

ECOFIT™

Masterpact M to Masterpact NW upgrade solutions

For internal use only



Make the most of your energy

MASTERPACT M
to MASTERPACT NW

UPGRADE SOLUTIONS



OPEN THE DOOR TO
ENERGY MANAGEMENT

Panorama How to choose?	A-1
----------------------------	-----

Plug & Play	B-1
-------------	-----

Masterkit	C-1
-----------	-----

Appendix: Masterpact NW spare parts	D-1
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Appendix: STR control units and Masterpact M spare parts	E-1
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Your requirements



Safety

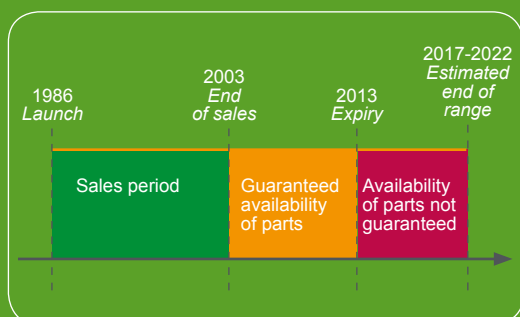


Service continuity



Energy efficiency
and
Energy management

Our ECOFIT™ offers



The Masterpact M range was launched in 1986. Sales ended in 2003 when it was replaced by the Masterpact NW.

The aim of the ECOFIT™ solutions, specifically designed around this offer, consists in supplying turnkey solutions

- to extend the life of the panel boards in any simplicity;
- to give a new dimension to the electrical installations, with "energy management".

Service continuity & Safety

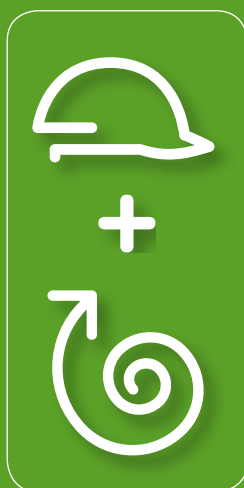
Maintenance. To ensure that your ECOFIT™ solution retains the operating and safety characteristics specified in the catalogs for the whole of its service life, Schneider Electric recommends that routine inspections and periodic maintenance should be carried out by qualified personnel in accordance with the instructions in the Masterpact NT & NW maintenance guide and Masterpact M instruction notice.

It provides detailed information on:

- The various types of maintenance required, depending on the criticality of the protected circuit.
- What must receive maintenance.
- The risks involved if the component ceases to operate correctly.
- What is understood by the terms normal, improved and severe environment and operating conditions.
- The periodic preventive maintenance operations that should be carried out under normal environment and operating conditions as well as the level of competence required for the operations.
- The environment and operating conditions that accelerate device ageing.
- The limits governing use of mechanical and electric accessories and subassemblies.
- Finally, all the product guides available in order to maintain the device in proper operating condition.

The level II and III procedures mentioned in the maintenance guide can be downloaded from the www.schneider-electric.com website. They are compiled in a document with reference HRB16483.

The level IV procedures mentioned in the maintenance guide are reserved exclusively for Schneider Electric Services.



Energy efficiency and Energy management

- With the **ECOFIT™ solutions**, you give a new life to your **installations** with equipments using the latest technologies. Masterpact NW has such a good reputation and benefits from the accumulated experience of an equipment base of over thousands of products installed all over the world.

- **Energy efficiency now within reach.** To counter rising energy costs and cut greenhouse gas emissions, new ways to reduce energy consumption must be found.

Distributed energy metering is the critical first step, now within reach, with the Masterpact NW Micrologic control units E, P & H. They will help to understand exactly where, when, and how much energy is consumed throughout the facilities, revealing valuable opportunities to improve the installation efficiency.



ECOFIT™ = tested, validated and certified by Schneider Electric

PANORAMA

PANORAMA



HOW TO CHOOSE?

ECOFIT™ Plug & Play	A-2
ECOFIT™ Masterkit	A-4
Energy efficiency and Energy management	A-6
How to choose?	A-8
Masterpact substitution guide	A-8
Control unit substitution guide	A-11

The Plug & Play solution lets you retrofit the latest generation of Masterpact NW circuit breakers **in the existing Masterpact M chassis**.

The standard Masterpact NW is adapted in the factory for installation in a Masterpact M chassis.

More than just a replacement... ECOFIT™ Plug & Play solution brings all the benefits of the Masterpact NW range, including the advanced features of Micrologic control units.



ECOFIT™ Plug & Play applications

- Drawout circuit breakers and switch-disconnectors.
- 800 to 3200 A.
- All performance levels except L1.

	Fixed	Withdrawable
6300 A		
4000 A		
3200 A		Plug & Play solutions
800 A		



A Plug & Play solution can only be implemented **with Masterpact M chassis in full working order**. However, spare parts are still available including:

- disconnecting-contact clusters,
- safety shutters,
- auxiliary contacts.

See chapter IV for the list of spare parts.

30 minutes (typical time for simple installations) in 2 easy steps

- The original Masterpact M chassis is first modified to receive the Plug & Play device.
- The factory-adapted Plug & Play Masterpact NW is then installed in the modified Masterpact M chassis.

The on-site retrofit tasks are very simple.

1. Replacement of the original drawer side plates

Two new side plates are installed in place of the original plates on the Masterpact M chassis.

2. Replacement of the the auxiliary wiring connector plate

All Masterpact NW functions are pre-wired. The required functions may be connected on-site using the supplied wiring instructions.

- The switchboard door requires no modifications.
- The original escutcheon and cutout are used for the new device.
- The only modifications required are the replacement of the drawer side plates and the auxiliary wiring connector plate.
- These changes make it impossible to install a Masterpact M or standard Masterpact NW in the modified chassis.



- The Plug & Play solution modernise Masterpact M circuit breakers with **very short on-site servicing times**. Shutdown of the entire installation is not required. Only the circuit supplied by the circuit breaker must be de-energised. This solution is particularly well suited to critical sites where the power supply cannot be interrupted for extended periods.
- It is also ideal for **switchboards installed in small rooms with no rear access**, which is often the case for marine switchboards.
- The combination of a Masterpact M chassis and a Masterpact NW circuit breaker has been **factory tested**, in particular for temperature rise and breaking capacity. For marine applications and Bureau Veritas requirements, specific tests have been carried out under maritime conditions (humidity, vibrations, etc.).
- **The Plug & Play Masterpact NW complies with standard IEC 60947-2.**

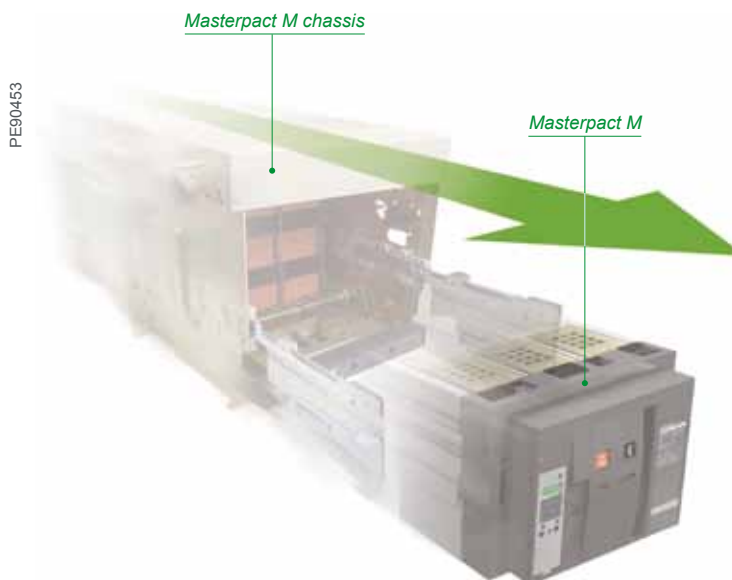
ECOFIT™ Masterkit brings all the characteristics and functions of the Masterpact NW range, whatever the rating and performance level of the Masterpact M device.

This solution is recommended for high performance levels to fully upgrade your installation.

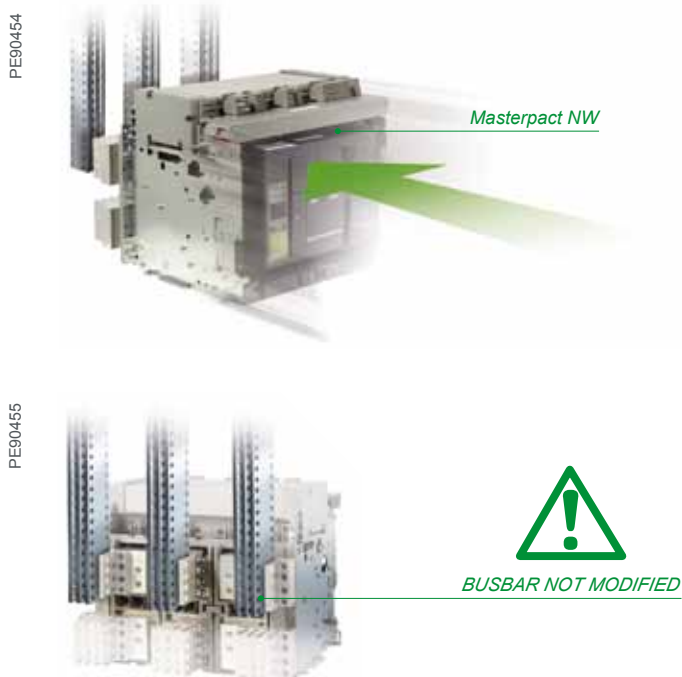
The ECOFIT™ Masterkit solution is designed to replace a Masterpact M circuit breaker by the latest Masterpact NW generation.

More than just a replacement...ECOFIT™ Masterkit solution brings all the benefits of the Masterpact NW range, including the advanced features of Micrologic control units.

1 Removal



2 Replacement



ECOFIT™ Masterkit applications

Can be used for **both fixed and drawout devices**.

- For fixed devices, the Masterpact NW comes with connections that enable to replace the former circuit breaker without modifying the busbars.
- For drawout devices. The new chassis is equipped with special connections that replicate the connection points on the old Masterpact M chassis.

	Fixed	Withdrawable
6300 A	(1)	Masterkit solutions
4000 A		
3200 A	(2)	
800 A		

(1) For 5000A: version 3P fixed only

(2) Excluding M20/25 L1 fixed type and M25 L1 drawout type versions

ECOFIT™ Masterkit solutions do not cover 1000V and DC applications nor > M32 4P Neutral on right side.

Consult France Grenoble ECOFIT Center.

ECOFIT™ Masterkit advantages

- No modification of fixing points or connections required.
- No modification of the escutcheon or cutouts required.
- Both solutions offer tested and validated connection systems to bring full performance in terms of breaking capacity and temperature rise.



- ECOFIT™ Masterkit enables to benefit from all the enhanced features of Masterpact NW circuit breakers and accessories. ***It requires total shutdown of the installation to access the busbars.***
- Once upgraded, the switchboard is ***fully compatible with the Masterpact NW range***, opening the door to circuit-breaker interchangeability.
- ***Installation down time is reduced*** because there is no need to modify the busbars. Performance is equal or better, depending on the busbar architecture..
- Approval by the main marine certification organisations: A.B.S., B.V., C.C.S., D.N.V., G.L., K.R.S., Lloyd's Register of Shipping, P.R.S., R.I.N.A., R.M.R.S., N.K.
- ***The ECOFIT™ complies with standard IEC 60947-2.***

Energy efficiency and Energy management

As energy costs increase and more stringent greenhouse gas emission regulations are introduced, it is essential to find ways to reduce energy consumption.

Buildings can achieve up to 30% energy savings with an Active Energy Management™ programme that includes an energy metering system!

ECOFIT™ Plug & Play or ECOFIT™ Masterkit solutions, in every way, choose to know more

Masterpact M already offered excellent protection solutions, however today's installations must meet new challenges.

The new Micrologic control units which equipped all Masterpact NW circuit breakers enable to optimise the installation performances by taking full advantage of advanced protection, measurement and communication functions.

Exposing the associated energy costs at building, department and machine level will drive efficiency gains. Circuit breakers with integrated metering improve existing tenant metering systems, to check utility billing and verify that consumption by upstream feeders matches the sum of the associated tenant meters.

			
Micrologic range	E 'energy'	P 'power'	H 'harmonics'
Measurements			
Instantaneous and demand current/power and maximeters, voltage, power factor and energy*	•	•	•
Cos-φ, frequency, per phase measurements (power, energy, PF) and advanced protection		•	•
Power quality (harmonics up to 31st order), waveform capture, enhanced alarm programming			•
Current protection type			
2 (L, I): long time, instantaneous	2.O E		
5 (L, S, I): long time, short time, instantaneous	5.O E	5.O P	5.O H
6 (L, S, I, G): long time, short time, instantaneous, ground-fault	6.O E	6.O P	6.O H
7 (L, S, I, V): long time, short time, instantaneous, earth-leakage up to 3200A		7.O P	7.O H

* Active, reactive, and apparent power and energy.
Accuracy of active energy is 2 percent (including the sensors).



