

Medium & Low Voltage Distribution
Modernisation of switchboards

ECOFITTM

Green is our colour

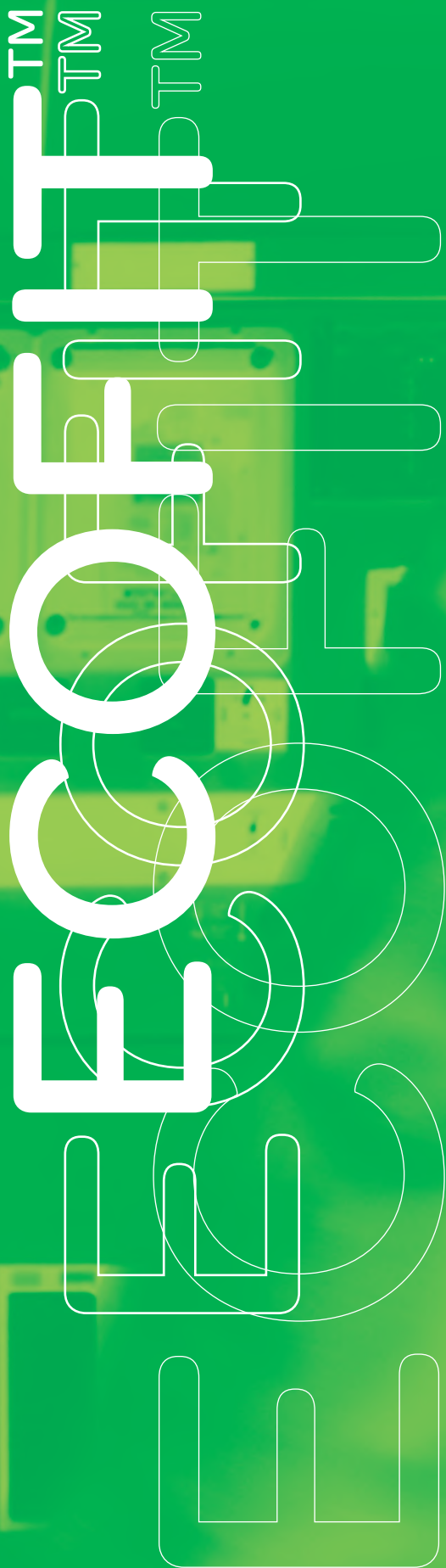
Catalogue 2015

Schneider
ElectricTM



THORNE &
DERRICK
INTERNATIONAL

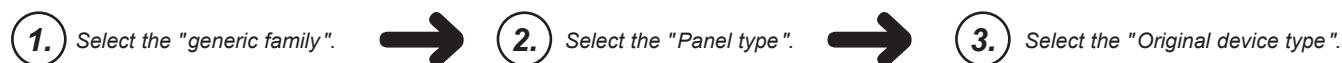
Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com



Index

Medium Voltage ECOFIT™ solutions

How to find an ECOFIT™ solution?



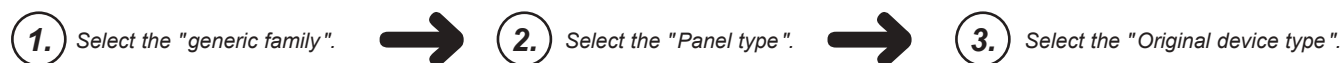
1. 2. 3.							
Original Brand	MV CB or Contactor or Disconnecter	MV Panel	MV Cradle to Cradle	Panel type	Original device type	New device type	Page
Square D	✓			5-15kV MC switchgear	VAD2-3	Magnum CB	A-2
All brands	✓			All with fixed CB	All fixed CB types	HVXUW	A-3
Alsthom	✓			Alliance	FP - GFA	FP - GFA	A-4 NEW
Merlin Gerin	✓			Belledonne B200-B400	DSE22 to DSE78	LF2 - LF3 - SF1 - Evolis	A-5
Merlin Gerin	✓			Belledonne B200G	DSE22K-DSE23K	LF1 - Evolis	A-6
Merlin Gerin	✓			Belledonne B650	DIS	LF1 - R400 - R400D - Evolis	A-7
Merlin Gerin	✓			Belledonne B900	DIS	SF1	A-8
AEI, GEC Alsthom	✓			BVP 17	BVP 17	VMX	A-9
CEM	✓			Cemabloc-C23mc 15 & 27	CB	FP	A-10
CEM	✓			Cemabloc-C23mc 15 & 27	CB	HVX	A-11
CEM	✓			Cemabloc-C26.0	CS - CX - FPR	FPR	A-12
Nuova Magrini Galileo	✓			Composit	MG	SF1	A-13
VEB Otto Buchwitz	✓			CSIM 1-12	SCI-4	VEIVACUUM F	A-14
VEB Otto Buchwitz	✓			CSIM 3-12	SCI-4	VEIVACUUM F - VA	A-15
AEG	✓			D-12	BAL - VAA - VA	VAA - VA	A-16
AEG	✓			D-24	BAL - VAA	VAA	A-17
Alsthom	✓			DNF4-2E	FP - GFA	FP - HVX - CVX	A-18
Alsthom	✓			DNF4 MI&FI	FP	FP - HVX	A-19
Alsthom	✓			DNF5/DNF5-2B	FP	FP - HVX	A-20
Alsthom	✓			DNF6	FP	FP - HVX	A-21
Alsthom	✓			DNF7	FP	FP - HVX-O ²	A-22
Nuova Magrini Galileo	✓			Epoclad	DHF -F	LF1 - LF2 - LF3 - SF1	A-23
Merlin Gerin	✓			Fluair F100-F200	FG1 - FG2	LF2 - LF3 - Evolis	A-24
Merlin Gerin	✓			Fluair F100C	R400-R400D	R400 - R400D	A-25
Merlin Gerin	✓			Fluair F300	FG3	SF1 - SF2	A-26
Merlin Gerin	✓			Fluair F400C	FC4	SF2	A-27
Merlin Gerin	✓			Fluair F400G	FG4	SF1 - SF2	A-28
GEC, GEC Alstom, Alstom	✓			Fluokit M24	FP	FP	A-29 NEW
GEC, GEC Alstom, Alstom	✓			Fluokit M24 +	FP	FP	A-30 NEW
GEC, GEC Alstom, Alstom	✓			Fluokit M36	FP	FP	A-31 NEW
Delle Alsthom	✓			FLUOMATIC F540	FR62	FP62	A-32
Delle Alsthom	✓			FLUOMATIC F943	FR62	BLV	A-33
AEG	✓			GS-10	GE	VA - VAA	A-34
GEC Alstom	✓			HMC 400 & HMC 410	HMC 400 - HMC 410	HMC 400 - HMC 410	A-35
GEC Alstom	✓			HMC 1072	HMC 1072	HMC 1072	A-36
GEC Alstom	✓			HMC 1172	HMC 1172	HMC 1172	A-37
GEC Alstom	✓			HMX 36	HMX 36	HMX36	A-38
Concordia Sprecher	✓			HP	HP-W-TW-TM	HVX	A-39
CEM	✓			KIT 25-PGdt	CC	FP	A-40
CEM	✓			KIT 27.2-PGht	HF4K	FP	A-41

1. 2. 3.							
Original Brand	MV CB or Contactor or Disconnecter	MV Panel	MV Cradle to Cradle	Panel type	Original device type	New device type	Page
AEG	✓			L	D-E	HVX	A-42
Federal Pioneer	✓			Metalclad switchgear	DST 2 & 5	DST 2V & 5V	A-43
Merlin Gerin	✓			Motorstart P50D	C - CD	R400 - R400D - CTV1	A-44
Merlin Gerin	✓			Motorstart P500D	C1 - CD1	R400 - R400D - CTV1	A-45
GEC Alstom	✓			MX 51 & MX 81	MX 51 - MX 81	MX 51 - MX 81	A-46
Delle Alsthom	✓			Normabloc N1347	HL	HVX - FPX	A-47
GEC, GEC Alstom, Alstom	✓			Normaclad PX	FPX	FPX	A-48 NEW
Delle Alsthom	✓			Normasept N743	HL	FP	A-49
Alsthom	✓			PIX 12-24	FPX	FPX	A-50 NEW
GEC, GEC Alstom, Alstom	✓			PIX SF6	FPX	FPX	A-51 NEW
AEG	✓			PNX 36	HVX 36	HVX 36	A-52 NEW
AEG	✓			R	IMC - MC - FAL - IFAL - VA - VAA - IVA - BAL - ALF - AL - TG	VA - VAA - Contactor	A-53
Ansaldo	✓			Siclad	MAG II	LF1 - LF2	A-54
Square D	✓			Solenarc DSE Metal-Clad switchgear	DSE	Magnum CB	A-55
Nuova Magrini Galileo	✓			Venus	GI-GL	LF1-LF3	A-56
GEC, GEC Alstom, Alstom	✓			VISAX	BLV	BLV	A-57 NEW
Merlin Gerin	✓			VM6 DM12	FB4	SF1	A-58
Merlin Gerin	✓			VM6 DM22-DM23	FB4	SF1	A-59
GEC, GEC Alstom, Alstom	✓			VMX	VMX	VMX	A-60
AEG	✓			WAK	D-E	HVX	A-61
AEG	✓			WBA	VA - VAA - ECA - BAL - AL	VA - VAA - Contactor	A-62
AEG	✓			WBB	VA - VAA - ECA - BAL - AL	VA - VAA - Contactor	A-63
AEG	✓			WBD	VA - VAA - HVX	VA - VAA	A-64 NEW
AEG	✓			WK (C/E/B/A)	VA - MC - BAL	VA - VAA - Contactor	A-65
Yorkshire Switchgear	✓			YSF6	YSF6	YSF6 Evolis	A-66
AEG		✓		D-12	D-12 panel	D-12 panel	A-68
AEG		✓		D-24	D-24 panel	D-24 panel	A-69
Alsthom		✓		DNF7	DNF7 panel	DNF7 panel	A-70
Merlin Gerin		✓		F100/200	F100/200 panel	F100/200 panel	A-71
Merlin Gerin		✓		F100C	F100C panel	F100C panel	A-72
AEG		✓		PNX36	PNX36 PANEL	PNX36 PANEL	A-73 NEW
Alstom		✓		PX 12-24	PX 12-24 panel	PX 12-24 panel	A-74
AEG		✓		R	R panel	R panel	A-75
GEC Alstom		✓		VISAX	VISAX PANEL	VISAX PANEL	A-76 NEW
GEC, GEC Alstom, Alstom		✓		VMX	VMX panel	VMX panel	A-77
AEG		✓		WBA	WBA panel	WBA panel	A-78
AEG		✓		WBB	WBB panel	WBB panel	A-79
AEG		✓		WBD	WBD panel	WBD panel	A-80 NEW
AEG		✓		WK	WK panel	WK panel	A-81
All brands			✓	All	All breaker types	Evolis MC Cassette	A-82
All brands			✓	All	All breaker types	F400 Cassette	A-83

* Not current ECOFIT™ reference centre

Medium Voltage ECOFIT™ solutions

How to find an ECOFIT™ solution?



1.				2.		3.	
Original Brand	MV CB or Contactor or Disconnecter	MV Panel	MV Cradle to Cradle	Panel type	Original device type	New device type	Page
EIB	✓			All EIB and open air insulated switchgears	A – frontal circuit breaker	HVX - VA	A-84
EIB	✓			All EIB and open air insulated switchgears	A – lateral circuit breaker	SF1	A-85
BBC, EIB	✓			All EIB and open air insulated switchgears	DB – frontal circuit breaker	HVX - VA	A-86
EIB, AEG, Alstom	✓			All EIB, AEG, Alstom and open air insulated switchgears	DPI L (CRR1000)	SFset	A-87
EIB, AEG, Alstom	✓			All EIB, AEG, Alstom and open air insulated switchgears	VB L (CRR1000)	SF1	A-88
EIB		✓		Modulec CT	Modulec CT panel	SM6	A-89
EIB, AEG, Alstom		✓		Modulec9	Modulec9 panel	SM6	A-90

* Not current ECOFIT™ reference centre

NEW

NEW

NEW

NEW

NEW

NEW

NEW

Low Voltage ECOFIT™ solutions

How to find an ECOFIT™ solution?

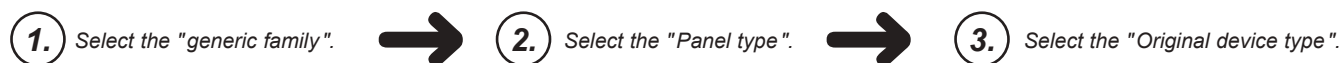


1.			2.		3.	
Original Brand	LV CB or Contactor	LV Drawer	Panel type	Original device type	New device type	Page
Nuova Magrini Galileo	✓		NA	B Control	Masterpact NW	B-2
Merlin Gerin	✓		NA	Compact C801-C1251	Compact NS	B-3
Merlin Gerin	✓		NA	DA	Masterpact NW	B-4
Square D	✓		NA	DS	Masterpact NW	B-5
Federal Pioneer	✓		NA	H series	Masterpact NT - NW	B-6
Merlin Gerin	✓		NA	Masterpact M	Masterpact NW	B-7
Square D, Westinghouse	✓		NA	SE	Masterpact NW	B-8
Merlin Gerin	✓		NA	Selpact	Masterpact NT - NW	B-9
Unelec-Areva	✓		Normabloc 660	Unelec CNP	Masterpact NW	B-10
Merlin Gerin	✓		NA	Visucompact CM	Masterpact NW	B-11
Merlin Gerin		✓	T140	T140 drawers	T140 drawers	B-13
Merlin Gerin		✓	MB400	MB400 drawers	MB400 drawers	B-14

* Not current ECOFIT™ reference centre

Protection relays ECOFIT™ solutions

How to find an ECOFIT™ solution?



Original Brand	Protection relay	Panel type	Original device type	New device type	Page	
GE	✓		CO	MiCOM P111/115	C-3	
Alstom	✓		CDG - CAG - CTMM - CTMFM	MiCOM P1x-P2x or Vamp 5x	C-4	NEW
ABB	✓		DPU 445	MiCOM P123	C-5	NEW
ABB	✓		HCB	MiCOM P521	C-6	NEW
GE	✓		IAC	MiCOM P122	C-7	NEW
GEC Alstom, Areva	✓	All	KCGG 122 & 142	MiCOM P123R	C-8	
Areva or older	✓	all / draw out	M range - MCGG 11, 21 & 22	MiCOM P120H	C-9	
Areva or older	✓	all / draw out	M range relay MCTI 39-40	MiCOM P821MF	C-10	
Alstom	✓		MCGG 62	MiCOM P126	C-11	NEW
Merlin Gerin	✓	All	Sepam 2000	Sepam 60/80	C-12	
Merlin Gerin	✓	RM6 ⁺	VIP	VIP + ECOFIT™ kit	C-13	NEW
Merlin Gerin	✓	Various equipment	VIP & Vigirex	VIP & Sepam	C-14	NEW

* Not current ECOFIT™ reference centre

Substation automation ECOFIT™ solutions

How to find an ECOFIT™ solution?



Original Brand	Control System	Original device type	New device type	Page	
AREVA or older	✓	Bay Controller BM9x00	MiCOM C624	D-3	NEW
AREVA or older	✓	PACIS OI (V3.x up to V4.6)	PACIS EcoSUI	D-4	
AREVA or older	✓	PSCN3020 HMI	EcoSUI HMI	D-5	
Schneider Electric	✓	Seefox HMI	EcoSUI HMI	D-6	NEW

* Not current ECOFIT™ reference centre



Contents

Contents

Medium Voltage Distribution **A-1**

Low Voltage Distribution **B-1**

Protection relays **C-1**

Substation automation **D-1**



What does
that mean?

Schneider Electric is helping you get the most of your equipment and installations

Schneider Electric helps you **define and implement the best solution evolvement**, increasing performance and flexibility, while controlling aging infrastructures associated costs.



ECOFIT™ is the economical complement to maintenance operations

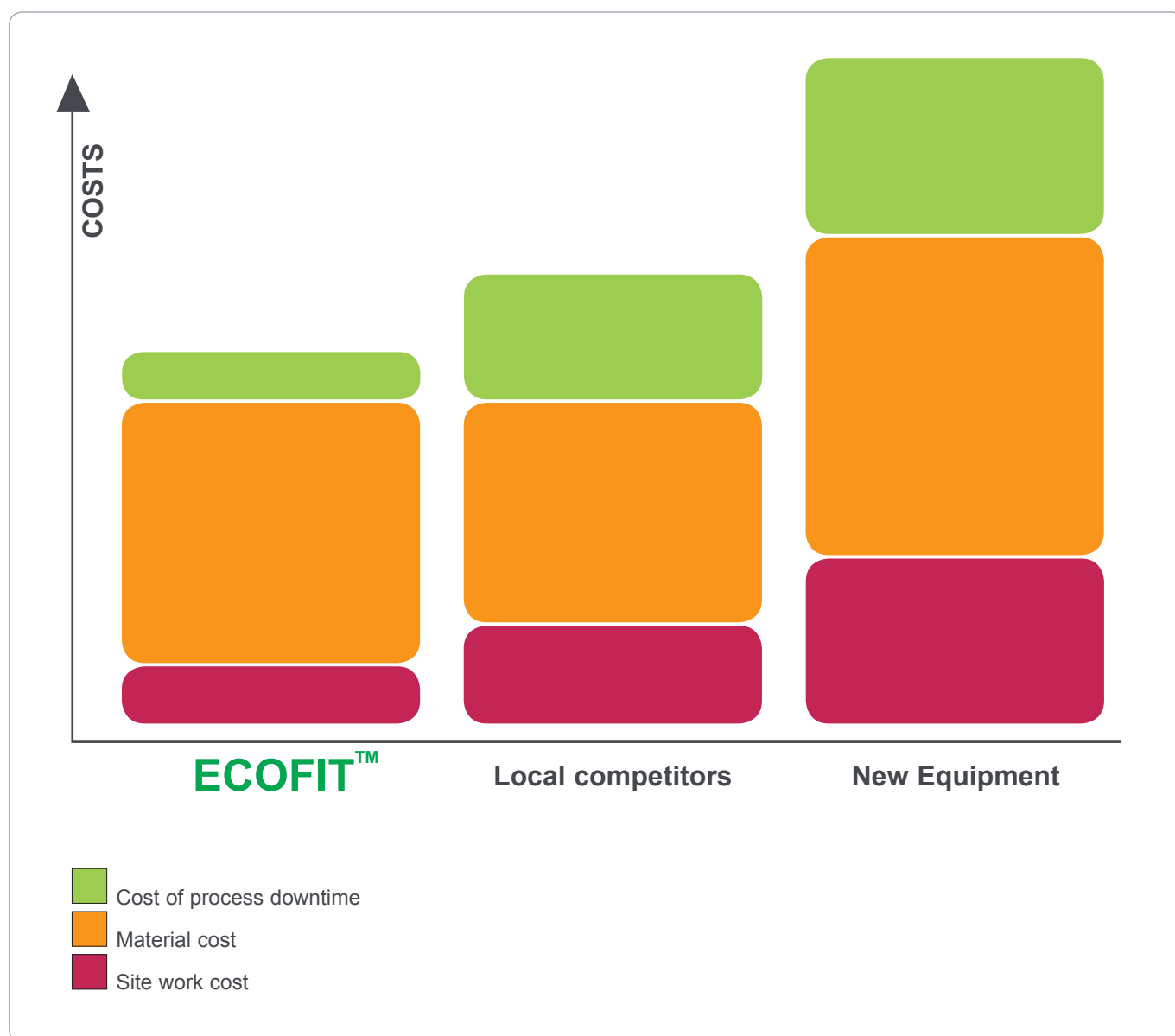
"Green is our colour" - ECOFIT™

is the most economical means of reducing your network's environmental footprint without buying a whole new system

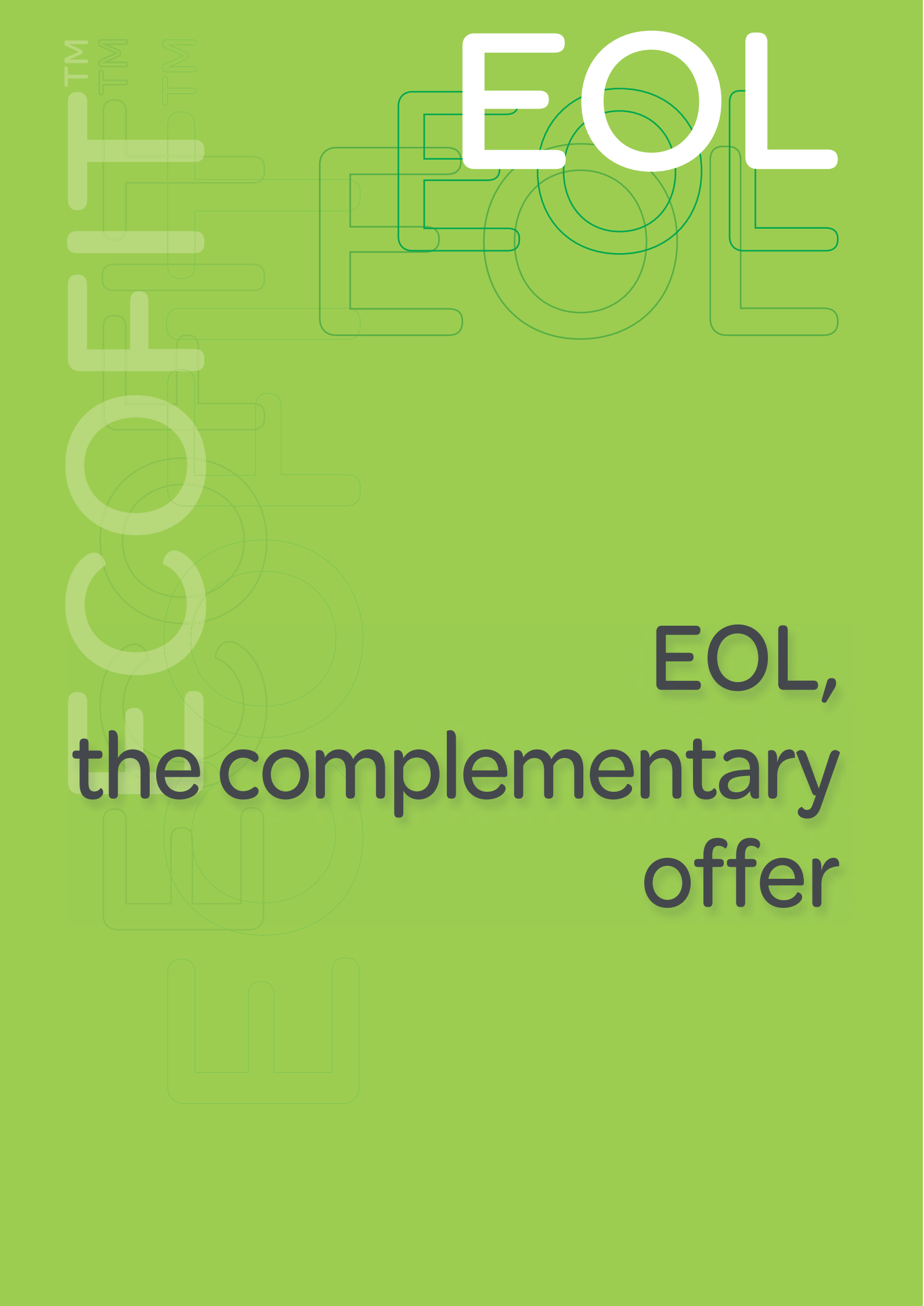
THE
F
O
C
U

For which
benefits?

Optimisation with minimal shutdown



- Enhances your process dependability.
- Optimizes your maintenance service costs & limits your investments.
- Maintains compliance with evolving industry standards and legislation.
- Ensures the safety of your personnel and surrounding equipment by using the latest technology.
- Access to Energy Management.



EOL

EOL,
the complementary
offer

End-of-life: environment in mind!

In complement to ECOFIT™, **EOL** our high **environmental treatment package: recovery and recycling for re-use** of all medium-voltage equipment, **including SF6 gas**.

 • **98%** of a medium-voltage cubicle can be recovered

• **legal** requirement for the **SF6**, an **environmental** duty

EOL's 4 steps

- 1.** Collection of medium-voltage equipment from your site.
- 2.** Dismantling of the equipment in a Schneider Electric factory. The different ferrous and non-ferrous materials (copper, aluminium, etc.) are separated and sent to specialised recycling centres.
- 3.** When applicable, the SF6 is evacuated until the residual pressure is less than 20 mbar, in accordance with the IEC standard, using adequate engineered tools. The gas is stored in bottles before being sent for recycling. The epoxy enclosure is crushed for recovery purposes.
- 4.** A certificate of destruction compliant with the regulations is sent to you.

Benefit from Schneider Electric's image and know-how

PE56733



Quality certified ISO 9001

A major strength

In each of its units, Schneider Electric has an operating organization whose main role is to verify quality and ensure compliance with standards. This procedure is:

- uniform for all departments;
- recognized by numerous customers and official organizations.

But, above all, its strict application has made it possible to obtain the recognition of independent organizations.

The quality system for design and manufacturing is certified in compliance with the requirements of the ISO 9001 Quality Assurance model.

Stringent, systematic controls

During its manufacture, each equipment item undergoes systematic routine tests to verify its quality and compliance:

- measurement of operating capacity and tolerances;
- measurement of losses;
- dielectric testing;
- checks on safety and locking systems;
- checks on low-voltage components;
- verification of compliance with drawings and diagrams.

The results obtained are recorded and initialled by the Quality Control Department on the specific test certificate for each device.

Quality & Environment

Schneider Electric undertakes to reduce the energy bill and CO₂ emissions of its customers by proposing products, solutions and services which fit in with all levels of the energy value chain.

At the same time, Schneider Electric strives to reduce the environmental impact of its products throughout their entire life-cycle (from cradle to grave), particularly through eco-design and eco-production.

Our common values :

- Quality
- Safety
- Professionalism

5% of sales
devoted to R & D

Local support
all over the world.

There are always
Schneider Electric people
close to you:

6200 Services people
in more than

88 countries!

More than
50,000 ECOFIT™ in
services/delivered
in various business segments

Schneider Electric's policy has always been to provide its customers with very close support in their daily activities to enable them to achieve operational excellence.

The experience of a world leader in Low & Medium Voltage

Schneider Electric has been manufacturing LV and MV products for more than 50 years and its installed base amounts to thousand millions products and devices.

The Schneider Electric brand is known worldwide and recognized by the most demanding customers.

A long history of innovation for a global offer

Based on this experience as world leader, Schneider Electric has developed a **large and comprehensive range of innovative devices**. With one of the world leaders, you take benefit of a global leader experience and know-how in electric distribution, automation and Power & Control.

All the devices included in this overview have been designed and manufactured to incorporate the benefits of this extensive experience.

Schneider Electric

a brand you can trust

ED equipment obsolescence and unavailability of spare parts

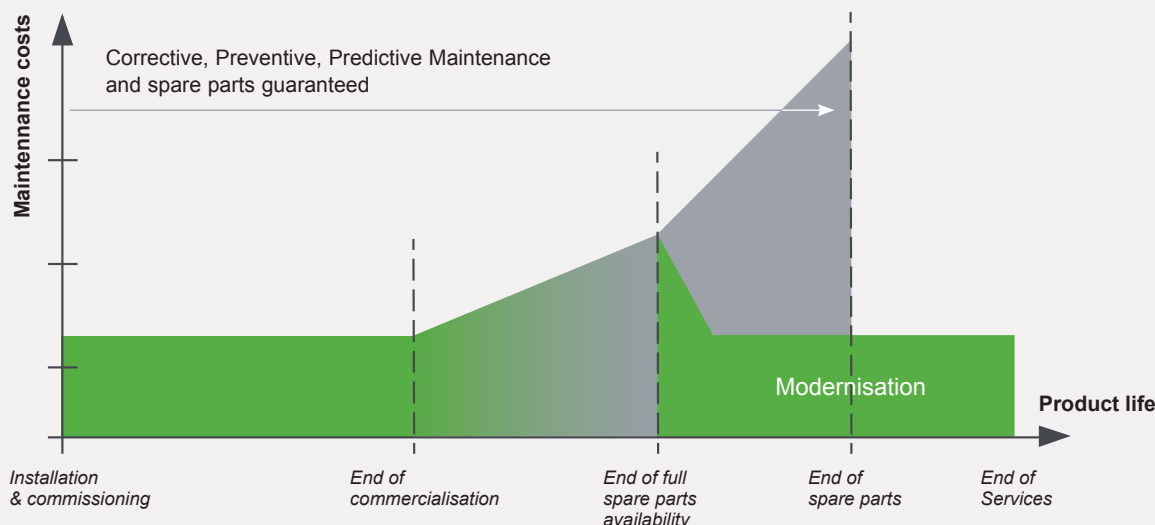
The only solution to extend Electrical Distribution (ED) equipment life cycle is by carrying out an intense maintenance while planning a modernisation solution thanks to ECOFIT solution.

There are three major phases in the product life cycle:

1. **Commercialisation period:** The product is launched onto the market and is included in the Schneider Electric catalogue.
2. **Full spare parts availability period:** The product is withdrawn from the market. Schneider Electric continues to supply spare parts for a period of time. Generally speaking, the average full spare part supply period after the end of commercialisation is :
 - Medium Voltage equipment: 12 years.
 - Low Voltage equipment: 10 years.

When the end of the full spare part supply date is reached, the product is considered have be expired.

3. **Modernisation period with ECOFIT™ solution:** As of the full spare part supply date, the product is considered to have expired. Spare part stock and supply are no longer guaranteed after the end of spare part supply date.





Medium Voltage Distribution

Contents

MV CB or Contactor or Disconnecter

5-15 kV MC switchgear	A-2
All with fixed CB	A-3
Alliance	A-4
Belledonne B200-B400	A-5
Belledonne B200G	A-6
Belledonne B650	A-7
Belledonne B900	A-8
BVP 17	A-9
Cemabloc-C23mc 15 & 27	A-10
Cemabloc-C23mc 15 & 27	A-11
Cemabloc-C26.0	A-12
Composit	A-13
CSIM 1-12	A-14
CSIM 3-12	A-15
D-12	A-16
D-24	A-17
DNF4-2E	A-18
DNF4 MI&FI	A-19
DNF5/DNF5-2B	A-20
DNF6	A-21
DNF7	A-22
Epoclad	A-23
Fluair F100-F200	A-24
Fluair F100C	A-25
Fluair F300	A-26
Fluair F400C	A-27
Fluair F400G	A-28
Fluokit M24	A-29
Fluokit M24+	A-30
Fluokit M36	A-31
FLUOMATIC F540	A-32
FLUOMATIC F943	A-33
GS-10	A-34
HMC 400 & HMC 410	A-35
HMC 1072	A-36
HMC 1172	A-37
HMC 36	A-38
HP	A-39
KIT 25-PGDt	A-40
KIT 27.2-PGht	A-41
L	A-42
Metalclad switchgear	A-43
Motorstart P50D	A-44
Motorstart P500D	A-45
MX 51 & MX 81	A-46
Normabloc N1347	A-47
Normaclad PX	A-48
Normasept N743	A-49
PIX 12 - 24	A-50
PIX SF6	A-51
PNX 36	A-52
R	A-53
Siclad	A-54
Solenarc DSE Metal-Clad switchgear	A-55
Venus	A-56
VISAX	A-57
VM6 DM12	A-58
VM6 DM22-DM23	A-59
VMX	A-60
WAK	A-61
WBA	A-62
WBB	A-63
WBD	A-64
WK	A-65
YSF6	A-66

MV Panel

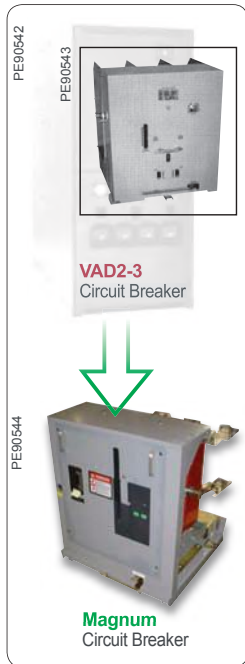
D-12	A-68
D-24	A-69
DNF7	A-70
F100/200	A-71
F100C	A-72
PNX36	A-73
PX 12-24	A-74
R	A-75
VISAX	A-76
VMX	A-77
WBA	A-78
WBB	A-79
WBD	A-80
WK	A-81

MV Cradle to Cradle

All	A-82
All	A-83
A - Frontal Circuit Breaker	A-84
A - Lateral Circuit Breaker	A-85
DB - Frontal Circuit Breaker	A-86
DPI L (CRR1000)	A-87
VB L (CRR1000)	A-88
Modulec CT panel	A-89
Modulec9 panel	A-90

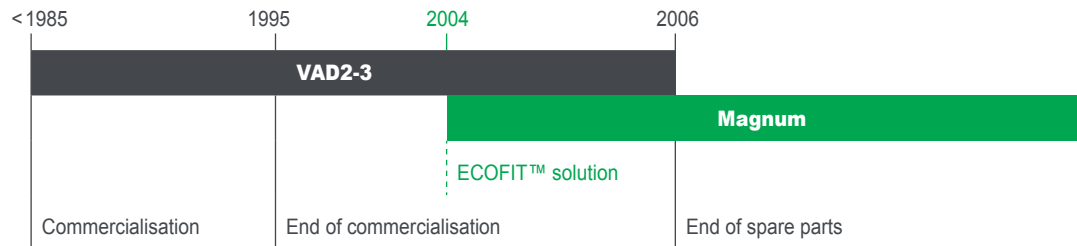
5 - 15 kV MC switchgear / **VAD2-3** by **MAGNUM**

Original brand: **Square D**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	VAD2	VAD3	VAD2	VAD3
Rated current (Ir)	1200-3000A			
Short circuit current (Isc)	29 kA	41 kA	18-28 kA	37 kA
Rated voltage Un (50/60 Hz)	5kV		15kV	

	Magnum 5SSB	Magnum 15SSB		Magnum 5SSB	Magnum 15SSB
Technology	Vacuum	Vacuum	Rated current Ir (A)	1200-3000	1200-3000
Rated voltage Ur (kV)	5	15	Short circuit current Isc (kA)	29-41	18-28
Surge withstand voltage Up (kV)	60	95	Switching sequence	O-0.3s-CO-15s-CO	O-0.3s-CO-15s-CO
Nominal frequency (Hz)	60	60	Opening time (ms)	60	60

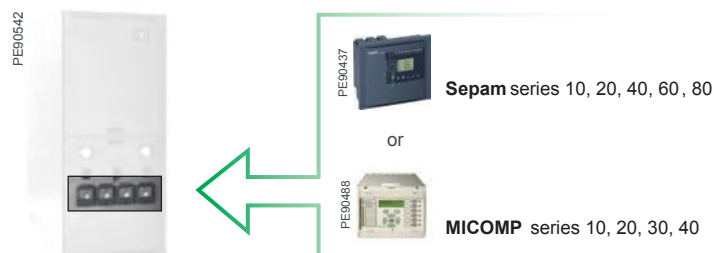
Magnum CB main characteristics

Built with totally new components and tested to ANSI standards, Magnum circuit breakers correctly interface with the existing breaker compartment components and maintain safety interlocks inherent in the original equipment design.

- New circuit breakers are installed in existing switchgear.
- Original footprint is left intact, saving time and money.
- Installation expense is a fraction of new equipment costs.
- Less down time for installation.
- Enhanced equipment reliability.
- Manufactured with new components.
- Undergoes complete factory testing.
- Backed by our standard equipment warranty.
- New, easy-to-maintain operating mechanism.
- No bulky arc chutes to handle and maintain.
- Reduced need for difficult to obtain spare parts.

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



All with fixed CB / **All fixed CB types** by **HVXUW**

Original brand: **all brands**

All breaker types

Compatible with all open Air Insulated Switchgear legacy and no legacy cubicles with minimum inside panel width ≥ 650 mm



PE9075



Withdrawable HVXUW
Circuit Breaker

ECOFIT™ proposal

With ECOFIT™, a true extended life time

This solution consist in fitting a cradle inside an existing panel.

