Operations per hour	60			60				
Protection	Short-circuit only (separate overload device)	Mag Break™			Mag Break™				
	Overload class 10 and Short-circuit								
	Max In (A) class 10	720			1000				
	Max In (A) class 30	720			1000				
	Earth fault unit (differential)								
Circuit breaker type / Switch type		MC 809			MC 1259			MC 1609	
<b>Installation</b>									
Mounting	On symmetrical DIN Rail	no			no			no	
	Fixed	yes			yes			yes	
	Plug-in	no			no			no	
	Drawout	yes			yes			yes	
Connection	Front	yes			yes			yes	
	Rear	yes			yes			yes	
Dimensions (w x h x d) mm	3 pole, fixed front connection	210 x 320 x 160			210 x 320 x 160			210 x 320 x 160	
	4 pole, fixed front connection	280 x 320 x 160			280 x 320 x 160			280 x 320 x 160	
Weights (kg)	3 pole, fixed front connection	12.2			18.0			18.0	
	4 pole, fixed front connection	15.1			23.4			23.4	

(1) Use 3 poles.  
(2) Use 2 poles.

### MCCBs Record Plus MCL 809 / 1259 for line protection

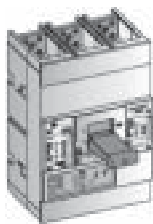
**STANDARD RANGE / Icu = 50 kA / "S"**



With adjustable thermal overload trip and adjustable short-circuit trip "L"

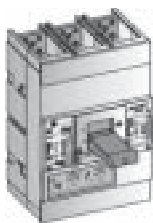
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FK 800	504-630	5-10 x I <sub>r</sub>	MCL 809S 3630	435385	MCL 809S 4630	435404
	640-800	5-10 x I <sub>r</sub>	MCL 809S 3800	435317	MCL 809S 4800	435379
FK 1250	800 - 1000	5-10 x I <sub>r</sub>	MCL 1259S 31000	436312	MCL 1259S 41000	435413
	1000 - 1250	5-10 x I <sub>r</sub>	MCL 1259S 31250	434717	MCL 1259S 41250	435681

**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FK 800	504-630	5-10 x I <sub>r</sub>	MCL 809H 3630	435734	MCL 809H 4630	435817
	640-800	5-10 x I <sub>r</sub>	MCL 809H 3800	435736	MCL 809H 4800	435885
FK 1250	800 - 1000	5-10 x I <sub>r</sub>	MCL 1259H 31000	435532	MCL 1259H 41000	435756
	1000 - 1250	5-10 x I <sub>r</sub>	MCL 1259H 31250	435407	MCL 1259H 41250	435815

**LIMITOR RANGE / Icu = 150 kA / "X"**

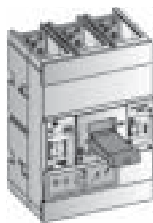


FK 800	504-630	5-10 x I <sub>r</sub>	MCL 809X 3630	435920	MCL 809X 4630	435983
	640-800	5-10 x I <sub>r</sub>	MCL 809X 3800	435922	MCL 809X 4800	435985
FK 1250	800 - 1000	5-10 x I <sub>r</sub>	MCL 1259X 31000	435917	MCL 1259X 41000	435980
	1000 - 1250	5-10 x I <sub>r</sub>	MCL 1259X 31250	435919	MCL 1259X 41250	435982

(1) Neutral on the left. If neutral on the right is needed, please contact us.