PE90457



Micrologic E, the standard control unit for our upgrade solutions

The new Micrologic E, is the standard control unit for our upgrade solutions, offering cost-effective protection and measurement features to help you optimise your consumption

Smart

In addition to protection and measurement features, Micrologic E control units deliver energy metering capabilities along with current, voltage and power measurements, trip history and breaker maintenance data that will help you track the performance of your installation, extend equipment life and ensure the reliability of your power system.

Safe

When power is critical, you need circuit breakers you can count on for the highest level of protection available. That is why Schneider Electric has developed a unique, dual processing architecture that ensures total independence between protection functions and measurement and communication functions.

Simple

Convenient, local data access
Maintenance personnel can conveniently access all Micrologic measurements, historical data, and circuit breaker maintenance indications directly from the front of the switchboard.

Easy, remote data access

The new BCM ULP module also offers standard plug & play connectivity, making it easy to network circuit breakers and other measurement or control devices across an entire building.

ECOFIT™ Plug & Play or ECOFIT™ Masterkit solutions with Micrologic control units: the first elementary components of a global Energy Management system

ECOFIT™ Plug & Play and Masterkit upgraded circuit breakers can be integrated in a general supervision system to optimise every electrical installation. ECOFIT™ Masterkit and Plug & Play upgrade solutions therefore go beyond simple Masterpact M replacement, taking you a first step towards Energy Management.



PE90612



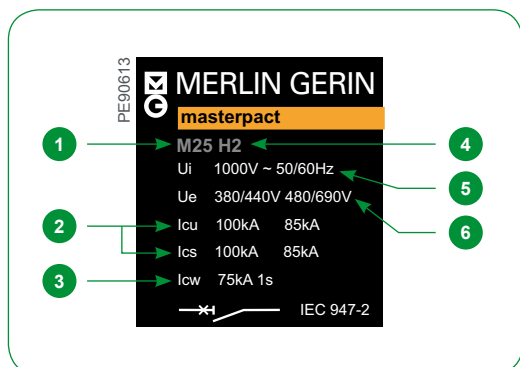
PowerLogic ION Enterprise software
This software constitutes a complete energy management solution for electrical installations. It can be used with a Masterpact NW via an Ethernet/Modbus protocol.

PE90611



How to choose?

Masterpack substitution guide



Identification of the device to be replaced

1. Rated insulation voltage.
2. Breaking capacity.
3. Short time withstand.
4. Type of breaker.
5. Rated frequency.
6. Rated operational voltage.

Selection of the replacement device

Circuit breaker - Icu 220/440 V						
Original device	M circuit breaker		NW circuit breaker		M circuit breaker	NW circuit breaker
M08 3P/4P	N1 (40 kA)		N1 (42 kA)		H1 (65 kA)	H2 (100 kA)
M10 3P/4P	N1 (40 kA)		N1 (42 kA)		H1 (65 kA)	H2 (100 kA)
M12 3P/4P	N1 (40 kA)		N1 (42 kA)		H1 (65 kA)	H2 (100 kA)
M16 3P/4P	N1 (40 kA)	➔	N1 (42 kA)	➔	H1 (65 kA)	H2 (100 kA)
M20 3P/4P	N1 (55 kA)		H1 (65 kA)		H1 (65 kA), H2a (85 kA)	H2 (100 kA)
M25 3P/4P	N1 (55 kA)		H1 (65 kA)		H1 (65 kA), H2a (85 kA)	H2 (100 kA)
M32 3P/4P	-		-		H1 (65 kA), H2a (85 kA)	H2 (100 kA)

Switch disconnecter - Icm 220/690 V		
Original device	M switch disconnecter	NW switch disconnecter
M08 3P/4P	NI, HI, HF	HF (187 kA peak)
M10 3P/4P	NI, HI, HF	HF (187 kA peak)
M12 3P/4P	NI, HI, HF	HF (187 kA peak)
M16 3P/4P	NI, HI, HF	HF (187 kA peak)
M20 3P/4P	NI, HI, HF	HF (187 kA peak)
M25 3P/4P	NI, HI, HF	HF (187 kA peak)
M32 3P/4P	NI, HI, HF	HF (187 kA peak)



ECOFIT™ Plug & Play solutions

ECOFIT™ Plug & Play solutions require Masterpact M chassis in full working order

Before ordering a Plug & Play solution, check the condition of the chassis as indicated below.

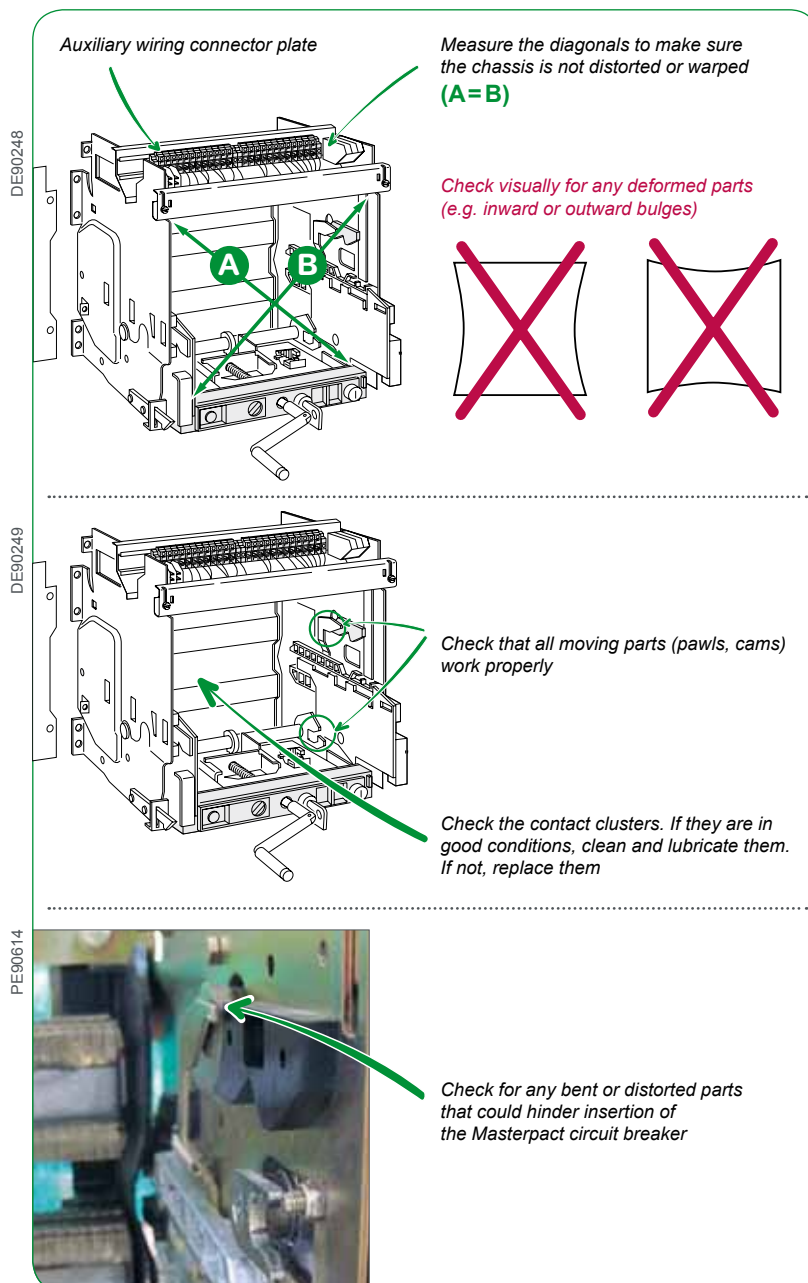
If the chassis is bent or damaged, a Plug & Play solution is not possible and the Masterkit solution must be used.

In addition, check the contact clusters. If they are in good condition, clean and lubricate them. If not, replace them.

Masterpact M chassis tests

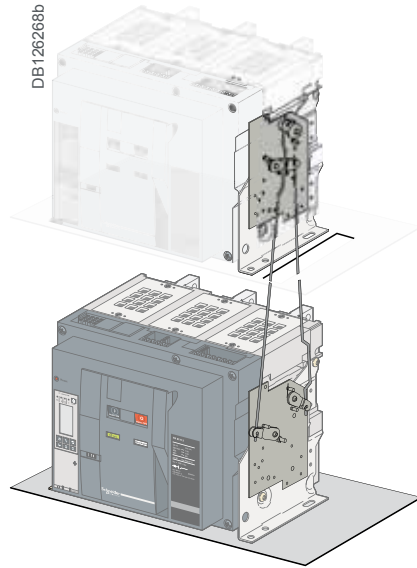
Carry out a racking test (in and out) without the circuit breaker and check the movement of:

- the safety shutters,
- the auxiliary wiring connector plate,
- the drawer side plates.





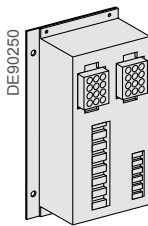
Source Changeover



Mechanical interlocking



BA controller



IVE unit

Mechanical interlocking for source changeover

When replacing a Masterpack M using a **Masterkit solution** (fixed or drawout):

- Mechanical interlocking between Masterpack M and NW devices is forbidden.
- Both Masterpack M devices must be replaced as well as the corresponding interlocking system.

When replacing a Masterpack M using a **Plug & Play solution** (drawout):

- Mechanical interlocking is carried out on the Masterpack M chassis.
- A Masterpack M may interlocked with a Plug & Play device if indicated when ordering.

Electrical interlocking for source changeover

- Electrical interlocking is possible between Masterpack M and NW devices.
- The same components are used, i.e. IVE unit, BA and UA automatic controllers.



Masterpack M with external neutral current sensor

3-pole breakers equipped with external neutral current sensor

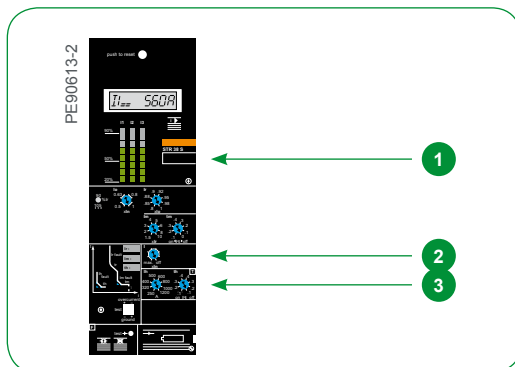
When replacing a Masterpack M by a Masterpack NW using a Plug & Play or Masterkit solution:

- The current transformer used with the STR control unit is not compatible with Micrologic control units
- A new current transformer compatible with Masterpack NW must be added.

This requires total disconnection of the busbars prior to working on the external CT.

How to choose?

Control unit substitution guide



Identify the control unit

1. **D**: standard protection / **S**: selective protection / **T**: selective protection and earth-fault protection.
2. **T**: earth-fault protection.
3. **R**: load monitoring.

Selection of the control unit

The table below indicates equivalent functions of STR and Micrologic control units.