- It is particularly adapted for non Schneider Installed Base.
- ECOFIT™ solution with shutters and mechanical interlocks embedded.
- Only the fixed connections (between the cradle and existing busbar) are customized.
- No age condition of the existing equipment.
- Only the width of the existing panel has to be considered.

Main technical characteristics

	All types	
Rated current (Ir)	630 - 2500 A	
Short circuit current (Isc)	Up to 31.5 kA	Up to 31.5 kA
Rated voltage Un (50/60 Hz)	12 kV	24 kV

	HVXUW		HVXUW
Technology	SF6	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	12 - 24		
Surge withstand voltage Up (kV)	75 - 125	Closing time (ms)	45 - 63
Nominal frequency (Hz)	50 - 60	Opening time (ms)	35 - 53
Rated current Ir (A)	630 - 2500	Number of switching operations	10.000
Short circuit current Isc (kA)	16 - 50	Service temperature (°C)	-5 / +40
Short circuit duration Tk (s)	3		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



PE90487



PE90437

Sepam series 10, 20, 40, 60, 80

or

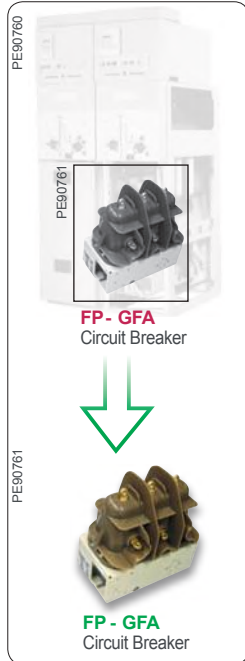


PE90488

MICOMP series 10, 20, 30, 40

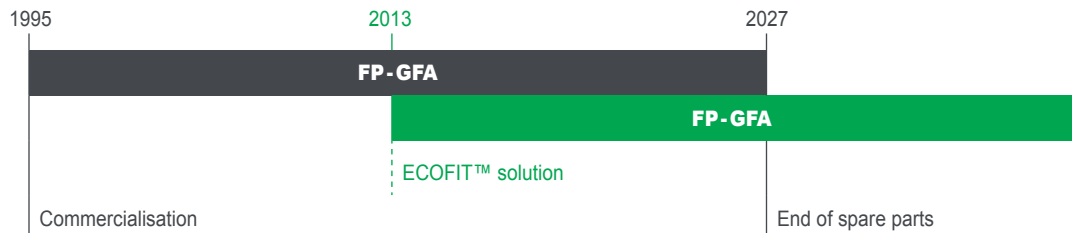
ALLIANCE / **FP - GFA** by **FP - GFA**

Original brand: **Alstom**



ECOFIT™ proposal

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Main technical characteristics

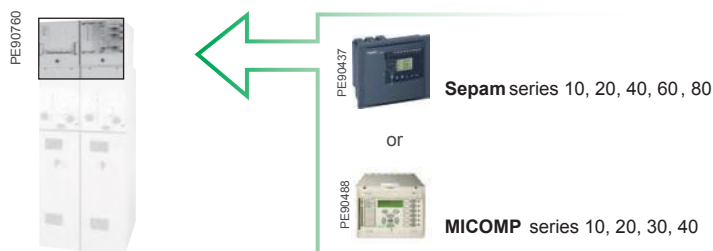
	FP	GFA
Rated current (Ir)	400-3150A	400A
Short circuit current (Isc)	16-50 kA	10 kA
Rated voltage Un (50/60 Hz)	60-75kV	60 kV

	FP	GFA		FP	GFA
Technology	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-3 min-CO	C/O
Rated voltage Ur (kV)	7.2 - 12	7.2	Closing time (ms)	50	45-175
Surge withstand voltage Up (kV)	60-75	60	Opening time (ms)	70	90-120
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10000 (mechanical)	300000 (mechanical)
Rated current Ir (A)	400-3150	400	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	16-50	10			
Short circuit duration Tk (s)	1	1			

* Class M1: 2000 operations for Isc = 40 kA

Offer extension

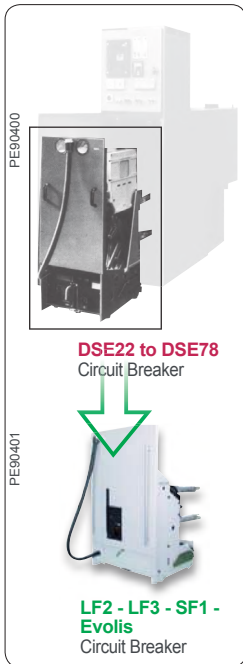
Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Belledonne B200-B400 / DSE22 to DSE78

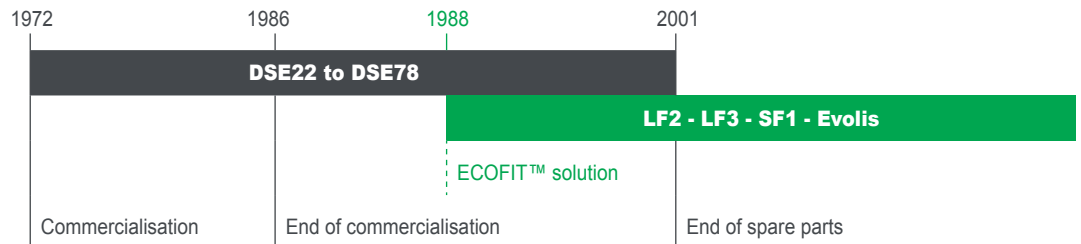
by **LF2 - LF3 - SF1 - Evolis**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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Main technical characteristics

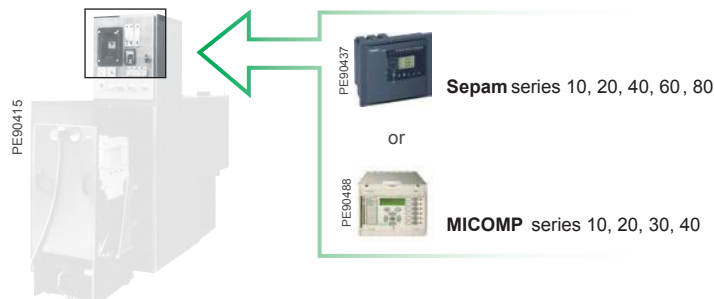
	DSE to DSE78			
Rated current (Ir)	630-3500A	630-3150A		
Short circuit current (Isc)	29-50 kA	24-48 kA	15-46 kA	10-29 kA
Rated voltage Un (50/60 Hz)	7.2kV	12kV	17.5 kV	24 kV

	LF2/LF3	LF2/LF3	SF1	Evolis		LF2	LF3	SF1	Evolis
Technology	SF6	SF6	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO			
Rated voltage Ur (kV)	7.2-12	17.5	24	7.2-12-17.5	Closing time (ms)	<72		<65	<65
Surge withstand voltage Up (kV)	60-75	95	125	60-75-95	Opening time (ms)	<654		<50	<50
Nominal frequency (Hz)	50-60	50-60	50-60	50-60	Number of switching operations	10000	10000	10000	10000*
Rated current Ir (A)	630-3150	630-3150	630-1250	630-2500	Service temperature (°C)	-25/+40	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	29-50	29-40	10-25	40					
Short circuit duration Tk (s)	3	3	3	4					

* class MI: 2000 operations for Isc:40 kA

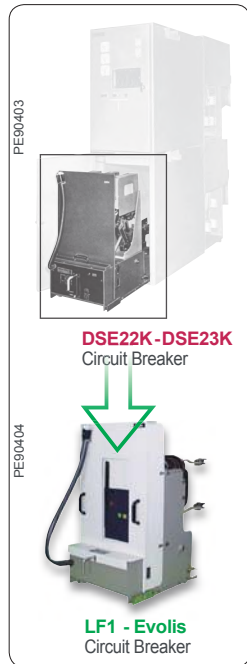
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



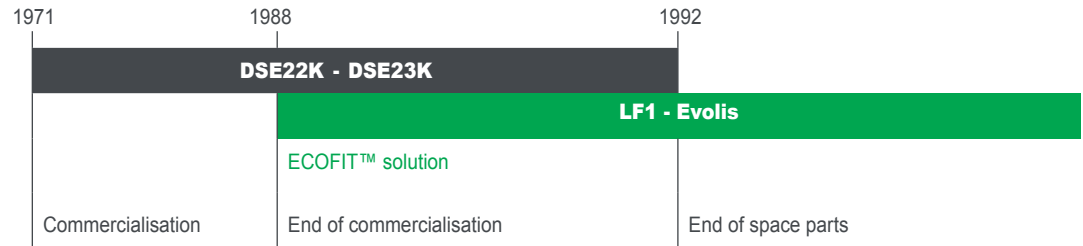
Belledonne B200G / **DSE22K - DSE23K** by **LF1 - Evolis**

Original brand: **Merlin Gerin**



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Main technical characteristics

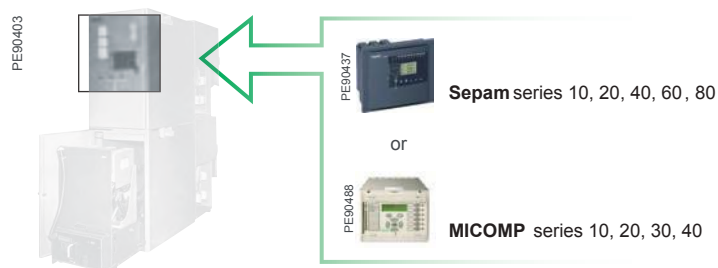
	DSE22K - DSE23K
Rated current (Ir)	630 - 1250A
Short circuit current (Isc)	25-31.5kA
Rated voltage Un (50/60 Hz)	7.2kV

	LF1	Evolis		LF1	Evolis
Technology	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	7.2	7.2	Closing time (ms)	<72	<65
Surge withstand voltage Up (kV)	60	60	Opening time (ms)	<54	<50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10000	2000* - 10.000
Rated current Ir (A)	630-1250	630-1250	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	25-31.5	25-31.5			
Short circuit duration Tk (s)	3	3			

* Class M1: 2000 operations for Isc = 40 kA

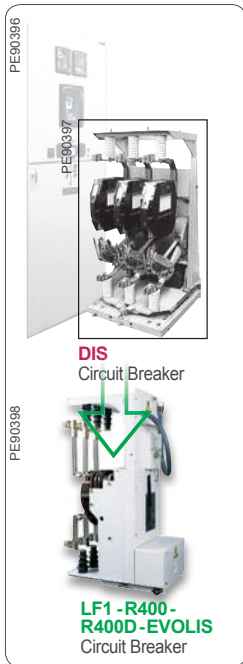
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



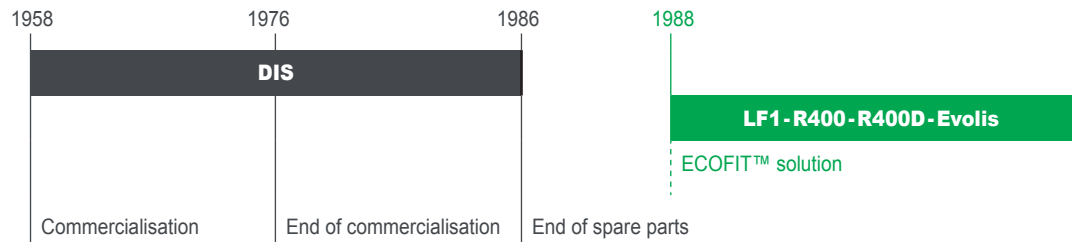
Belledonne B650 / **DIS** by **LF1 - R400 - R400D - EVOLIS**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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Main technical characteristics

DIS	
Rated current (Ir)	400 - 1250A
Short circuit current (Isc)	25 - 31.5 kA
Rated voltage Un (50/60 Hz)	7.2 kV

	LF1	R400	R400D	Evolis		LF1	R400	R400D	Evolis
Technology	SF6	SF6	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO			
Rated voltage Ur (kV)	7.2	7.2	7.2	7.2	Closing time (ms)	<72	75 - 155	75 - 155	<65
Surge withstand voltage Up (kV)	60	60	60	60	Opening time (ms)	<54	20 - 50	20 - 50	<50
Nominal frequency (Hz)	50 - 60	50 - 60	50 - 60	50 - 60	Number of switching operations	10000	300000	100000	10000
Rated current Ir (A)	630 - 1250	80 - 250	80 - 250	630 - 2500	Service temperature (°C)	-25/+40	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	31.5	50*	50*	25 - 31.5					
Short circuit duration Tk (s)	3	3	3	3					

* With fuses

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Sepam series 10, 20, 40, 60, 80

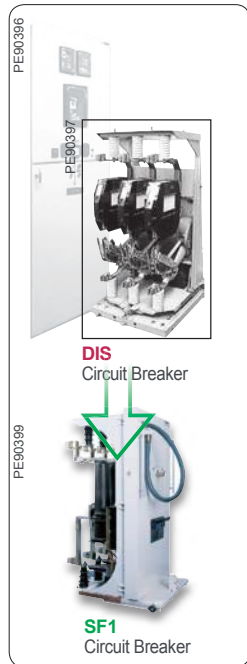
or



MICOMP series 10, 20, 30, 40

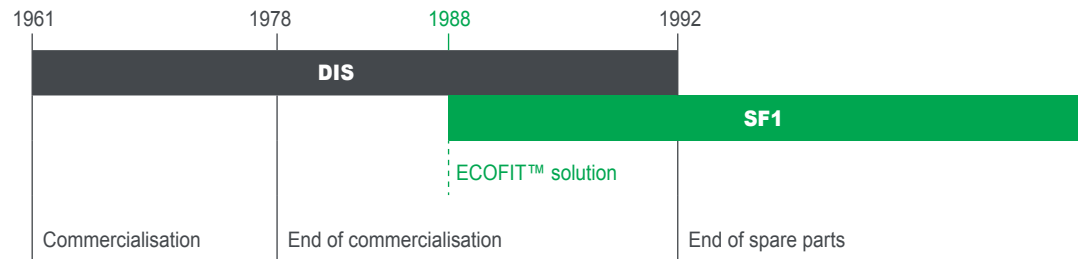
Belledonne B900 / **DIS** by **SF1**

Original brand: **Merlin Gerin**



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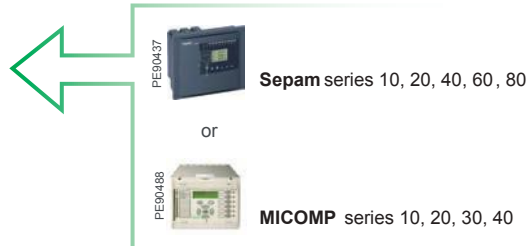
Main technical characteristics

	DIS
Rated current (Ir)	400 - 1250A
Short circuit current (Isc)	12.5 kA
Rated voltage Un (50/60 Hz)	23kV

	SF1		SF1
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	<65
Surge withstand voltage Up (kV)	125	Opening time (ms)	<50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

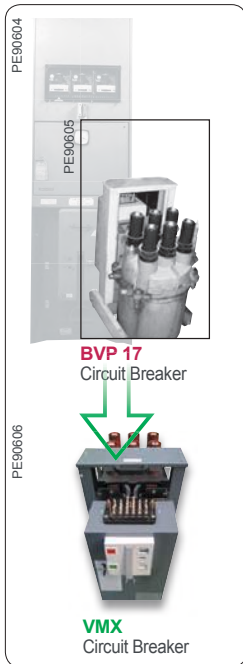
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



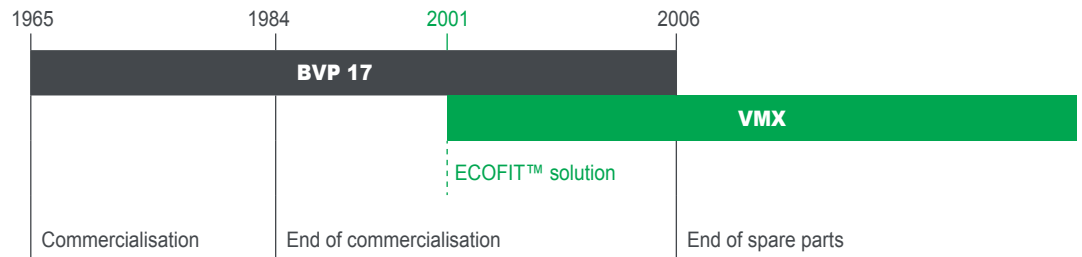
BVP 17 / **BVP 17** by **VMX**

Original brand: **AEI - GEC - GEC Alsthom**



ECOFIT™ proposal

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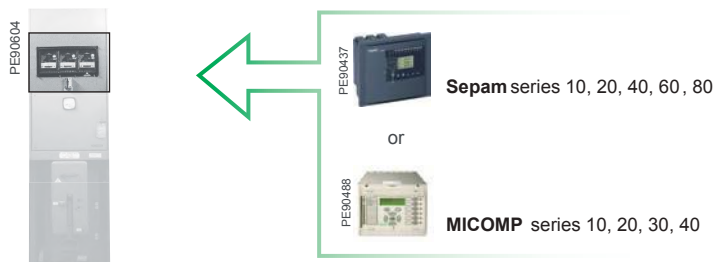
Main technical characteristics

	BVP 17
Rated current (Ir)	400 - 1250A
Short circuit current (Isc)	25kA
Rated voltage Un (50/60 Hz)	11 kV

	VMX		VMX
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	11	Closing time (ms)	<52
Surge withstand voltage Up (kV)	Up to 75	Opening time (ms)	<61
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400 - 1250	Service temperature (°C)	-25 / +40
Short circuit current Isc (kA)	Up to 25		
Short circuit duration Tk (s)	3		

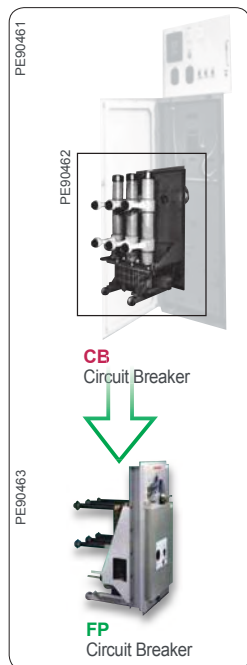
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



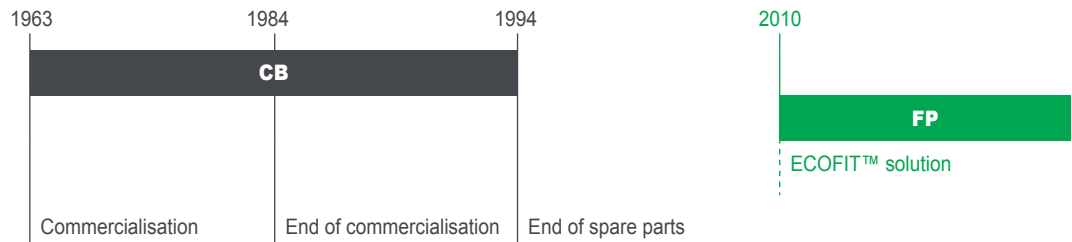
Cemabloc C23mc 15 & 27 / **CB** by **FP**

Original brand: **CEM**



ECOFIT™ proposal

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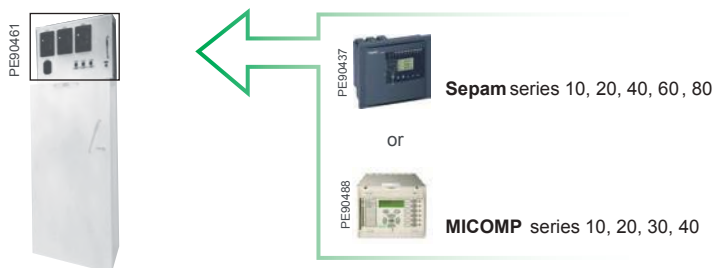
Main technical characteristics

	CB
Rated current (Ir)	400 - 1250A
Short circuit current (Isc)	12.5 - 16/25 kA
Rated voltage Un (50/60 Hz)	23kV

	FP		FP
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	125	Opening time (ms)	70
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400 - 3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	12.5 - 40		
Short circuit duration Tk (s)	3		

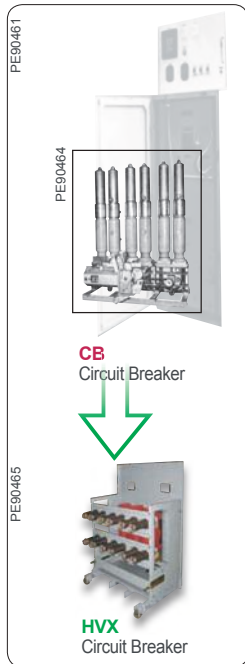
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



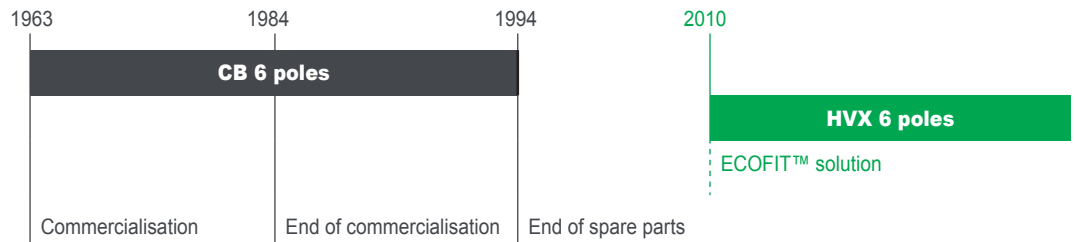
Cemabloc C23mc 15 & 27 / **CB 6 poles** by **HVX 6 poles**

Original brand: **CEM**



ECOFIT™ proposal

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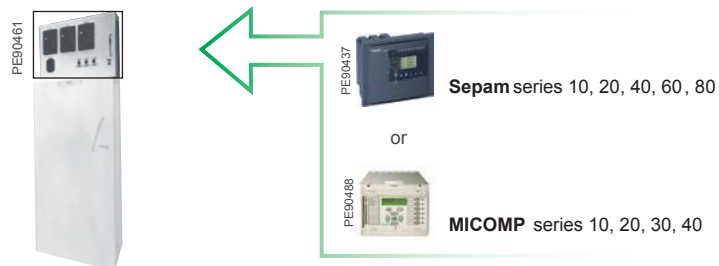
Main technical characteristics

	CB
Rated current (Ir)	2500A
Short circuit current (Isc)	12.5 - 16/25 kA
Rated voltage Un (50/60 Hz)	23 kV

	HVX		HVX
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	35 - 53
Surge withstand voltage Up (kV)	125	Opening time (ms)	45 - 63
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 2500	Service temperature (°C)	-25 / +40
Short circuit current Isc (kA)	16 - 31.5		
Short circuit duration Tk (s)	3		

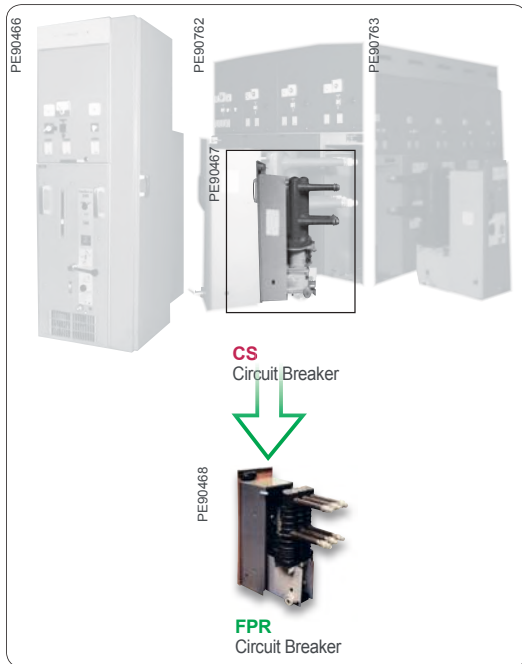
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



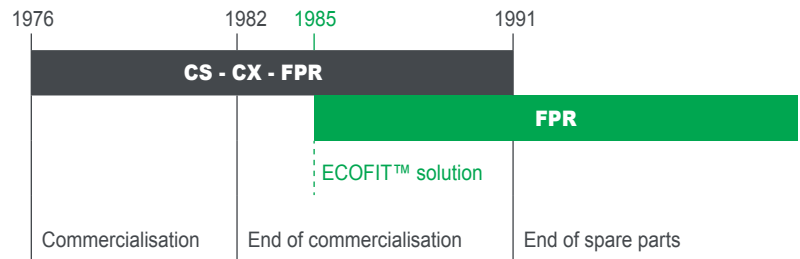
Cemabloc - C26.0 / **CS** by **FPR** - C26.1 / **CX** by **FPR** - C26.2 / **FPR** by **FPR**

Original brand: **CEM**



ECOFIT™ proposal

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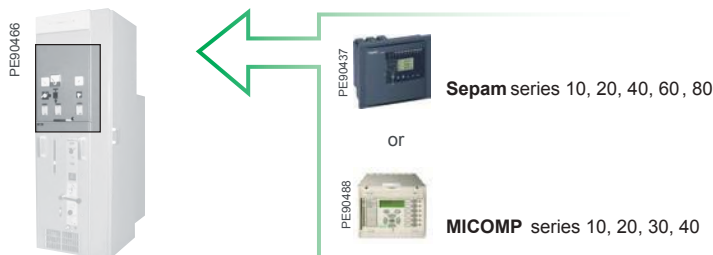
Main technical characteristics

	CS	CX	FPR
Rated current (Ir)	400 - 1250A		400 - 1250A
Short circuit current (Isc)	14.5 kA		12.5 kA
Rated voltage Un (50/60 Hz)	24 kV		24 kV

	FPR		FPR
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	125	Opening time (ms)	80
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400 - 1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	12.5		
Short circuit duration Tk (s)	1		

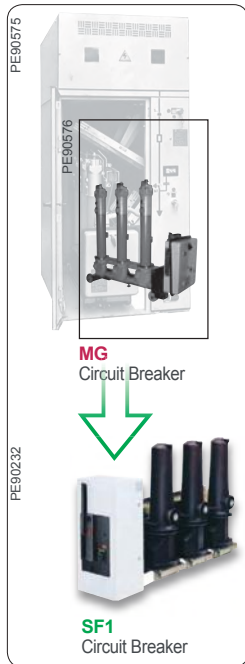
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



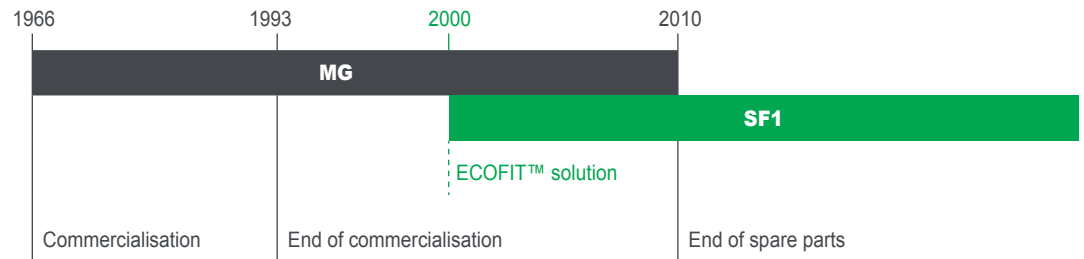
Composit (860mm width) / **MG** by **SF1**

Original brand: **Nuova Magrini Galileo**



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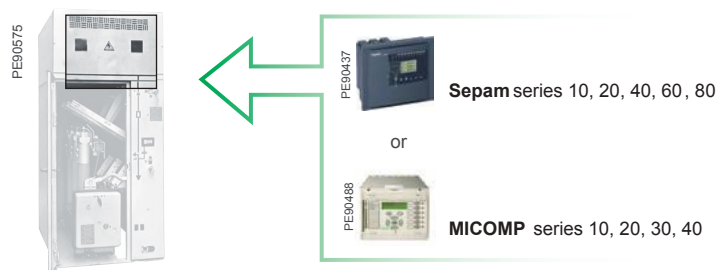
Main technical characteristics

	MG				
	150-500	150-750	350-750	150-750	350-750
Rated current (Ir)	630 - 1250A	630 - 1250A	630 - 1250A	630 - 1250A	630 - 1250A
Short circuit current (Isc)	8.7 - 28.9kA	5 - 29kA	12.5 - 29kA	3.6 - 24kA	6.3 - 21.7 kA
Rated voltage Un (50/60 Hz)	10kV	15kV	17kV	20kV	24kV

	SF1		SF1
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	17.5-24	Closing time (ms)	<65
Surge withstand voltage Up (kV)	95-125	Opening time (ms)	<50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

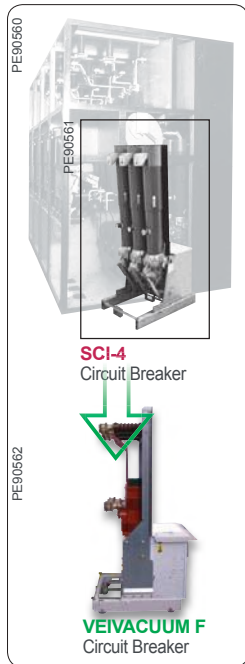
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



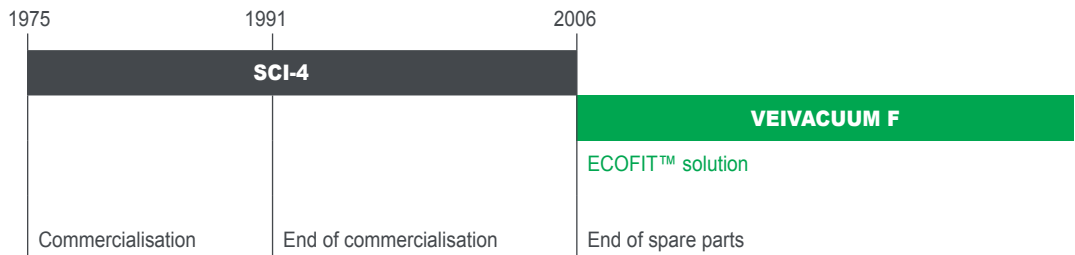
CSIM 1-12 / **SCI-4** by **VEIVACUUM F**

Original brand: **VEB "Otto Buchwitz"**



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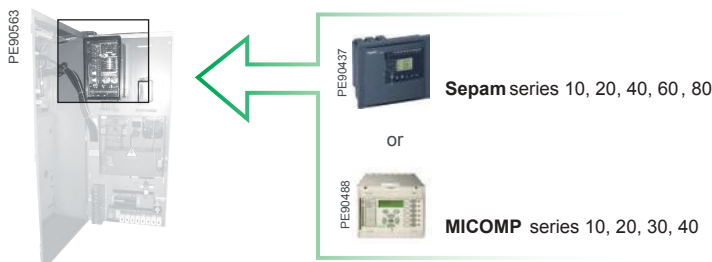
Main technical characteristics

	SCI-4
Rated current (Ir)	630 - 1250A
Short circuit current (Isc)	16 - 31.5 kA
Rated voltage Un (50/60 Hz)	12kV

	VEIVACUUM F		VEIVACUUM F
Technology	Vacuum	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	12	Closing time (ms)	65
Surge withstand voltage Up (kV)	75	Opening time (ms)	50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	600 - 1250	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

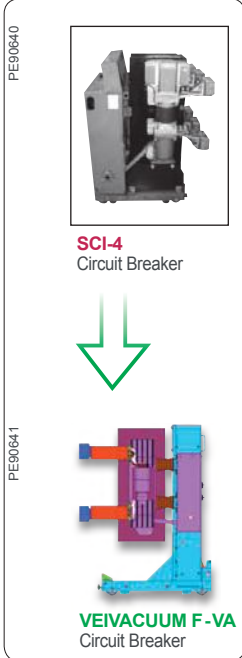
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



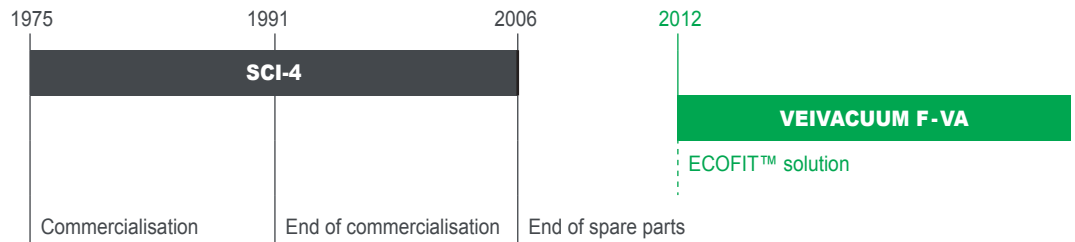
CSIM 3-12 / **SCI-4** by **VEIVACUUM F - VA**

Original brand: **VEB "Otto Buchwitz"**



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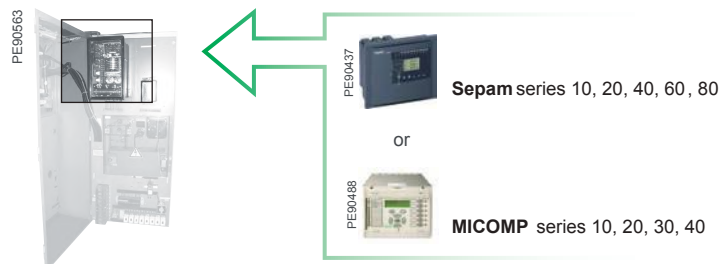
Main technical characteristics

	SCI-4
Rated current (Ir)	630 - 2500A
Intensity short circuit (Isc)	16 - 31.5 kA
Rated voltage Un (50/60 Hz)	12 kV

	VEIVACUUM F - VA		VEIVACUUM F - VA
Technology	Vacuum	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	12	Closing time (ms)	45 - 65
Surge withstand voltage Up (kV)	75	Opening time (ms)	45 - 65
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	600 - 3150	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 40		
Short circuit duration Tk (s)	3		

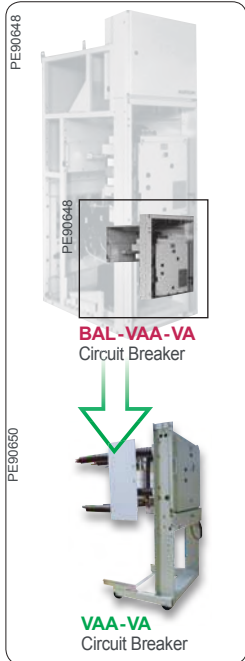
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



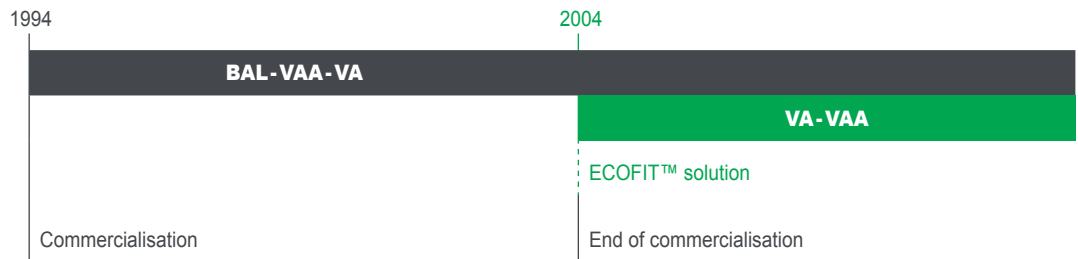
D-12 / **BAL - VAA - VA** by **VAA - VA**

Original brand: **AEG**



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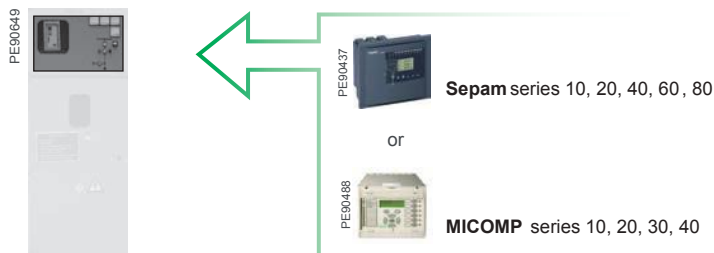
Main technical characteristics