### MCCBs Record Plus MCM 809 / 1259 for motorstarter

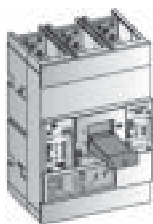
**STANDARD RANGE / Icu = 50 kA / "S"**



With adjustable short-circuit trip only "M"

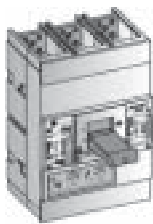
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FK 800	800	10-15 x I <sub>n</sub>	MCM 809S 3800	436128	MCM 809S 4800	436134
FK 1250	1250	10-15 x I <sub>n</sub>	MCM 1259S 31250	436127	MCM 1259S 41250	436132

**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FK 800	800	10-15 x I <sub>n</sub>	MCM 809H 3800	435518	MCM 809H 4800	435753
FK 1250	1250	10-15 x I <sub>n</sub>	MCM 1259H 31250	435517	MCM 1259H 41250	435756

**LIMITOR RANGE / Icu = 150 kA / "X"**

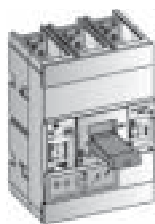


FK 800	800	10-15 x I <sub>n</sub>	MCM 809X 3800	435916	MCM 809X 4800	435931
FK 1250	1250	10-15 x I <sub>n</sub>	MCM 1259X 31250	435914	MCM 1259X 41250	435929

(1) Neutral on the left. If neutral on the right is needed, please contact us.

## MCCBs Record Plus MCE 809 / 1259 / 1609 for line and motor protection

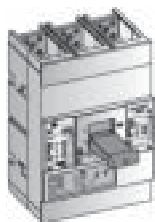
STANDARD RANGE /  $I_{cu} = 50 \text{ kA}$  / "S"



With selective, adjustable electronic trip unit type SMR1e "E"

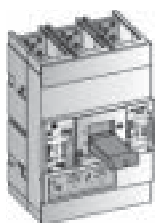
Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FK 800	800	2 - 13 x In	MCE 809S 3800	435395	MCE 809S 4800	435449
FK 1250	1000	2 - 13 x In	MCE 1259S 31000	435398	MCE 1259S 41000	435452
FK 1250	1250	2 - 13 x In	MCE 1259S 31250	435386	MCE 1259S 41250	435440
FK 1600	1600	2 - 13 x In	MCE 1609S 31600	435389	MCE 1609S 41600	435443

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA}$  / "H"



FK 800	800	2 - 13 x In	MCE 809H 3800	436485	MCE 809H 4800	435341
FK 1250	1000	2 - 13 x In	MCE 1259H 31000	435290	MCE 1259H 41000	435344
FK 1250	1250	2 - 13 x In	MCE 1259H 31250	433462	MCE 1259H 41250	435332
FK 1600	1600	2 - 13 x In	MCE 1609H 31600	436486	MCE 1609H 41600	435335

LIMITOR RANGE /  $I_{cu} = 150 \text{ kA}$  / "X"

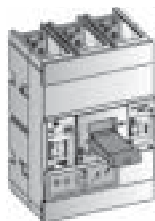


FK 800	800	2 - 13 x In	MCE 809X 3800	435913	MCE 809X 4800	435989
FK 1250	1000	2 - 13 x In	MCE 1259X 31000	435891	MCE 1259X 41000	435986
FK 1250	1250	2 - 13 x In	MCE 1259X 31250	435911	MCE 1259X 41250	435988

(1) Neutral on the left, neutral protection selectable 0% or 50% or 100%

## MCCBs Record Plus MCE 809 / 1259 / 1609 for all kind of protection

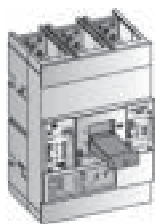
STANDARD RANGE /  $I_{cu} = 50 \text{ kA}$  / "S"



With enhanced selective, adjustable electronic trip unit type SMR1, "E..D"

Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FK 800	800	2 - 13 x In	MCE 809S 3800D	435431	MCE 809S 4800D	435485
FK 1250	1000	2 - 13 x In	MCE 1259S 31250D	436131	MCE 1259S 41250D	435488
FK 1250	1250	2 - 13 x In	MCE 1259S 31250D	436286	MCE 1259S 41250D	435476
FK 1600	1600	2 - 13 x In	MCE 1609S 31600D	435425	MCE 1609S 41600D	435479