	STR				Micrologic									
	18	28	38	58	2.0	5.0				6.0			7.0	
					E	E	P	H		E	P	H	P	H
Overload protection														
Long-time protection, I ² t curve		•	•	•	•	•	•	•		•	•	•	•	•
Long-time protection, IDTML curve							•	•		•	•	•	•	•
Time delay tr				•	•	•	•	•		•	•	•	•	•
Thermal memory	•	•	•	•	•	•	•	•		•	•	•	•	•
Short-circuit protection														
Short-time protection			•	•		•	•	•	•	•	•	•	•	•
Time delay tsd tr			•	•		•	•	•	•	•	•	•	•	•
Adjustable instantaneous protection	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Fixed instantaneous protection														
Closing protection (DINF)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Ground-fault protection														
Source ground return			•	•						•	•	•		
Residual			•	•						•	•	•		
Time delay (tg)			•	•						•	•	•		
Earth-leakage protection														
Sensitivity (IΔn)													•	•
Time delay (Δt)													•	•
Additional protection functions														
Current unbalance							•	•		•	•			•
Maximum demand current							•	•		•	•			•
Voltage unbalance							•	•		•	•			•
Maximum / minimum voltage							•	•		•	•			•
Reverse power							•	•		•	•			•
Maximum / minimum frequency							•	•		•	•			•
Phase sequence							•	•		•	•			•
Zone selective interlocking ZSI							•	•		•	•			•
Load monitoring							•	•		•	•			•
Instantaneous measurements														
Current		•	•	•	•	•	•	•	•	•	•	•	•	•
Voltage					•	•	•	•	•	•	•	•	•	•
Power					•	•	•	•	•	•	•	•	•	•
Energy					•	•	•	•	•	•	•	•	•	•
Frequency							•	•		•	•	•	•	•
Other measurements and indications														
Current and power demand measurements					•	•	•	•	•	•	•	•	•	•
Maintenance indications and register					•	•	•	•	•	•	•	•	•	•
Trip history					•	•	•	•	•	•	•	•	•	•
Alarm history							•	•		•	•	•	•	•
Event history							•	•		•	•	•	•	•
Power quality														
I, U, P fundamentals								•				•		•
THD								•				•		•
Current and voltage harmonics								•				•		•
Waveform capture								•				•		•
Alarm programming for supervision								•				•		•

PLUG & PLAY



Presentation	B-2
Order form	B-3
Components	B-4
NW08 to NW32 drawout circuit breakers and switch-disconnectors	B-4
NW08 to NW32 drawout circuit breakers - Control Unit accessories	B-5
NW08 to NW32 drawout circuit breakers - Remote operation	B-6
NW08 to NW32 drawout circuit breakers - Accessories	B-7





To indicate your choices, check the applicable square boxes		☒
and enter the appropriate information in the rectangles		
Circuit breaker or switch-disconnector Qty		
Masterpact type	Plug & Play NW	
Rating	A	
Sensor rating	A	
Circuit breaker	N1, H1, H2	
If H1 , for ratings $\geq 2000\text{A}$, please precise:		
	65 kA ☐	75 kA ☐
Switch-disconnector	HF	
Number of poles	3 or 4*	
Type of equipment	Drawout without chassis (moving part only)	☒
Micrologic control unit		
A - ammeter	2.0 ☐ 5.0 ☐ 6.0 ☐ 7.0 ☐	
E - energy	2.0 ☐ 5.0 ☐ 6.0 ☐	
P - power meter	5.0 ☐ 6.0 ☐ 7.0 ☐	
H - harmonic meter	5.0 ☐ 6.0 ☐ 7.0 ☐	
LR - long-time rating plug	Standard 0.4 to 1 Ir ☐ Low setting 0.4 to 0.8 Ir ☐ High setting 0.8 to 1 Ir ☐ LR OFF ☐	
AD - external power-supply module	V ☐	
BAT - battery module		
TCE - external sensor (CT) for neutral and residual ground-fault protection		
TCE - external sensor (CT) for over sized neutral (3P - Micrologic P/H) and residual earth-fault protection		
TCW - external sensor for SGR protection		
Rectangular sensor for earth-leakage protection NW (470 x 160 mm)		
PTE - external voltage connector		
Communication		
COM module	ModBus ☐ Breaker ☐	
Eco COM module	ModBus ☐ Breaker ☐	
COM = measurement, breaker status, remote control		
EcoCOM = measurement		

* 4p = neutral on left side. For neutral on right side, please consult France Grenoble ECOFIT center.

Micrologic control unit functions:

2.0: basic protection (long time + inst.)

5.0: selective protection (long time + short time + inst.)

6.0: selective + ground-fault protection

(long time + short time + inst. + earth-fault)

7.0: selective + earth-leakage protection

(long time + short time + inst. + earth-leakage)

Indication contacts

OF - ON/OFF indication contacts

Standard 4 OF 6 A-240 V AC (10 A-240 V AC and low-level for NW)

Additional 1 block of 4 OF for NW Max. 2 qty ☐

SDE - "fault-trip" indication contact

Standard 1 SDE 6 A-240 V AC

Additional 1 SDE 6 A-240 V AC ☐ 1 SDE low level ☐

Programmable contacts 2 M2C contacts ☐ 6 M6C contacts ☐

Remote operation

Remote ON/OFF

MCH - gear motor	V	☐
XF - closing voltage release	V	☐
MX - opening voltage release	V	☐
PF - "ready to close" contact	6 A-240 V AC	☐
	Low level	☐

BPFE - electrical closing pushbutton

RES - remote electrical reset option

RAR - automatic reset option

Remote tripping

MN - undervoltage release	V	☐
R - delay unit (non-adjustable)		☐
Rr - adjustable delay unit		☐
2nd MX - shunt release	V	☐

Locking

VBPO - ON/OFF pushbutton no access (by transparent cover + padlocks)

OFF position locking:

VCPO - by padlocks

VSPO - by keylocks	Keylock kit (without keylock)	Profalux ☐	Ronis ☐
	1 keylock	Profalux ☐	Ronis ☐
	2 identical keylocks, 1 key	Profalux ☐	Ronis ☐
	2 keylocks, different keys (NW)	Profalux ☐	Ronis ☐

Mechanical interlock

Interlocking axle and installation kit ☐

Accessories

Breaker/chassis mismatch protection ☐

Test kits	Mini test kit ☐	Portable test kit ☐
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NW08 to NW32

drawout circuit breakers

How to define ECOFIT Plug & Play solutions?

Each Masterpact Plug & Play circuit breaker upgrade solution is described by two catalogue numbers corresponding to:

- a basic Masterpact NW circuit breaker;
- a control unit.

Masterpact NW switch-disconnectors are supplied with dummy trip units that provide instantaneous protection only during closing.

A communication option and various auxiliaries and accessories may also be added.

Basic Plug & Play circuit breakers

Type N1

	In (A at 40°C)	Icu (kA for U = 220/440 V) - Ics = 100 % Icu	3P	4P
P&P NW08	800	42	EF548230	EF548237
P&P NW10	1000	42	EF548244	EF548251
P&P NW12	1250	42	EF548258	EF548265
P&P NW16	1600	42	EF548272	EF548279

Type H1

	In (A at 40°C)	Icu (kA for U = 220/440 V) - Ics = 100 % Icu	3P	4P
P&P NW08	800	65	EF548231	EF548238
P&P NW10	1000	65	EF548245	EF548252
P&P NW12	1250	65	EF548259	EF548266
P&P NW16	1600	65	EF548273	EF548280
P&P NW20	2000	65	EF548287	EF548294
P&P NW25	2500	65	EF548300	EF548306
P&P NW32	3200	65	EF548312	EF548317

Type H2a

	In (A at 40°C)	Icu (kA for U = 220/440 V) - Ics = 100 % Icu	3P	4P
P&P NW20	2000	85	EF548222	EF548375
P&P NW25	2500	85	EF548223	EF548376
P&P NW32	3200	85	EF548224	EF548377

Type H2

	In (A at 40°C)	Icu (kA for U = 220/440 V) - Ics = 100 % Icu	3P	4P
P&P NW08	800	100	EF548232	EF548239
P&P NW10	1000	100	EF548246	EF548253
P&P NW12	1250	100	EF548260	EF548267
P&P NW16	1600	100	EF548274	EF548281
P&P NW20	2000	100	EF548288	EF548295
P&P NW25	2500	100	EF548301	EF548307
P&P NW32	3200	100	EF548313	EF548318

Basic Plug & Play switch-disconnectors

Type HF

	In (A at 40°C)	Icm (kA for U = 220/690 V)	3P	4P
P&P NW08	800	187	EF548236	EF548243
P&P NW10	1000	187	EF548250	EF548257
P&P NW12	1250	187	EF548264	EF548271
P&P NW16	1600	187	EF548278	EF548285
P&P NW20	2000	187	EF548292	EF548299
P&P NW25	2500	187	EF548305	EF548311
P&P NW32	3200	187	EF548316	EF548321

Micrologic control units

"Without measurements"

		3P/4P
Micrologic 2.0	basic protection	65302
Micrologic 5.0	selective protection	65303

"Ammeter" A

		3P/4P
Micrologic 2.0 A	basic protection	48358
Micrologic 5.0 A	selective protection	48360
Micrologic 6.0 A	selective + ground-fault protection	48361
Micrologic 7.0 A	selective + earth-leakage protection	48362

"Energy meter" E

		3P/4P
Micrologic 2.0 E	basic protection	48498
Micrologic 5.0 E	selective protection	48499
Micrologic 6.0 E	selective + ground-fault protection	48500

"Power meter" P

		3P/4P
Micrologic 5.0 P	selective protection	48363
Micrologic 6.0 P	selective + ground-fault protection	48364
Micrologic 7.0 P	selective + earth-leakage protection	48365

"Harmonic meter" H

		3P/4P
Micrologic 5.0 H	selective protection	48366
Micrologic 6.0 H	selective + ground-fault protection	48367
Micrologic 7.0 H	selective + earth-leakage protection	48368

NW08 to NW32

drawout circuit breakers

Control units accessories

Indication contacts

Accessories for Micrologic control units

External sensors

External sensor for ground-fault protection (TCE)

DB402925		Sensor rating	400/2000 A	34035
			1000/4000 A	34036
			4000/6300 A (for NW40b, NW50, NW63)	48182

Rectangular sensor for earth-leakage protection

DB402926		470 x 160 mm	IN max. 3200 A	33574
----------	--	--------------	----------------	-------

Source ground return (SGR) ground-fault protection

DB402925		External sensor (SGR)	33579
		MDGF summing module	48891

Indication contacts

ON/OFF indication contacts (OF)

DB402880		Block of 4 changeover contacts (6 A - 240 V)	1 block (standard)
		1 additional block of 4 contacts (2 max.)	48468

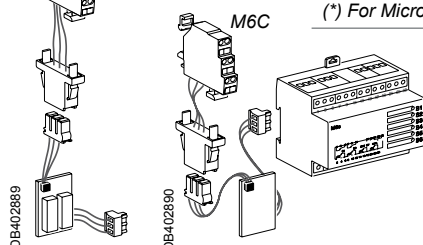
"Fault trip" indication contacts (SDE)

DB402884		Changeover contact (5 A - 240 V)	1 (standard)
		1 additional SDE (5 A - 240 V)	48475
		or 1 additional low-level SDE	48476

Programmable contacts (*) (programmed via Micrologic control unit)

DB402889		2 contacts (5 A - 240 V) (M2C)	48382
		or 6 contacts (5 A - 240 V) (M6C)	48383

(*) For Micrologic P and H control units only



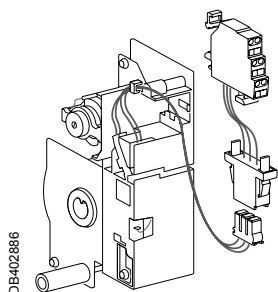
NW08 to NW32

drawout circuit breakers

Remote operation

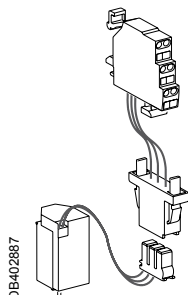
Remote ON/OFF

Gear motor



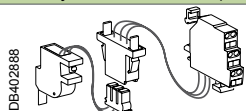
		MCH
AC 50/60 Hz	48 V	48522
	100/130 V	48526
	200/240 V	48527
	250/277 V	48528
	380/415 V	48529
	440/480 V	48530
DC	24/30 V	48521
	48/60 V	48522
	100/130 V	48523
	200/250 V	48524

Instantaneous voltage releases



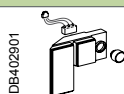
		Closing release	Opening release
Standard		XF	MX
AC 50/60 Hz DC	12 V DC	48480	48490
	24/30 V DC, 24 V AC	48481	48491
	48/60 V DC, 48 V AC	48482	48492
	100/130 V AC/DC	48483	48493
	200/250 V AC/DC	48484	48494
	277 V AC	48485	48495
	380/480 V AC	48486	48496
Communicating		XF com	MX com
AC 50/60 Hz DC	12 V DC	48448	48457
	24/30 V DC, 24 V AC	48449	48458
	48/60 V DC, 48 V AC	48450	48459
	100/130 V AC/DC	48451	48460
	200/250 V AC/DC	48452	48461
	277 V AC	48453	48462
	380/480 V AC	48454	48463

"Ready to close" contact (1 max.)