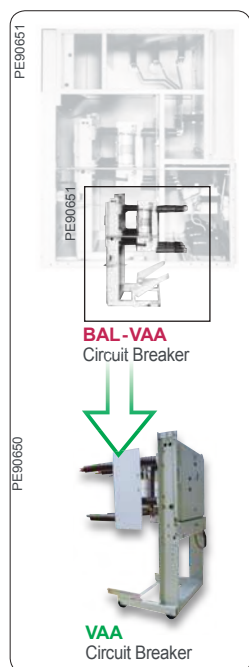
	BAL	VAA	VA
Rated current (Ir)	200 - 1250A	200 - 1250A	1600A
Intensity short circuit (Isc)	10 - 20 kA	20 - 25 kA	25 - 31.5 kA
Rated voltage Un (50/60 Hz)	12 kV	12 kV	12 kV

	VA - VAA		VA - VAA
Technology	Vacuum	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	12	Closing time (ms)	20
Surge withstand voltage Up (kV)	95	Opening time (ms)	20 - 50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	600 - 3150	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

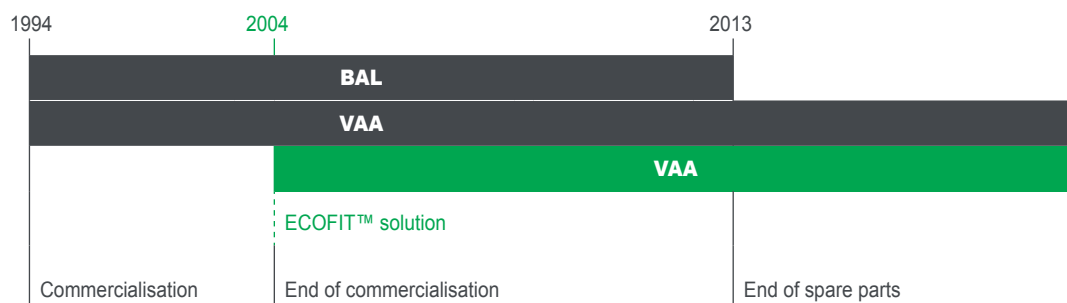
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



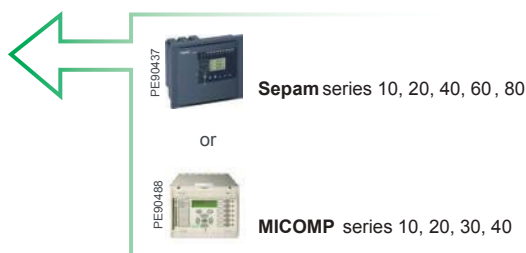
D-24 / **BAL - VAA** by **VAA**Original brand: **AEG****ECOFIT™ proposal**

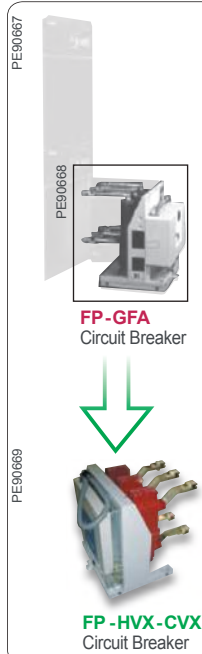
With ECOFIT™, a true extended life time

**Main technical characteristics**

	BAL	VAA
Rated current (Ir)	100-630A	630-1250A
Intensity short circuit (Isc)	10-16 kA	16-25 kA
Rated voltage Un (50/60 Hz)	24 kV	24 kV

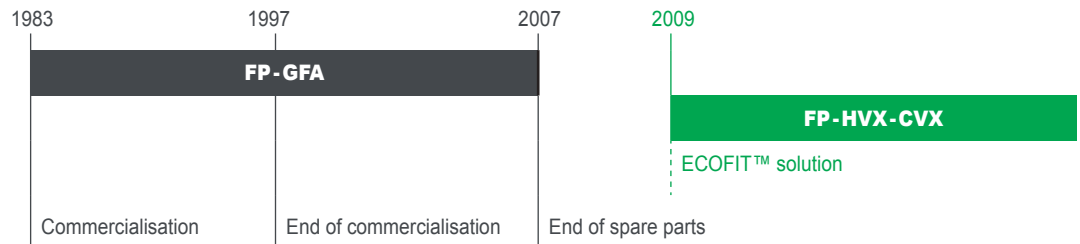
	VAA		VAA
Technology	Vacuum	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	24	Closing time (ms)	20
Surge withstand voltage Up (kV)	95	Opening time (ms)	20-50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	600-1250	Service temperature (°C)	-5/+40
Short circuit current Isc (kA)	10-25		
Short circuit duration Tk (s)	3		

Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

DNF4-2E / **FP - GFA** by **FP - HVX - CVX**Original brand: **Alsthom**

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Main technical characteristics

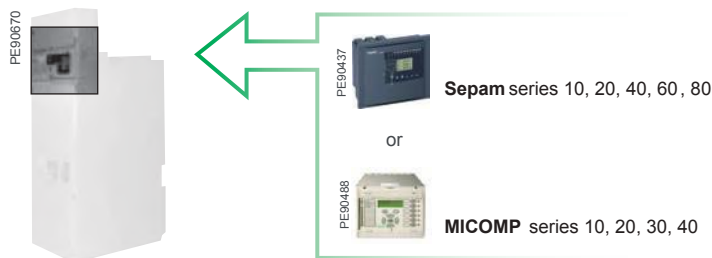
	FP - GFA
Rated current (Ir)	400 - 2000 A
Short circuit current (Isc)	40 kA
Rated voltage Un (50/60 Hz)	12 kV

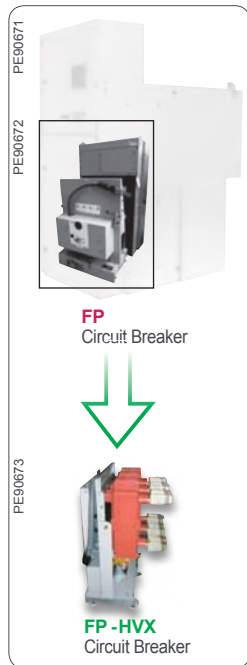
	FP	HVX	CVX		FP	HVX	CVX
Technology	SF6	Vacuum	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3s-CO-3 min-CO* CO-15s-CO O-0.3s-CO-15s-CO* O-0.3s-CO-3min-CO**		C/O
Rated voltage Ur (kV)	12	12	12	Closing time (ms)	50	35-53	40-80
Surge withstand voltage Up (kV)	75	75	75	Opening time (ms)	70	45-63	100-200
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	10.000	10.000	300.000 (mech.) 500.000 (elec.)
Rated current Ir (A)	400-3150	630-3150	400	Service temperature (°C)	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	12-50	16-50	4				
Short circuit duration Tk (s)	3	3	1				

* HVX only / ** FP only

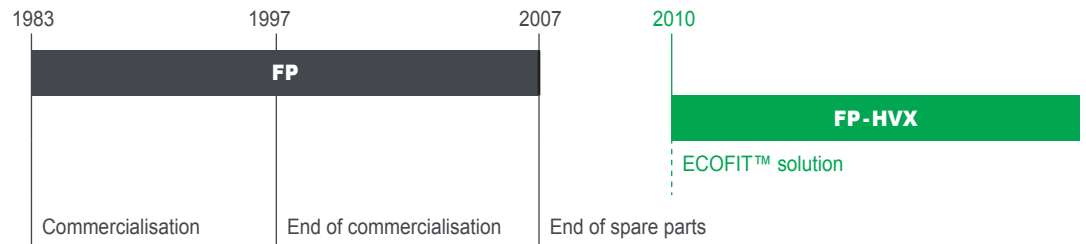
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



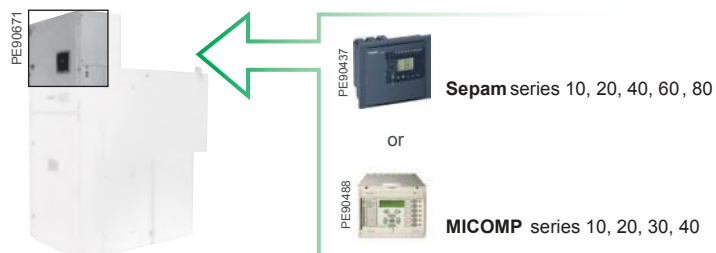
DNF4 MI & FI / **FP** by **FP - HVX**Original brand: **Alsthom****ECOFIT™ proposal**

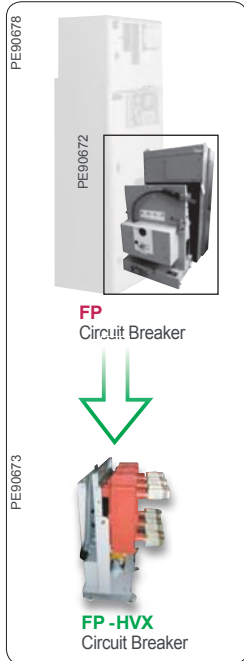
With ECOFIT™, a true extended life time

**Main technical characteristics**

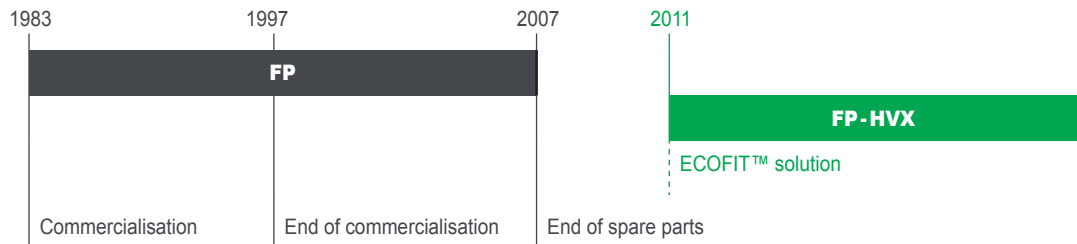
	FP
Rated current (Ir)	400 - 2500 A
Short circuit current (Isc)	40 kA
Rated voltage Un (50/60 Hz)	12 kV

	FP	HVX		FP	HVX
Technology	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO CO-15s-CO O-0.3s-CO-3 min-CO	O-3 min-CO-3 min-CO O-0.3s-CO-3 min-CO CO-15s-CO O-0.3s-CO-15s-CO
Rated voltage Ur (kV)	12	12	Closing time (ms)	50	35-53
Surge withstand voltage Up (kV)	75	75	Opening time (ms)	70	45-63
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	400-3150	630-3150	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	16-50	25-50			
Short circuit duration Tk (s)	3	3			

Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

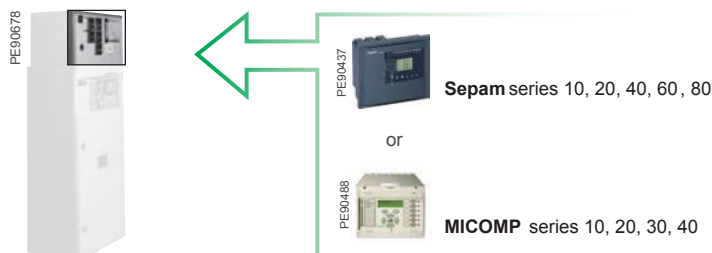
DNF5 - DNF5-2B / **FP** by **FP - HVX**Original brand: **Alsthom****ECOFIT™ proposal**

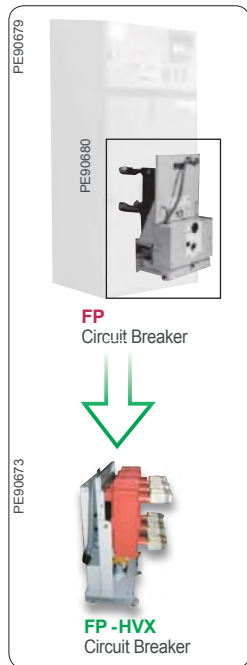
With ECOFIT™, a true extended life time

**Main technical characteristics**

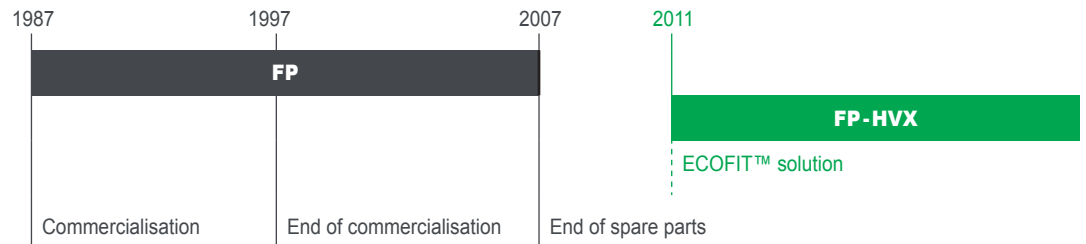
	FP
Rated current (Ir)	630-2000A
Short circuit current (Isc)	40 kA
Rated voltage Un (50/60 Hz)	17.5 kV

	FP	HVX		FP	HVX
Technology	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO CO-15s-CO O-0.3 s-CO-3 min-CO	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO CO-15s-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	17.5	17.5	Closing time (ms)	50	35-53
Surge withstand voltage Up (kV)	75	75	Opening time (ms)	70	45-63
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	400-3150	630-3150	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	16-40	25-40			
Short circuit duration Tk (s)	3	3			

Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

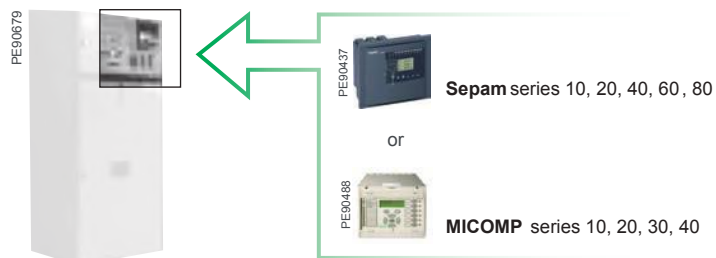
DNF6 / **FP** by **FP - HVX**Original brand: **Alsthom****ECOFIT™ proposal**

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**Main technical characteristics**

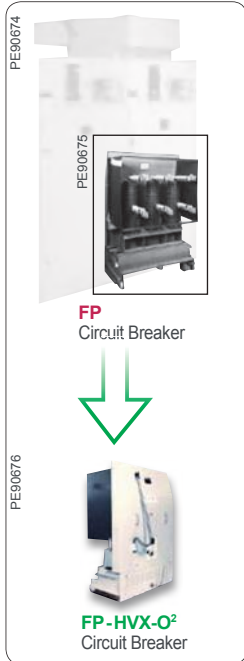
	FP
Rated current (Ir)	400-2000A
Short circuit current (Isc)	31.5kA
Rated voltage Un (50/60 Hz)	24 kV

	FP	HVX		FP	HVX
Technology	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO CO-15s-CO O-0.3s-CO-3 min-CO	O-3 min-CO-3 min-CO O-0.3s-CO-3 min-CO CO-15s-CO O-0.3s-CO-15s-CO
Rated voltage Ur (kV)	24	24	Closing time (ms)	50	35-53
Surge withstand voltage Up (kV)	75	75	Opening time (ms)	70	45-63
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	400-3150	630-2500	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	16-40	25-40			
Short circuit duration Tk (s)	3	3			

Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

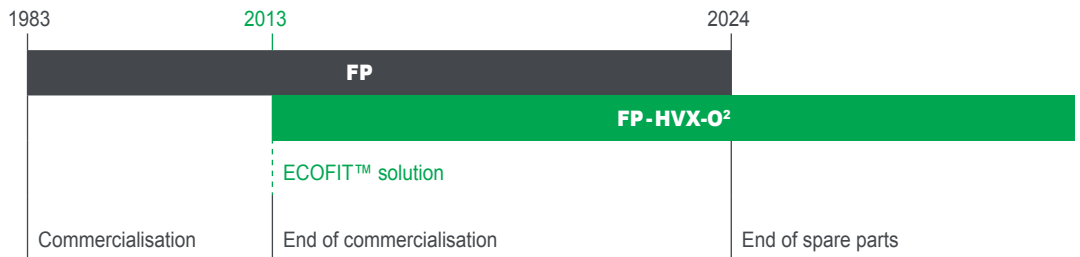
DNF7 / **FP** by **FP - HVX-O²**

Original brand: **Alsthom**



ECOFIT™ proposal

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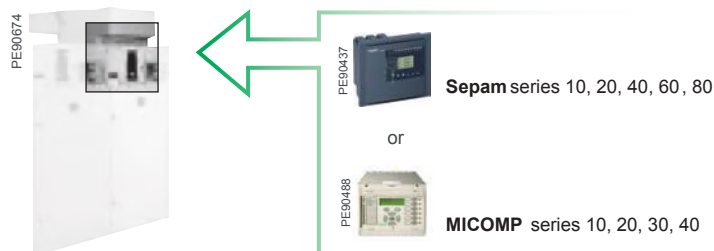
Main technical characteristics

	FP
Rated current (Ir)	400-2000A
Intensity short circuit (Isc)	31.5kA
Rated voltage Un (50/60 Hz)	36kV

	FP	HVX-O ²		FP	HVX-O ²
Technology	SF6	Vacuum	Switching sequence	O-0.3s-CO-3min-CO O-0.3s-CO-15s-CO CO-15s-CO O-3min-CO-3min-CO	O-0.3s-CO-3min-CO O-3min-CO-3min-CO O-0.3s-CO-15s-CO CO-15s-CO
Rated voltage Ur (kV)	36	40.5	Closing time (ms)	50	45-53
Surge withstand voltage Up (kV)	170	185	Opening time (ms)	70	45-63
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	5.000	10.000
Rated current Ir (A)	Up to 2500	Up to 2500	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	31.5	31.5			
Short circuit duration Tk (s)	3	3			

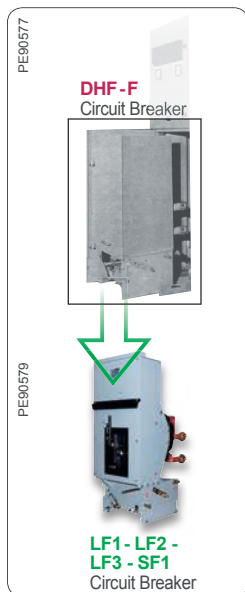
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



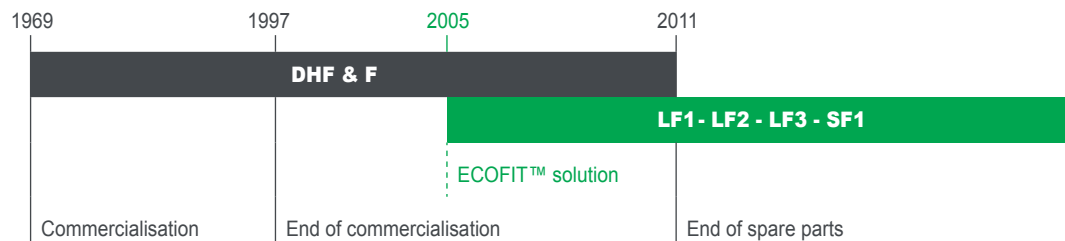
Epoclad / DHF & F by LF1 - LF2 - LF3 - SF1

Original brand: **Nuova Magrini Galileo**



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Main technical characteristics

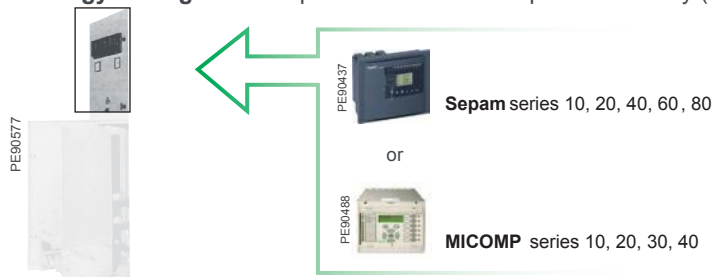
	DHF & F							
	6DHF 6DHF/N 250-500	7F/N 250-350	10DHF 250-750	7F 350-750	15DHF 350-850	12F 12F/N 350-750	24DHF 350-500	20DHF 350-750 24F 500-750
Rated current (Ir)	630-3150A	630-3150A	630-3150A	630-3150A	630-1250 A	630-3150A	630-3150A	630-1250A
Short circuit current (Isc)	20-48kA	29-34kA	12-43kA	18-48kA	13.5-32.5kA	12.5-48kA	9.2-14.5kA	8-18kA /20DHF 12.5-18kA /24F
Rated voltage Un (50/60 Hz)	6kV	7.2kV	10kV	12kV	15kV	17kV	20kV	24kV

	LF1	LF2	LF3*	SF1		LF1	LF2	LF3*	SF1
Technology	SF6	SF6	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO			
Rated voltage Ur (kV)	7.2	7.2-12	17.5	24	Closing time (ms)	<72	<72	<72	<65
Surge withstand voltage Up (kV)	60	60-75	95	125	Opening time (ms)	<54	<54	<54	<50
Nominal frequency (Hz)	50-60	50-60	50-60	50-60	Number of switching operations	10.000	10.000	10.000	10.000
Rated current Ir (A)	630-1250	2000/ up to 2000	630-3150	630-1250	Service temperature (°C)	-25/+40	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	31.5	50-40	40	25					
Short circuit duration Tk (s)	3	3	3	3					

* Ur: 7.2 / 12, A: 3150, kA: 50

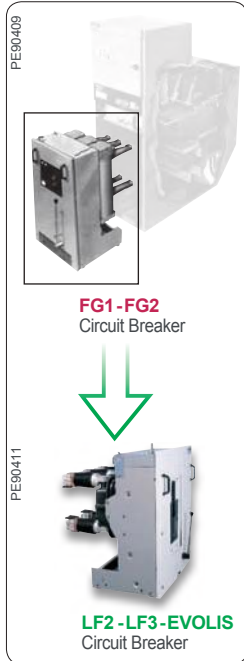
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



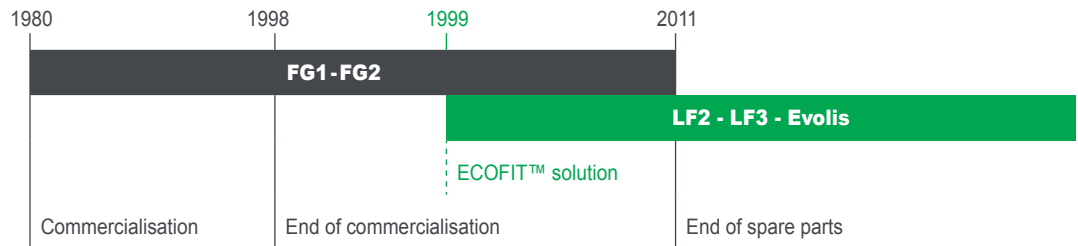
Fluair F100 - F200 / **FG1 - FG2** by **LF2 - LF3 - Evolis**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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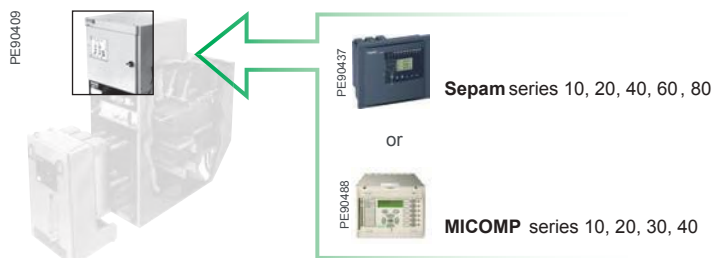
Main technical characteristics

	FG1-FG2		
Rated current (Ir)	630-3150A	630-3150A	630-3150A
Short circuit current (Isc)	25-50 kA	25-50 kA	25-31.5 kA
Rated voltage Un (50/60 Hz)	7.2 kV	12 kV	17.5 kV

	LF2-LF3		Evolis		LF2-LF3		Evolis
Technology	SF6	SF6	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO		
Rated voltage Ur (kV)	7.2-12	17.5	up to 17.5	Closing time (ms)	<72	<72	<65
Surge withstand voltage Up (kV)	60-75	95	up to 95	Opening time (ms)	<54	<54	<50
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	10.000	10.000	2000 (Isc = 40 kA/M1 class) - 10.000
Rated current Ir (A)	630-3150	630-3150	630-2500	Service temperature (°C)	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	25-50	31.5	40				
Short circuit duration Tk (s)	3	3	3				

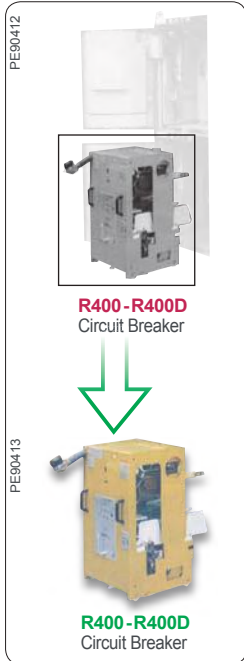
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



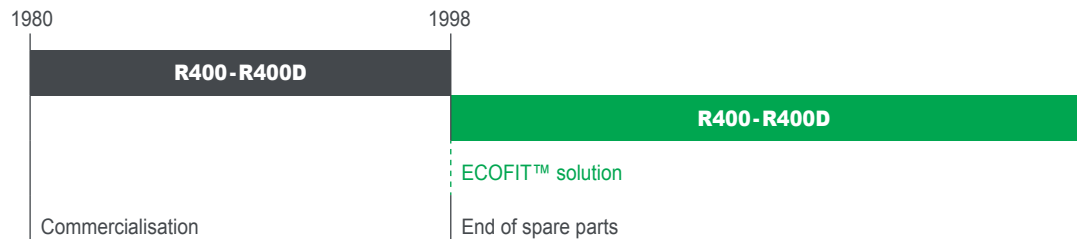
Fluair F100C / R400 - R400D by R400 - R400D

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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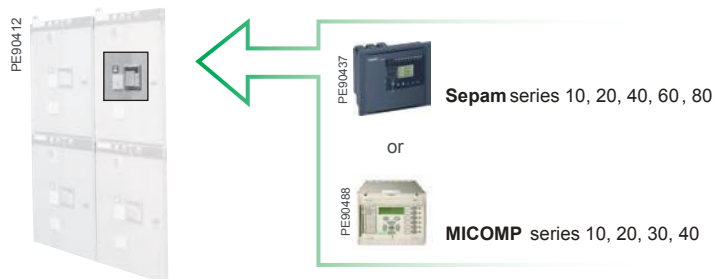


Main technical characteristics

	R400	R400D		R400	R400D
Technology	SF6	SF6	Switching sequence		
Rated voltage Ur (kV)	7.2	7.2			
Surge withstand voltage Up (kV)	60	60	Closing time (ms)	75-155	75-155
Nominal frequency (Hz)	50-60	50-60	Opening time (ms)	20-50	20-50
Rated current Ir (A)	80-250	80-250	Number of switching operations	300.000	100.000
Short circuit current Isc (kA)	50 (with fuses)	50 (with fuses)	Service temperature (°C)	-25/+40	-25/+40
Short circuit duration Tk (s)	3	3			

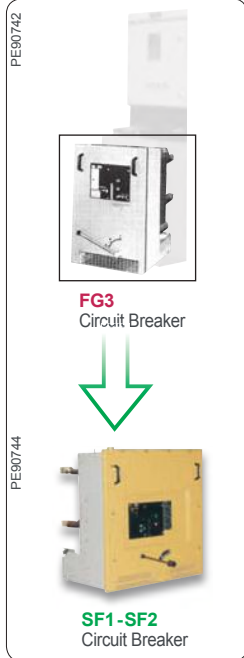
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



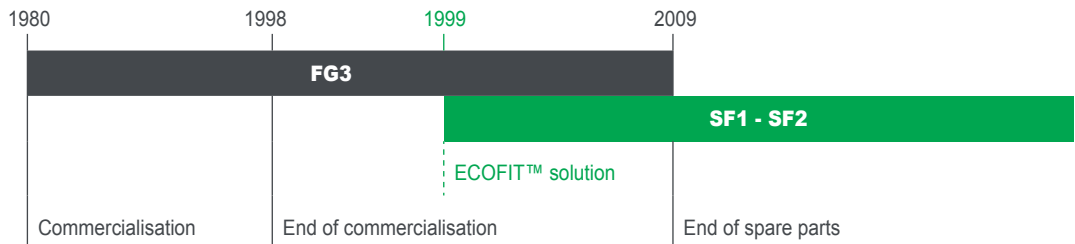
Fluair F300 / **FG3** (1000mm width) by **SF1 - SF2**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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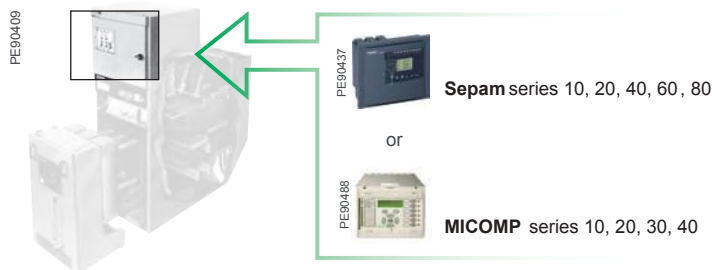
Main technical characteristics

	FG3
Rated current (Ir)	630-2500A
Short circuit current (Isc)	25-31.5 kA
Rated voltage Un (50/60 Hz)	24 kV

	SF1	SF2		SF1	SF2
Technology	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	
Rated voltage Ur (kV)	24	24	Closing time (ms)	< 65	< 65
Surge withstand voltage Up (kV)	125	125	Opening time (ms)	< 50	< 50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	630-1250	1250-2500	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	25	25-31.5			
Short circuit duration Tk (s)	3	3			

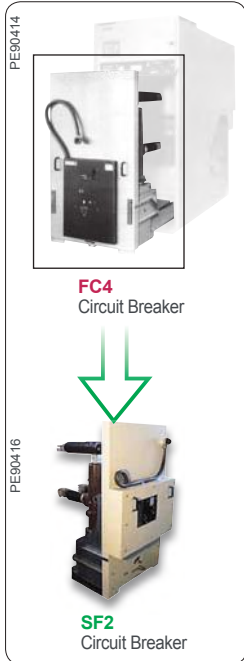
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



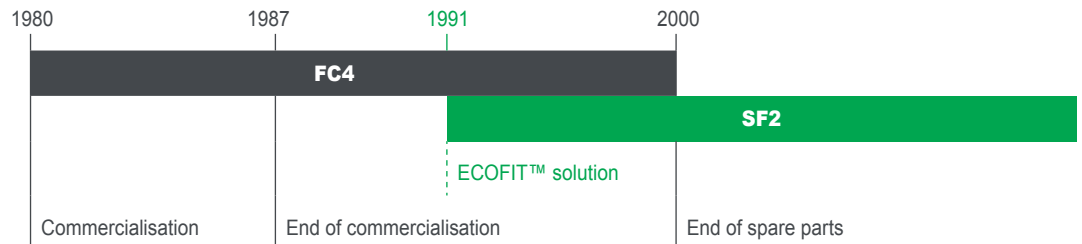
Fluair F400C / **FC4** by **SF2**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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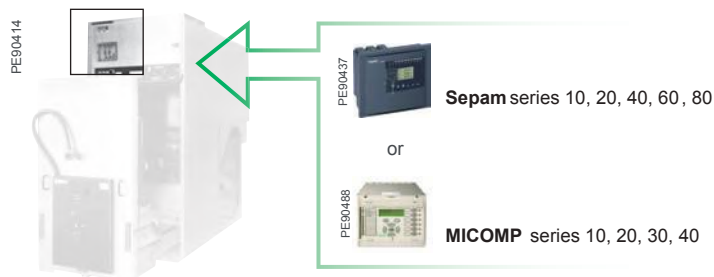
Main technical characteristics

	FC4
Rated current (Ir)	1250 - 2500 A
Short circuit current (Isc)	31.5 - 40 kA
Rated voltage Un (50/60 Hz)	36 kV

	SF2		SF2
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	36	Closing time (ms)	<65
Surge withstand voltage Up (kV)	170	Opening time (ms)	<50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	1250 - 2500	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	31.5 - 40		
Short circuit duration Tk (s)	3		

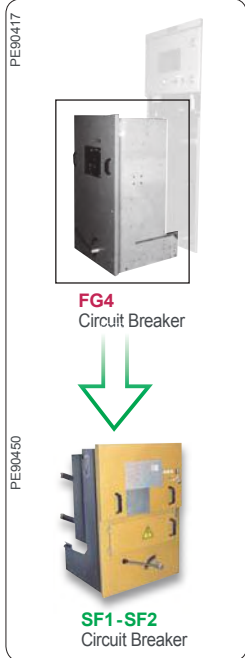
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



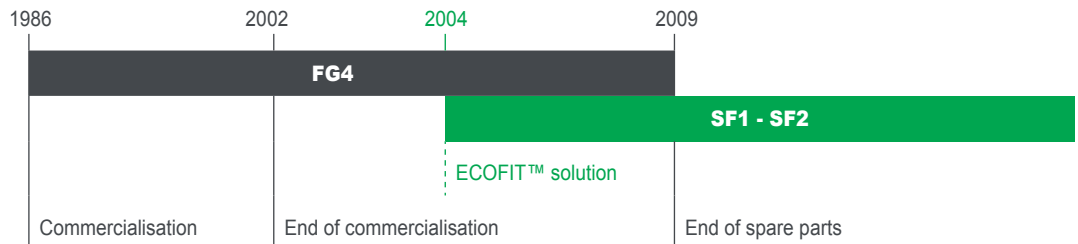
Fluair F400G / **FG4** by **SF1 - SF2**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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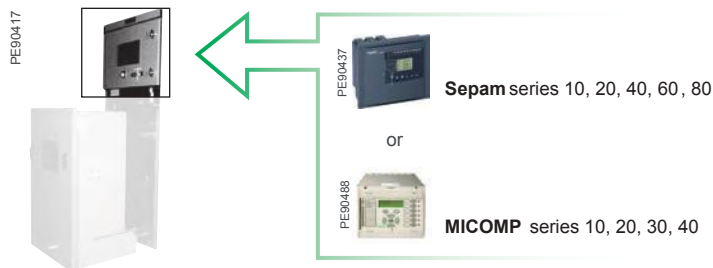
Main technical characteristics

	FG4	
Rated current (Ir)	1250 - 2500A	1250 - 2500A
Short circuit current (Isc)	40 kA	25 - 40 kA
Rated voltage Un (50/60 Hz)	24 kV	36 kV

	SF1 - SF2		SF1 - SF2
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24 - 36	Closing time (ms)	<65
Surge withstand voltage Up (kV)	125 - 170	Opening time (ms)	<50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	1250 - 2500	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25 - 40		
Short circuit duration Tk (s)	3		

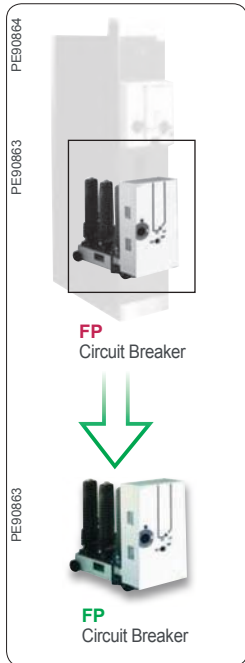
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