HIGH PERFORMANCE RANGE /  $I_{cu} = 80 \text{ kA}$  / "H"

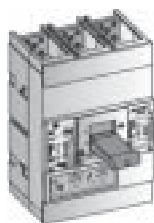


FK 800	800	2 - 13 x In	MCE 809H 3800D	435687	MCE 809H 4800D	435377
FK 1250	1000	2 - 13 x In	MCE 1259H 31000D	435519	MCE 1259H 41000D	435380
FK 1250	1250	2 - 13 x In	MCE 1259H 31250D	435524	MCE 1259H 41250D	435368
FK 1600	1600	2 - 13 x In	MCE 1609H 31600D	435281	MCE 1609H 41600D	435371

(1) Neutral on the left, neutral protection selectable 0% or 50% or 100%

**MCCBs Record Plus MCE 809 / 1259 / 1609 for all kind of protection**

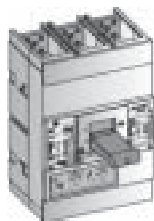
**STANDARD RANGE / Icu = 50 kA / "S"**



With enhanced selective, adjustable electronic trip unit type SMR1g incl. ground fault "E..G"

Frame size	I <sub>r</sub> A	I <sub>rm</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
			Cat. No.	Ref. No.	Cat. No.	Ref. No.
FK 800	800	2 - 13 x In	MCE 809S 3800G	436001	MCE 809S 4800G	435467
FK 1250	1000	2 - 13 x In	MCE 1259S 31250G	435991	MCE 1259S 41250G	435470
FK 1250	1250	2 - 13 x In	MCE 1259S 31250G	435998	MCE 1259S 41250G	435458
FK 1600	1600	2 - 13 x In	MCE 1609S 31600G	435999	MCE 1609S 41600G	435461

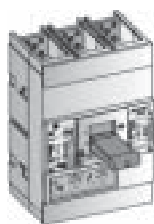
**HIGH PERFORMANCE RANGE / Icu = 80 kA / "H"**



FK 800	800	2 - 13 x In	MCE 809H 3800G	435516	MCE 809H 4800G	435359
FK 1250	1000	2 - 13 x In	MCE 1259H 31000G	435513	MCE 1259H 41000G	435362
FK 1250	1250	2 - 13 x In	MCE 1259H 31250G	435514	MCE 1259H 41250G	435350
FK 1600	1600	2 - 13 x In	MCE 1609H 31600G	435515	MCE 1609H 41600G	435353

(1) Neutral on the left, neutral protection selectable 0% or 50% or 100%

**Non-automatic MCCBs Record Plus MCT 809 / 1259 / 1609**



Without trip unit "T"

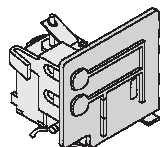
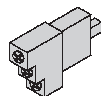
Frame size	I <sub>r</sub> A	3 pole 3 trips		4 pole 3 trips <sup>(1)</sup>	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.
FG 800	800	MCT 809 3800	435497	MCT 8094800	435506
FG 1250	1000	MCT 1259 31000	436135	MCT 1259 41000	435278
	1250	MCT 1259 31250	435491	MCT 1259 41250	435500
FG 1600	1600	MCT 1609 31600	435494	MCT 1609 41600	435503

(1) Neutral on the left side.