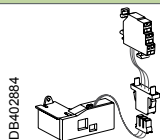
		PF
1 changeover contact (5 A - 240 V)		48469
1 low-level changeover contact		48470

Electrical closing pushbutton



		BPFE
1 pushbutton		48534

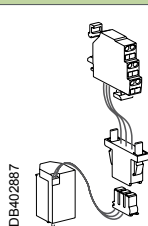
Remote reset after fault trip



		Res
Electrical reset	110/130 V AC	48472
	220/240 V AC	48473
	Automatic reset	RAR
Adaptation		47346

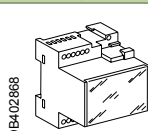
Remote tripping

Instantaneous voltage release



		2nd MX	or MN
AC 50/60 Hz DC	12 V DC	48510	
	24/30 V DC, 24 V AC	48511	48501
	48/60 V DC, 48 V AC	48512	48502
	100/130 V AC/DC	48513	48503
	200/250 V AC/DC	48514	48504
	277 V AC	48515	
	380/480 V AC	48516	48506

MN delay unit



		R (non-adjustable)	Rr (adjustable)
AC 50/60 Hz DC	48/60 V AC/DC		33680
	100/130 V AC/DC	33684	33681
	200/250 V AC/DC	33685	33682
	380/480 V AC/DC		33683

NW08 to NW32

drawout circuit breakers

Accessories

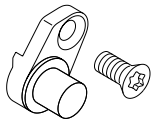
Mechanical interlock

Interlocking cam for mechanical interlock

Cam and installation kit

EF548613

DB413776



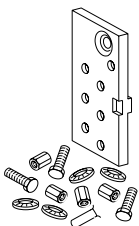
Mismatch protection

Breaker rack-in mismatch protection

Accessory for breaker and chassis (VDC)

EF547056

E46456



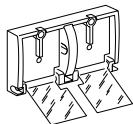
Circuit breaker locking

Pushbutton locking device

By padlocks (VBP)

48536

DB402919



OFF position locking

By padlocks

VCPO

48539

By Profalux keylocks

Profalux

1 lock with 1 key + adaptation kit

48545

2 locks with 1 key + adaptation kit

48546

2 locks with 2 different keys + adaptation kit

48547

1 Profalux keylock
(without adaptation kit)

1 lock with 2 identical unidentified keys

33173

1 lock with 2 identical identified no. 215470 keys

33174

1 lock with 2 identical identified no. 215471 keys

33175

By Ronis keylocks

Ronis

1 lock with 1 key + adaptation kit

48549

2 locks with 1 key + adaptation kit

48550

2 locks with 2 different keys + adaptation kit

48551

1 Ronis keylock
(without adaptation kit)

1 lock with 2 identical unidentified keys

33189

1 lock with 2 identical identified no. EL24135 keys

33190

1 lock with 2 identical identified no. EL24153 keys

33191

1 lock with 2 identical identified no. EL24315 keys

33192

Adaptation kit (without keylocks)

adaptation kit for Profalux / Ronis keylocks

48541

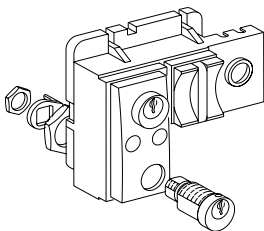
adaptation kit for Kirk keylocks

48542

adaptation kit for Castell keylocks

48543

DB402891



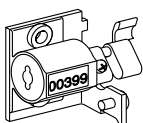
Other circuit breaker accessories

Mechanical operation counter

Operation counter (CDM)

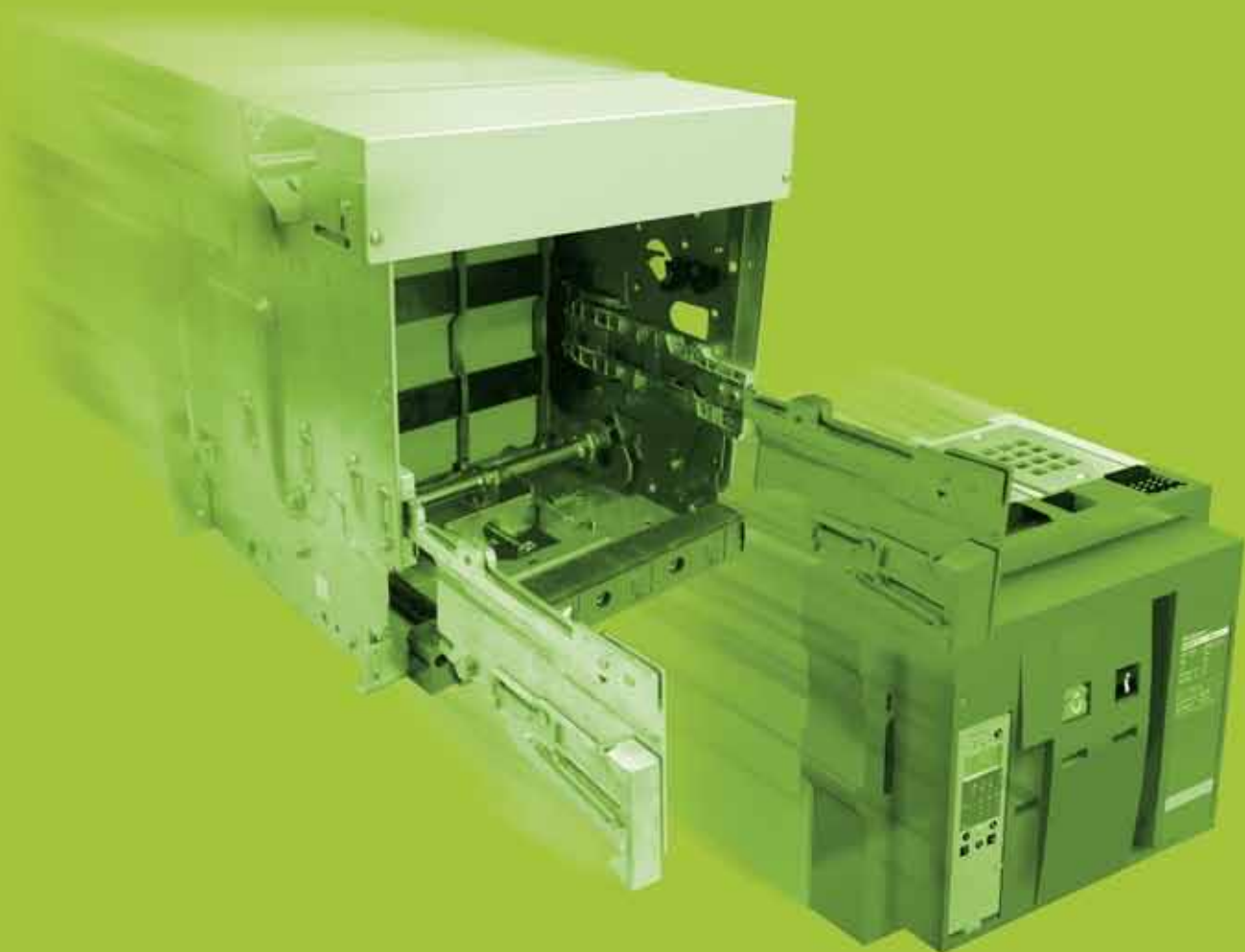
48535

DB117057



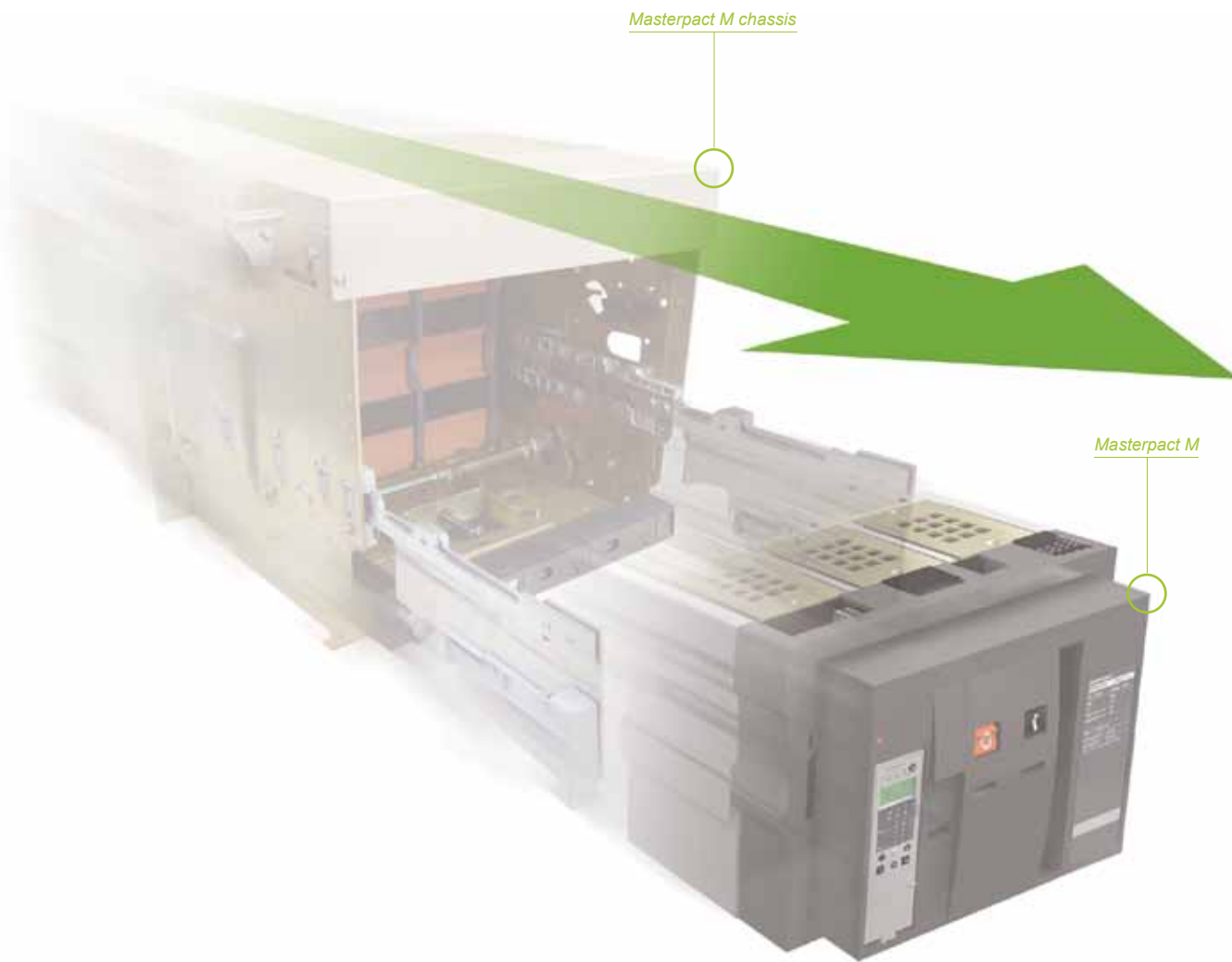
MASTERKIT

MASTERKIT

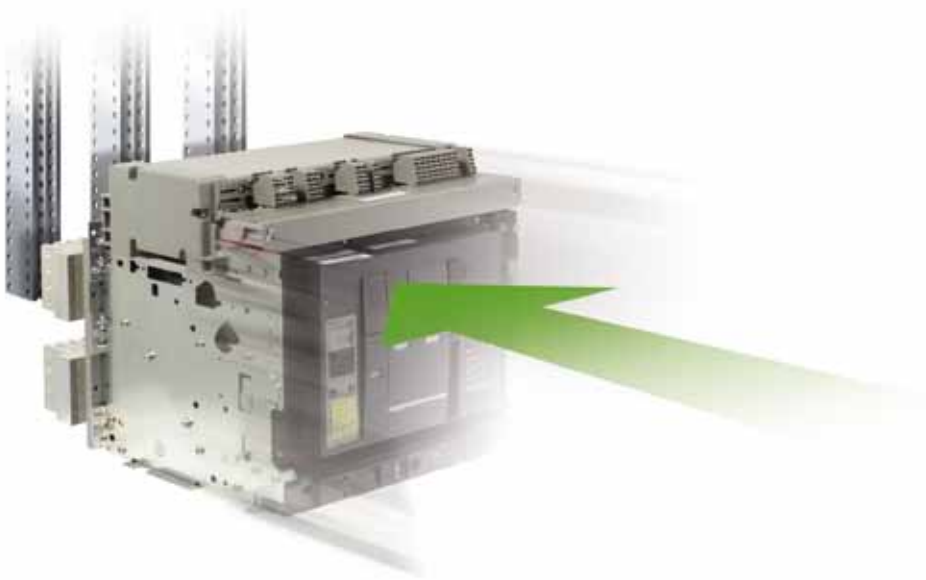


Presentation	C-2
Order form	C-3
Components	C-4
<i>Under progress</i>	C-4

PE90453



PE90454



To indicate your choices, check the applicable square boxes		☒	
and enter the appropriate information in the rectangles			
Circuit breaker or switch-disconnector		Qty	
Masterpact type	MasterKit NW		
Rating	A		
Sensor rating	A		
Circuit breaker	N1, H1, H2, H3, L1		
Special circuit breaker	H2 anticorrosion		
Switch-disconnector	NA, HA, HF		
Number of poles	3 or 4		
Option: neutral on right side (NW)			
Type of equipment	Fixed		
	Drawout with chassis		
	Drawout without chassis (moving part only)		
	Chassis alone		
Micrologic control unit			
A - ammeter	2.0	☐	5.0 ☐ 6.0 ☐ 7.0 ☐
E - energy	2.0	☐	5.0 ☐ 6.0 ☐
P - power meter	5.0	☐	6.0 ☐ 7.0 ☐
H - harmonic meter	5.0	☐	6.0 ☐ 7.0 ☐
LR - long-time rating plug	Standard 0.4 to 1 Ir		
	Low setting 0.4 to 0.8 Ir		
	High setting 0.8 to 1 Ir		
	LR OFF		
AD - external power-supply module	V		
BAT - battery module			
TCE - external sensor (CT) for neutral and residual ground-fault protection			
TCW - external sensor for SGR protection			
Rectangular sensor for earth-leakage protection (NW (470 x 160 mm))			
PTE - external voltage connector			
Communication			
COM module	ModBus	☐	Breaker ☐ Chassis ☐
Eco COM module	ModBus	☐	Breaker ☐
COM = measurement, breaker status, remote control			
EcoCOM = measurement			
Connection (rear only)			
Horizontal	Top	☐	Bottom ☐
Vertical	Top	☐	Bottom ☐