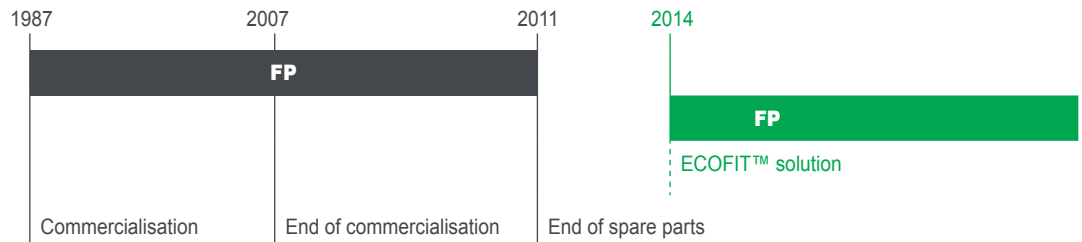
Fluokit M24 / **FP** by **FP**

Original brand: **DELLE ALSTHOM**



ECOFIT™ proposal

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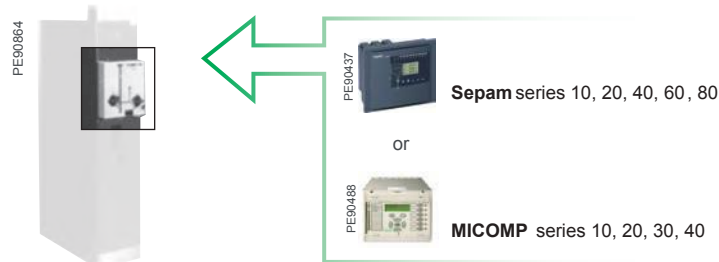
Main technical characteristics

	FP	
Rated current (Ir)	400-3150A	400-3150A
Short circuit current (Isc)	16-20-25-31.5-40 kA	16-20-25-31.5-40 kA
Rated voltage Un (50/60 Hz)	12kV	24 kV

	FP			FP
Technology	SF6	SF6	Switching sequence	O-3mn-CO-3mn-CO CO-15s-CO O-0.3s-CO-3mn-CO
Rated voltage Ur (kV)	12	24	Closing time (ms)	70
Surge withstand voltage Up (kV)	75	125	Opening time (ms)	50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-3150	400-3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-20-25-31.5-40	16-20-25-31.5-40		
Short circuit duration Tk (s)	3	3		

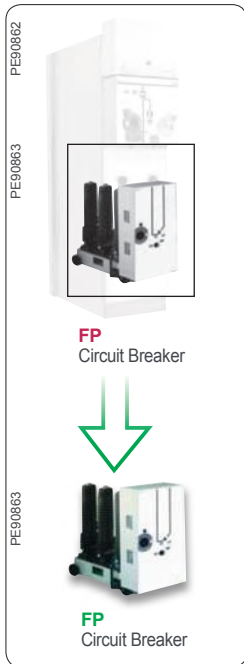
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



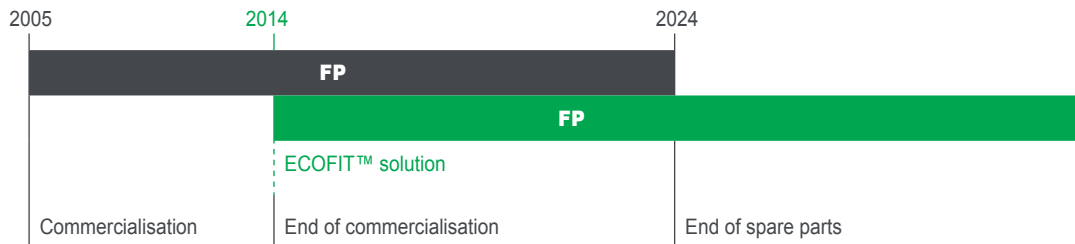
Fluokit M24+ / **FP** by **FP**

Original brand: **DELLE ALSTHOM**



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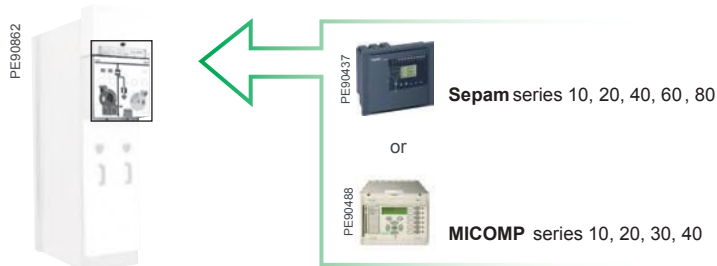
Main technical characteristics

	FP	
Rated current (Ir)	400-3150A	400-3150A
Short circuit current (Isc)	16-20-25-31.5-40 kA	16-20-25-31.5-40 kA
Rated voltage Un (50/60 Hz)	12kV	24kV

	FP			FP
Technology	SF6	SF6	Switching sequence	O-3mn-CO-3mn-CO CO-15s-CO O-0.3s-CO-3mn-CO
Rated voltage Ur (kV)	12	24	Closing time (ms)	70
Surge withstand voltage Up (kV)	75	125	Opening time (ms)	50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-3150	400-3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-20-25-31.5-40	16-20-25-31.5-40		
Short circuit duration Tk (s)	3	3		

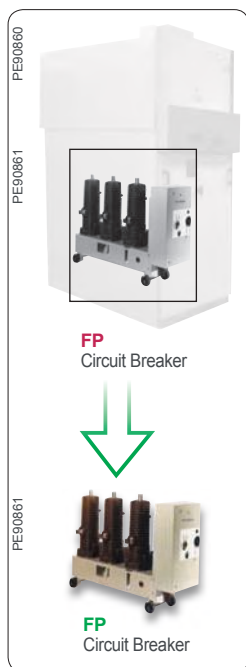
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



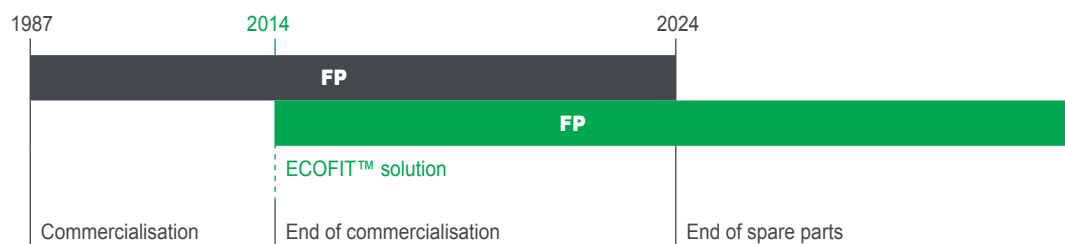
Fluokit M36 / **FP** by **FP**

Original brand: **DELLE ALSTHOM**



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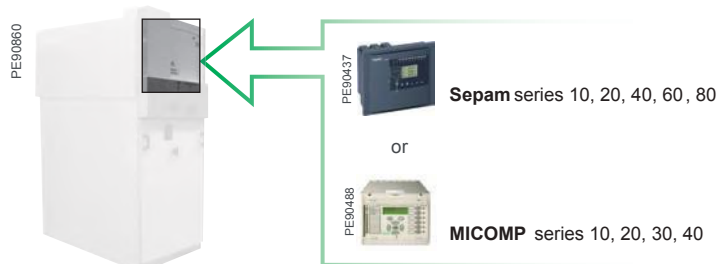
Main technical characteristics

	FP
Rated current (Ir)	400-3150A
Short circuit current (Isc)	16-20-25-31.5kA
Rated voltage Un (50/60 Hz)	36kV

	FP		FP
Technology	SF6	Switching sequence	O-3mn-CO-3mn-CO CO-15s-CO O-0.3s-CO-3mn-CO
Rated voltage Ur (kV)	36	Closing time (ms)	70
Surge withstand voltage Up (kV)	170	Opening time (ms)	50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-20-25-31.5		
Short circuit duration Tk (s)	3		

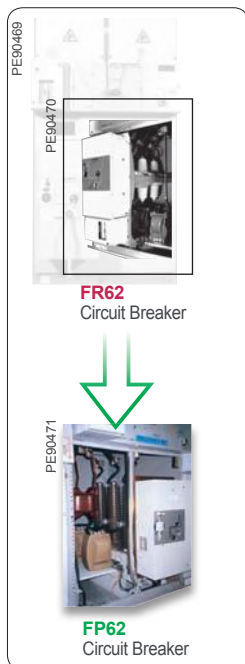
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



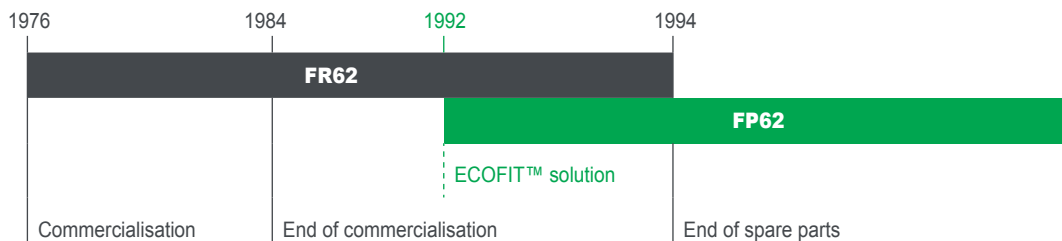
Fluomatic F540 / **FR62** by **FP62**

Original brand: **Delle Alsthom**



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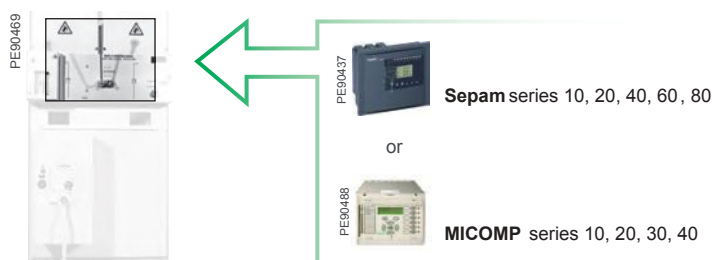
Main technical characteristics

	FR62
Rated current (Ir)	1250 - 2500 A
Short circuit current (Isc)	31.5 - 40 kA
Rated voltage Un (50/60 Hz)	36 kV

	FP62		FP62
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-3 min-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	Opening time (ms)	70
Nominal frequency (Hz)	50-60	Number of switching operations	10000
Rated current Ir (A)	400 - 3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16 - 40		
Short circuit duration Tk (s)	3		

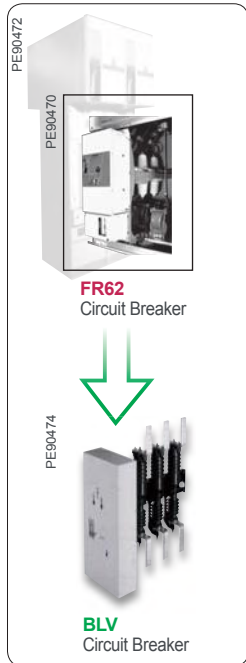
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



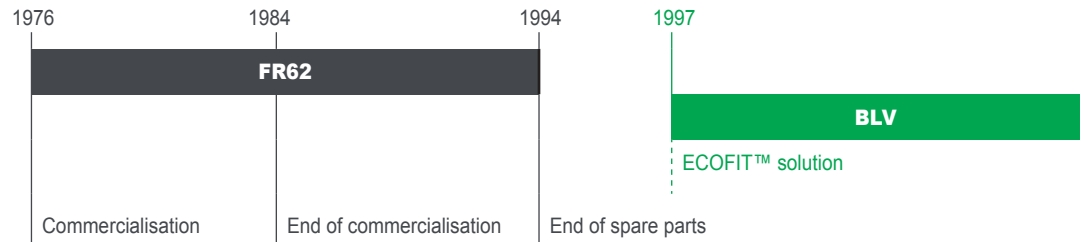
Fluomatic F943 / **FR62** by **BLV**

Original brand: **Delle Alsthom**



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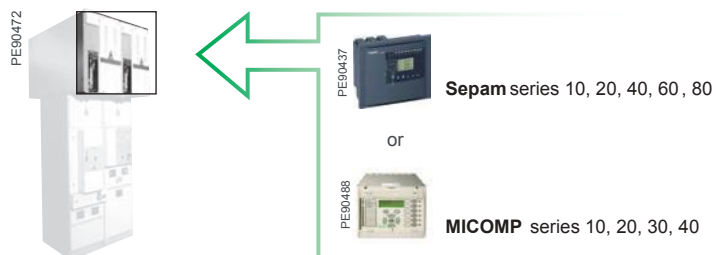
Main technical characteristics

	FR62
Rated current (Ir)	400 - 1250 A
Short circuit current (Isc)	16 - 25 kA
Rated voltage Un (50/60 Hz)	24 kV

	BLV		BLV
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	40
Surge withstand voltage Up (kV)	Up to 125	Opening time (ms)	51
Nominal frequency (Hz)	50 - 60	Number of switching operations	10000 electrical M2
Rated current Ir (A)	400 - 1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16 - 31.5		
Short circuit duration Tk (s)	3		

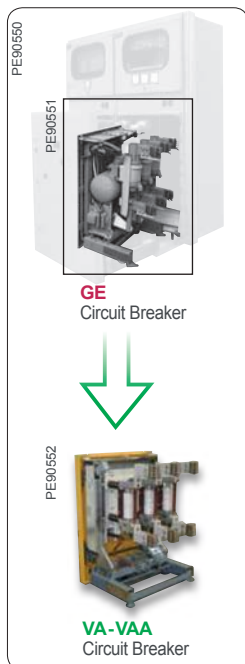
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



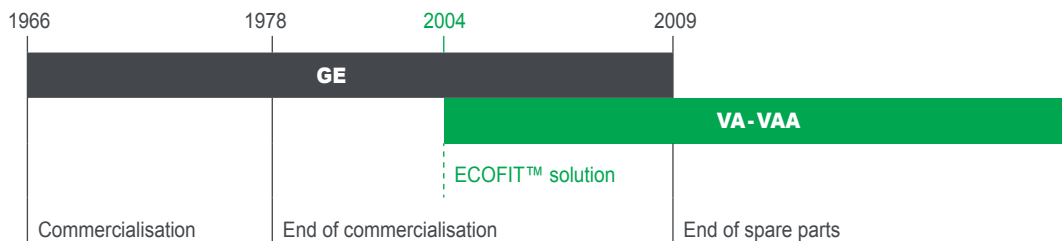
GS-10 / **GE** by **VA - VAA**

Original brand: **AEG**



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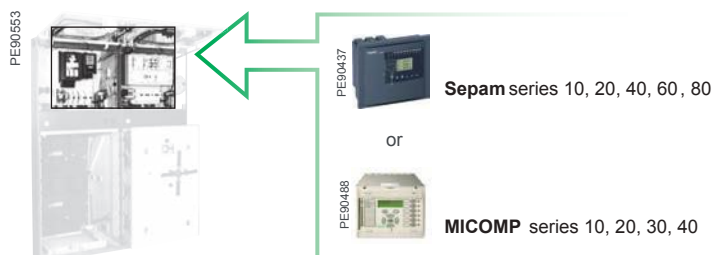
Main technical characteristics

	GE
Rated current (Ir)	630-3000A
Short circuit current (Isc)	16-40 kA
Rated voltage Un (50/60 Hz)	12kV

	VA - VAA		VA - VAA
Technology	Vacuum	Switching sequence	O-0.3 s-CO-3min-CO
Rated voltage Ur (kV)	12	Closing time (ms)	45-65
Surge withstand voltage Up (kV)	75	Opening time (ms)	45-65
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	600-1250	Service temperature (°C)	-5/+40
Short circuit current Isc (kA)	40		
Short circuit duration Tk (s)	3		

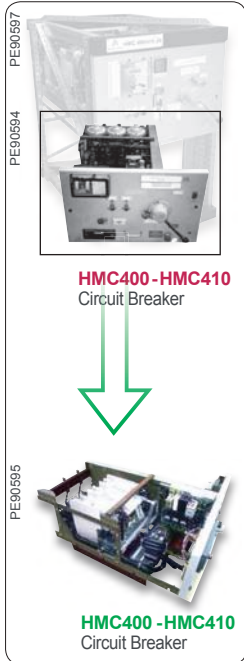
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



HMC400 - HMC410 / **HMC400 - HMC410** by **HMC400 - HMC410**

Original brand: **GEC Alstom**



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Main technical characteristics

	HMC400 - HMC410	
Rated current (Ir)	400A	400A
Short circuit current (Isc)	43.8 kA	26.3 kA
Rated voltage Un (50/60 Hz)	3.3 kV	6.6 kV

	HMC400 - HMC410		HMC400 - HMC410
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	Up to 6.6	Closing time (ms)	< 52
Surge withstand voltage Up (kV)	Up to 75	Opening time (ms)	< 61
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	26.3-43.8		
Short circuit duration Tk (s)	3		

Refurbishment



In-house refurbishment, including vacuum contactors and control scheme utilising Gemstart unit, on site maintenance

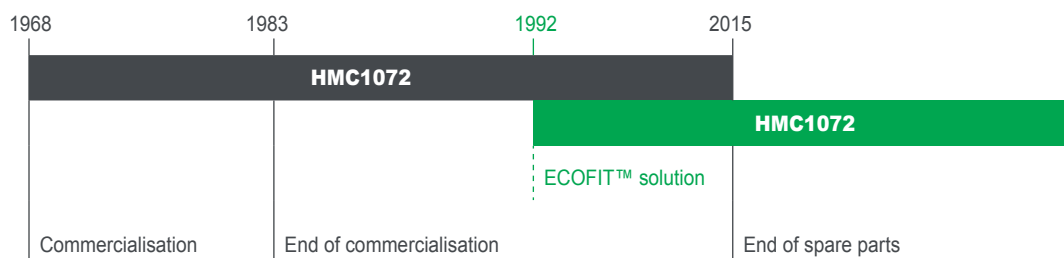
HMC1072 / **HMC1072** by **HMC1072**

Original brand: **GEC Alstom**



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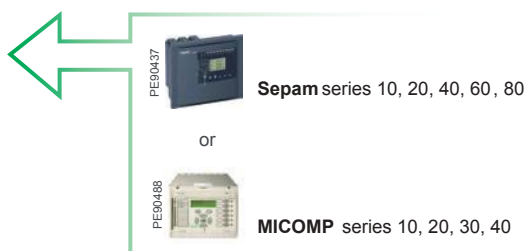
Main technical characteristics

	HMC1072
Rated current (Ir)	400A
Short circuit current (Isc)	63 kA rms/1s - 50 kA rms/3s
Rated voltage Un (50/60 Hz)	7.2 kV

	HMC1072		HMC1072
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	7.2	Closing time (ms)	<52
Surge withstand voltage Up (kV)	Up to 75	Opening time (ms)	<61
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	50-63		
Short circuit duration Tk (s)	3 to 1		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



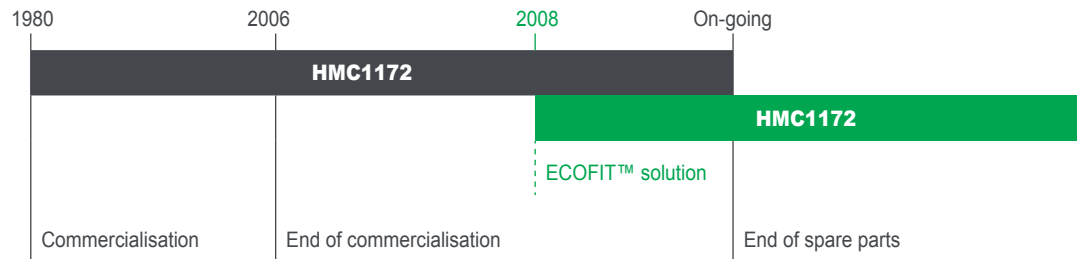
HMC1172 / **HMC1172** by **HMC1172**

Original brand: **GEC Alstom**



ECOFIT™ proposal

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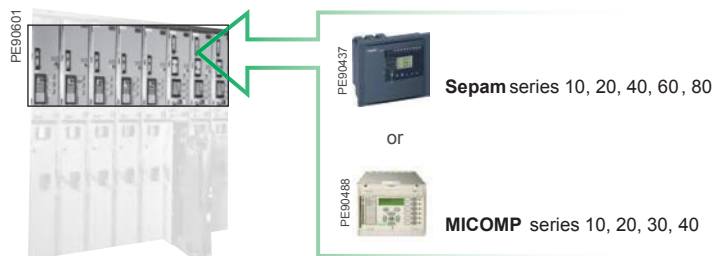
Main technical characteristics

	HMC1172
Rated current (Ir)	400A
Short circuit current (Isc)	63 kA rms/1s - 50 kA rms/3s
Rated voltage Un (50/60 Hz)	7.2 kV

	VCB	Contactor		VCB	Contactor
Technology	Vacuum	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	O/C
Rated voltage Ur (kV)	7.2	7.2	Closing time (ms)	90 - 120	90 - 120
Surge withstand voltage Up (kV)	60	63	Opening time (ms)	<61	<61
Nominal frequency (Hz)	50 - 60	50 - 60	Number of switching operations	10.000	1.000.000
Rated current Ir (A)	1000 - 2000	400	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	25 - 31.5	9			
Short circuit duration Tk (s)	3	1			

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



HMX36 / **HMX36** by **HMX36**

Original brand: **GEC Alstom**



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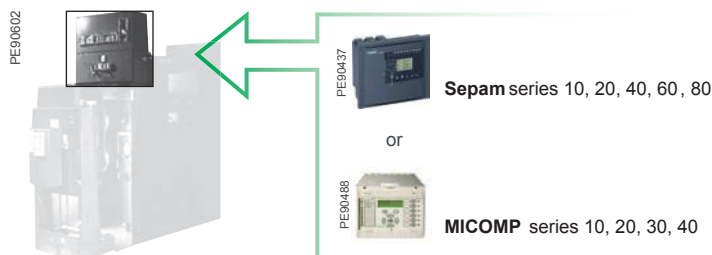
Main technical characteristics

	HMX36
Rated current (Ir)	400A
Short circuit current (Isc)	25 kA rms/1s - 31.5 kA rms/3s
Rated voltage Un (50/60 Hz)	36kV

	HMX36		HMX36
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	Up to 36	Closing time (ms)	<52
Surge withstand voltage Up (kV)	Up to 115	Opening time (ms)	<61
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

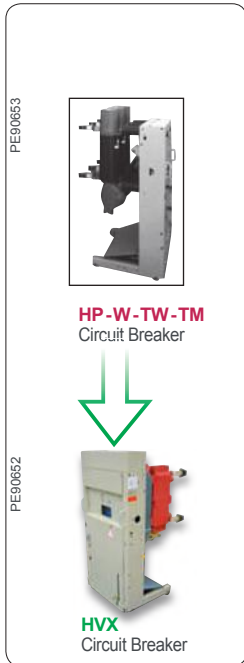
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



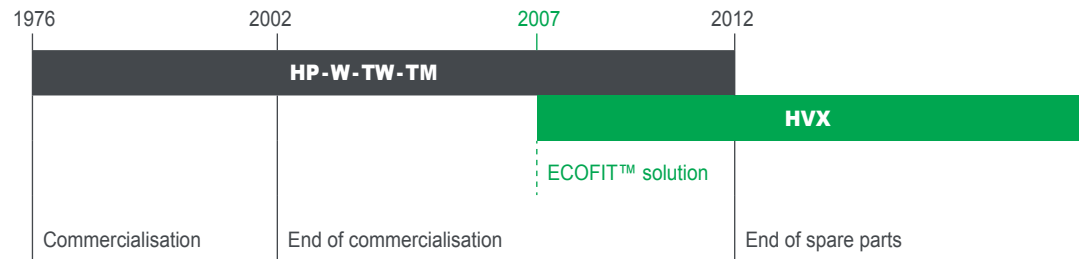
HP / **HP - W - TW - TM** by **HVX**

Original brand: **Concordia Sprecher**



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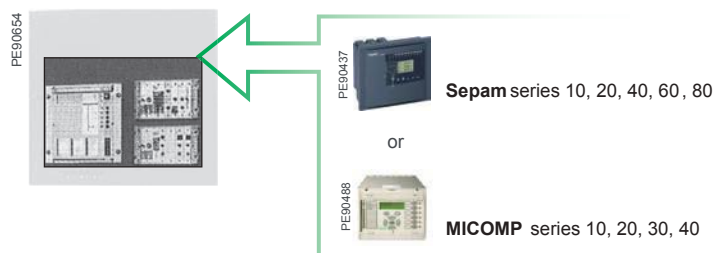
Main technical characteristics

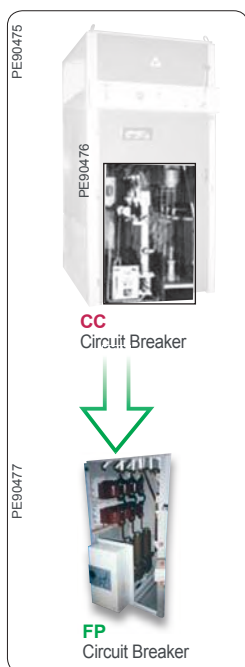
	HP-W-TW-TM	
Rated current (Ir)	1250 - 3150A	800 - 1250A
Short circuit current (Isc)	12.5 - 40 kA	8.4 - 21.7 kA
Rated voltage Un (50/60 Hz)	7.2 - 12 kV	24 kV

	HVX		HVX
Technology	Vacuum	Switching sequence	O-0.3s-CO-3 min-CO
Rated voltage Ur (kV)	12-24		
Surge withstand voltage Up (kV)	75-125	Closing time (ms)	45-63
Nominal frequency (Hz)	50-60	Opening time (ms)	35-53
Rated current Ir (A)	630-2500	Number of switching operations	10.000
Short circuit current Isc (kA)	16-31.5	Service temperature (°C)	-5/+40
Short circuit duration Tk (s)	3		

Offer extension

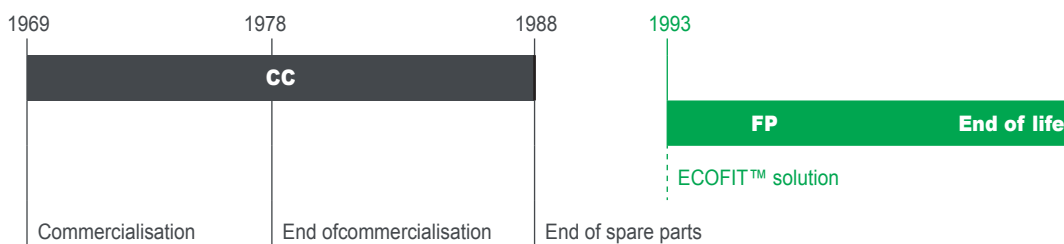
Energy management: replacement of the old protection relay (Schneider Electric or competitors)



KIT25-PGDT / **CC** by **FP**Original brand: **CEM**

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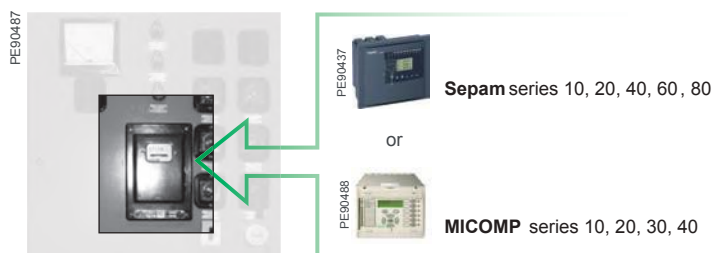
Main technical characteristics

	CC
Rated current (Ir)	400 A
Short circuit current (Isc)	12.5 & 14.5 kA
Rated voltage Un (50/60 Hz)	24 kV

	FP		FP
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-3 min-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	Opening time (ms)	70
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400 - 3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16 - 40		
Short circuit duration Tk (s)	3		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



KIT 27.2-PGHT / HF4K by FP

Original brand: **CEM**

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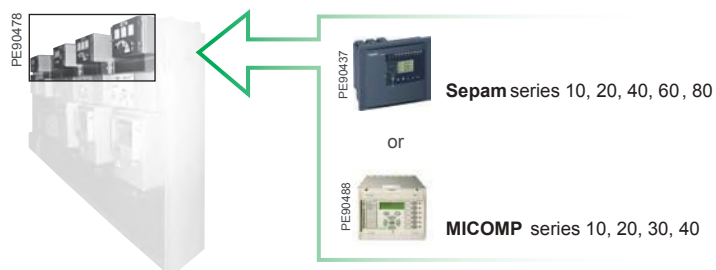
Main technical characteristics

	HF4K
Rated current (Ir)	400 A
Short circuit current (Isc)	14.5 & 25 kA
Rated voltage Un (50/60 Hz)	24 kV

	FP		FP
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-3 min-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	Opening time (ms)	70
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-40		
Short circuit duration Tk (s)	3		

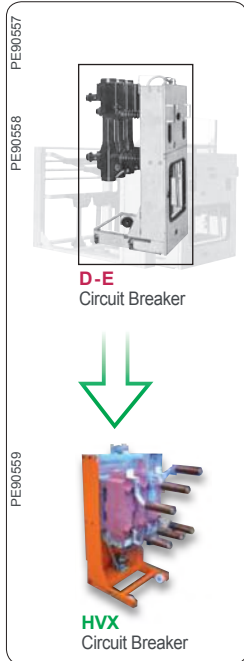
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



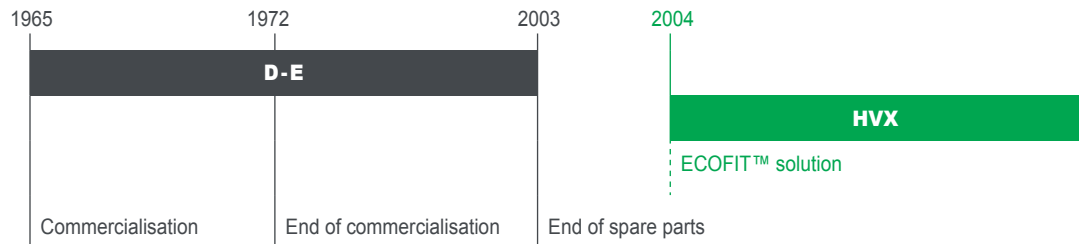
L / D - E by HVX

Original brand: **AEG**



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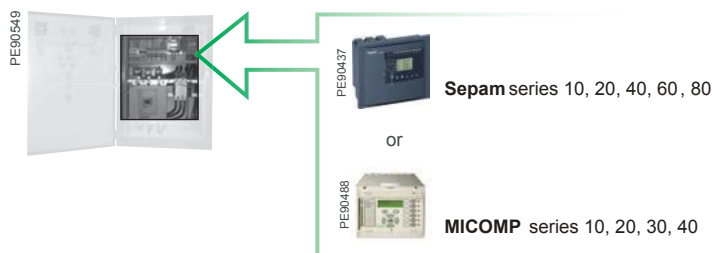
Main technical characteristics

	D - E
Rated current (Ir)	400-2500A
Short circuit current (Isc)	20-50 kA
Rated voltage Un (50/60 Hz)	7.2-12 kV

	HVX		HVX
Technology	Vacuum	Switching sequence	O-0.3 s-CO-3 min-CO
Rated voltage Ur (kV)	12-24		
Surge withstand voltage Up (kV)	75-125	Closing time (ms)	45-63
Nominal frequency (Hz)	50-60	Opening time (ms)	35-53
Rated current Ir (A)	630-2500	Number of switching operations	10000
Short circuit current Isc (kA)	16-40	Service temperature (°C)	-5/+40
Short circuit duration Tk (s)	3		

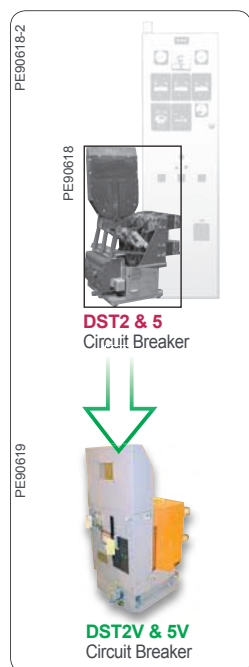
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



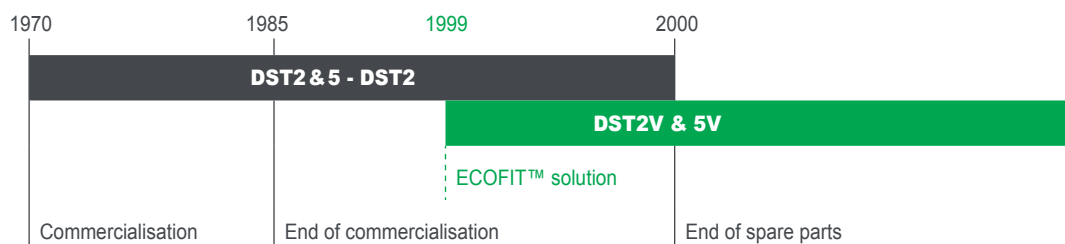
Metalclad switchgear / **DST2 & 5** by **DST2V & 5V**

Original brand: **Federal Pioneer**



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Main technical characteristics

	DST2 & 5	DST2
Rated current (Ir)	1200 - 3000 A	1200 - 3000 A
3-phase MVA rating	250 - 350 MVA	500 - 750 MVA
Rated voltage Un	5 kV	15 kV

	DST2V	DST5V		DST2V	DST5V
Technology	Vacuum	Vacuum	Rated current Ir (A)	1200 - 3000	1200 - 3000
Rated voltage Ur (kV)	5	15	3-phase rating (MVA)	350	500 - 750
Surge withstand voltage Up (kV)	60	95			

Offer extension



Magnum circuit breakers correctly interface with the existing breaker compartment components and maintain safety interlocks inherent in the original equipment design.

- New circuit breakers are installed in existing switchgear.
- Original footprint is left intact, saving time and money.
- Installation expense is a fraction of new equipment costs.
- Less down time for installation.
- Enhanced equipment reliability.
- Manufactured with new components.
- Undergoes complete factory testing.
- Backed by our standard equipment warranty.
- New, easy-to-maintain operating mechanism.
- No bulky arc chutes to handle and maintain.
- Reduced need for difficult to obtain spare parts.

Optional capabilities

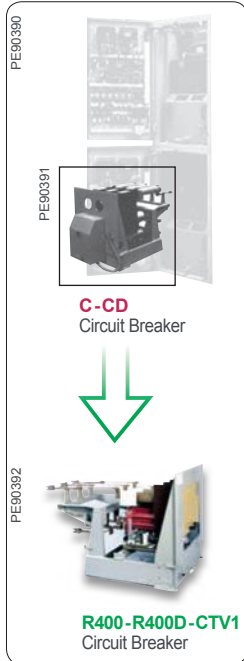
- Increased fault current interruption rating.
- Relay upgrade, improved accuracy and repeatability, and performance.
- Power metering, monitoring and communication.
- Ground and test devices available for various types of switchgear.

Closed Door Electric Racking Mechanism

- Arc flash hazard reduced with remote operation.
- Maintenance shutdown time is significantly reduced.
- No storage space is required for the electrical racking system.
- Require just a common 120VAC, 15A outlet for power up.