## Accessories for MCCBs Record Plus MC 809 / 1259 / 1609

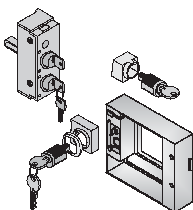
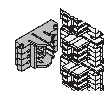
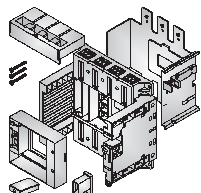
### INTERNAL ACCESSORIES

### For mounting with circuit breaker type



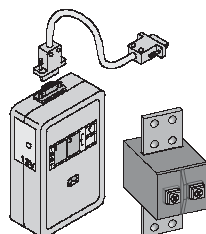
Description	For mounting with circuit breaker type						
	MC 809 FK 800		MC 1259 FK 1250		MC 1609 FK 1600		
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
<b>Contacts</b>							
Aux. switch / right mounted /	1CO	FNS11R	436401	FNS11R	436401	FNS 11R	436401
Bell alarm contact, right mounted	1CO	FNBA11R	435761	FNBA11R	435761	FNB A11R	435761
<b>Releases</b>							
Shunt trip							
24 V AC/DC		FNSHTD	435693	FNSHTD	435693	FNS HTD	435693
48 V AC/DC		FNSHTF	435694	FNSHTF	435694	FNS HTF	435694
110/130 V AC/DC		FNSHTJ	435695	FNSHTJ	435695	FNS HTJ	435695
220/240 V AC 220/250 V DC		FNSHTN	435696	FNSHTN	435696	FNS HTN	435696
380/440 V AC/DC		FNSHT8	435692	FNSHT8	435692	FNS HT8	435692
Undervoltage relays							
24 V AC		FNUVR1	435698	FNUVR1	435698	FNU VR1	435698
24 V DC		FNUVRD	435701	FNUVRD	435701	FNU VRD	435701
48 V DC		FNUVRF	435702	FNUVRF	435702	FNU VRF	435702
230 V AC		FNUVR6	435699	FNUVR6	435699	FNU VR6	435699
400 V AC		FNUVR8	435700	FNUVR8	435700	FNU VR8	435700
Undervoltage relay delayed 230 V AC		FNUVD6	435697	FNUVD6	435697	FNU VD6	435697

### DRAW-OUT SYSTEM



<b>Main system with front connection</b>	Complete set						
	3 pole (fixed and moveable part)	EEA3/M98	436149	EEA4/M9K	436208	EEA4/M9K	436260
	4 pole (fixed and moveable part)	EEA4/M98	436217	EEA3/M9K	433453	EEA3/M9K	436483
<b>Main system with rear connection</b>	Complete set						
	3 pole (fixed and moveable part)	EEP3/M98	433450	EEP3/M9K	436484	EEP3/M9K	436484
	4 pole (fixed and moveable part)	EEP4/M98	436483	EEP4/M9K	433453	EEP4/M9K	433453
	Auxiliary disconnects, complete set, 6 pole	FNPFM	435758	FNPFM	435758	FNPFM	435758
	Keylock in chassis, pos. 1, Ronis key 1104	FN1BRW1	435575	FN1BRW1	435575	FN1BRW1	435575
	pos. 2, Ronis key 1104	FN1BRW2	435577	FN1BRW2	435577	FN1BRW2	435577
	Position indication contact 1CO	FNS11L	435760	FNS11L	435760	FNS11L	435760
	Doorflange specific for draw-out type	FNFW	435578	FNFW	435578	FNFW	435578
	Keylock in doorflange, pos. 1, Ronis key 1104	FN1BRY1	433415	FN1BRY1	433415	FN1BRY1	433415
	pos. 2, Ronis key 1104	FN1BRY2	435574	FN1BRY2	435574	FN1BRY2	435574

### ACCESSORIES FOR ELECTRONIC TRIP UNITS TYPE SMR1 AND SMR2



Battery test device	FNT	435704	FNT	435704	FNT	435704
Ground fault sensor 800 A	FNGS0800	433419	FNGS0800	433419	FNGS0800	433419
Ground fault sensor 1000 A	FNGS1000	433421	FNGS1000	433421	FNGS1000	433421
Ground fault sensor 1250 A	FNGS1250	435709	FNGS1250	435709	FNGS1250	435709