Micrologic control unit functions:
 2.0: basic protection (long time + inst.)
 5.0: selective protection (long time + short time + inst.)
 6.0: selective + ground-fault protection (long time + short time + inst. + earth-fault)
 7.0: selective + earth-leakage protection (long time + short time + inst. + earth-leakage)

Indication contacts**OF - ON/OFF indication contacts**

Standard	4 OF 6 A-240 V AC (10 A-240 V AC and low-level for NW)		
Additional	1 block of 4 OF for NW	Max. 2	qty ☐

EF - combined "connected/closed" contacts

	1 EF 6 A-240 V AC for NW	Max. 8	qty ☐
	1 EF low-level for NW	Max. 8	qty ☐

SDE - "fault-trip" indication contact

Standard	1 SDE 6 A-240 V AC		
Additional	1 SDE 6 A-240 V AC	☐	1 SDE low level ☐

Programmable contacts

	2 M2C contacts	☐	6 M6C contacts ☐
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Carriage switches

	6 A-240 V AC	☐	Low level ☐
CE - "connected" position	Max. 3 for NW		qty ☐
CD - "disconnected" position	Max. 3 for NW		qty ☐
CT - "test" position	Max. 3 for NW		qty ☐

AC - NW actuator for 6 CE - 3 CD - 0 CT additional carriage switches**Remote operation**

Remote ON/OFF	MCH - gear motor	V	☐
	XF - closing voltage release	V	☐
	MX - opening voltage release	V	☐
	PF - "ready to close" contact	6 A-240 V AC	☐
		Low level	☐
	BPFE - electrical closing pushbutton		☐
	RES - remote electrical reset option	V	☐
	RAR - automatic reset option		☐
Remote tripping	MN - undervoltage release	V	☐
	R - delay unit (non-adjustable)		☐
	Rr - adjustable delay unit		☐
	2nd MX - shunt release	V	☐

Locking**VBP - ON/OFF pushbutton no access (by transparent cover + padlocks)**

		☐
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Breaker OFF position locking:

VCPO - by padlocks		☐
VSPO - by keylocks	Keylock kit (without keylock)	Profalux ☐ Ronis ☐
	1 keylock	Profalux ☐ Ronis ☐
	2 identical keylocks, 1 key	Profalux ☐ Ronis ☐
	2 keylocks, different keys (NW)	Profalux ☐ Ronis ☐

Chassis locking in "disconnected" position:

VSPO - by keylocks	Keylock kit (without keylock)	Profalux ☐ Ronis ☐
		Kirk ☐ Castell ☐
	1 keylock	Profalux ☐ Ronis ☐
	2 identical keylocks, 1 key	Profalux ☐ Ronis ☐
	2 keylocks, different keys (NW)	Profalux ☐ Ronis ☐

Optional connected/disconnected/test position lock

VPEC - door interlock	On right-hand side chassis ☐
	On left-hand side chassis ☐

VPOC - racking interlock**IPA** - cable-type door interlock**VDC** - breaker/chassis mismatch protection**VIVC** - shutter position indication and locking**IBPO** - racking interlock between crank and OFF pushbutton**DAE** - automatic spring discharge before breaker removal**Accessories**

VO - safety shutters on chassis	☐
CDM - mechanical operation counter	☐
CB - auxiliary terminal shield for chassis	☐
CDP - escutcheon	☐
CP - transparent cover for escutcheon	☐
OP - blanking plate for escutcheon	☐
Test kits	Mini test kit ☐ Portable test kit ☐

APPENDIX: SPARE PARTS



Appendix: Masterpact NW spare parts

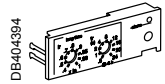
For internal use only

Micrologic control unit - Communication option	D-2
Remote operation	D-3
Chassis locking and accessories	D-4
Clusters	D-5
Circuit breaker locking and accessories	D-6
Mechanical interlocking for source changeover	D-7
Indication contacts	D-8
Instructions	D-9
Communication bus accessories and display modules	D-10

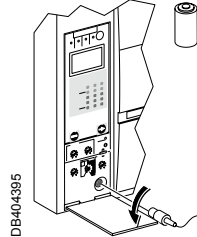
Micrologic control unit, communication option

Replacement parts for Micrologic control units

Long-time rating plug (limits setting range for higher accuracy) / 1 part

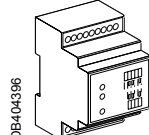
	Standard	0.4 at 1 x Ir	33542
	Low-setting option	0.4 at 0.8 x Ir	33543
	High-setting option	0.8 at 1 x Ir	33544
	Without long-time protection	off	33545

Battery + cover

	Battery (1 part)		33593
	Cover (1 part)	For Micrologic A	33592
		For Micrologic P and H	47067

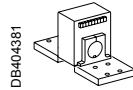
Communication option

Chassis

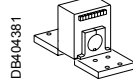
	Modbus COM		64915
	Digipact COM		64916
	6-wire drawout terminal block (1 part)		47850
	6-wire fixed terminal block (1 part)		47075
	Installation manual		33088

External sensors

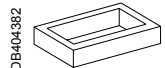
External sensor for ground-fault protection (TCE) / 1 part

	Sensor rating	400/2000 A	34035
		1000/4000 A	34036
		4000/6300 A	48182

Source ground return (SGR) ground-fault protection / 1 part

	External sensor (SGR)		33579
	MDGF summing module		48891

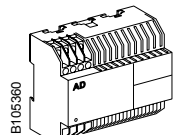
Rectangular sensor for earth-leakage protection + Vigi cable / 1 part (up to 3200 A)

	280 mm x 115 mm		33573
	470 mm x 160 mm		33574

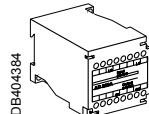
Vigi cable or external voltage cable / 1 part

	Vigi cable or external voltage cable		47090
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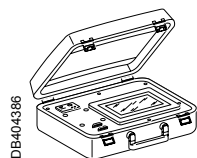
External power supply module (AD) / 1 part

		24-30 V DC	54440
		48-60 V DC	54441
		100-125 V DC	54442
		110-130 V AC	54443
		200-240 V AC	54444
		380-415 V AC	54445

Battery module (BAT) / 1 part

	1 battery	24 V DC	54446
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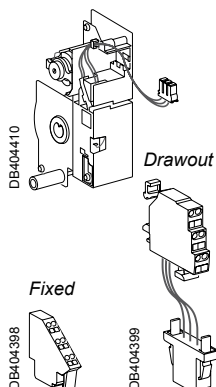
Test equipment / 1 part

	Hand held test kit (HHTK)		33594
	Full function test kit (FFTK)		33595
	Software to print test report from FFTK		34559
	FFTK 2-pin test cable for STR trip unit		34560
	FFTK 7-pin test cable for Micrologic trip unit		33590

Remote operation

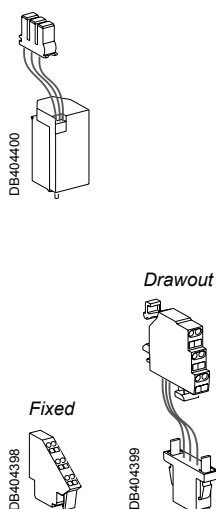
Remote ON/OFF

Gear motor



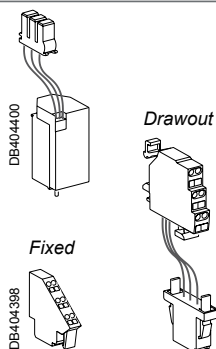
MCH (1 part)			
AC 50/60 Hz	48 V		47889
	100/130 V		47893
	200/240 V		47894
	250/277 V		47895
	380/415 V		47896
	440/480 V		47897
DC	24/30 V		47888
	48/60 V		47889
	100/125 V		47890
	200/250 V		47891
Terminal block (1 part)		For fixed circuit breaker	47074
		For drawout circuit breaker	47849
Installation manual			47951

Closing and opening release (XF or MX)



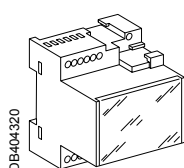
Standard coil (1 part)			
AC 50/60 Hz	12 V DC		33658
	24/30 V DC, 24 V AC		33659
DC	48/60 V DC, 48 V AC		33660
	100/130 V AC/DC		33661
	200/250 V AC/DC		33662
	277 V AC		33663
	380/480 V AC		33664
Communicating coil (1 part)			
AC 50/60 Hz	12 V DC		33032
	24/30 V DC, 24 V AC		33033
DC	48/60 V DC, 48 V AC		33034
	100/130 V AC/DC		33035
	200/250 V AC/DC		33036
	277 V AC		33037
	380/480 V AC		33038
Terminal block (1 part)		For fixed circuit breaker	47074
		For drawout circuit breaker	47849
Installation manual			47951

Undervoltage release MN



Undervoltage release (1 part)			
AC 50/60 Hz	24/30 V DC, 24 V AC		33668
	48/60 V DC, 48 V AC		33669
DC	100/130 V AC/DC		33670
	200/250 V AC/DC		33671
	380/480 V AC		33673
			33674
Terminal block (1 part)		For fixed circuit breaker	47074
		For drawout circuit breaker	47849
Installation manual			47951

MN delay unit

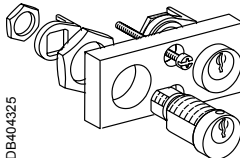


MN delay unit (1 part)			
AC 50/60 Hz	48/60 V AC/DC	R (non-adjustable)	Rr (adjustable)
			33680
DC	100/130 V AC/DC	33684	33681
	200/250 V AC/DC	33685	33682
	380/480 V AC/DC		33683
Installation manual			47951

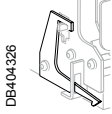
Chassis locking and accessories

Chassis locking

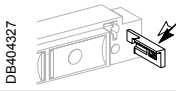
"Disconnected" position locking / 1 part

 DB404325	By padlocks		
		VCPO	Standard
	By Profalux keylocks		
	Profalux	1 lock with 1 key + adaptation kit	64934
		2 locks with 1 key + adaptation kit	64935
		2 locks with 2 different keys + adaptation kit	64936
	1 Profalux keylock (without adaptation kit)	1 lock with 2 identical unidentified keys	33173
		1 lock with 2 identical identified no. 215470 keys	33174
		1 lock with 2 identical identified no. 215471 keys	33175
	By Ronis keylocks		
	Ronis	1 lock with 1 key + adaptation kit	64937
		2 locks with 1 key + adaptation kit	64938
		2 locks with 2 different keys + adaptation kit	64939
	1 Ronis keylock (without adaptation kit)	1 lock with 2 identical unidentified keys	33189
		1 lock with 2 identical identified no. EL24135 keys	33190
		1 lock with 2 identical identified no. EL24153 keys	33191
		1 lock with 2 identical identified no. EL24315 keys	33192
	Adaptation kit (without keylocks)		
		adaptation kit for Profalux / Ronis keylocks	48564
		adaptation kit for Kirk keylocks	48565
		adaptation kit for Castell keylocks	48566
	Installation manual		47952

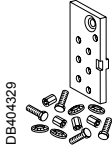
Door interlock / 1 part

 DB404326	Right and left-hand side of chassis (VPECD or VPECG)		47914
	Installation manual		47952

Racking interlock

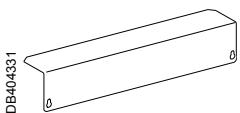
 DB404327	5 parts		64940
	Installation manual		47952

Breaker mismatch protection / 1 part

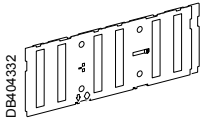
 DB404329	Breaker mismatch protection (VDC)		33767
	Installation manual		47952

Chassis accessories

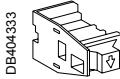
Auxiliary terminal shield (CB) / 1 part

 DB404331	800/4000 A	3P	64942
		4P	48596
	4000b/6300 A	3P	48597
		4P	48598
	Installation manual		47952

Safety shutters + locking block / 1 part

 DB404332	800/4000 A	3P	48721
		4P	48723
	4000b/6300 A	3P	48722
		4P	48724
	Installation manual		47952

Shutter locking block (for replacement) / 1 part

 DB404333	2 parts for 800/4000 A		48591
	Installation manual		47952

Earthing kit for chassis

	3P	4P
Types for N1/H1/NA/HA		
	48433	48434

Note: the installation manual is enclosed.