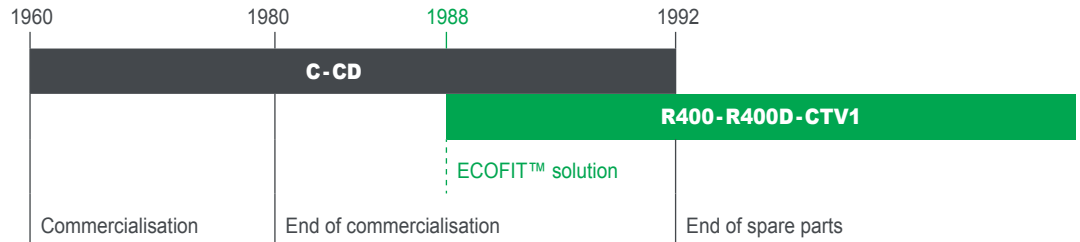
Motorstart P50D / C-CD by R400 - R400D - CTV1

Original brand: **Merlin Gerin**



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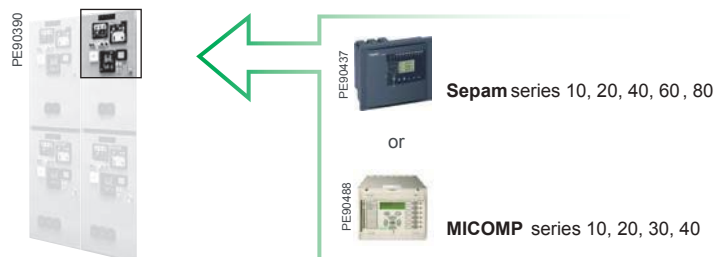
Main technical characteristics

	C-CD
Rated current (Ir)	80-200A
Short circuit current (Isc)	50 kA (with fuses)
Rated voltage Un (50/60 Hz)	7.2kV

	R400	R400D	CTV1		R400	R400D	CTV1
Technology	SF6	SF6	Vacuum	Switching sequence			
Rated voltage Ur (kV)	7.2	7.2	7.2	Closing time (ms)	75-155	75-155	60-80
Surge withstand voltage Up (kV)	60	60	60	Opening time (ms)	20-50	20-50	20-30
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	300.000	100.000	200.000
Rated current Ir (A)	80-250	80-250	80-250	Service temperature (°C)	-25/+40	-25/+40	-5/+40
Short circuit current Isc (kA)	50 (with fuses)	50 (with fuses)	50 (with fuses)				
Short circuit duration Tk (s)	3	3	3				

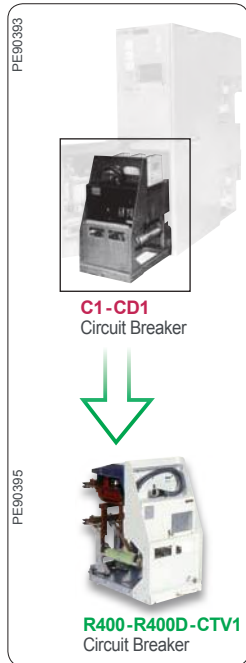
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



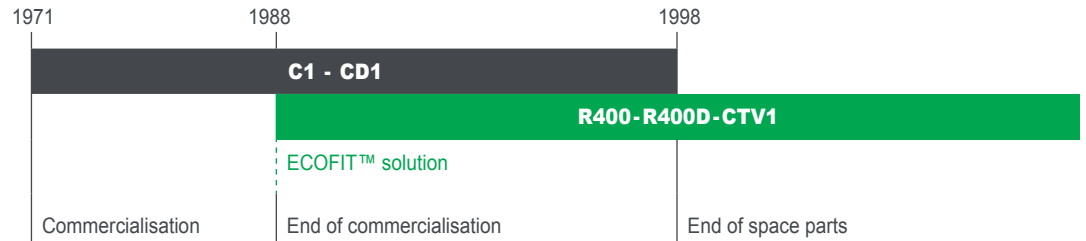
Motorstart P500D / **C1 - CD1** by **R400 - R400D - CTV1**

Original brand: **Merlin Gerin**



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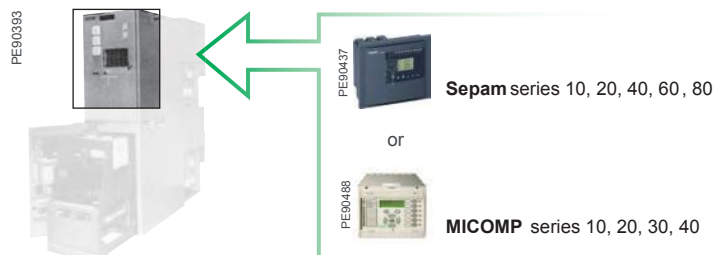
Main technical characteristics

	C1 - CD1
Rated current (Ir)	80 - 250A
Short circuit current (Isc)	50 kA (with fuses)
Rated voltage Un (50/60 Hz)	7.2 kV

	R400	R400D	CTV1		R400	R400D	CTV1
Technology	SF6	SF6	Vacuum	Switching sequence			
Rated voltage Ur (kV)	7.2	7.2	7.2	Closing time (ms)	75 - 155	75 - 155	60 - 80
Surge withstand voltage Up (kV)	60	60	60	Opening time (ms)	20 - 50	20 - 50	20 - 30
Nominal frequency (Hz)	50 - 60	50 - 60	50 - 60	Number of switching operations	300.000	100.000	200.000
Rated current Ir (A)	80 - 250	80 - 250	80 - 250	Service temperature (°C)	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	50 (with fuses)	50 (with fuses)	50 (with fuses)				
Short circuit duration Tk (s)	3	3	3				

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



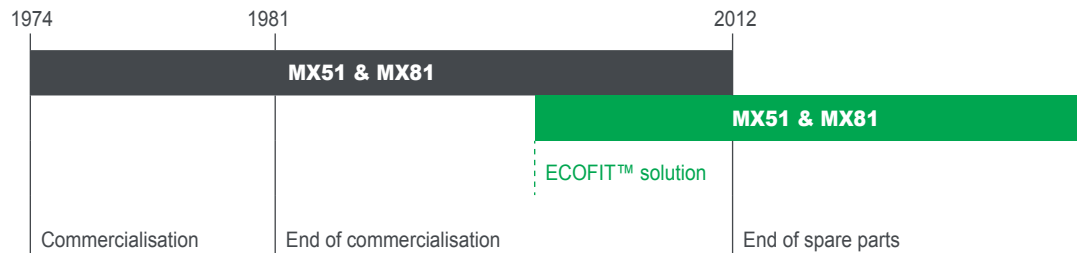
MX51 & MX81 by MX51 & MX81

Original brand: **GEC Alstom**



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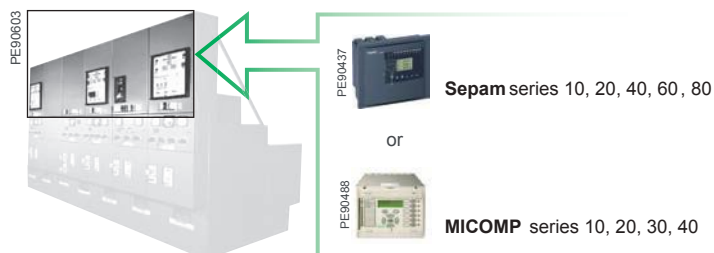
Main technical characteristics

	MX51		MX81	
Rated current (Ir)	630 - 2000A	630 - 2000A	630 - 1250A	630 - 1250A
Short circuit current (Isc)	25 - 31.5kA	25 - 31.5kA	12.5 - 20kA	12.5 - 20kA
Rated voltage Un (50/60 Hz)	3.6kV	17.5kV	3.6kV	17.5kV

	MX51 & MX81		MX51 & MX81
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	Up to 17.5	Closing time (ms)	<52
Surge withstand voltage Up (kV)	Up to 115	Opening time (ms)	<61
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 2000	Service temperature (°C)	-25 / +40
Short circuit current Isc (kA)	Up to 31.5		
Short circuit duration Tk (s)	3		

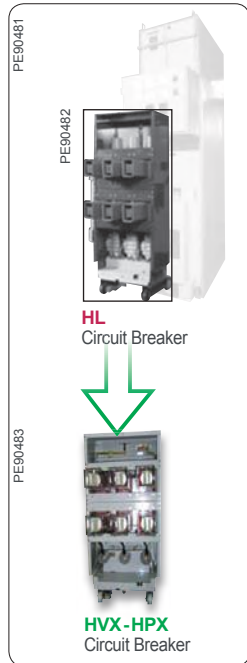
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



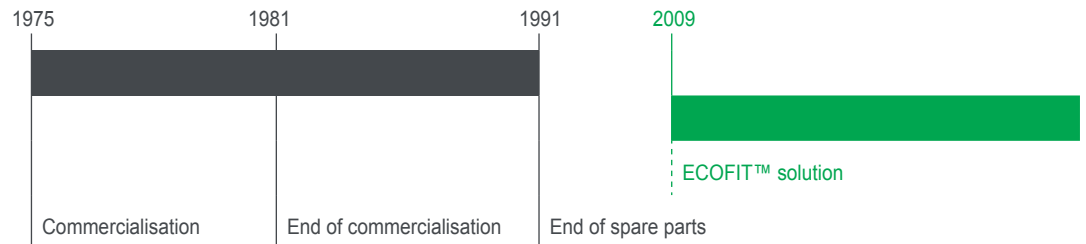
Normabloc N1347 / **HL** by **HVX-FPX**

Original brand: **Delle Alsthom**



ECOFIT™ proposal

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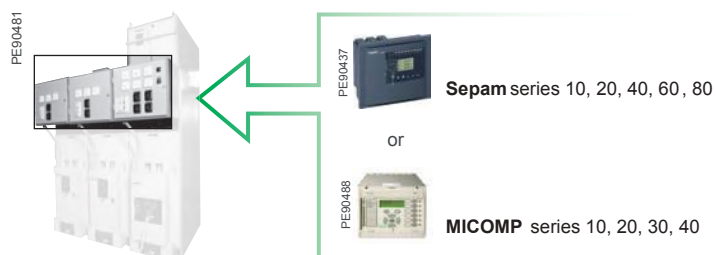
Main technical characteristics

	HL
Rated current (Ir)	630 - 1250 A
Short circuit current (Isc)	25 & 40 kA
Rated voltage Un (50/60 Hz)	17.5 kV

	HVX	FPX		HVX	FPX
Technology	Vacuum	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3s-CO-3 min-CO O-15s-CO O-0.3s-CO-15s-CO	O-3 min-CO-3 min-CO O-0.3s-CO-3 min-CO O-0.3s-CO-15s-CO
Rated voltage Ur (kV)	17.5	17.5	Closing time (ms)	35-53	50
Surge withstand voltage Up (kV)	95	95	Opening time (ms)	45-63	50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10000	10000
Rated current Ir (A)	630-1250	630-1250	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	16-40	12.5-40			
Short circuit duration Tk (s)	3	3			

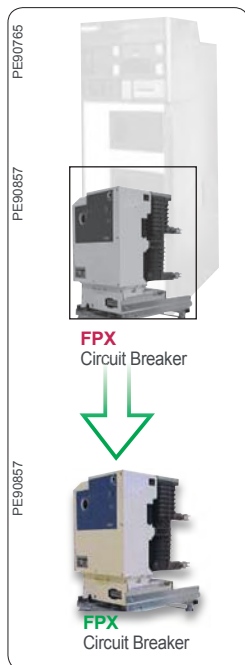
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



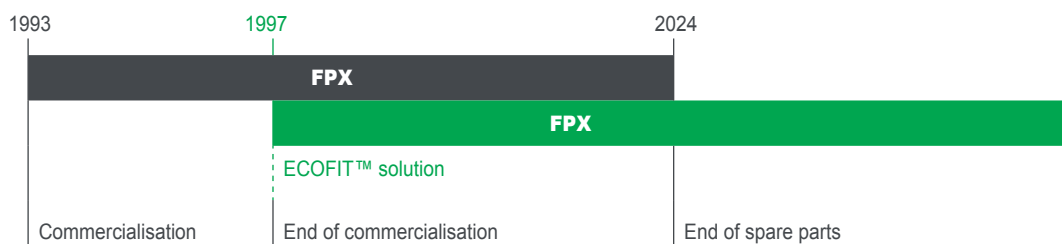
Normaclad PX / **FPX** by **FPX**

Original brand: **GEC ALSTHOM**



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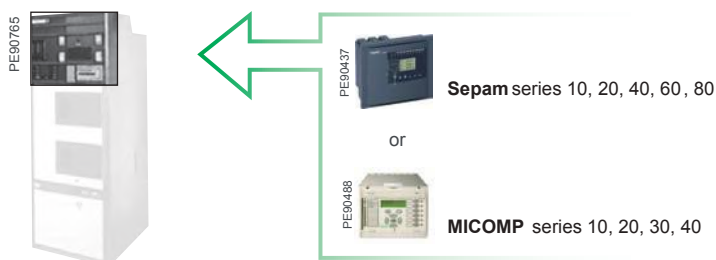
Main technical characteristics

	FPX	
Rated current (Ir)	Up to 3150A	Up to 2500A
Short circuit current (Isc)	40 kA	31.5kA
Rated voltage Un (50/60 Hz)	12kV	24kV

	FPX			FPX
Technology	SF6	SF6	Switching sequence	O-3mn-CO-3mn-CO CO-0.3 s-CO-15 s-CO O-0.3 s-CO-3mn-CO
Rated voltage Ur (kV)	12	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	125	Opening time (ms)	50
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000
Rated current Ir (A)	Up to 3150	Up to 2500	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	Up to 40	Up to 31.5		
Short circuit duration Tk (s)	3	3		

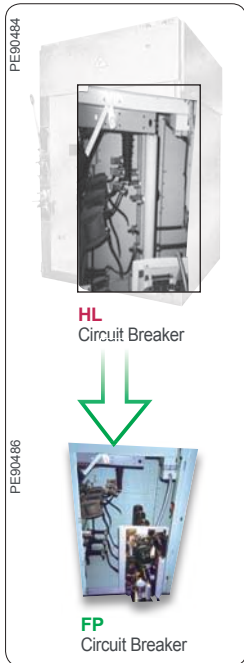
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Normasept N743 / **HL** by **FP**

Original brand: **Delle Alsthom**



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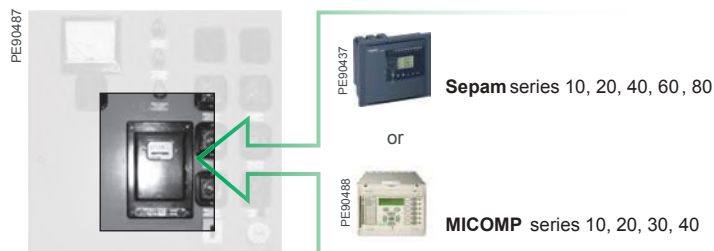
Main technical characteristics

	HL
Rated current (Ir)	400-630 A
Short circuit current (Isc)	12.5-14.5 kA
Rated voltage Un (50/60 Hz)	24 kV

	FP		FP
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO CO-15 s-CO O-0.3 s-CO-3 min-CO
Rated voltage Ur (kV)	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	Opening time (ms)	70
Nominal frequency (Hz)	50-60	Number of switching operations	10000
Rated current Ir (A)	400-3150	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-40		
Short circuit duration Tk (s)	3		

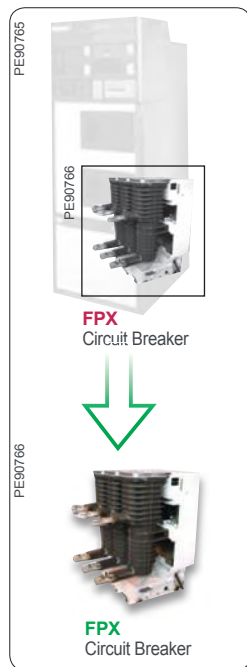
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



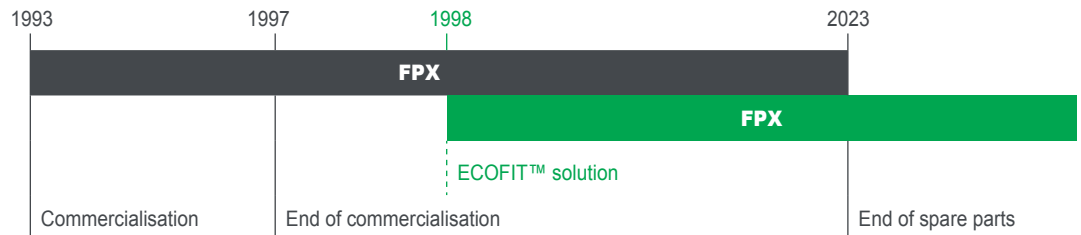
PX 12 - 24 / **FPX** by **FPX**

Original brand: **Alstom**



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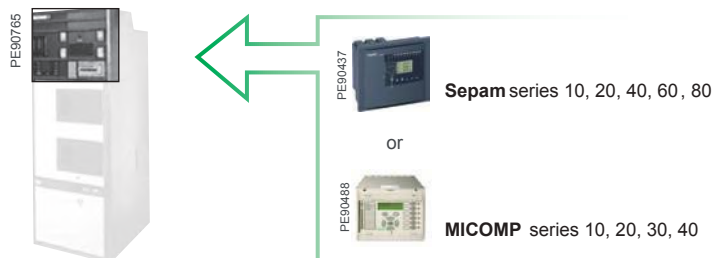
Main technical characteristics

	FPX		
Rated current (Ir)	3150A	2500A	2500A
Short circuit current (Isc)	40 kA/3s	31.5 kA/3s	31.5 kA/3s
Rated voltage Un (50/60 Hz)	12kV	17.5kV	24kV

	FPX				FPX		
Technology	SF6	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO		
Rated voltage Ur (kV)	12	17.5	24	Closing time (ms)	50	50	50
Surge withstand voltage Up (kV)	100	80	80	Opening time (ms)	50	50	50
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	10.000	10.000	10.000
Rated current Ir (A)	3150	2500	2500	Service temperature (°C)	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	40	31.5	31.5				
Short circuit duration Tk (s)	3	3	3				

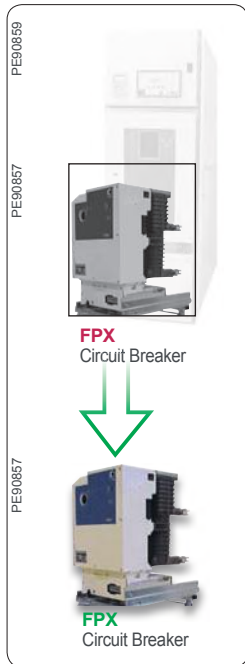
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



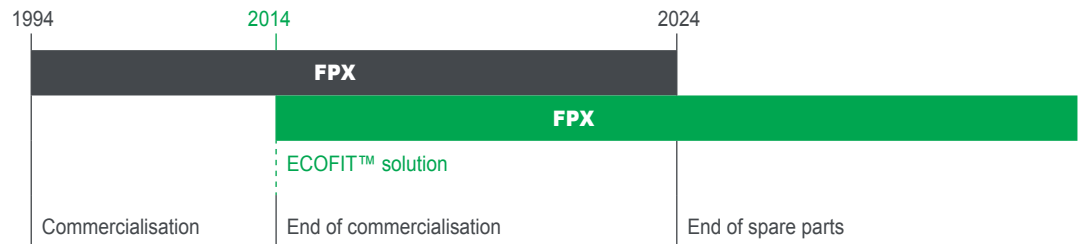
PIX SF6 / **FPX** by **FPX**

Original brand: **ALSTOM**



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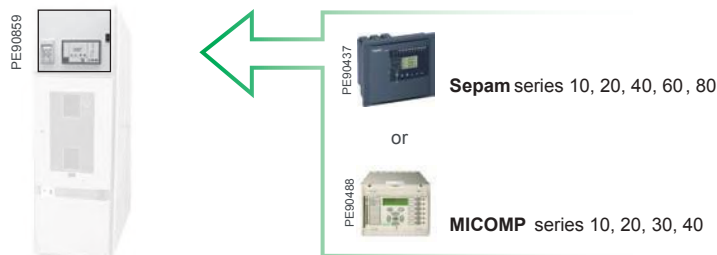
Main technical characteristics

	FPX		
Rated current (Ir)	Up to 3150A	Up to 2500A	Up to 2500A
Short circuit current (Isc)	40kA	31.5kA	31.5kA
Rated voltage Un (50/60 Hz)	12kV	17.5kV	24kV

	FPX				FPX
Technology	SF6	SF6	SF6	Switching sequence	O-3mn-CO-3mn-CO CO-0.3s-CO-15s-CO O-0.3s-CO-3mn-CO
Rated voltage Ur (kV)	12	17.5	24	Closing time (ms)	50
Surge withstand voltage Up (kV)	75	95	125	Opening time (ms)	50
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	10.000
Rated current Ir (A)	Up to 3150	Up to 2500	Up to 2500	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	Up to 40	Up to 31.5	Up to 31.5		
Short circuit duration Tk (s)	3	3	3		

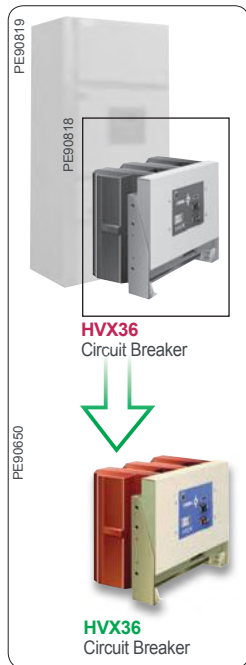
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



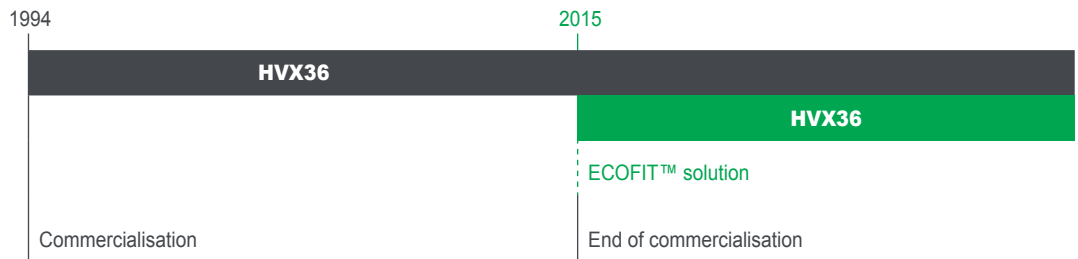
PNX36 / HVX36 by HVX36

Original brand: **AEG**



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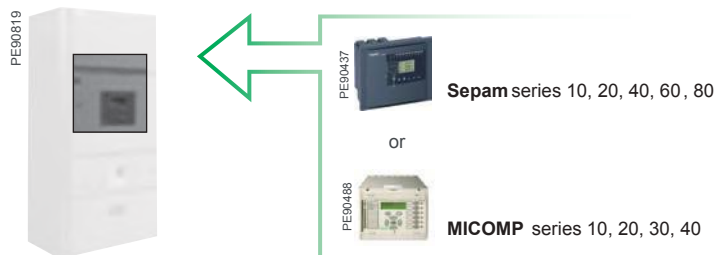
Main technical characteristics

	HVX36
Rated current (Ir)	630 - 2500A
Intensity short circuit (Isc)	25 - 31.5kA
Rated voltage Un (50/60 Hz)	36kV

	VAA		VAA
Technology	Vacuum	Switching sequence	O-0.3 s-CO-3min-CO
Rated voltage Ur (kV)	36	Closing time (ms)	45 - 63
Surge withstand voltage Up (kV)	70	Opening time (ms)	35 - 53
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 2500	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

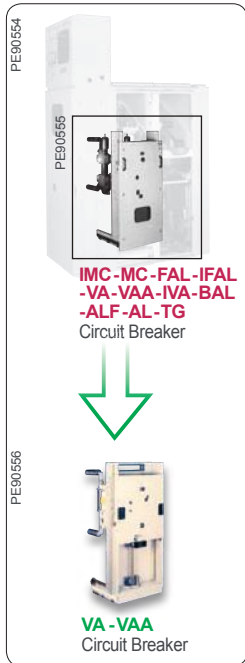
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



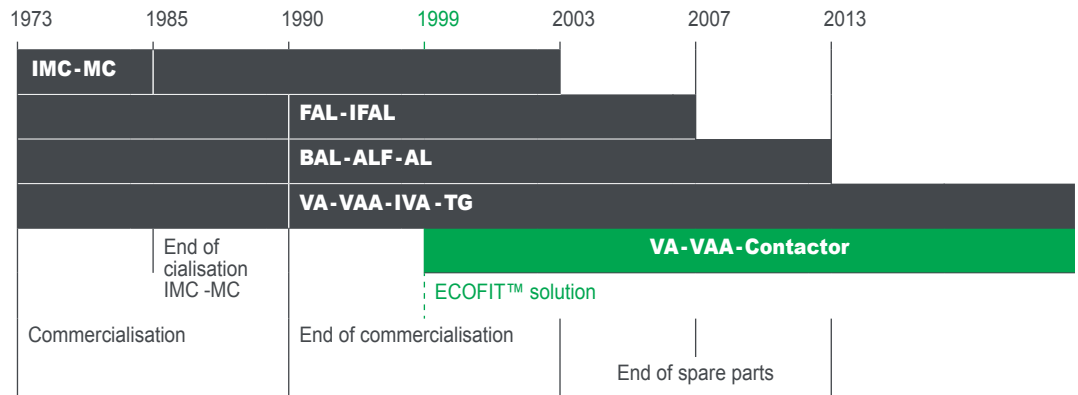
R/IMC-MC-FAL-IFAL-VA-VAA-IVA-BAL-ALF-AL-TG

by VA-VAA-Contactor

Original brand: **AEG**

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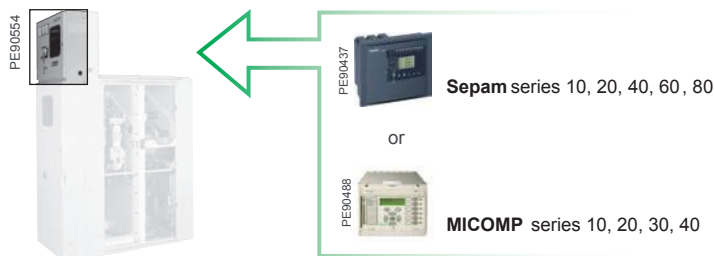
Main technical characteristics

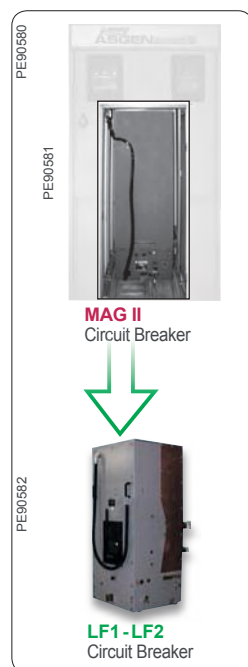
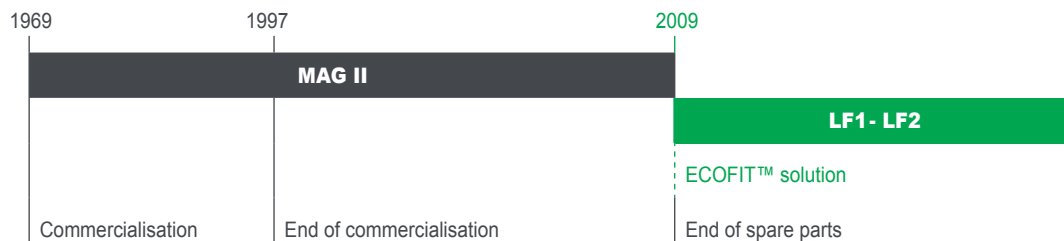
	IMC-MC-FAL-IFAL-VA-VAA-IVA-BAL-ALF-AL-TG
Rated current (Ir)	1250-4000A
Short circuit current (Isc)	16-50 kA
Rated voltage Un (50/60 Hz)	12-36 kV

	VA-VAA-Contactor		VA-VAA-Contactor
Technology	Vacuum	Switching sequence	O-0.3s-CO-3min-CO
Rated voltage Ur (kV)	12-24	Closing time (ms)	20
Surge withstand voltage Up (kV)	75-125	Opening time (ms)	20-50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-3550	Service temperature (°C)	-5/+40
Short circuit current Isc (kA)	16-50		
Short circuit duration Tk (s)	3		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)

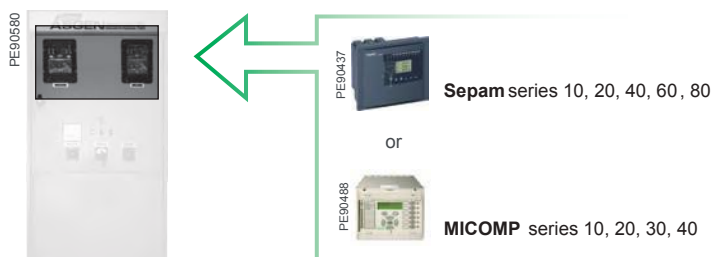


Siclad / **MAG II** by **LF1 - LF2**Original brand: **Ansaldo****ECOFIT™ proposal****With ECOFIT™, a true extended life time****Main technical characteristics**

	MAG II		
	MAG II - 6 - 250/400	MAG II - 10 - 500	MAG II - 15 - 6 - 300/350
Rated current (Ir)	630 - 1250 - 2000A	630 - 1250 - 2000A	630 - 1250 - 2000A
Short circuit current (Isc)	20 - 48 kA	20 - 28 kA	12 - 30 kA
Rated voltage Un (50/60 Hz)	6kV	10kV	15kV

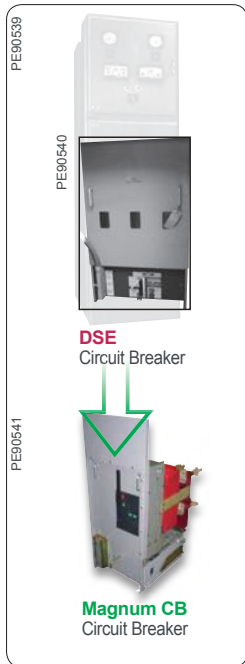
	LF1	LF2*		LF1	LF2*
Technology	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	
Rated voltage Ur (kV)	7.2 - 12	7.2 - 12 - 17.5	Closing time (ms)	<72	<72
Surge withstand voltage Up (kV)	60 - 75	60 - 75 - 95	Opening time (ms)	<54	<54
Nominal frequency (Hz)	50 - 60	50 - 60	Number of switching operations	10.000	10.000
Rated current Ir (A)	630 - 1250	2000	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	31.5	40			
Short circuit duration Tk (s)	3	3			

* For Siclad panels 730mm & 850mm wide

Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

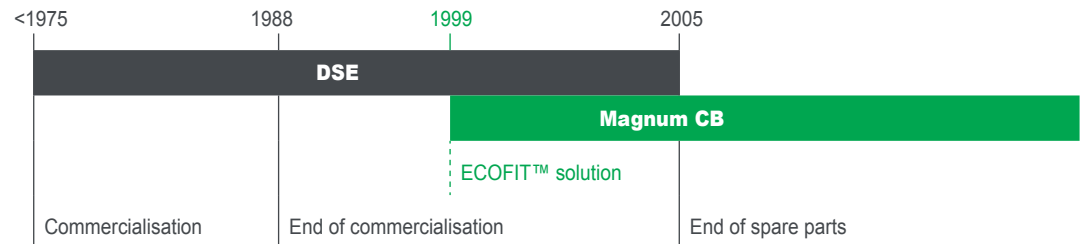
Solenarc DSE Metal-Clad switchgear / **DSE** by **Magnum CB**

Original brand: **Square D**



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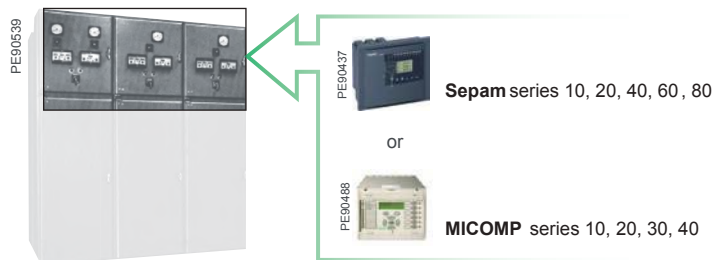
Main technical characteristics

	DSE	
Rated current (Ir)	1200 - 3000 A	1200 - 3000 A
3-phase MVA rating	250 MVA	250 - 1000 MVA
Rated voltage Un	5 kV	15 kV

	5MGSB	15MGSB		5MGSB	15MGSB
Technology	Vacuum	Vacuum	Rated current Ir (A)	1200	1200 - 3000
Rated voltage Ur (kV)	5	15	3-phase rating (MVA)	250	250 - 1000
Surge withstand voltage Up (kV)	60	95	Interrupting time (ms)	100	60

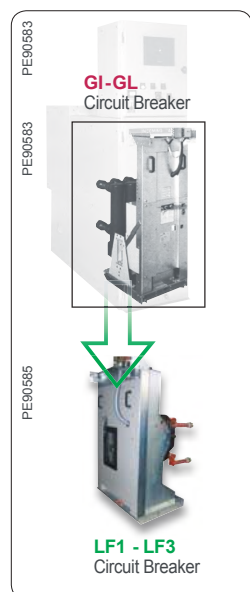
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



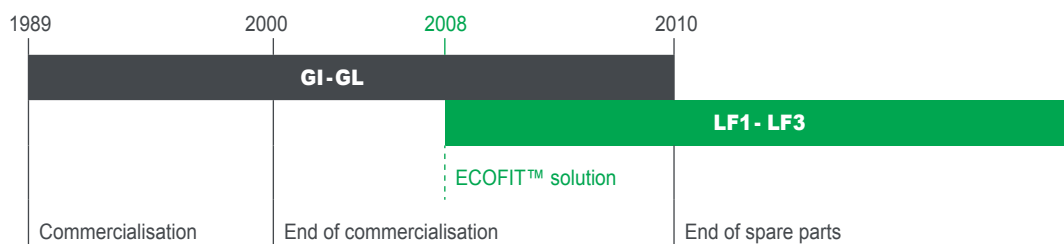
Venus / **GI - GL** by **LF1 - LF3**

Original brand: **Nuova Magrini Galileo**



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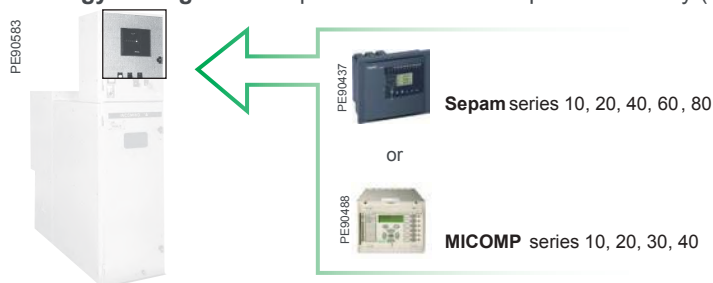
Main technical characteristics

	GI		GL			
Rated current (Ir)	630 - 1250A	630 - 1250A	1600 - 3150A	1600 - 3150A	1600 - 3150A	1600 - 3150A
Short circuit current (Isc)	12.5 - 31.5 kA	12 - 25 kA	50 kA	20 - 40 kA	20 - 40 kA	20 - 31.5 kA
Rated voltage Un (50/60 Hz)	7 - 12 kV	17 - 24 - 36 kV	7 kV	12 kV	24 kV	36 kV

	LF1	LF3		LF1	LF3
Technology	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	
Panel width (mm)	600	900	Closing time (ms)	<72	<72
Rated voltage Ur (kV)	12	17.5	Opening time (ms)	<54	<54
Surge withstand voltage Up (kV)	75	125	Number of switching operations	10.000	10.000
Nominal frequency (Hz)	50 - 60	50 - 60	Service temperature (°C)	-25/+40	-25/+40
Rated current Ir (A)	630 - 1250	1600 - 1250			
Short circuit current Isc (kA)	31.5	50			
Short circuit duration Tk (s)	3	3			

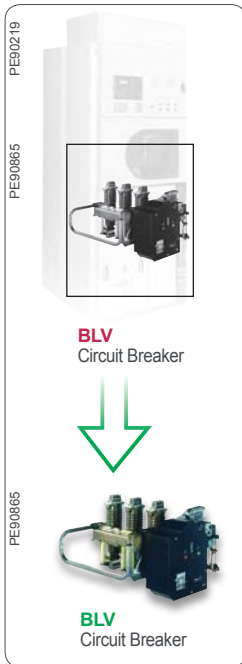
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



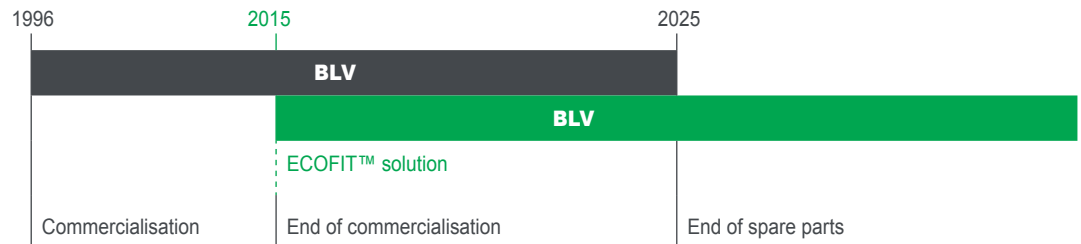
VISAX / **BLV** by **BLV**

Original brand: **GEC Alsthom**



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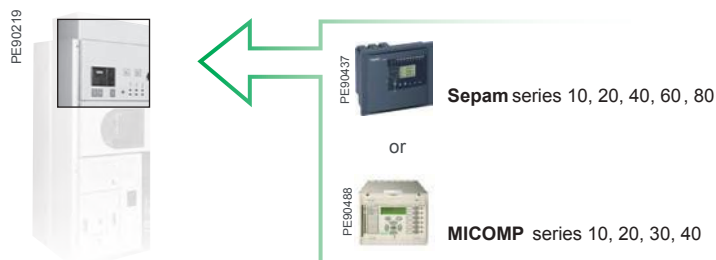
Main technical characteristics