### Accessories for MCCBs Record Plus MC 809 / 1259 / 1609

**OPERATORS**

**For mounting with circuit breaker type**

**MM 809  
FK 800**

**MM 1259  
FK 1250**

**MM 1609  
FK 1600**

**Description**

**Cat. No.**

**Ref. No.**

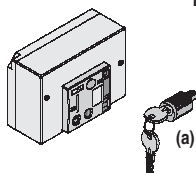
**Cat. No.**

**Ref. No.**

**Cat. No.**

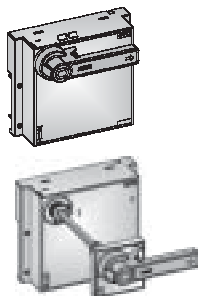
**Ref. No.**

**Electrical operators**



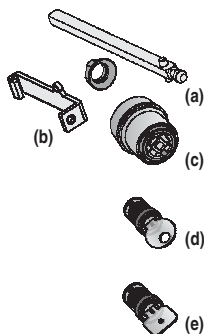
Electrical operators						
24 V AC / DC	F / M9K - 24U	435682	F / M9K - 24U	435682	F / M9K - 24U	435682
48 V AC / DC	F / M9K - 48U	436136	F / M9K - 48U	436136	F / M9K - 48U	436136
110 V AC / DC	F / M9K - 110U	435688	F / M9K - 110U	435688	F / M9K - 110U	435688
230 V AC / DC	F / M9K - 230U	435691	F / M9K - 230U	435691	F / M9K - 230U	435691
Keylock type Ronis for operator (a)	FN1 BRE	435679	FN1 BRE	435679	FN1 BRE	435679

**Rotary handles**



Direct on device, grey standard	MDG / M9K	436538	MDG / M9K	436538	MDG / M9K	436538
Direct on device, red / yellow	MDR / M9K	436540	MDR / M9K	436540	MDR / M9K	436540
<b>Rotary handle for use through door/cover (1)</b>						
Grey standard	MDBG / M9K	436532	MDBG / M9K	436532	MDBG / M9K	436532
Red / yellow	MDBR / M9K	436535	MDBR / M9K	436535	MDBR / M9K	436535
Grey + aux. contact 2 x NO <sup>(2)</sup>	MDBHG / M9K	436541	MDBHG / M9K	436541	MDBHG / M9K	436541
Red + aux. contact 2 x NO <sup>(2)</sup>	MDBHR / M9K	436542	MDBHR / M9K	436542	MDBHR / M9K	436542
<b>Panel or door mounted</b>						
Grey (max. 350 mm)	MRBG / M9K	436536	MRBG / M9K	436536	MRBG / M9K	436536
Red (max. 350 mm)	MRBR / M9K	436537	MRBR / M9K	436537	MRBR / M9K	436537
Grey + aux. contact 2 x NO <sup>(2)</sup>	MRBHG / M9K	436545	MRBHG / M9K	436545	MRBHG / M9K	436545
Red + aux. contact 2 x NO <sup>(2)</sup>	MRBHR / M9K	436546	MRBHR / M9K	436546	MRBHR / M9K	436546

**Accessories**



Extension shaft kid (max. 600mm) (a) <sup>(3)</sup>	FNN RE	435738	FNN RE	435738	FNN RE	435738
Flex operator adaptor push to trip (b) <sup>(3)</sup>	FGN FT	432867	FGN FT	432867	FGN FT	432867
Adapter for drawout (c)	ADW / M9K	436138	ADW / M9K	436138	ADW / M9K	436138
<b>Keylock type Ronis 1104B nr.</b>						
1027 (d)	FA1 BR1	430088	FA1 BR1	430088	FA1 BR1	430088
1053 (d)	1027 (d)	430089	FA1 BR2	430089	FA1 BR2	430089
2932 (d)	FA1 BR3	430504	FA1 BR3	430504	FA1 BR3	430504
2911 (d)	FA1 BR4	430505	FA1 BR4	430505	FA1 BR4	430505
2936 (d)	FA1 BR5	430506	FA1 BR5	430506	FA1 BR5	430506
2940 (d)	FA1 BR6	430507	FA1 BR6	430507	FA1 BR6	430507
Ronis lock with random key (d)	FA1 BRH	430068	FA1 BRH	430068	FA1 BRH	430068
Profalux lock with random key (e)	FA1 BPH	430813	FA1 BPH	430813	FA1 BPH	430813

(1) Add door flange FG FH to allow use of the door interlock opinions.