For more accurate information about spare parts, please refer to the electronic catalogue ; intranet site at http://139.160.49.25/ed_spare_parts_catalog/

Clusters

Clusters

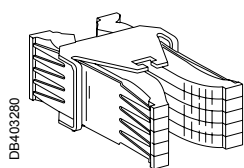
1 disconnecting contact cluster for chassis (see table below) (part 1)

64906

Table: number of clusters required for the different chassis models

Chassis rating (A)	Masterpact NW 3P				Masterpact NW 4P			
	N1	H1/H2	H3	L1	N1	H1/H2	H3	L1
630								
800	6	12		24	8	16		32
1000	6	12		24	8	16		32
1250	6	12		24	8	16		32
1600	12	12		24	16	16		32
2000		24	24	42		32	32	56
2500		24	24			32	32	
3200		36	36			48	48	
4000		42	42			56	56	
4000b		72				96		
5000		72				96		
6300		72				96		

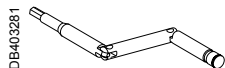
Note: the minimum order is 6 parts.



Racking handle

Racking handle

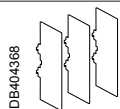
47944



Connection accessories

Interphase barriers / Replacement kit (3 parts)

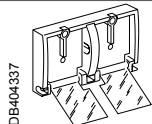
	3P	4P
For fixed rear-connected circuit breaker	48599	48599
For drawout rear-connected circuit breaker	48600	48600
Installation manual	47950	



Circuit breaker locking and accessories

Circuit breaker locking

Pushbutton locking device / 1 part



By padlocks	48536
Installation manual	47951

OFF position locking / 1 part

By padlocks	48539
-------------	-------

By Profalux keylocks

Profalux	1 lock with 1 key + adaptation kit	64928
	2 locks with 1 key + adaptation kit	64929
	2 locks with 2 different keys + adaptation kit	64930
1 Profalux keylock (without adaptation kit)	1 lock with 2 identical unidentified keys	33173
	1 lock with 2 identical identified no. 215470 keys	33174
	1 lock with 2 identical identified no. 215471 keys	33175

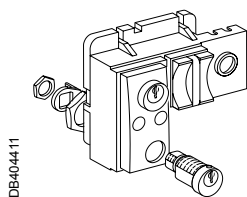
By Ronis keylocks

Ronis	1 lock with 1 key + adaptation kit	64931
	2 locks with 1 key + adaptation kit	64932
	2 locks with 2 different keys + adaptation kit	64933
1 Ronis keylock (without adaptation kit)	1 lock with 2 identical unidentified keys	33189
	1 lock with 2 identical identified no. EL24135 keys	33190
	1 lock with 2 identical identified no. EL24153 keys	33191
	1 lock with 2 identical identified no. EL24315 keys	33192

Adaptation kit (without keylocks)

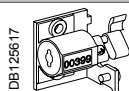
adaptation kit for Profalux / Ronis keylocks	64925
adaptation kit for Kirk keylocks	64927
adaptation kit for Castell keylocks	64926

Installation manual	47951
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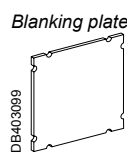
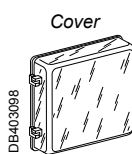
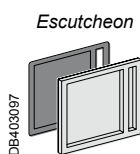
Other circuit breaker accessories

Mechanical operation counter / 1 part



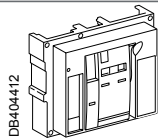
Operation counter (CDM)	48535
Installation manual	47951

Escutcheon and accessories / 1 part



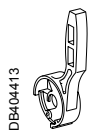
	Fixed	Drawout
Escutcheon	48601	48603
Transparent cover (IP 54)		48604
Escutcheon blanking plate	48605	48605
Installation manual		47951

Front cover (3P / 4P) / 1 part



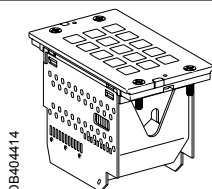
Front cover	47939
Installation manual	47951

Spring charging handle / 1 part



Spring charging handle	47940
Installation manual	47951

Arc chute for Masterpact NW / 1 part



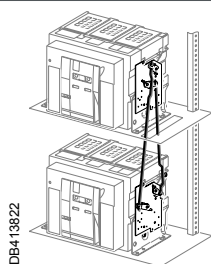
		3P		4P
Type N1	3 x	47935	4 x	47935
Type H1/H2 (NW08 to NW40)	3 x	47935	4 x	47935
Type H1/H2 (NW40b to NW63)	6 x	47936	8 x	47936
Type H3	3 x	47936	4 x	47936
Type L1	3 x	47937	4 x	47937
Installation manual				47951

For more accurate information about spare parts, please refer to the electronic catalogue ; intranet site at http://139.160.49.25/ed_spare_parts_catalog/

Mechanical interlocking for source changeover

Mechanical interlocking for source changeover

Interlocking of 2 devices using connecting rods



Complete assembly with 2 adaptation fixtures + rods

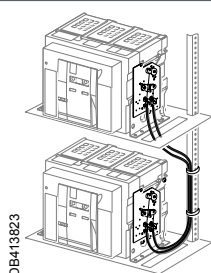
2 Masterpact NW fixed devices	48612
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2 Masterpact NW drawout devices	48612
---------------------------------	-------

Can be used with 1 NW fixed + 1 NW drawout.

Note: the installation manual is enclosed.

Interlocking of 2 devices using cables (1)



Choose 2 adaptation sets (1 for each device + 1 set of cables)

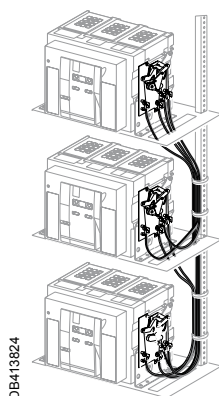
1 adaptation fixture for Masterpact NW fixed devices	47926
--	-------

1 adaptation fixture for Masterpact NW drawout devices	47926
--	-------

1 set of 2 cables	33209
-------------------	-------

(1) Can be used with any combination of NT or NW, fixed or drawout devices.

Interlocking of 3 devices using cables



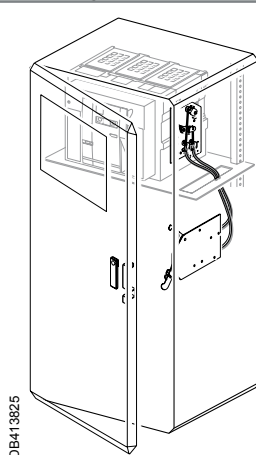
Choose 3 adaptation sets (including 3 adaptation fixtures + cables)

3 sources, only 1 device closed, fixed or drawout devices	48610
---	-------

2 sources + 1 coupling, fixed or drawout devices	48609
--	-------

2 normal + 1 replacement source, fixed or drawout devices	48608
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Cable-type door interlock



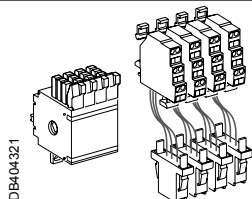
1 complete assembly for Masterpact NW fixed or drawout device	48614
---	-------

Note: the installation manual is enclosed.

Indication contacts

Indication contacts

ON/OFF indication contacts (OF) / 12 parts



1 additional block of 4 contacts

64922

Wiring

For fixed circuit breaker

47074

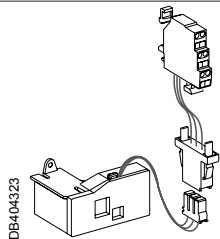
For drawout circuit breaker

47849

Installation manual

47951

"Fault trip" indication contacts (SDE) / 1 part



Changeover contact (SDE)

6 A - 240 V

47915

Low-level

47916

Wiring

For fixed circuit breaker

47074

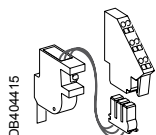
For drawout circuit breaker

47849

Installation manual

47951

"Ready to close" contact (1 max.) / 1 part



1 changeover contact (5 A - 240 V)

PF

1 low-level changeover contact

47080

47081

Wiring

For fixed circuit breaker

47074

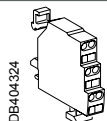
For drawout circuit breaker

47849

Installation manual

47951

"Connected", "disconnected" and "test" position indication contact (carriage switches) / 1 part



Changeover contacts

6 A - 240 V

33170

CE, CD, CT

Low-level

33171

Installation manual

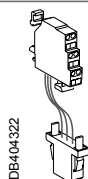
47952

Set of additional actuators for carriage switches / 1 set

1 set

48560

Combined closed / connected contacts for use with 1 auxiliary contact / 1 part



1 contact (5 A - 240 V)

48477

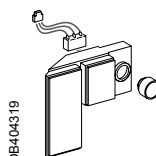
or 1 low-level contact

48478

Installation manual

47952

Electrical closing pushbutton / 1 part



1 pushbutton

BPFE

48534

Installation manual

47951

Auxiliary terminals for chassis alone

3-wire terminal block (1 part)

47849

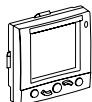
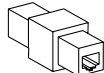
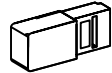
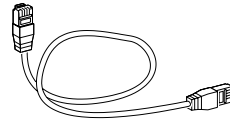
6-wire terminal block (1 part)

47850

Jumpers (10 parts)

47900

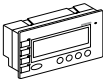
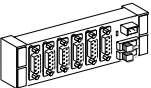
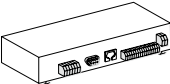
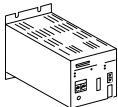
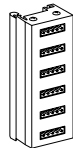
Instructions

Instructions		
Chassis accessories		47952
Circuit breaker accessories		47951
Fixed and drawout circuit breaker		47950
User manual	NW AC (French)	47954
	NW AC (English)	47955
	NW DC (French)	64923
	NW DC (English)	64924
Micrologic user manual	2.0/5.0 (French)	33076
	2.0/5.0 (English)	33077
	2.0A/7.0A (French)	33079
	2.0A/7.0A (English)	33080
	5.0P/7.0P (French)	33082
	5.0P/7.0P (English)	33083
	5.0H/7.0H (French)	33085
	5.0H/7.0H (English)	33086
Modbus communication manual for Micrologic		33088
Monitoring and control		
ULP display module		
 DB111440	Switchboard front display module FDM121	TRV00121
	FDM mounting accessory (diameter 22 mm)	TRV00128
ULP wiring accessories		
 DB127985	Breaker ULP cord L = 0.35 m	LV434195
	Breaker ULP cord L = 1.3 m	LV434196
	Breaker ULP cord L = 3 m	LV434197
 DB111443	10 Modbus line terminators	VW3A8306DRC (1)
 DB115623	5 RJ45 connectors female/female	TRV00870
 DB111444	10 ULP line terminators	TRV00880
 DB111445	10 RJ45/RJ45 male cords L = 0.3 m	TRV00803
	10 RJ45/RJ45 male cords L = 0.6 m	TRV00806
	5 RJ45/RJ45 male cords L = 1 m	TRV00810
	5 RJ45/RJ45 male cords L = 2 m	TRV00820
	5 RJ45/RJ45 male cords L = 3 m	TRV00830
	1 RJ45/RJ45 male cord L = 5 m	TRV00850
Converter		
	RS485/Ethernet	EGX100MG/EGX300 (*)

(1) See *Telemecanique catalogue*.

(*) Consult us.