	BLV			
Rated current (Ir)	400 - 1250A	400 - 1250A	400 - 1250A	400 - 1250A
Short circuit current (Isc)	16 - 40 kA	16 - 40 kA	16 - 40 kA	16 - 31.5 kA
Rated voltage Un (50/60 Hz)	7.2 kV	12 kV	17.5 kV	24 kV

	BLV					BLV
Technology	SF6	SF6	SF6	SF6	Switching sequence	O-3mn-CO-3mn-CO O-0.3s-CO-3mn-CO O-0.3s-CO-15s-CO
Rated voltage Ur (kV)	7.2	12	17.5	24	Closing time (ms)	51
Surge withstand voltage Up (kV)	125	125	125	125	Opening time (ms)	40
Nominal frequency (Hz)	50-60	50-60	50-60	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-1250	400-1250	400-1250	400-1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	16-40	16-40	16-40	16-31.5		
Short circuit duration Tk (s)	3	3	3	3		

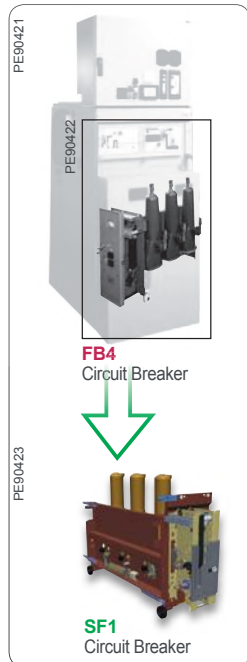
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



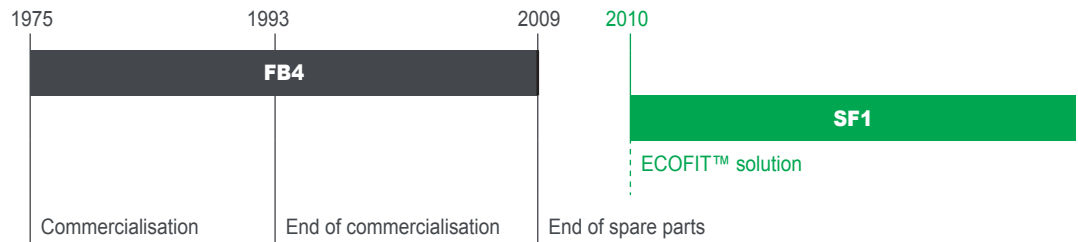
VM6 DM12 / **FB4** by **SF1**

Original brand: **Merlin Gerin**



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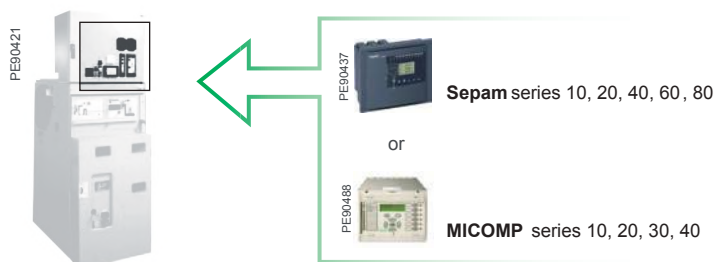
Main technical characteristics

	FB4			
Rated current (Ir)	400 - 1250A	400 - 1250A	400 - 1250A	400 - 1250A
Short circuit current (Isc)	12.5 - 31.5kA	12.5 - 25kA	12.5 - 20kA	12.5 - 20kA
Rated voltage Un (50/60 Hz)	7.2 kV	12 kV	17.5kV	24 kV

	SF1		SF1
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	Up to 24	Closing time (ms)	<65
Surge withstand voltage Up (kV)	Up to 125	Opening time (ms)	<50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	12.5 - 25		
Short circuit duration Tk (s)	3		

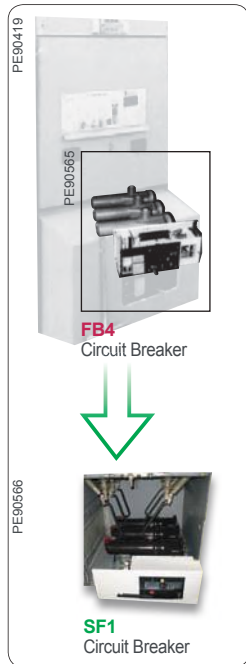
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



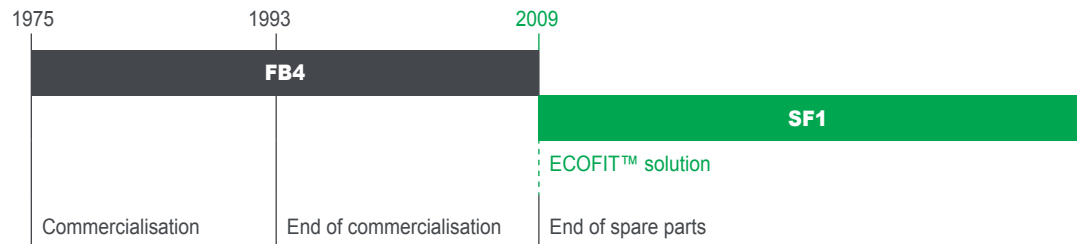
VM6 DM22 - DM23 / **FB4** by **SF1**

Original brand: **Merlin Gerin**



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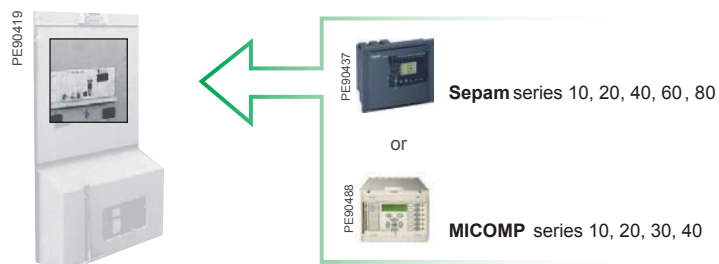
Main technical characteristics

	FB4
Rated current (Ir)	400-630A
Short circuit current (Isc)	12.5-20 kA
Rated voltage Un (50/60 Hz)	24 kV

	SF1		SF1
Technology	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24	Closing time (ms)	<65
Surge withstand voltage Up (kV)	125	Opening time (ms)	<50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	400-630	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	12.5-20		
Short circuit duration Tk (s)	3		

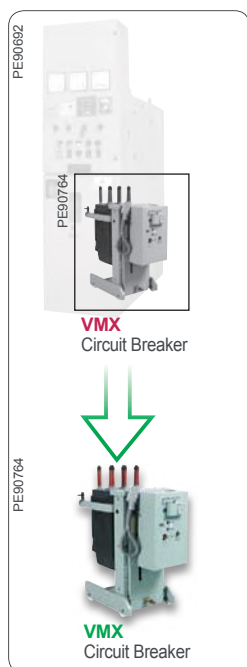
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



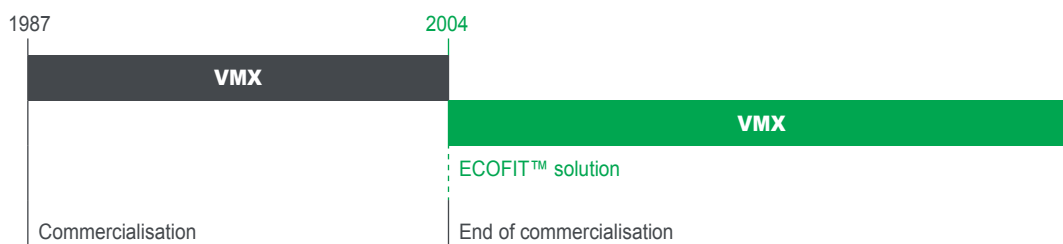
VMX / **VMX** by **VMX**

Original brand: **GEC Alstom**



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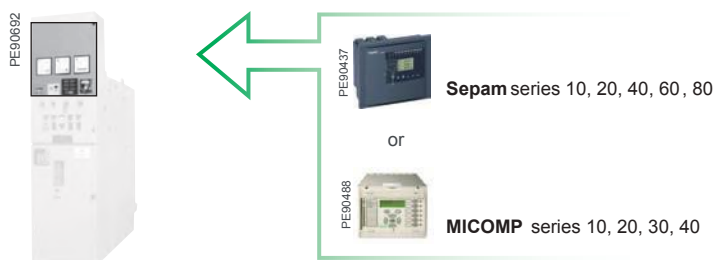
Main technical characteristics

	VMX
Rated current (Ir)	630-2000A
Short circuit current (Isc)	Up to 25kA/3s
Rated voltage Un (50/60 Hz)	11 kV

	VMX		VMX
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	11	Closing time (ms)	<52
Surge withstand voltage Up (kV)	95	Opening time (ms)	<61
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

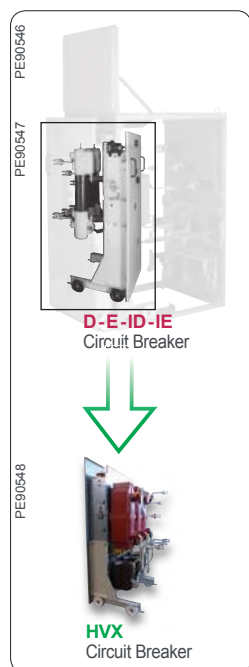
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



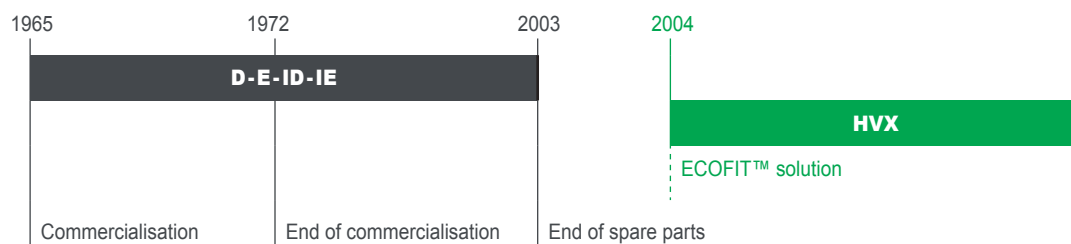
WAK / D-E-ID-IE by HVX

Original brand: AEG



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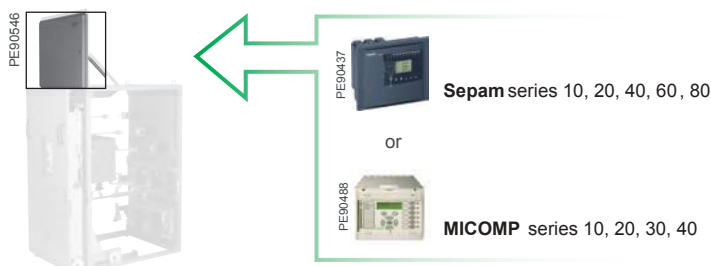
Main technical characteristics

	D-E-ID-IE
Rated current (Ir)	400-2500A
Short circuit current (Isc)	Up to 34 kA
Rated voltage Un (50/60 Hz)	Up to 24 kV

	HVX		HVX
Technology	Vacuum	Switching sequence	O-0.3s-CO-3 min-CO
Rated voltage Ur (kV)	12-24		
Surge withstand voltage Up (kV)	75-125	Closing time (ms)	45-63
Nominal frequency (Hz)	50	Opening time (ms)	35-53
Rated current Ir (A)	630-1250	Number of switching operations	10.000
Short circuit current Isc (kA)	16-31.5	Service temperature (°C)	-5/+40
Short circuit duration Tk (s)	3		

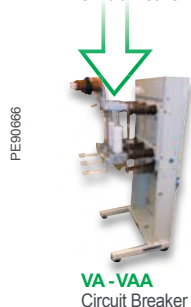
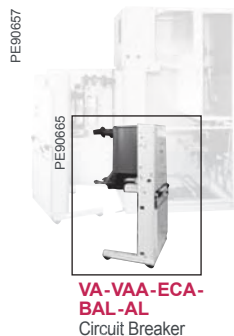
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



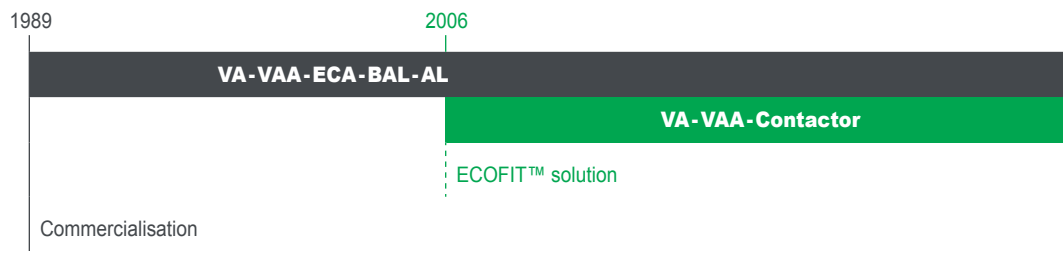
WBA / **VA - VAA - ECA - BAL - AL** by **VA - VAA - Contactor**

Original brand: **AEG**



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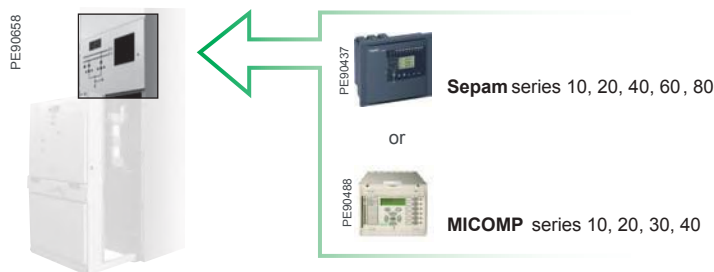
Main technical characteristics

	BAL - AL	VAA	ECA	VA
Rated current (Ir)	250A	630 - 1250A	630 - 2500A	630 - 2500A
Short circuit current (Isc)	20 kA	16 - 25 kA	20 - 50 kA	20 - 50 kA
Rated voltage Un (50/60 Hz)	3.6 - 12 kV	12 - 24 kV	12 - 24 kV	12 - 38 kV

	VA - VAA - Contactor		VA - VAA - Contactor
Technology	Vacuum	Switching sequence	O-0.3s-CO-3s-CO
Rated voltage Ur (kV)	12 - 24	Closing time (ms)	20
Surge withstand voltage Up (kV)	75 - 125	Opening time (ms)	20 - 50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 2500	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

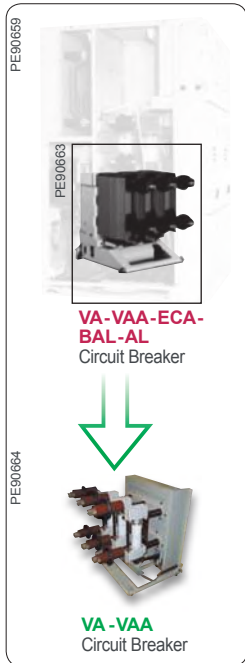
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



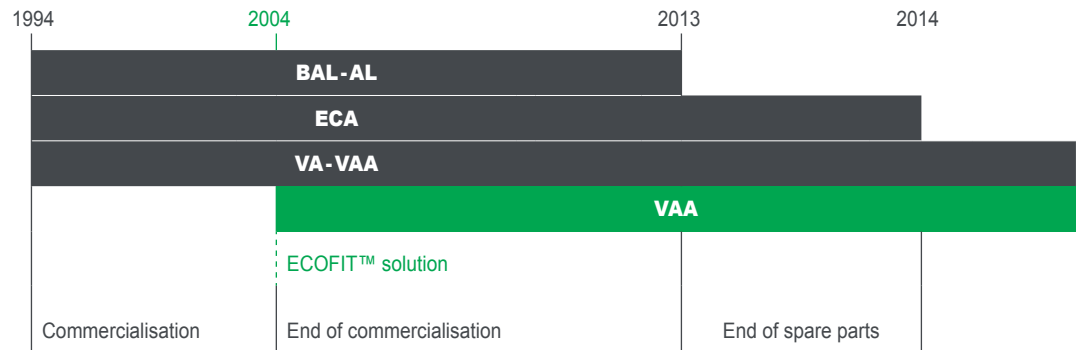
WBB / **VA - VAA - ECA - BAL - AL** by **VA - VAA - Contactor**

Original brand: **AEG**



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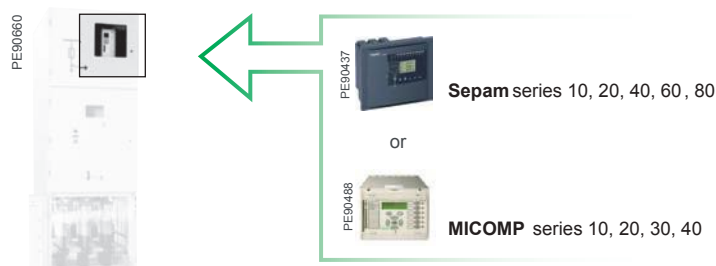
Main technical characteristics

	BAL-AL	VAA	ECA	VA
Rated current (Ir)	250A	630 - 1250A	630 - 2500A	630 - 2500A
Short circuit current (Isc)	20 kA	16 - 25 kA	20 - 50 kA	20 - 50 kA
Rated voltage Un (50/60 Hz)	3.6 - 12 kV	12 - 24 kV	12 - 24 kV	12 - 38 kV

VA - VAA - Contactor		VA - VAA - Contactor	
Technology	Vacuum	Switching sequence	O-0.3s-CO-3s-CO
Rated voltage Ur (kV)	12 - 15	Closing time (ms)	20
Surge withstand voltage Up (kV)	75 - 95	Opening time (ms)	20 - 50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 2500	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

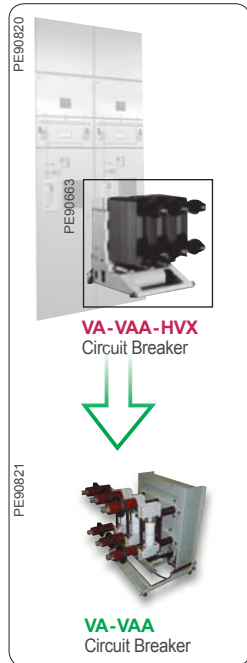
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



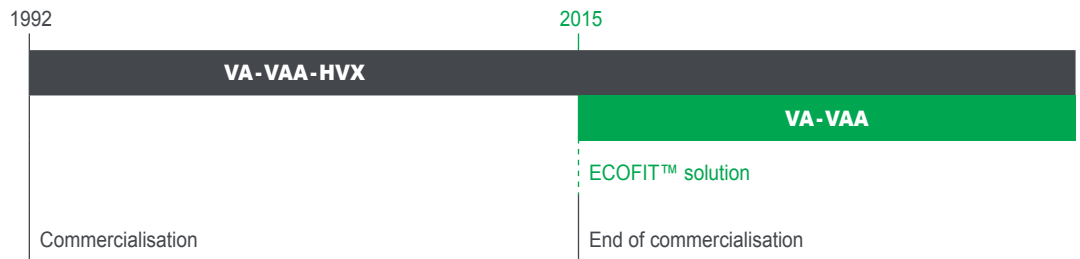
WBD / VAA - VA - HVX by VAA - VA

Original brand: **AEG**



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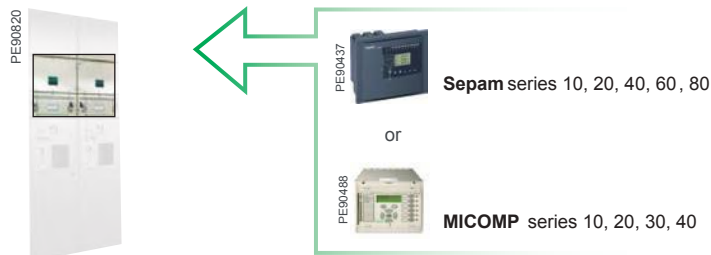
Main technical characteristics

	VA - VAA - HVX
Rated current (Ir)	630 - 2500A
Intensity short circuit (Isc)	25 - 31.5 kA
Rated voltage Un (50/60 Hz)	36 kV

	VA - VAA		VA - VAA
Technology	Vacuum	Switching sequence	O-0.3 s-CO-3min-CO
Rated voltage Ur (kV)	12	Closing time (ms)	20
Surge withstand voltage Up (kV)	80	Opening time (ms)	20 - 50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 3150	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	25 - 31.5		
Short circuit duration Tk (s)	3		

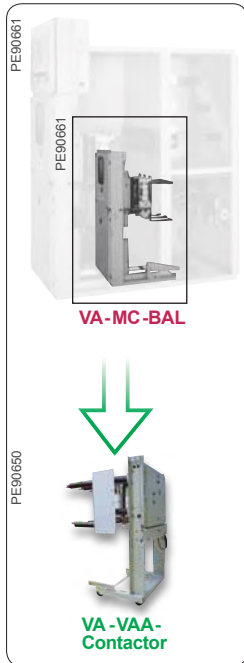
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



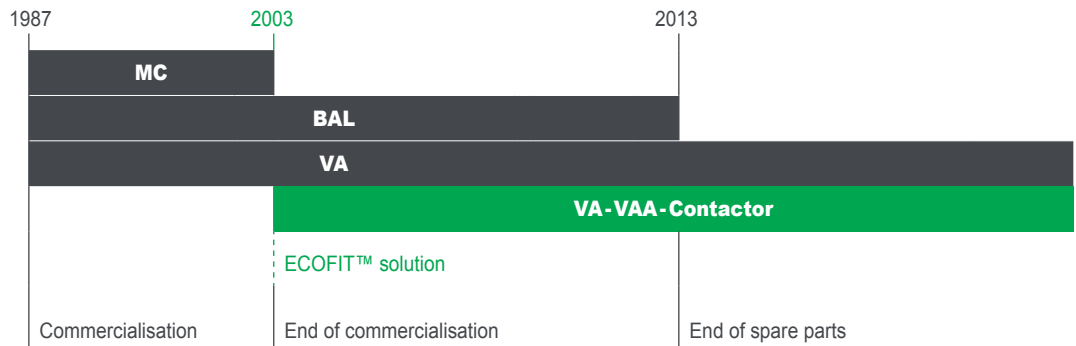
WK (C/E/B/A) / **VA - MC - BAL** by **VA - VAA - Contactor**

Original brand: **AEG**



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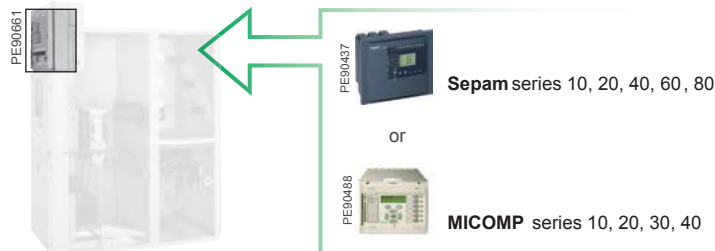
Main technical characteristics

	VA - MC - BAL
Rated current (Ir)	630 - 2500 A
Short circuit current (Isc)	31.5 - 50 kA
Rated voltage Un (50/60 Hz)	Up to 24 kV

	VA - VAA - Contactor		VA - VAA - Contactor
Technology	Vacuum	Switching sequence	O-0.3s-CO-3s-CO
Rated voltage Ur (kV)	3.6 - 24	Closing time (ms)	20
Surge withstand voltage Up (kV)	60 - 110	Opening time (ms)	20 - 50
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	400 - 4000	Service temperature (°C)	-5 / +40
Short circuit current Isc (kA)	10 - 50		
Short circuit duration Tk (s)	3		

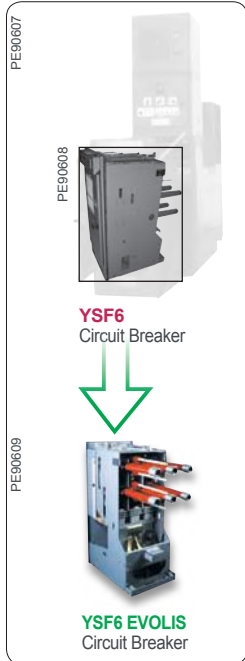
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



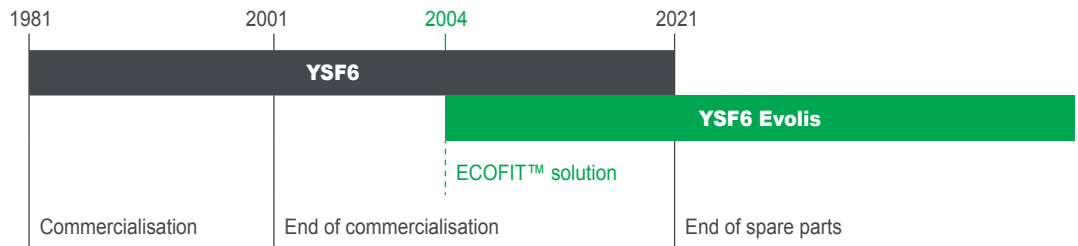
YSF6 / **YSF6** by **YSF6 Evolis**

Original brand: **Yorkshire Switchgear**



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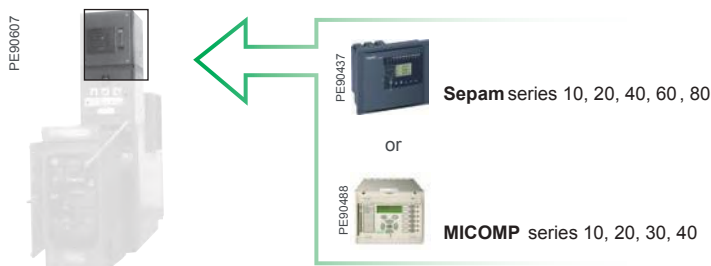
Main technical characteristics

	YSF6
Rated current (Ir)	630 - 1250A
Short circuit current (Isc)	Up to 25 kA
Rated voltage Un (50/60 Hz)	12kV

	YSF6 Evolis		YSF6 Evolis
Technology	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	11	Closing time (ms)	<50
Surge withstand voltage Up (kV)	75	Opening time (ms)	<65
Nominal frequency (Hz)	50 - 60	Number of switching operations	10.000
Rated current Ir (A)	630 - 1250	Service temperature (°C)	-25/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

Offer extension

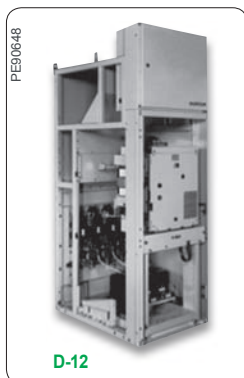
Energy management: replacement of the old protection relay (Schneider Electric or competitors)





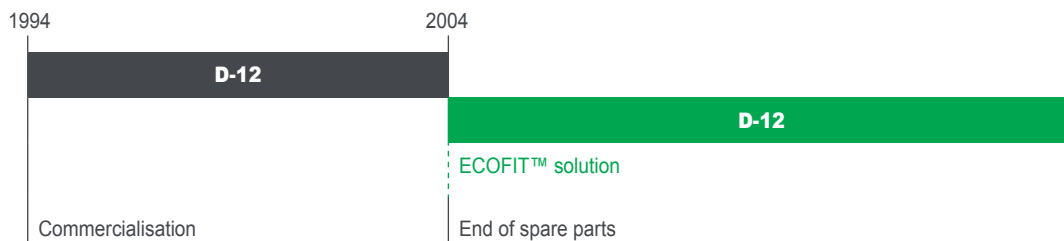
D-12 panel by D-12 panel

Original brand: **AEG**



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Main technical characteristics

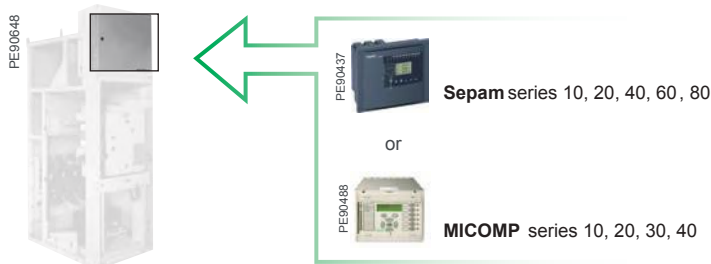
	D-12	
Rated current (Ir)	1250A	1600A
Short circuit current (Isc)	10 - 25 kA	25 - 31.5 kA
Rated voltage Un (50/60 Hz)	12 kV	12 kV

	D-12		D-12
Rated insulation level (kV)	12	Rated current of busbar (A)	1250 - 1600 - 2000 - 2500 - 3150*
Rated power frequency withstand voltage/1mn (kVrms)	95	Rated short time withstand current (4s) (kA)	25 - 31.5
Lightning impulse withstand voltage (peak value) (kVp)	185	Internal Arc Classification (1s) (AFLR)	PEHLA 31.5 kA
Overall dimensions (wxhxd) (mm)	1200x2400x2500	Ingress Protection degree (IP)	Standard IP2X On request IP3X, IP4X

* With forced cooling (on request)

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



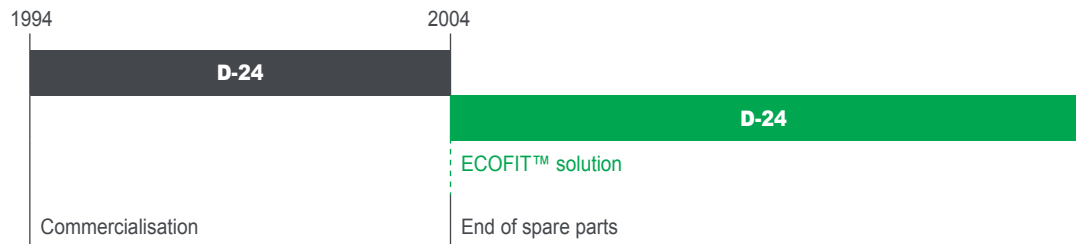
D-24 panel by D-24 panel

Original brand: **AEG**



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Main technical characteristics

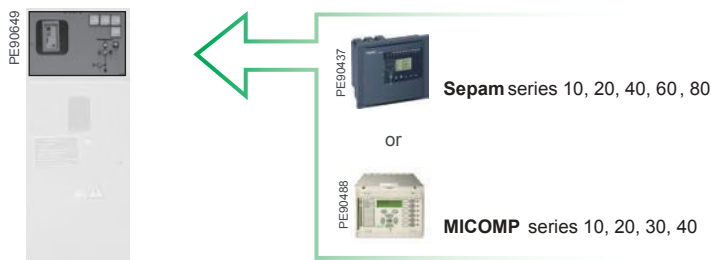
	D-24	
Rated current (Ir)	100 - 630A	630 - 2150A
Intensity short circuit (Isc)	10 - 16 kA	16 - 25 kA
Rated voltage Un (50/60 Hz)	24 kV	24 kV

	D-24		D-24
Rated insulation level (kV)	24	Rated current of busbar (A)	1250 - 1600 - 2000 - 2500 - 3150*
Rated power frequency withstand voltage/1mn (kVrms)	95	Rated short time withstand current (4s) (kA)	10 - 16 - 25
Lightning impulse withstand voltage (peak value) (kVp)	185	Internal Arc Classification (1s) (AFLR)	25
Overall dimensions (wxhxd) (mm)	1200x2400x2500	Ingress Protection degree (IP)	Enclosure IP4X, Compartment IP2X

* With forced cooling (on request)

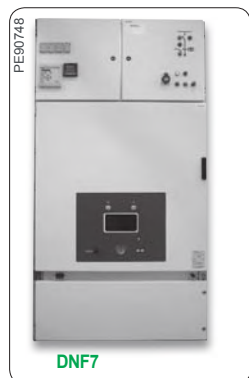
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



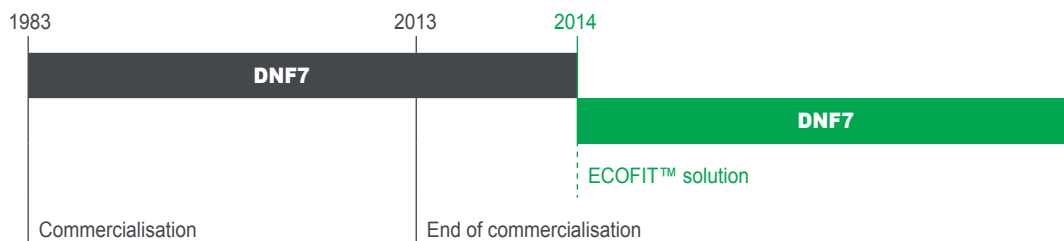
DNF7 panel by DNF7 panel

Original brand: **Alsthom**



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Main technical characteristics

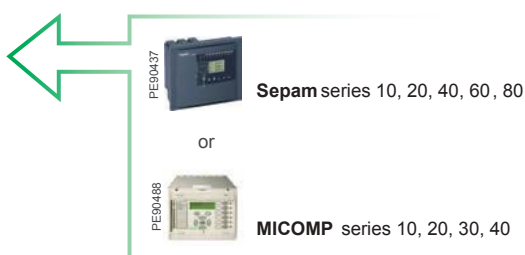
	DNF7
Rated current (I _r)	400-2000A
Intensity short circuit (I _{sc})	31.5kA
Rated voltage Un (50/60 Hz)	36kV

	DNF7		DNF7
Rated insulation level (kV)	36	Rated current of busbar (A)	400-1250 (2500***)
Rated power frequency withstand voltage/1mn (kVrms)	70	Rated short time withstand current (4s) (kA)	16-31.5
Lightning impulse withstand voltage (peak value) (kVp)	170	Internal Arc Classification (0.2s) (AFLR)	25kA
Overall dimensions (wxhxd) (mm)	1300x2250*x2300**	Ingress Protection degree (IP)	Enclosure IP3X

* 2900 mm with busbar compartment - ** 2500 mm with internal arc withstand, 2750 mm with cables voltage compartment - *** With forced cooling (on request)

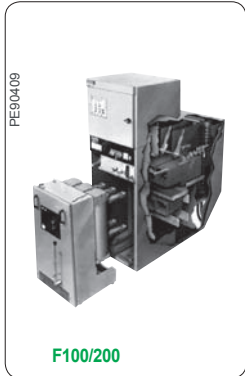
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Fluair F100-200 panel by Fluair F100-200 panel

Original brand: **Merlin Gerin**



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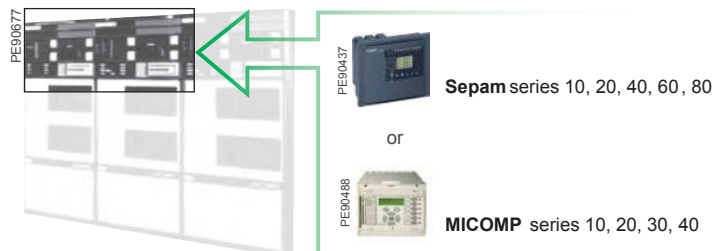
Main technical characteristics

	F100	F200
Rated current (I _r)	630 - 3150A	630 - 3150A
Short circuit current (I _{sc})	25 - 50 kA	25 - 50 kA
Rated voltage Un (50/60 Hz)	7.2 kV	12 - 17.5 kV

	F100-200		F100-200
Rated insulation level (kV)	7.2 - 12 - 17.5	Rated current of busbar (A)	Up to 3150
Rated power frequency withstand voltage/1mn (kVrms)	20 - 28 - 38	Rated short time withstand current (3s) (kA)	Up to 50
Lightning impulse withstand voltage (peak value) (kVp)	60 - 75 - 95	Internal Arc Classification (1s) (AFLR)	
Overall dimensions (wxhxd) (mm)	≤1250A: 650x2100x1455/1700 2500-3150A: 900x2100x1700	Ingress Protection degree (IP)	Enclosure IP3X