(2) On request 1NO + 1NC is available.

(3) Only for use with panel or door mounted type.



## Accessories for MCCBs Record Plus MC 809 / 1259 / 1609

### CONNECTIONS

#### For mounting with circuit breaker type

	MC 809 FK 800		MC 1259 FK 1250		MC 1609 FK 1600	
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#### Description

Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.
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<b>Terminal extenders</b>	3 pole standard flat type (a)	FNB ES3P	435706	FNB ES3P	435706	FNB ES3R	435706
	4 pole standard flat type (a)	FNB ES4P	435707	FNB ES4P	435707	FNB ES4R	435707

<b>Terminal spreader flat</b>	3 pole, pole spacing	FNB SS3P	435708	FNB SS3P	435708	FNB SS3R	435708
	4 pole, pole spacing	FNB SS4P	435711	FNB SS4P	435711	FNB SS4R	435711

<b>Rear connections</b>	3 pole set, 2 short & 1 long	FNB RC3	433423	FNB RC3	433423	FNB RC3	433423
	4 pole set, 2 short & 1 long	FNB RC4	433425	FNB RC4	433425	FNB RC4	433425
	3 pole set, 3 short	FNB RCS3	433426	FNB RCS3	433426	FNB RCS3	433426
	4 pole set, 4 short	FNB RCS4	433427	FNB RCS4	433427	FNB RCS4	433427

<b>Internal box clamps</b>	3 pole set, cable Cu/Al 2 x 70-240 mm <sup>2</sup>	FNT CA2327	433424	FNT CA2327	433424	FNT CA2327	433424
	4 pole set, cable Cu/Al 2 x 70-240 mm <sup>2</sup>	FNT CA2427	433437	FNT CA2427	433437	FNT CA2427	433437

	3 pole set, cable Cu/Al 4 x 70-240 mm <sup>2</sup>	FNT CA4327	433438	FNT CA4327	433438	FNT CA4327	433438
	4 pole set, cable Cu/Al 4 x 70-240 mm <sup>2</sup>	FNT CA4427	433439	FNT CA4427	433439	FNT CA4427	433439

<b>Terminal shields (with finishing cover)</b>	Long, set of 2 pcs, 3 pole	FN JL3	435716	FN JL3	435716	FN JL3	435716
	Long, set of 2 pcs, 4 pole	FN JL4	435719	FN JL4	435719	FN JL4	435719

<b>Specific to connection area</b>	Phase separators, set of 12 pcs	FN JP	435722	FN JP	435722	FN JP	435722
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<b>Padlocking devices for toggle operator</b>	Padlocking, removable	FN 1PR	433417	FN 1PR	433417	FN 1PR	433417
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<b>Circuit indication / coding</b>	Set 20 blank labels	FAC	430821	FAC	430821	FAC	430821
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<b>Door flanges</b>	Front face toggle handle area	FN FT	435715	FN FT	435715	FN FT	435715
	Rotary handle (through cover plate model)	FN FH	435714	FN FH	435714	FN FH	435714
	Electrical operator	FN FE	435713	FN FE	435713	FN FE	435713

<b>Spare parts</b>	Finishing cover, set of 2 pcs						
	3 pole	FN UA3	435762	FN UA3	435762	FN UA3	435762
	4 pole	FN UA4	435763	FN UA4	435763	FN UA4	435763

	Spare toggle handle, set of 5 pcs	FN UT	435764	FN UT	435764	FN UT	435764
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**Notes**

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.