Communication bus accessories and display modules

Display modules			
DMB300			
 E67954	Monochrome display module	Max. 4 breakers	50894
DMC300			
 E67955	Colour display module	Max. 16 breakers	50895
Spare parts			
	DMC300PCM: DMC300 memory card		50959
RS 485 Modbus pre-wired system			
RS 485 Modbus junction block			
 E67958	CJB306: 6 SubD 9-pin connector junction block		50963
RS 485 Modbus connector			
 E67959	CSD309: 9-pin SubD with screw terminals		50964
RS 485 Modbus cables			
 E67960  E79015  E67961	CDM303: display module pre-wired cable, 3 m length		50960
	CCP303: Masterpact or Compact pre-wired cable (4 RS 485 wires + 2 power wires), 3 m length		50961
	CCR301: RS 485 cable (2 RS 485 wires + 2 power wires), 60 m roll		50965
Micro Power Server MPS100			
 DB101033	MPS100		33507
Digipact Bus pre-wired system			
Data concentrator DC150			
 E79014	Auxiliary supply voltage	110-240 V AC, 50/60 Hz and 115-125 V DC	50823
Junction block			
 E67956	Junction block for internal bus		50778
Cables			
 E67957	Cable for internal bus	20-meter roll (0.75 mm²)	50779
		100-meter roll (0.75 mm²)	50780
Converter			
	RS 485/RS 232 (ACE909) 12 V DC power supply included		59648 ⁽¹⁾
	RS 485/RS 232		TSX SCA72
	RS 485/Ethernet		174 CEV 300-10 (*)
	RS 485/Ethernet (SMS compatible)		EGX 100/400 ⁽¹⁾

⁽¹⁾ Consult Power Monitoring Department

(*) Consult us.

For more accurate information about spare parts, please refer to the electronic catalogue ; intranet site at http://139.160.49.25/ed_spare_parts_catalog/



APPENDIX: SPARE PARTS



Appendix: STR control units and Masterpact M spare parts

For internal use only

STR control unit	E-2
STR control unit order form	E-3
Electrical auxiliaries	E-4
Mechanical auxiliaries	E-6
Accessories	E-10

STR control unit

10 years

After ten years, ST
and STR control units
have to be replaced.



These new STR control units are equipped
with a new microprocessor that reinforces
the immunity of the electronic functions to
external disturbances.

**The  symbol on the front identifies
the new version.**

Replacement of STR control units

On Masterpact M circuit breakers, the **STR control unit cannot be replaced by a Micrologic control unit**. To replace an old STR control unit by a new STR control unit, use the order form on page E-3.

When replacing an STR control unit on a 3-pole circuit breaker equipped with earth-fault protection by an identical STR control unit, make sure an external current transformer is installed on the neutral bar. Indicate this information when ordering the new STR control unit.

If an electric fault occurs in the installation, the electronic control unit detects the fault and orders the circuit breaker to open and thus protect life and property. Electronic components and circuit boards are sensitive to the environment (ambient temperature, humid and corrosive atmospheres) and to severe operating conditions (magnetic fields, vibrations, etc.).

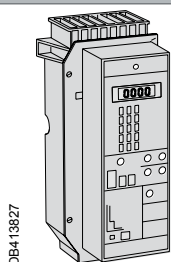
To ensure correct operation, it is necessary to periodically check:

- The chain of action resulting in a trip.
- The response time as a function of the level of the fault current.

Whether or not the STR electronic control unit needs to be replaced depends on the operating and environment conditions ; meanwhile, its replacement has to be done every 10 years under normal operating conditions.

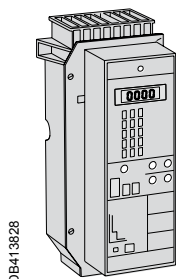
STR control units

Unprotected breaker - switch-disconnector



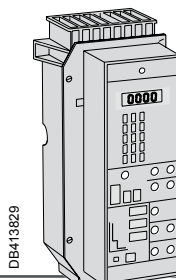
STR08I ammeter on NI or HI switch-disconnector
STR18I ammeter on HF switch-disconnector

Breaker protection



ST208D	availability
ST308S	must be replaced by STR
ST318S	must be replaced by STR
ST408S	must be replaced by STR
ST418S	must be replaced by STR

Breaker protection



STR28D Distribution protection	availability
ammeter option (I)	
overcurrent indicator LED option (ALR)	
STR38S Selective protection	replaced by STR58
STR58U Universal protection	
ammeter option (I)	
overcurrent indicator LED option (ALR)	
earth fault protection	residual current
	source ground return
fault indicator option (F)	
segregated alarm switch option (FV)	
power supply with battery option for option F (PIL)	

The STR68 control unit is no longer available. The rest of the STR range may still be ordered, with the exception of the STR38, which has been replaced by the STR58

STR control unit order form

To indicate your choices, check the applicable square boxes and enter the appropriate information in the rectangles		☒
Breaker		
Rating (M08... M63)		
Type	N1, H1, H2, L1	
Number of poles	3P or 4P	
Neutral protection		
Control	Qty	
Unprotected A.C.B.	STR08I	
	STR18I	
STR28D	distribution protection	STR28D
	ammeter	I
	long time contact ⁽¹⁾ overload	ALR
STR58U	universal protection	STR58U
	ammeter	I
	earth fault protection	"residual" current T
		"source ground return" W
	fault indicator	F
	segregated alarm switch ⁽²⁾ (fault indicator F included)	FV
	power supply with battery for F option	PL

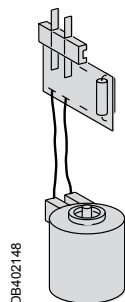
(1) Self-powered.

(2) Needs reliable external power supply.

Electrical auxiliaries

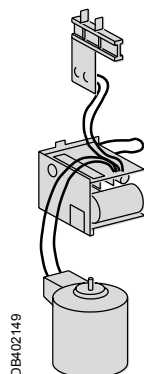
Electrical auxiliaries for circuit breaker

Undervoltage release MN



AC	100 V	0685680c
	200 V	0685682c
	277 V	0685684c
	440-480 V	0685686c
	500-525 V	0685687c
DC	24 V	0685675c
	30 V	0685676c
	48 V	0685677c
	60 V	0685678c
	100-110 V	0685679c
	125 V	0685681c
	200-220 V	0685683c
	350 V	0685685c

Time-delayed undervoltage release MNR

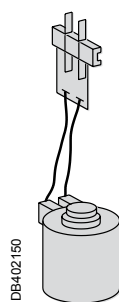


AC	100 V	0685689c
	110-127 V	0685690c
	200 V	0685691c
	220-250 V	0685692c
	380-415 V	0685693c
	440-480 V	0685694c

Time-delayed undervoltage release for instantaneous emergency trip override option MNRI

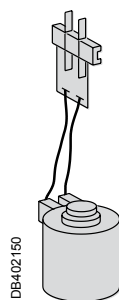
MNR (see above)	0688337c
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Shunt release MX



AC	100 V	0685655c
	200 V	0685657c
	277 V	0685659c
	440-480 V	0685661c
	500-525 V	0685662c
DC	24 V	0685650c
	30 V	0685651c
	48 V	0685652c
	60 V	0685653c
	100-110 V	0685654c
	125 V	0685656c
	200-220 V	0685658c
	350 V	0685660c

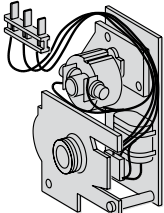
Closing release XF



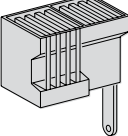
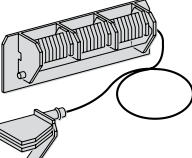
AC	100 V	0685655c
	200 V	0685657c
	277 V	0685659c
	440-480 V	0685661c
	500-525 V	0685662c
DC	24 V	0685650c
	30 V	0685651c
	48 V	0685652c
	60 V	0685653c
	100-110 V	0685654c
	125 V	0685656c
	200-220 V	0685658c
	350 V	0685660c

Electrical auxiliaries for circuit breaker

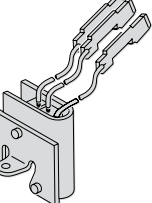
Electrical charging of storage energy mechanism MCH

 DB402151	AC	100/127 V	0685762c
		200/240 V	0685763c
		250/277 V	0685759c
		380 V	0685764c
		415 V	0685767c
		440 V	0685768c
		480 V	0685769c
	DC	24/30 V	0685760c
		48/60 V	0685761c
		100/125 V	0685765c
		200/250 V	0685766c

Auxiliary switches OF and OFSUP

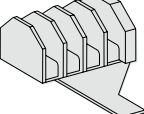
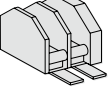
 DB402152	4 auxiliary switches OF	0685725c
 DB402153	24 additional auxiliary contacts OFSUP	0685724c

Ready to close contacts PF and PFCD

 DB402154	Ready to close contact PF	0685727c
	Low level ready to close contact PFCD	0690886c

Electrical auxiliaries for chassis

Carriage switches

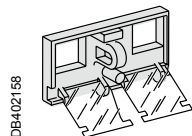
 DB402155	4 connected position carriage switches CE	0685977c
 DB402156	2 disconnected position carriage switches CD	0685978c
 DB402157	1 test position carriage switch CT	0688789c

Mechanical auxiliaries

Mechanical accessories for circuit breaker

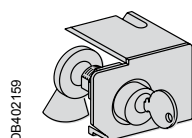
Pushbutton locking device

	Pushbutton locking device (VBP)	0685728c
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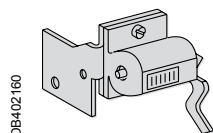
Open position keylock

	PROFALUX VSPA1	0685729c
	RONIS VSRA1	0685730c
	CASTELL	0685731c
	KIRK	0685732c
	PROFALUX VSPA2	0685737c
	RONIS VSRA2	0685738c



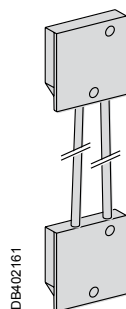
Operations counter

	Operations counter (CDM)	0685733c
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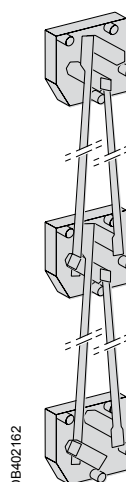


Mechanical interlock for fixed version

	Mechanical interlock for two circuit breakers (VM2FT)	0685985c
	Mechanical interlock for two circuit breakers (VM2FC)	0685982c

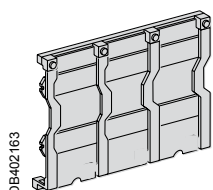


	Mechanical interlock for three circuit breakers	VM31FT: 2 normal+1 emergency	0685976c
		VM32FT: 2 inputs + 1 coupling	0685987c
		VM33FT: 3 inputs	0685986c



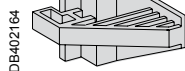
Mechanical accessories for chassis

Safety shutters VO



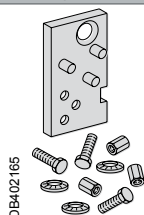
		3P	4P
Up to 2500 A		0685946c	0685947c
3200 A		0685948c	
3200 A	Left side neutral		0685949c
	Right side neutral		0688532c
4000 A		0685950c	
4000 A	Left side neutral		0685951c
	Right side neutral		0685952c
5000 A		0684480c	
5000 A	Left side neutral		0684481c
	Right side neutral		0684481c
6300 A		0684483c	
6300 A	Left side neutral		0684484c
	Right side neutral		0684485c

Safety shutter slide lock VVC



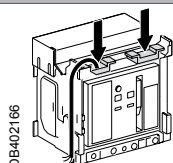
1 slide		0685965c
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Fouling-plate for mismatch protection



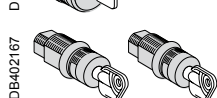
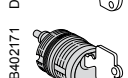
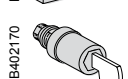
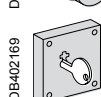
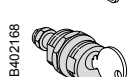
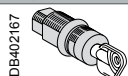
Fouling-plate VDC		0685974c
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Drawout breaker with fixed connectors



Drawout breaker with fixed connectors DP		0685941c
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Key-lock for disconnected position

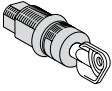
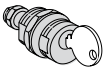
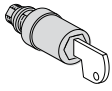
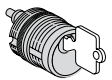


Profalux	VSPC1		0685968c
Ronis	VSRC1		0685969c
Trayvou	VSTC		0685972c
Castell			0685970c
Kirk			0685971c
Profalux	VSPC2	x 2	0685739c
Ronis	VSRC2	x 2	0685740c

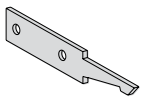
Mechanical auxiliaries

Mechanical accessories for chassis

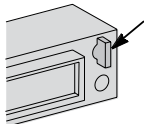
Padlock or keylock for all positions (connected - test - disconnected)

DB402167		Padlock	VEC	0685973c
		Profalux	VSEPC	0685968c
DB402168		Ronis	VSERC	0685969c
		Castell		0685970c
DB402170		Kirk		0685971c
DB402171				

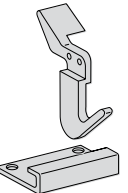
Door interlock

DB402172		Door interlock VPEC	0685966c
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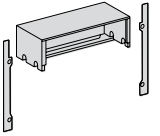
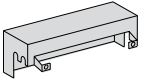
Racking interlock