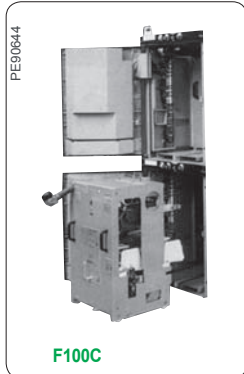
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Fluair F100C panel by Fluair F100C panel

Original brand: **Merlin Gerin**



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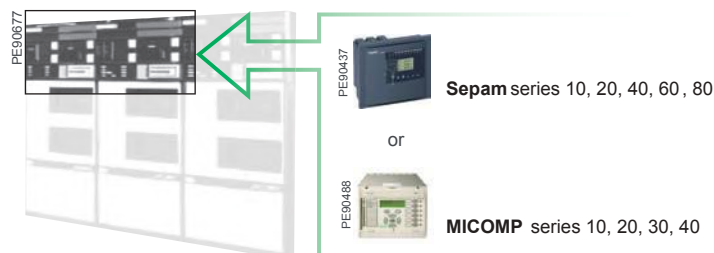
Main technical characteristics

	F100C
Rated current (Ir)	630-2500A
Short circuit current (Isc)	8-50 kA (with fuses)
Rated voltage Un (50/60 Hz)	7.2 kV

	F100C		F100C
Rated insulation level (kV)	7.2	Rated current of busbar (A)	630 - 2500
Rated power frequency withstand voltage/1mn (kVrms)	20	Rated short time withstand current (3s) (kA)	50
Lightning impulse withstand voltage (peak value) (kVp)	60	Internal Arc Classification (1s) (AFLR)	NA
Overall dimensions (wxhxd) (mm)	650x1050x1455	Ingress Protection degree (IP)	Enclosure IP3X (other: please consult us)

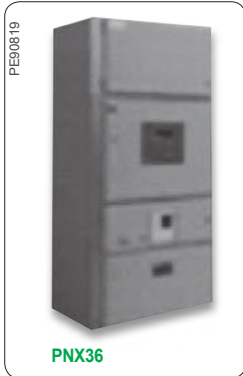
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



PNX36 panel by PNX36 panel

Original brand: **AEG**



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Main technical characteristics

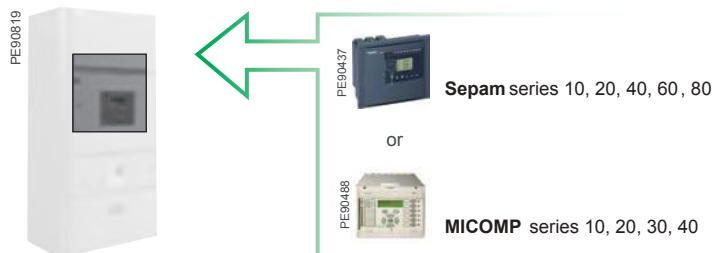
	PNX36
Rated current (Ir)	630 - 2500A
Short circuit current (Isc)	10 - 25 kA
Rated voltage Un (50/60 Hz)	36 kV

	PNX36		PNX36
Rated insulation level (kV)	36	Rated current of busbar (A)	630 - 2500*
Rated power frequency withstand voltage/1mn (kVrms)	70	Rated short time withstand current (4s) (kA)	82
Lightning impulse withstand voltage (peak value) (kVp)	170	Internal Arc Classification (1s) (AFLR)	Arcing due to internal fault according to IEC 60298, 31.5 kA 1s, Type of accessibility A
Overall dimensions (wxhxd) (mm)	120x2500x1600	Ingress Protection degree (IP)	

* With forced cooling (on request)

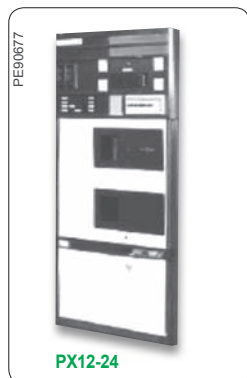
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



PX12-24 panel by PX12-24 panel

Original brand: **Alstom**



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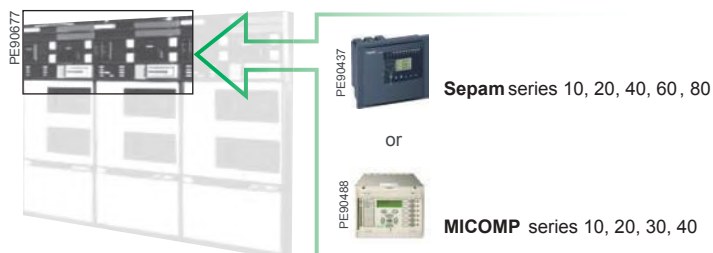
Main technical characteristics

	PX12	PX24
Rated current (Ir)	400 - 3150A	400 - 2500A
Short circuit current (Isc)	25 - 40 kA	16 - 25 - 31.5 kA
Rated voltage Un (50/60 Hz)	12 kV	24 kV

	PX12	PX24		PX12	PX24
Rated insulation level (kV)	12	24	Rated current of busbar (A)	630 - 3150	630 - 2500
Rated power frequency withstand voltage/1mn (kVrms)	28	50	Rated short time withstand current (3s) (kA)	25 - 40	25 - 31.5
Lightning impulse withstand voltage (peak value) (kVp)	75	125	Internal Arc Classification (1s) (AFLR)	25	25
Overall dimensions (mm) (WxHxD)	<1250A: 650x2135x1320 ≤2000A: 750x2135x1320 >2000A: 900x2135x1320	≤2000A: 750x2135x1320 >2000A: 900x2335x1570	Ingress Protection degree (IP)	Enclosure IP3X	Enclosure IP3X

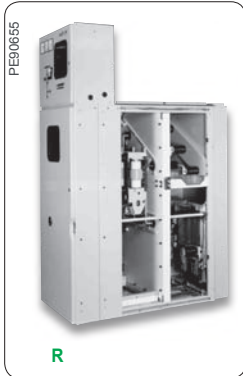
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



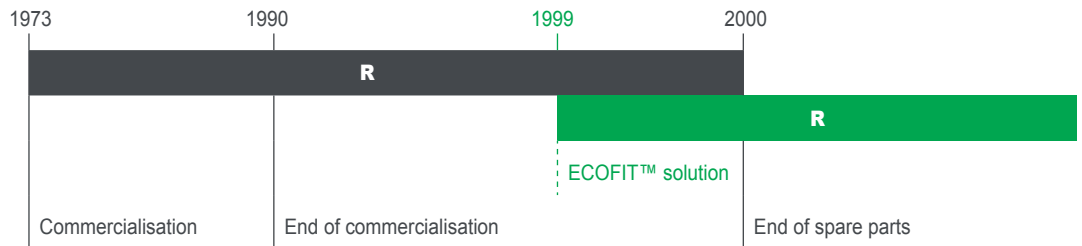
R panel by R panel

Original brand: **AEG**



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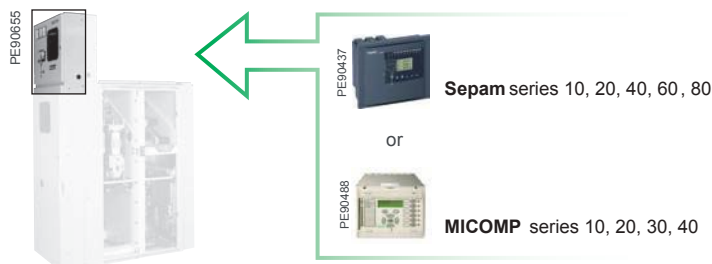
Main technical characteristics

	R	
Rated current (Ir)	400 - 2500A	400 - 2500A
Short circuit current (Isc)	Up to 40 kA/3s	Up to 25 kA/3s
Rated voltage Un (50/60 Hz)	12 kV	24 kV

	R		R
Rated insulation level (kV)	12 - 24	Rated current of busbar (A)	630 - 3350
Rated power frequency withstand voltage/1mn (kVrms)	28 - 50	Rated short time withstand current (4s) (kA)	40 - 125
Lightning impulse withstand voltage (peak value) (kVp)	75 - 125	Internal Arc Classification (1s) (AFLR)	PEHLA
Overall dimensions (wxhxd) (mm)	700, 800, 1000, 1400, 1600x2330, 2420x1100, 1250, 1300, 1450	Ingress Protection degree (IP)	Standard IP2X On request IP3X, IP4X

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



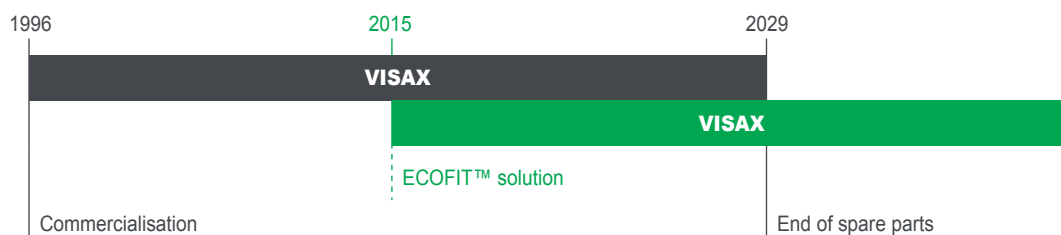
VISAX panel by VISAX panel

Original brand: **GEC Alstom**



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Main technical characteristics

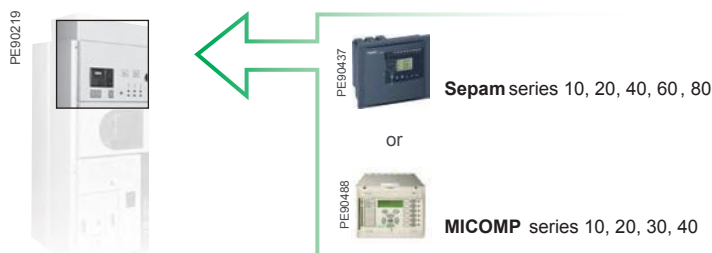
	VISAX		
Rated current (Ir)	Up to 2500A	Up to 2500A	Up to 2500A
Short circuit current (Isc)	25 kA/3s	25 kA/3s	25 kA/3s
Rated voltage Un (50/60 Hz)	12 kV	17.5 kV	24 kV

	VISAX				VISAX		
Rated insulation level (kV)	12	17.5	24	Rated current of busbar (A)	Up to 2500	Up to 2500	Up to 2500
Rated power frequency withstand voltage/1mn (kVrms)	28	38	50	Rated short time withstand current (3s) (kA)	25	25	25
Lightning impulse withstand voltage (peak value) (kVp)	75	95	125	Internal Arc Classification (1s) (AFLR)	25	25	25
Overall dimensions (wxhxd) (mm)	800 - 1100x2150 - 2650x1250 - 1540			Ingress Protection degree (IP)	IP3X - IP4X	IP3X - IP4X	IP3X - IP4X

* With forced cooling (on request)

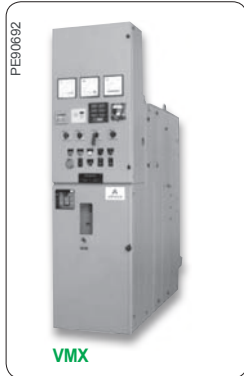
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



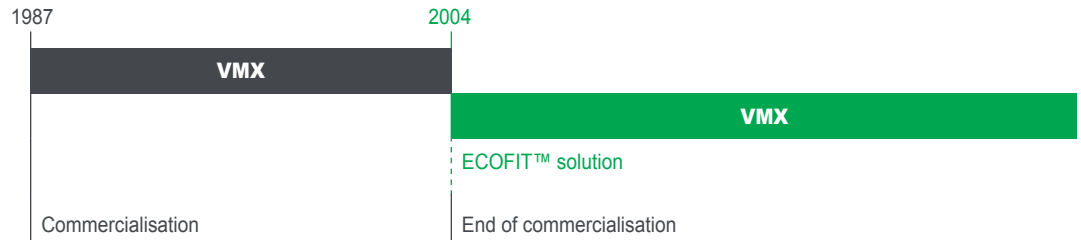
VMX panel by VMX panel

Original brand: **GEC Alstom**



ECOFIT™ proposal

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Main technical characteristics

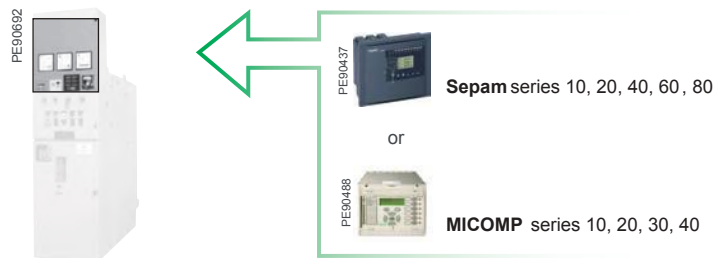
	VMX
Rated current (Ir)	630 - 2000A
Short circuit current (Isc)	Up to 25 kA/3s
Rated voltage Un (50/60 Hz)	11 kV

	VMX		VMX
Rated insulation level (kV)	12	Rated current of busbar (A)	Up to 2000
Rated power frequency withstand voltage/1mn (kVrms)	28 - 35	Rated short time withstand current (4s) (kA)	Up to 26.3
Lightning impulse withstand voltage (peak value) (kVp)	75	Internal Arc Classification (3s) (AFLR)	25
Overall dimensions (wxhxd) (mm)	606 - 540x2000 - 2000x1867 - 1360	Ingress Protection degree (IP)	IP3X

* With forced cooling (on request)

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



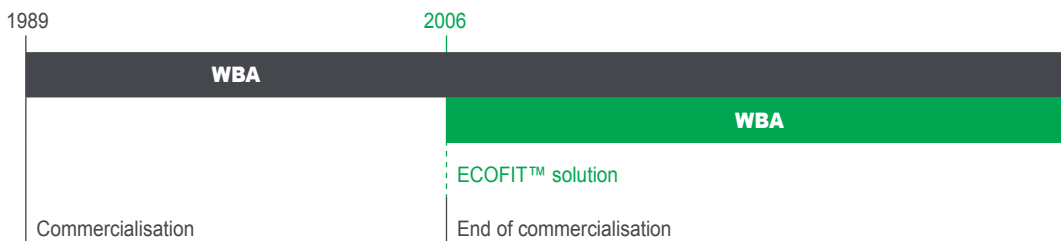
WBA panel by WBA panel

Original brand: **AEG**



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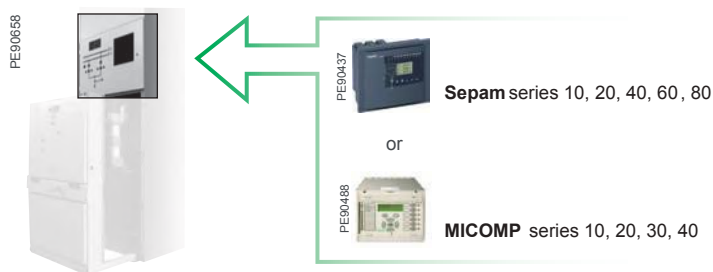
Main technical characteristics

	WBA	
Rated current (Ir)	630 - 2500 A	630 - 2500 A
Short circuit current (Isc)	16 - 25 kA & 20 - 50 kA	20 - 50 kA
Rated voltage Un (50/60 Hz)	12 - 24 kV	12 - 38 kV

	WBA		WBA
Rated insulation level (kV)	12 - 24	Rated current of busbar (A)	630 - 2500
Rated power frequency withstand voltage/1mn (kVrms)	28 - 50	Rated short time withstand current (4s) (kA)	63 - 80
Lightning impulse withstand voltage (peak value) (kVp)	75 - 125	Internal Arc Classification (1s) (AFLR)	PEHLA 31.5 kA
Overall dimensions (wxhxd) (mm)	600/800/1000x2330x1250/1300	Ingress Protection degree (IP)	Standard IP2X On request IP3X, IP4X

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



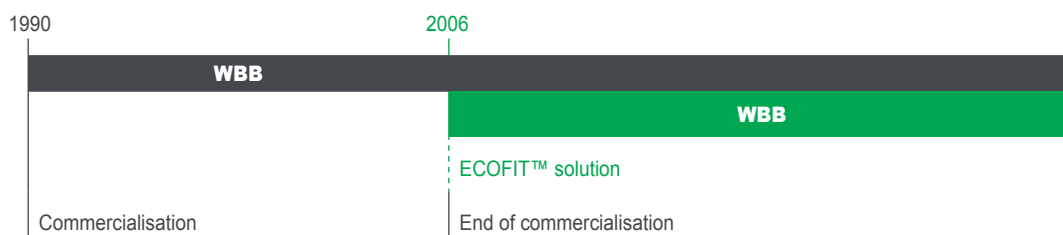
WBB panel by WBB panel

Original brand: **AEG**



ECOFIT™ proposal

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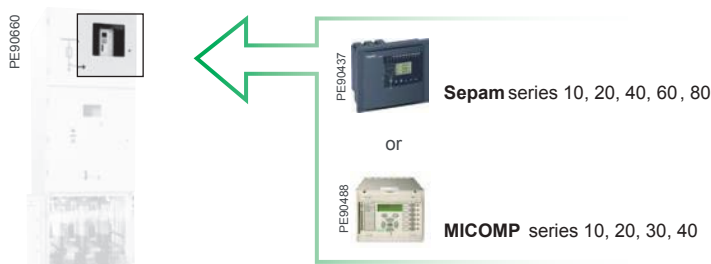
Main technical characteristics

	WBB
Rated current (Ir)	630 - 2500 A
Short circuit current (Isc)	20 - 50 kA
Rated voltage Un (50/60 Hz)	12 - 24 - 38 kV

	WBB		WBB
Rated insulation level (kV)	12 - 15	Rated current of busbar (A)	630 - 2500
Rated power frequency withstand voltage/1 mn (kVrms)	28 - 38	Rated short time withstand current (4s) (kA)	63 - 80
Lightning impulse withstand voltage (peak value) (kVp)	75 - 95	Internal Arc Classification (1s) (AFLR)	PEHLA 31.5 kA
Overall dimensions (wxhxd) (mm)	600, 800, 1000x2330x1250, 1500	Ingress Protection degree (IP)	Standard IP2X On request IP3X, IP4X

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



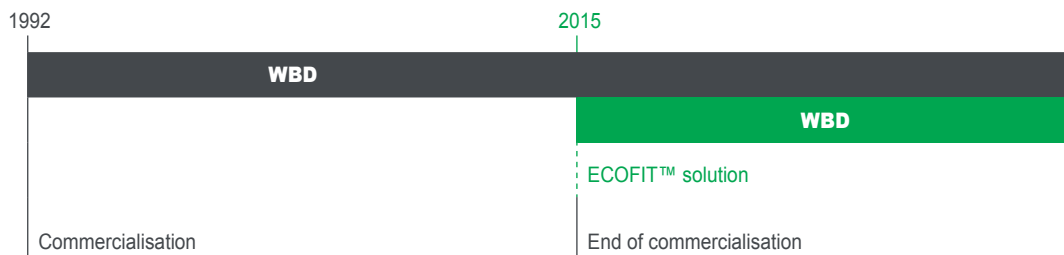
WBD panel by WBD panel

Original brand: **AEG**



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Main technical characteristics

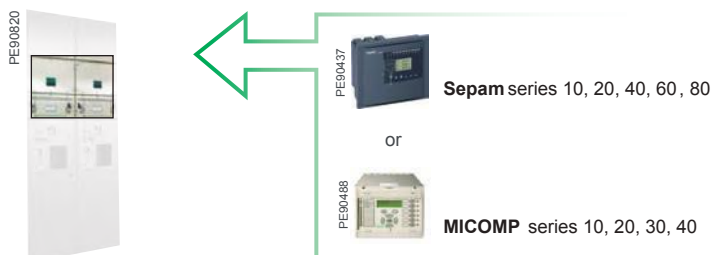
	WBD
Rated current (Ir)	630 - 3150A
Short circuit current (Isc)	80 kA
Rated voltage Un (50/60 Hz)	12kV

	WBD		WBD
Rated insulation level (kV)	12	Rated current of busbar (A)	630 - 3150*
Rated power frequency withstand voltage/1mn (kVrms)	28	Rated short time withstand current (4s) (kA)	80
Lightning impulse withstand voltage (peak value) (kVp)	80	Internal Arc Classification (1s) (AFLR)	PEHLA 31.5 kA
Overall dimensions (wxhxd) (mm)	600, 800x3000x1750	Ingress Protection degree (IP)	IP 2X even for open door and modul in disconnecting position, IP 3X to the busbar, outside IP 52 possible

* With forced cooling (on request)

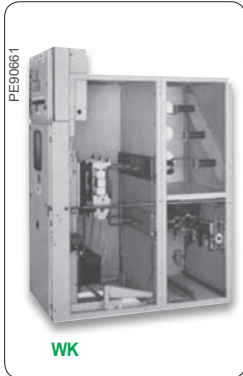
Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



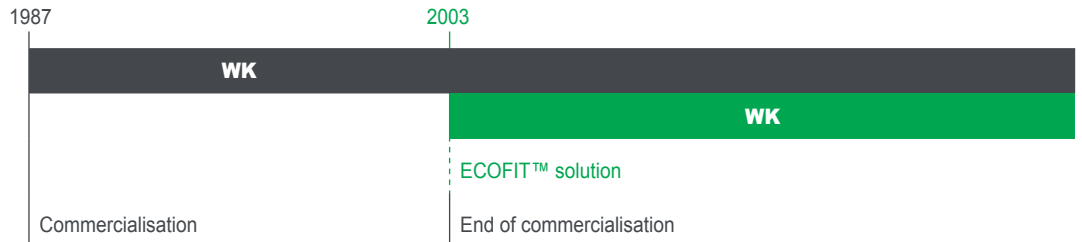
WK panel by WK panel

Original brand: **AEG**



ECOFIT™ proposal

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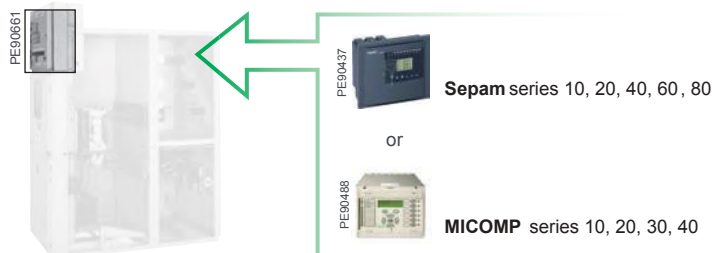
Main technical characteristics

	WK
Rated current (Ir)	630 - 2500 A
Short circuit current (Isc)	20 - 50 kA/3s
Rated voltage Un (50/60 Hz)	12 - 24 - 38 kV

	WK		WK
Rated insulation level (kV)	3.6 - 24	Rated current of busbar (A)	630 - 4000
Rated power frequency withstand voltage/1mn (kVrms)	28 - 38	Rated short time withstand current (4s) (kA)	63 - 80
Lightning impulse withstand voltage (peak value) (kVp)	110	Internal Arc Classification (1s) (AFLR)	PEHLA 31.5 kA
Overall dimensions (wxhxd) (mm)	600/1060x2330x1700/2100	Ingress Protection degree (IP)	Standard IP2X On request IP3X, IP4X

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Cradle to Cradle / All breaker types Withdrawable CB by Evolis MC cassette

Original brand: **All**

All breaker types

Compatible with all open Air Insulated Switchgear legacy and no legacy cubicles with minimum inside panel width ≥ 560 mm



PE57994



Evolis
Circuit Breaker

ECOFIT™ proposal

With ECOFIT™, a true extended life time

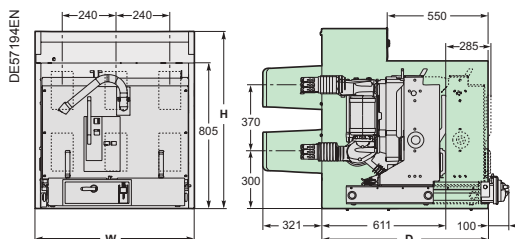
This solution consist in fitting a cradle inside an existing panel.

- It is particularly adapted for non Schneider Installed Base.
- ECOFIT™ solution with shutters and mechanical interlocks embedded.
- Only the fixed connections (between the cradle and existing busbar) are customized.
- Only the width of the existing panel has to be considered.

Main technical characteristics

	All types	
Rated current (Ir)	630 - 1250 A	630 - 2500 A
Short circuit current (Isc)	Up to 31.5 kA	Up to 40 kA
Rated voltage Un (50/60 Hz)	7.2 - 12 kV	7.2 - 12 - 17.5 kV

Evolis	MC1	MC2	MC3	Evolis	MC1	MC2	MC3
Technology	Vacuum	Vacuum	Vacuum	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO		
Rated voltage Ur (kV)	7.2-12	7.2-12-17.5	7.2-12-17.5	Closing time (ms)	<65	<65	<65
Surge withstand voltage Up (kV)	60-75	60-75-95	60-75-95	Opening time (ms)	<50	<50	<50
Nominal frequency (Hz)	50-60	50-60	50-60	Number of switching operations	2.000 (for Isc= 40 kA class M1) - 10.000		
Rated current Ir (A)	630-1250	630-1250	630-2500	Service temperature (°C)	-25/+40	-25/+40	-25/+40
Short circuit current Isc (kA)	Up to 31.5	Up to 40	Up to 40				
Short circuit duration Tk (s)	3	3	1				



Cassette		MC1	MC2	MC3
Phase to phase (mm)	E	145	185	240
Dimensions (mm)	W	556	686	886
	H	980	980	980
	D	1223	1223	1223
Weight (kg)		222	255	326

Cradle to Cradle / All breaker types Withdrawable CB by F400 cassette

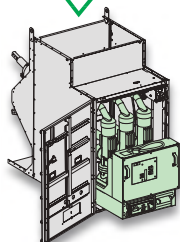
Original brand: **All**

All breaker types

Compatible with
all open Air
Insulated
Switchgear legacy
and no legacy
cubicles
with minimum
inside panel
width ≥ 1105 mm



DE57396



F400
Circuit Breaker

ECOFIT™ proposal

With ECOFIT™, a true extended life time

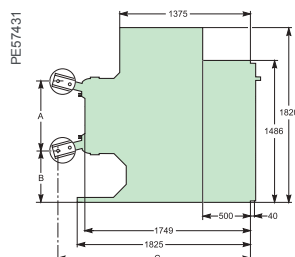
This solution consist in fitting a cradle inside an existing panel.

- It is particularly adapted for non Schneider Installed Base.
- ECOFIT™ solution with shutters and mechanical interlocks embedded.
- Only the fixed connections (between the cradle and existing busbar) are customized.
- Only the width of the existing panel has to be considered.

Main technical characteristics

	All types	
Rated current (Ir)	1250 - 2500 A	1250 A
Short circuit current (Isc)	Up to 40kA	Up to 31.5kA
Rated voltage Un (50/60 Hz)	24 - 36kV	40.5kV

	F400-SF	F400 cassette		F400-SF	F400 cassette
Technology	SF6	SF6	Switching sequence	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO	O-3 min-CO-3 min-CO O-0.3 s-CO-3 min-CO O-0.3 s-CO-15 s-CO
Rated voltage Ur (kV)	24 - 36	40.5	Closing time (ms)	<65	<65
Surge withstand voltage Up (kV)	125 - 170	185	Opening time (ms)	<50	<50
Nominal frequency (Hz)	50 - 60	50 - 60	Number of switching operations	10000	10000
Rated current Ir (A)	1250 - 2500	1250	Service temperature (°C)	-25/+40	-25/+40
Short circuit current Isc (kA)	25 - 40	31.5			
Short circuit duration Tk (s)	3	3			

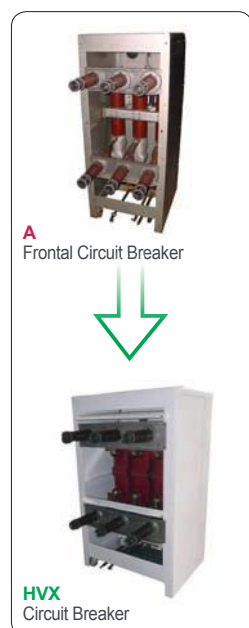


New panel technical characteristics

Cassette	1250 A	2500A - 3000 A
Dimensions (mm)		
A	738	752
B	540	533
C	2030	2030
Weight (kg)	750	850

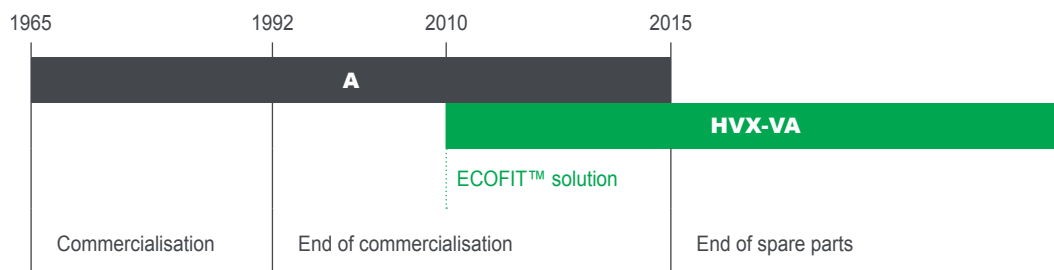
All EIB and open Air Insulated Switchgears /

A - Frontal Circuit Breaker by HVX - VA

Original brand: **EIB**

ECOFIT™ proposal

With ECOFIT™, a true extended life time



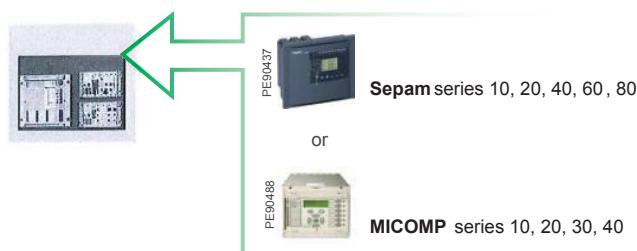
Main technical characteristics

	A3-A10	A15-A20	A30-A36
Rated current (Ir)	400 – 1250 A	400 – 2500 A	600 – 2500 A
Short circuit current (Isc)	up to 40 kA	up to 31.5 kA	up to 25 kA
Rated voltage Un (50 Hz)	3 – 10 kV	15 – 20 kV	30 – 36 kV

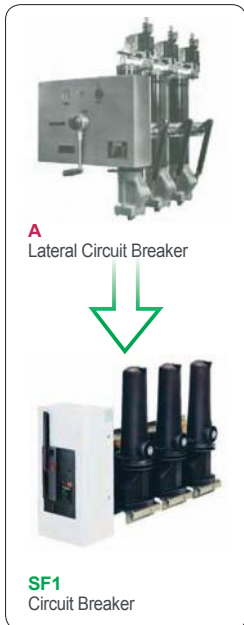
	HVX	VA		HVX	VA
Technology	Vacuum	Vacuum	Switching sequence	O – 0.3 s – CO – 15 s – CO	O – 0.3 s – CO – 15 s – CO
Rated voltage Ur (kV)	12-17.5-24	36	Closing time (ms)	45-63	45-65
Surge withstand voltage Up	75-95-125	170	Opening time (ms)	35-53	31-45
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	630-2500 A	1250-2500 A	Service temperature (°C)	-5/+40	-5/+40
Short circuit current Isc (kA)	16-31.5	25-31.5-40			
Short circuit duration Tk (s)	3	3			

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)

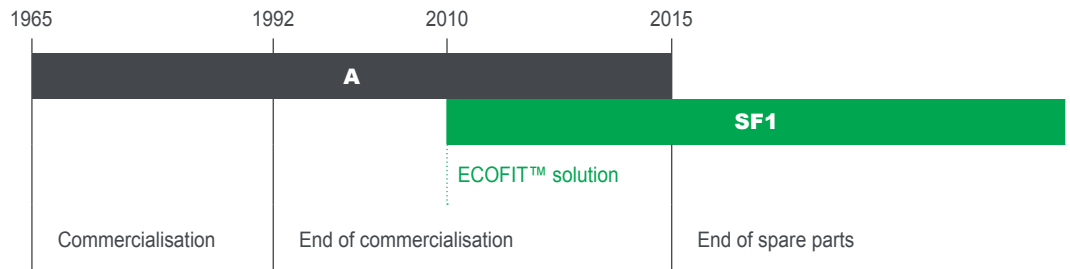


All EIB and open Air Insulated Switchgears / A - Lateral Circuit Breaker by SF1

Original brand: **EIB**

ECOFIT™ proposal

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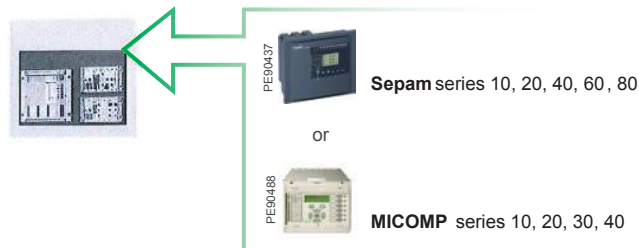
Main technical characteristics

	A3-A10	A15-A20
Rated current (Ir)	400 – 1250 A	400 – 1250 A
Short circuit current (Isc)	up to 25 kA	up to 25 kA
Rated voltage Un (50 Hz)	3 – 10 kV	15 – 20 kV

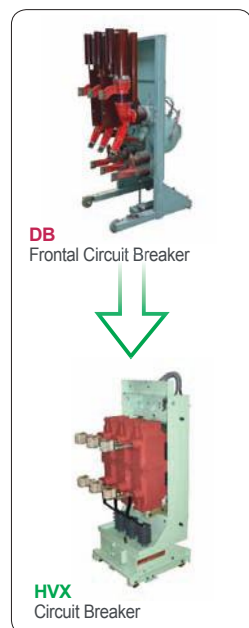
	SF1	SF1
Technology	SF6	Switching sequence
Rated voltage Ur (kV)	12-17.5-24	O – 0.3 s – CO – 15 s – CO
Surge withstand voltage Up	75-95-125	Closing time (ms)
Nominal frequency (Hz)	50-60	< 65
Rated current Ir (A)	630-1250 A	Opening time (ms)
Short circuit current Isc (kA)	25	< 50
Short circuit duration Tk (s)	3	Number of switching operations
		10.000
		Service temperature (°C)
		-5/+40

Offer extension

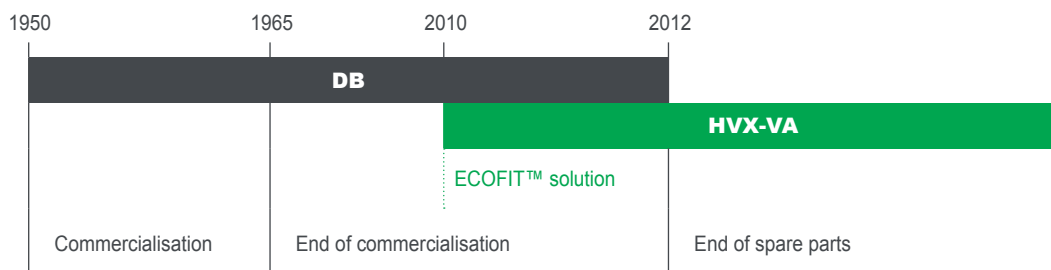
Energy management: replacement of the old protection relay (Schneider Electric or competitors)



All EIB and open Air Insulated Switchgears /

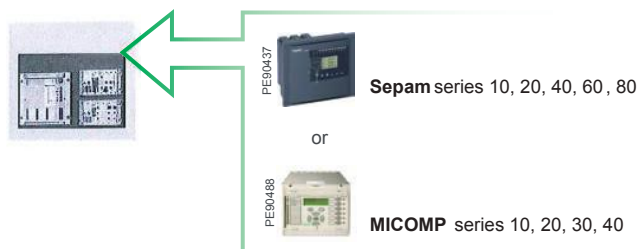
DB - Frontal Circuit Breaker by **HVX - VA** Original brand: **BBC - EIB****ECOFIT™ proposal**