DB402173		Racking interlock VPOC	0685967c
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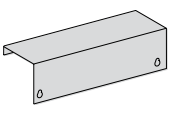
Extraction lockout when breaker is charged VEAA

DB402174		Extraction lockout when breaker is charged VEAA	0685857c
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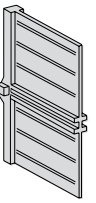
Arc chute cover CC

DB402175		Drawout version	3P	4P
		Up to 3200 A	0685960c	0685961c
		4000 A	0685961c	0685962c
		5000 A	0685962c	0685963c
		6300 A	0685963c	
DB402176		Fixed version	3P	4P
		Up to 3200 A	0690300c	0690301c
		4000 A	0690301c	0690302c
		5000 A	0690302c	

Terminal shields CB

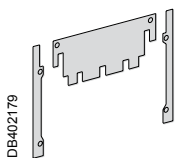
DB402177		Up to 3200 A	3P	4P
		4000 A	0685955c	0685956c
		5000 A	0685956c	0685957c
		6300 A	0685957c	0685958c
			0685958c	

Interphase barrier EIP

DB402178		3 items	0685979c
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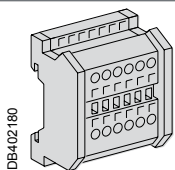
Mechanical accessories for chassis

Partitioning fixture AC



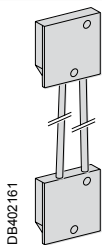
	3P	4P
Up to 3200 A	0685278c	0685279c
4000 A	0685279c	0685280c
5000 A	0685280c	0685281c
6300 A	0685281c	

Additional terminal block (5 ways)

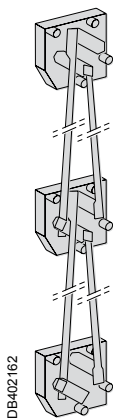


Additional terminal block (5 ways) BS	0685994c
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Mechanical interlock for drawout version

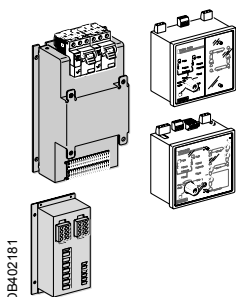


Mechanical interlock for two circuit breakers VM2CT	0685975c
Mechanical interlock for two circuit breakers VM2CC	0685959c



Mechanical interlock for three circuit breakers	VM31CT: 2 normal + 1 emergency	0684499c
	VM32CT: 2 inputs + 1 coupling	0684498c
	VM33CT: 3 inputs	0684497c

Automatic power source changeover equipment UA/BA

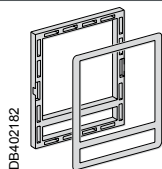


ACP + control unit UA	220/240 V AC	29472
	220/240 V AC Batibus	29474
	380/415-440 V AC - 60 Hz	29473
	380/415-440 V AC - 60 Hz Batibus	29475
ACP + control unit BA	220/240 V AC	29470
	380/415-440 V AC - 60 Hz	29471
Control unit UA	220/240 V AC	29478
	220/240 V AC Batibus	29479
	380/415-440 V AC - 60 Hz	29480
	380/415-440 V AC - 60 Hz Batibus	29481
Control unit BA	220/240 V AC	29476
	380/415-440 V AC - 60 Hz	29477
IVE	48/415-440 V AC - 60 Hz	29352
Plate ACP	220/240 V AC	29363
	380/415-440 V AC - 60 Hz	29364
UA/BA adaptation kit		54655

Accessories

Accessories for cubicle

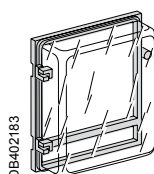
Door frame



Door frame CDP

0685980c

Transparent cover



Transparent cover CCP

0685981c

External CT



Control unit STR18 to STR58

Rating

200 A	0685511c
250 A	0685512c
320 A	0685513c
400 A	0685514c
500 A	0685515c
600 A	0685516c
630 A	0685517c
800 A	0685518c
1000 A	0685519c
1200 A	0685522c
1250 A	0685523c
1600 A	0685524c
2000 A	0685525c
2500 A	0685526c
3000 A	0685527c
3200 A	0685528c
4000 A	0685521c
5000 A	0685673c
6300 A	0685674c
y 4000 A	0685529c
> 4000 A	0685547c

Control unit STR68

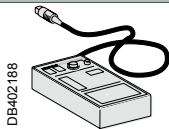
Accessories for control unit

Control units

	STR38/58/68		
	External power supply AD	24/30 V DC	0685823c
		48/60 V DC	0685824c
		125 V DC	0685825c
		110 V AC	0685826c
		220 V AC	0685827c
		380 V AC	0685829c
	Battery module BAT		0685831c
	STR68		
	Relay module MR6		0685832c
	Communication interface ET 44		1073215c

Accessories for control unit

Control units

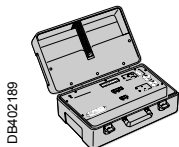


DB402188

STR18/28/38/58

Mini test kit BU

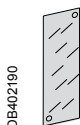
43362



DB402189

Complete test kit ME

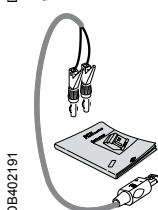
34547



DB402190

Sealable transparent cover PBD

1072766c



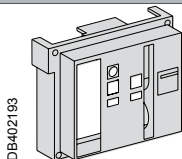
DB402191

ME kit replacement wires only

55390

Spares parts for circuits breaker

Escutcheon



DB402193

3 pole up to 3200 A - 4000 A x 4 - 5000 A x 3

0685710c

4 pole up to 3200 A - 4000 A x 4 - 5000 A x 3 - 6300 A

0685711c

Left side escutcheon

3P

0684450c

4P

0684451c

Voltage release fixing accessory

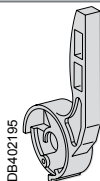


DB402194

1 per unit

0685712c

Charging handle

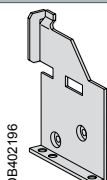


DB402195

1 per unit

0685713c

Fixing bracket



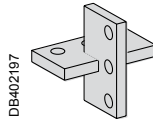
DB402196

2 parts - up to 5000 A x 3

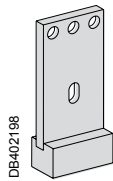
0685926c

Spares parts for circuits breaker

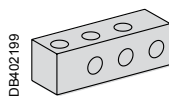
Vertical termination for fixed version

	800 - 1250N (1P)		0685929c
	800 - 1600H1/H2/L1 - 1600N (1P)		0685930c
	2000 - 2500N/H1/H2 (1P)		0685931c
	2000 - 2500L1 - 3200H1/H2	3P	0685932c
		4P	0685933c
	4000H1/H2	3P	0688607c
		4P	0688608c
	5000H1/H2	3P	0688609c

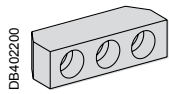
Front termination for fixed version

	800 - 1250N (1P)		0685934c
	800 - 1600H1/H2/L1 - 1600N (1P)		0685935c
	2000 - 2500N/H1/H2 (1P)		0685936c
	2000 - 2500L1 - 3200H1/H2	3P	0685937c
		4P	0685938c
	Front connection rear screen	3P	0685939c + 0685918c
		4P	0685940c + 0685919c

Horizontal terminations for fixed 3200 A - 4000 A - 5000 A

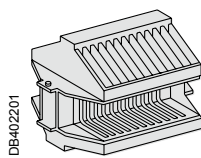
		3P		4P
	3200 A	0685927c	2017	0685928c
	4000 A	0688604c	2017	0688605c
	5000 A	0688606c	2017	

Horizontal terminations for drawout 3200 A - 6300 A (pads fixed on breaker)

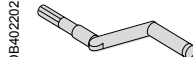
		3P		4P
	3200 A	0685920c	2017	0685921c
	4000 A	0685922c	2017	0685923c
	5000 A (3x for 3-pole, 4x for 4-pole)	0685924c	2017	0685925c
	6300 A (3x for 3-pole, 4x for 4-pole)	0684491c	2017	0684492c

Spares parts for chassis

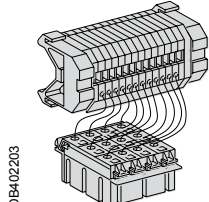
Clusters (2P)

	800 - 1250 A N1		0685870c
	800 - 1600 A H1/H2/L1 - 1600 A N1		0685872c
	2000 - 2500 A N/H1/H2		0685874c
	2000 - 2500 A L1 - 3200A H1/H2		0685875c
	4000 A		0685875c
	5000 A		0685875c
	6300 A		0685875c
			0685876c

Racking handle

	Racking handle	0685631c
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Connectors for drawout version D12B

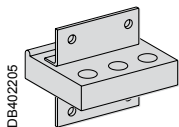
	Connectors for drawout version D12B	0685868c
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Full fixed connectors PC

	Full fixed connectors PC	0685871c
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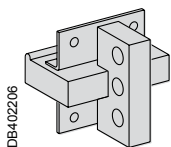
Spares parts for chassis

Horizontal terminations for drawout version (y 3200A)



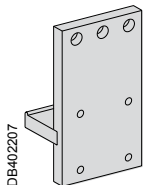
800 - 1250 A N1 (1P)		0685885c
800 - 1600 A H1/H2/L1 - 1600 A N1 (1P)		0685886c
2000 - 2500 A N1/H1/H2 (1P)		0685887c
3200 A H1/H2 - 2000 - 2500 A L1	3P	0685888c
	4P	0685889c

Vertical terminations for drawout version (y 3200A)



800 - 1250 A N1 (1P)		0685894c
800 - 1600 A H1/H2/L1 - 1600 A N1 (1P)		0685895c
2000 - 2500 A N1/H1/H2 (1P)		0685896c
3200 A H1/H2 - 2000 - 2500 A L1	Upper	3P 0685897c
		4P 0685898c
	Lower	3P 0685899c
		4P 0685900c

Front terminations for drawout version



800 - 1600 A N1/H2/L1 (1P)	Upper	0685909c
	Lower	0685910c
2000 - 2500 A N1/H1/H2 (1P)	Upper	0685911c
	Lower	0685912c
2000 - 2500 A L1 - 3200 A H1/H2		3P 0685913c
		4P 0685914c
	For each	3P 0685918c
		4P 0685919c

In addition, our service centre can replace on site:

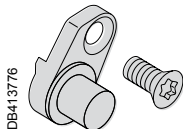
- the chassis escutcheon;
- the connection pads for the chassis up to 3200 A and 2000 A L1 and 2500 A L1;
- certain parts of the chassis.

Spares parts for Plug & Play assembly

Auxiliary wiring connector plate

3-pole chassis modification	consult us
4-pole chassis modification	consult us

Interlocking

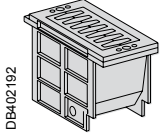


Interlocking kit, including cam and cut-out template	EF548613
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Poles

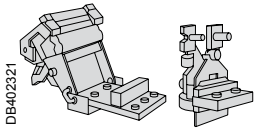
Arc chute

	1 part	685548c
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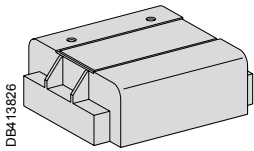
1 fixed + 1 moving main contact, 3P x3, 4P x4

	pole assembly N1 NI 08 -10 -12	0685635C
	pole assembly H1 H2 HI 08 -10 -12 -16	0685638C
	pole assembly N1 NI H1 H2 HI 20	0685640C
	pole assembly N1 NI H1 H2 HI 25	0685641C
	pole assembly H1 H2 HI 32	0685646C
	pole assembly H1 H2 HI 40, central for 50 63 N	0685647C
	pole assembly H1 H2 HI 50 63 right	0685648C
	pole assembly H1 H2 HI 50 63 left	0685649C
	pole assembly L 08-10-12	0685642C
	pole assembly L 16	0685643C
	pole assembly L 20-25	0685644C



Current transformer

	Iron core CT 250A	0685558C
	Iron core CT 400A	0685559C
	Iron core CT 500A	0685560C
	Iron core CT 630A	0685562C
	Iron core CT 1600A	0685567C
	Iron core CT 2000A	0685568C
	Iron core CT 2500A	0685569C
	Iron core CT 3000A	0685573C
	Iron core CT 3200A	0685574C
	Iron core CT 4000A reducer	0685669C
	Iron core CT 2X2000A	0685670C
	Iron core CT 5000A	0685671C





Schneider Electric Industries SAS

35, rue Joseph Monier
CS30323
F - 92505 Rueil-Malmaison cedex (France)

RCS Nanterre 954 503 439
Share capital: €896,313,776
www.schneider-electric.com

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*This document has been printed
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Publishing: Schneider Electric Industries SAS
Printing: France