With ECOFIT™, a true extended life time

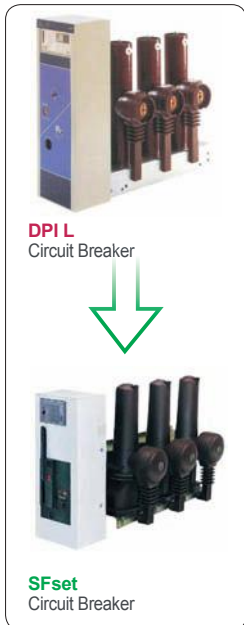
**Main technical characteristics**

	DB10	DB20	DB3
Rated current (Ir)	1000-2500 A	1000-2500 A	1000-2500 A
Short circuit current (Isc)	up to 50 kA	up to 50 kA	up to 31,5 kA
Rated voltage Un (50 Hz)	10 kV	20 kV	30 kV

	HVX	VA		HVX	VA
Technology	Vacuum	Vacuum	Switching sequence	O – 0.3 s – CO – 15 s – CO	O – 0.3 s – CO – 15 s – CO
Rated voltage Ur (kV)	12-17.5-24	36	Closing time (ms)	45-63	45-65
Surge withstand voltage Up	75-95-125	170	Opening time (ms)	35-53	31-45
Nominal frequency (Hz)	50-60	50-60	Number of switching operations	10.000	10.000
Rated current Ir (A)	630-2500 A	1250-2500 A	Service temperature (°C)	-5/+40	-5/+40
Short circuit current Isc (kA)	16-31.5	25-31.5-40			
Short circuit duration Tk (s)	3	3			

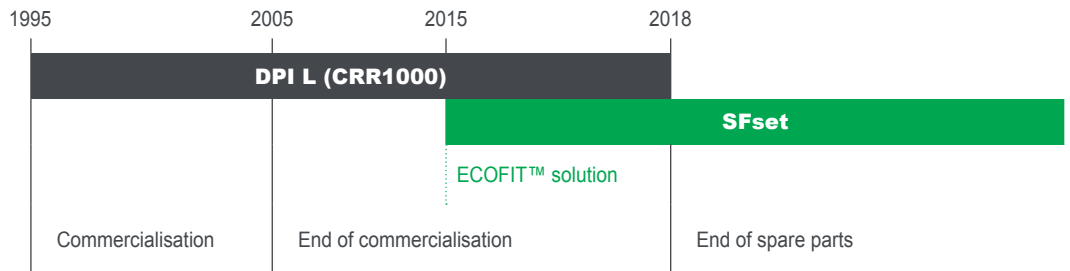
Offer extension**Energy management:** replacement of the old protection relay (Schneider Electric or competitors)

All EIB, AEG, Alstom and open Air Insulated Switchgears / DPI L (CRR1000) Circuit Breaker by SFset Original brand: EIB/AEG/Alstom



ECOFIT™ proposal

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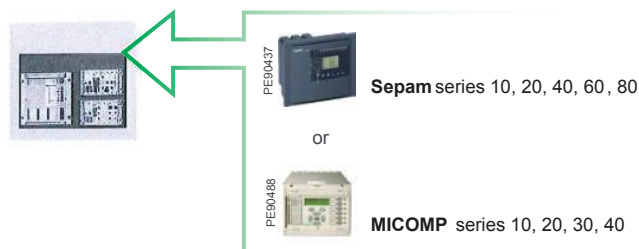
Main technical characteristics

	DPI 4 L	DPI 5 L	DPI 6 L
Rated current (Ir)	800 – 1250 A	800 – 1250 A	800 – 1250 A
Short circuit current (Isc)	up to 25 kA	up to 25 kA	up to 25 kA
Rated voltage Un (50 Hz)	12 kV	17.5 kV	24 kV

	SFset		SFset
Technology	SF6	Switching sequence	O – 0.3 s – CO – 15 s – CO
Rated voltage Ur (kV)	12-17.5-24	Closing time (ms)	< 65
Surge withstand voltage Up	75-95-125	Opening time (ms)	< 50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-1250 A	Service temperature (°C)	-5/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)

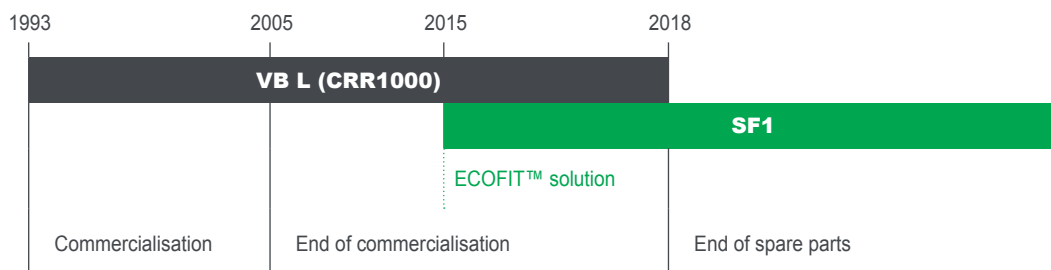


All EIB, AEG, Alstom and open Air Insulated Switchgears / VB L (CRR1000) Circuit Breaker by SF1 Original brand: EIB/AEG/Alstom



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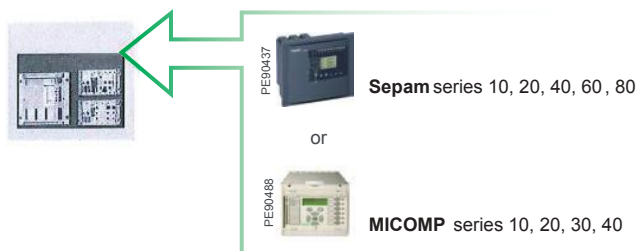
Main technical characteristics

	VB4	VB5	VB6
Rated current (Ir)	800 – 1250 A	800 – 1250 A	800 – 1250 A
Short circuit current (Isc)	up to 25 kA	up to 25 kA	up to 25 kA
Rated voltage Un (50 Hz)	12 kV	17.5 kV	17.5 kV

	SF1		SF1
Technology	SF6	Switching sequence	O – 0.3 s – CO – 15 s – CO
Rated voltage Ur (kV)	12-17.5-24	Closing time (ms)	< 65
Surge withstand voltage Up	75-95-125	Opening time (ms)	< 50
Nominal frequency (Hz)	50-60	Number of switching operations	10.000
Rated current Ir (A)	630-1250 A	Service temperature (°C)	-5/+40
Short circuit current Isc (kA)	25		
Short circuit duration Tk (s)	3		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Modulec CT panel by SM6 panel

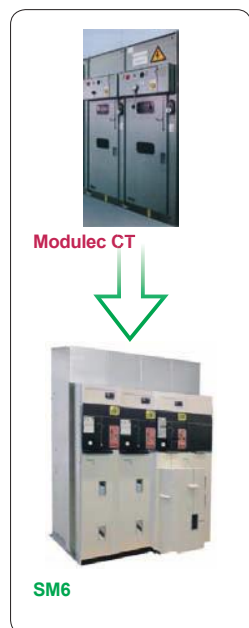
Original brand: **EIB**

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1976 1995 2015

Modulec CT		SM6
Commercialisation	End of commercialisation	ECOFIT™ solution End of spare parts



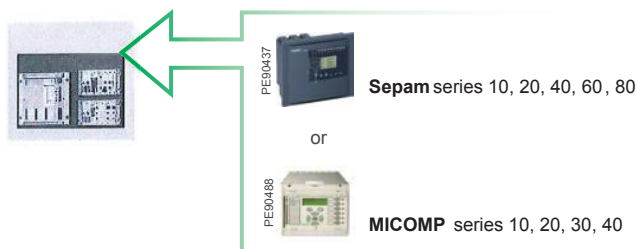
Main technical characteristics

	Modulec CT 17,5
Rated current (Ir)	400 – 630 A
Short circuit current (Isc)	20 – 25 kA
Rated voltage Un (50 Hz)	17.5 kV

	SM6		SM6
Rated insulation level (kV)	17.5	Rated short time withstand current (1 s) (kA)	20 – 25
Rated power frequency withstand voltage / 1 min (kVrms)	38	Rated short time withstand current (3 s) (kA)	20 (on demand)
Lightning impulse withstand voltage (peak value) (kVp)	95	Internal Arc Classification (1s) (AFLR) (kA)	16 – 20
Overall dimensions (w x h x d) (mm)	375/500/750 x 1600 x 1030/1230	Ingress Protection degree (IP)	IP3X
Rated current of busbar (A)	630 – 800 – 1250		

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)



Modulec9 panel by SM6 panel

Original brand: **EIB/AEG/Alstom**

ECOFIT™ proposal

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1995 2005 2015

Modulec9		SM6
Commercialisation	End of commercialisation	ECOFIT™ solution End of spare parts

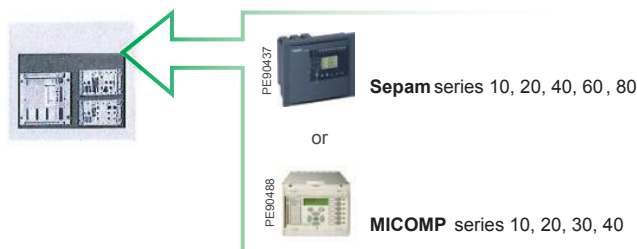
Main technical characteristics

	Modulec9 CT104	Modulec9 CT105	Modulec9 CT106
Rated current (Ir)	630 A	630 A	630 A
Short circuit current (Isc)	25 kA	20 kA	16 kA
Rated voltage Un (50/60 Hz)	12 kV	17.5 kV	24 kV

	SM6		
Rated insulation level (kV)	12	17.5	24
Rated power frequency withstand voltage / 1 min (kVrms)	28	38	50
Lightning impulse withstand voltage (peak value) (kVp)	75	95	125
Overall dimensions (w x h x d) (mm)	375/500/750 x 1600 x 1030/1230	375/500/750 x 1600 x 1030/1230	375/500/750 x 1600 x 1030/1230
Rated current of busbar (A)	630 – 800 – 1250	630 – 800 – 1250	630 – 800 – 1250
Rated short time withstand current (1 s) (kA)	20 – 25	20 – 25	20 – 25
Rated short time withstand current (3 s) (kA)	20 (on demand)	20 (on demand)	20 (on demand)
Internal Arc Classification (1s) (AFLR) (kA)	16 – 20	16 – 20	16 – 20
Ingress Protection degree (IP)	IP3X	IP3X	IP3X

Offer extension

Energy management: replacement of the old protection relay (Schneider Electric or competitors)







Low Voltage Distribution

Contents

LV Circuit Breaker or Contactor

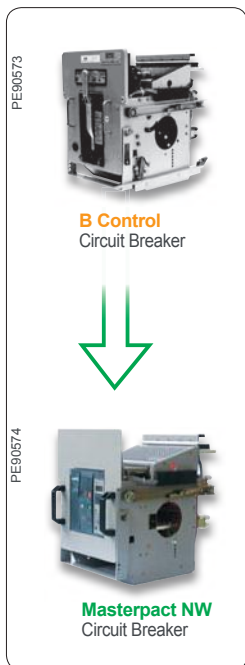
B Control	B-2
Compact C801-C1251	B-3
DA	B-4
DS	B-5
H Series	B-6
Masterpact M	B-7
SE	B-8
Selpact	B-9
Unelec CNP	B-10
Visucompact CM	B-11
Associated offers - Energy Management	B-12
Associated offers - Source-changeover systems	B-12

LV Drawer

T140	B-13
MB400	B-14
Offer Extension - Drawer components	B-15

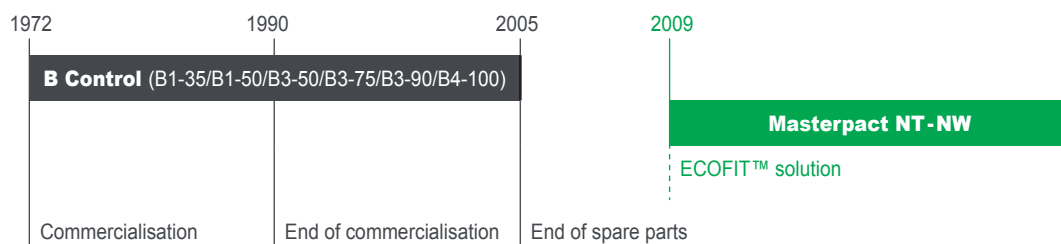
B Control by Masterpact NT - NW

Original brand: **Nuova Magrini Galileo**



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Main technical characteristics

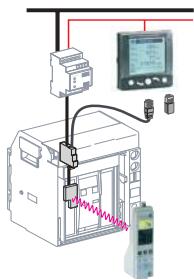
	B Control	Masterpact NT-NW
Rated operational voltage (V AC 50/60 Hz) U_e	660 V	690 V
Rated current (A) In 40° C	800 - 4000 A	800 - 4000 A
Ultimate breaking capacity (kA rms, 220/415 V AC 50/60 Hz) I_{cu}	32 - 100 kA	42 - 150 kA

B Control ECOFIT™ solution



The ECOFIT™ B Control solution enables to benefit from all the enhanced features of Masterpact NT or NW circuit breakers and accessories.

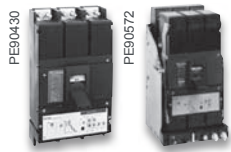
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

Compact C801 - C1251 by Compact NS800 - NS1250

Original brand: **Merlin Gerin**



C801-C1251
Circuit Breaker



NS801-NS1251
Circuit Breaker

ECOFIT™ proposal

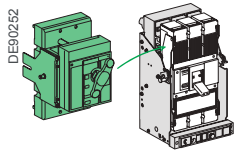
With ECOFIT™, a true extended life time



Main technical characteristics

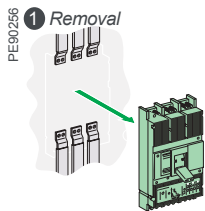
	Compact C801 - C1251	Compact NS800-NS1251
Rated operational voltage (V AC 50/60 Hz) U_e	690 V	690 V
Rated current (A) I_n 40° C	800 - 1250 A	800 - 1250 A
Ultimate breaking capacity (kA rms, 220/415 VAC 50/60 Hz) I_{cu}	50 - 150 kA	50 - 150 kA

Compact C801-C1251 ECOFIT™ solutions



Plug & Play

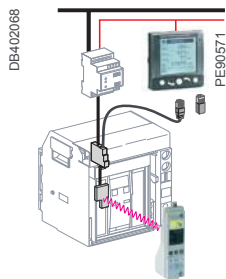
The ECOFIT™™ Compact Plug & Play solution lets you retrofit the latest generation of Compact NS circuit breakers **in the existing Compact C chassis with very short onsite servicing times.**
Solution available for withdrawable type only, 3p & 4p, 800A to 1250A.



Compactkit

The ECOFIT™ Compactkit solution enables to benefit from all the enhanced features of Compact NS circuit breakers and accessories.
It requires total shutdown of the installation to access the busbars.
Solution available for fixed type, 3p & 4p, 800A to 1250A.

Active Energy Management™ programme that includes an energy metering system

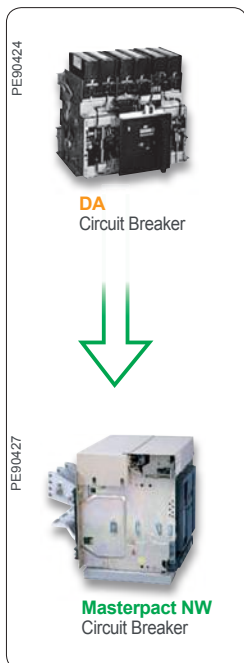


- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

DA (DSA1 - DNA1 - DSA2 - DNA2 - DRA - DNAH)

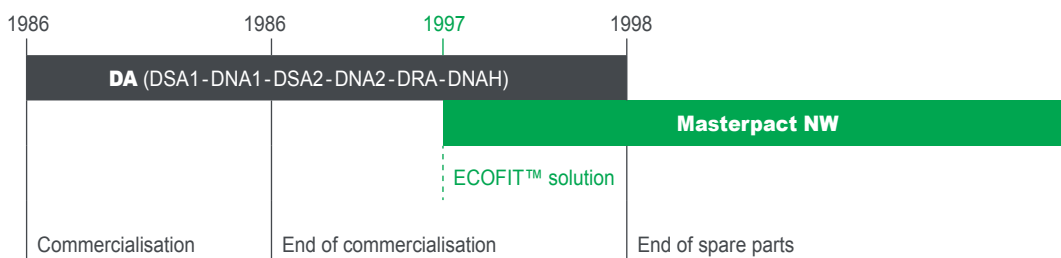
by **MASTERPACT NW08 - NW63**

Original brand: **Merlin Gerin**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	DA	Masterpact NW
Rated operational voltage (V AC 50/60 Hz) Ue	660 V	690 V
Rated current (A) In 40° C	630 - 6300 A	800 - 6300 A
Ultimate breaking capacity (kA rms, 220/415 V AC 50/60 Hz) Icu	42 - 100 kA	42 - 150 kA

DA ECOFIT™ solution

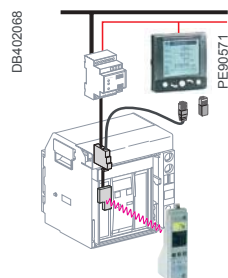


The ECOFIT™ DA solution enables to benefit from all the enhanced features of Masterpact NW circuit breakers and accessories.

It requires total shutdown of the installation to access the busbars.

The kit solution (including circuit breaker) is available for fixed and withdrawable types, 3p & 4p, 630 to 6300 A.

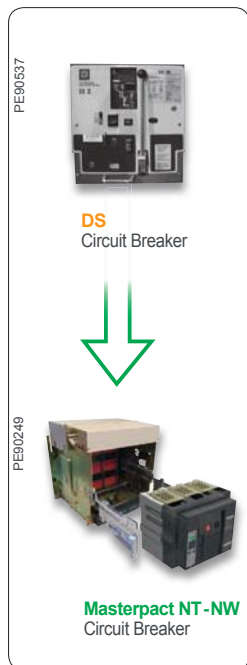
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

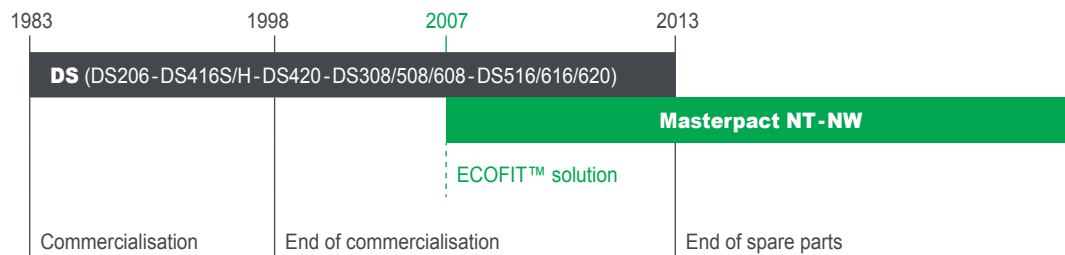
DS by Masterpact NT - NW

Original brand: **Square D, Westinghouse**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

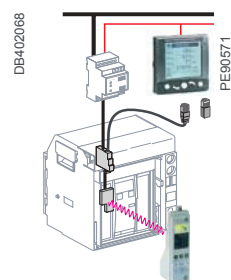
	DS	Masterpact NT-NW
Rated operational voltage (V AC 50/60 Hz) Ue	600 V	600 V
Rated current (A) In 40° C	800 - 2000 A	800 - 2000 A
Ultimate breaking capacity (kA rms, 600 V AC 50/60 Hz) Icu	42 - 65 kA	42 - 65 kA

DS ECOFIT™ solution



The ECOFIT™ DS solutions fixed or draw-out types enable to benefit from all the enhanced features of Masterpact NT or NW circuit breakers and accessories.

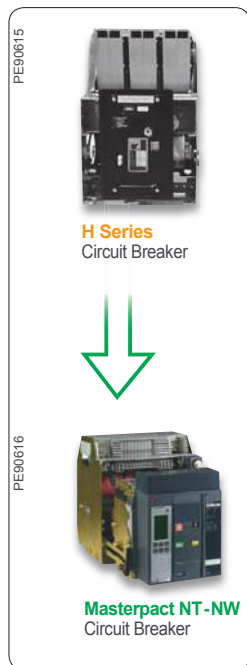
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

H Series by Masterpack NT - NW

Original brand: **Federal Pioneer**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	H Series	Masterpack NT-NW
Rated operational voltage (V AC 50/60Hz) Ue	600 V	600 V
Rated current (A) In 40°C	600-6000 A	800-6000 A
Ultimate breaking capacity (kA rms, 600VAC 50/60Hz) Icu	30-200* kA	30-200* kA

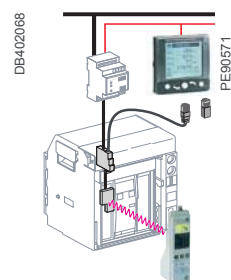
* with fuse

H Series ECOFIT™ solution



The ECOFIT™ H series solutions fixed or draw-out types enable to benefit from all the enhanced features of Masterpack NT or NW circuit breakers and accessories.

Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

Masterpact M08 - M63 by Masterpact NW08 - NW63

Original brand: **Merlin Gerin**

035928



Masterpact M
Circuit Breaker



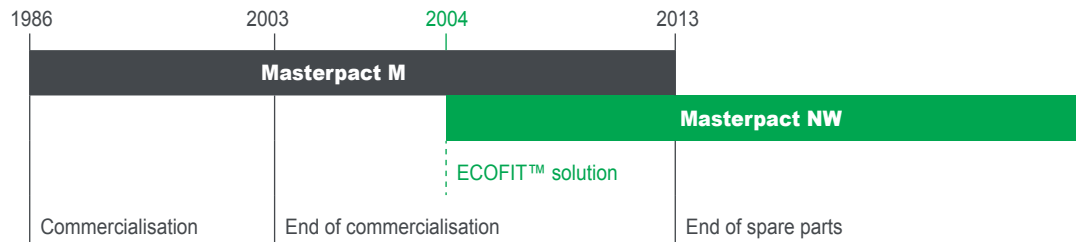
PE90249



Masterpact NW
Circuit Breaker

ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	Masterpact M	Masterpact NW
Rated operational voltage (V AC 50/60 Hz) Ue	690 V	690 V
Rated current (A) In 40° C	800 - 6300 A	800 - 6300 A
Ultimate breaking capacity (kA rms, 220/415 V AC 50/60 Hz) Icu	40 - 150 kA	42 - 150 kA

Masterpact M ECOFIT™ solutions

Plug & Play

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

Solution available for withdrawable type only, 3p & 4p, 800 A to 3200 A.

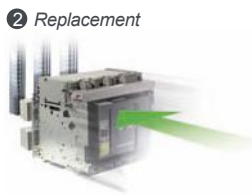
PE90452



Masterkit

② Replacement

PE90454

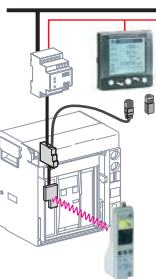


The ECOFIT™ Masterkit solution enables to **benefit from all the enhanced features** of Masterpact NW circuit breakers and accessories **without modifying the busbars**. It requires total shutdown of the installation to access the busbars.

Solution available for fixed and withdrawable types, 3p & 4p, 800 A to 6300 A.

Active Energy Management™ programme that includes an energy metering system

DB402068

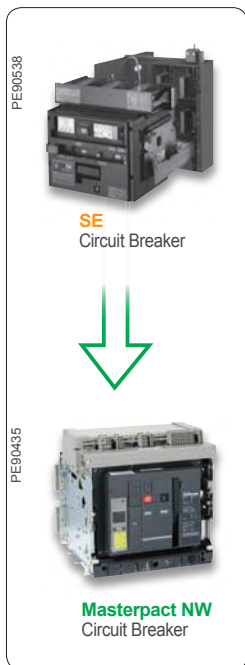


PE90571

- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

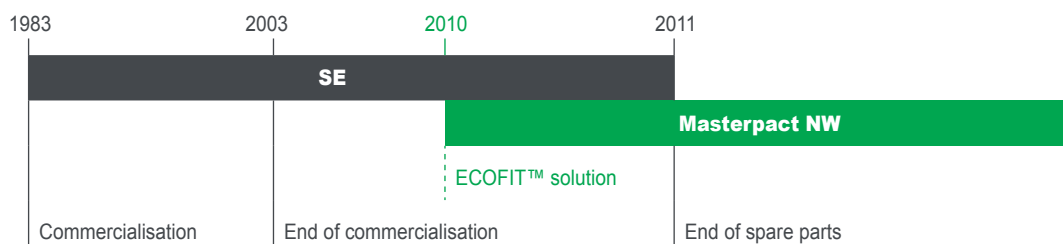
SE by Masterpact NW

Original brand: **Square D**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

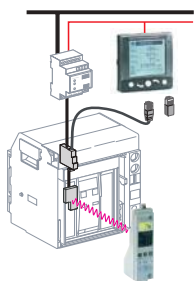
	SE	Masterpact NW
Rated operational voltage (V AC 50/60 Hz) Ue	600 V	600 V
Rated current (A) In 40° C	1250 - 3000 A	1250 - 3000 A
Ultimate breaking capacity (kA rms, 600 V AC 50/60 Hz) Icu	100 kA	85 kA

SE ECOFIT™ solution



The ECOFIT™ SE solutions fixed or draw-out types enable to benefit from all the enhanced features of Masterpact NT or NW circuit breakers and accessories.

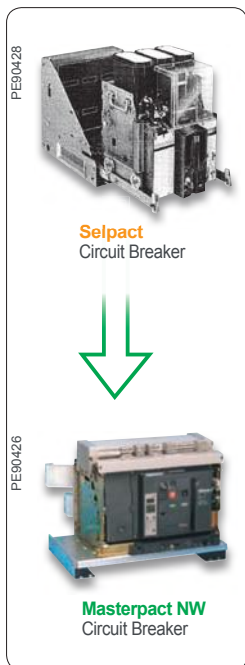
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

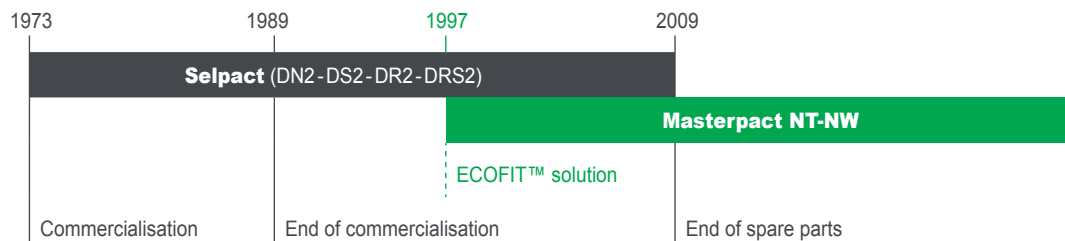
Selpact by Masterpact NT-NW

Original brand: **Merlin Gerin**



ECOFIT™ proposal

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Main technical characteristics

	Selpact	Masterpact NT-NW
Rated operational voltage (V AC 50/60 Hz) Ue	660 V	690 V
Rated current (A) In 40° C	630 - 3200 A	800 - 3200 A
Ultimate breaking capacity (kA rms, 220/415 V AC 50/60 Hz) Icu	42 - 100 kA	42 - 100 kA

Selpact ECOFIT™ solution



The ECOFIT™ Selpact solutions enable to benefit from all the enhanced features of Masterpact NT or NW circuit breakers and accessories.

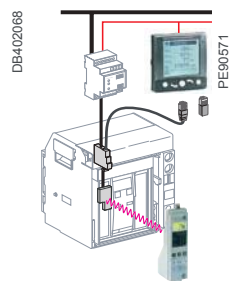
Plug & Play

The Plug&Play solution is available for withdrawable type only, 3p & 4p, 630 to 1600 A.

Kit

The kit solution (including circuit breaker) is available for fixed and withdrawable types, 3p & 4p, 630 to 3200 A.

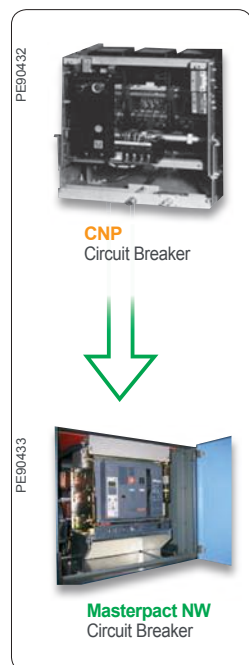
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

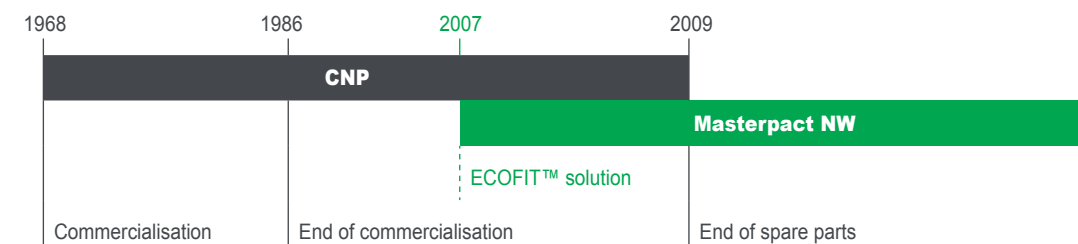
Unelec CNP by Masterpact NW

Original brand: **Unelec - Areva**



ECOFIT™ proposal

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Main technical characteristics

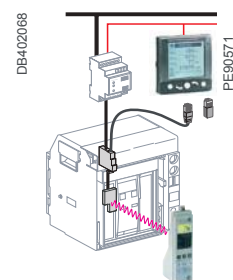
	CNP	Masterpact NW
Rated operational voltage (V AC 50/60Hz) Ue	660 V	690 V
Rated current (A) In 40°C	1250 - 2000A	1250 - 2000A
Ultimate breaking capacity (kA rms, 220/415VAC 50/60Hz) Icu	36 - 100 kA	42 - 100 kA

CNP ECOFIT™ solution



The ECOFIT™ CNP solution enables to benefit from all the enhanced features of Masterpact NW circuit breakers and accessories.
The solution is suitable for fixed type and only for Normabloc 660 switchboard.

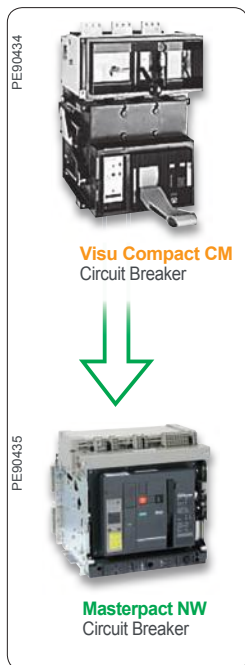
Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

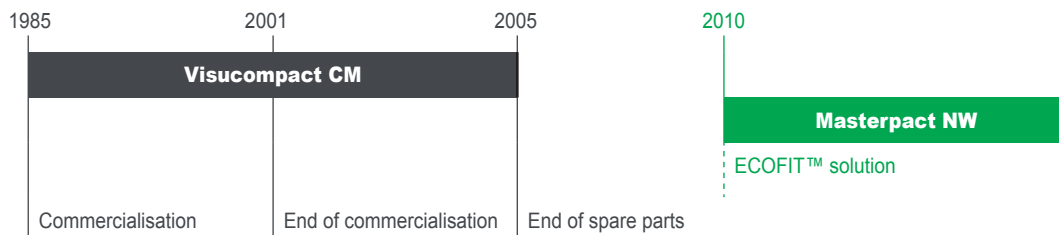
Visucompact CM by Masterpact NW

Original brand: **Merlin Gerin**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

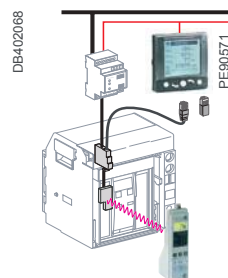
	Visucompact CM	Masterpact NW
Rated operational voltage (V AC 50/60Hz) Ue	440 V	690 V
Rated current (A) In 40°C	1250 - 2500A	1250 - 2500A
Ultimate breaking capacity (kA rms, 220/415VAC 50/60Hz) Icu	70 - 85 kA	42 - 100 kA

Visucompact CM ECOFIT™ solution



The ECOFIT™ Visucompact solution enables to benefit from all the enhanced features of Masterpact NW circuit breakers and accessories.

Active Energy Management™ programme that includes an energy metering system



- Identify the device,
- Indicate status conditions,
- Control the device (with communication auxiliaries)
- Setting of the protection and alarm functions.

LV Circuit Breaker & Contactor - Associated offers



Available for
ECOFIT™ solutions
using Masterpact
NT/NW and
Compact NS

Energy Management - Micrologic control units - Measurements and protections



Micrologic	2	5	6	7
Type	A - E	A - E - P - H	A - E - P - H	A - P - H
Functions	Long time + instantaneous	Long time + short time + instantaneous	Long time + short time + instantaneous + earth fault	Long time + short time + instantaneous + earth leakage up to 3200A

A: Current measurements, fault indications, display and current maximeter.

Specificities: 6.0 provides earth fault protection (residual or Source Ground Return); 7.0 provides earth leakage protection.

E: A + Instantaneous measurement of power and energy without earth leakage protection.

P: A + Calculation of power and energy value, voltage measurement, and programmable protection

H: P + Harmonics

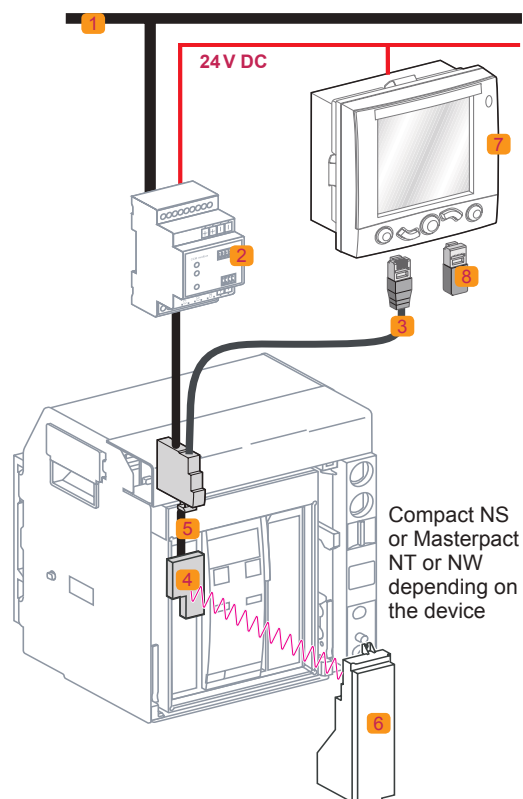


Available for
ECOFIT™ solutions
using Masterpact
NT/NW and
Compact NS

Energy Management - Communication

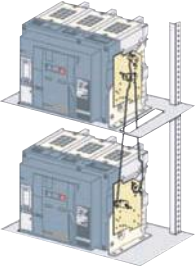
- Identify the device.
- Indicate status conditions.
- Control the device (with the communicating auxiliaries).
- Setting of the protection and alarms functions.

1	Modbus network	
2	CCM: Chassis Communication Module	
3	Breaker Universal Logic Plug (ULP) cord	
4	Breaker Communication Module (BCM)	
5	Prefabricated wiring	
6	Micrologic trip unit	
7	FDM21 display	
8	Line terminator	



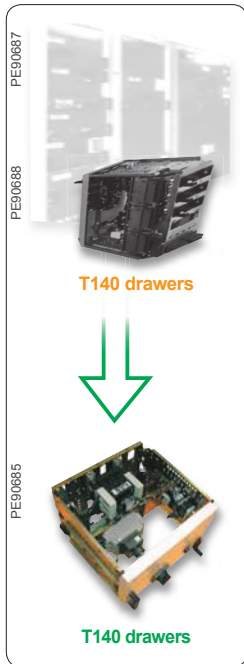
Available for
DA, Selpact and
Masterpact M
ECOFIT™ solutions
using Masterpact
NT/NW

Source-changeover systems

Mechanical interlocking (2 types)	Automatic controllers	
Using connecting rods or using cables	IVE: Electrical interlocking	BA or UA automatic controllers
		

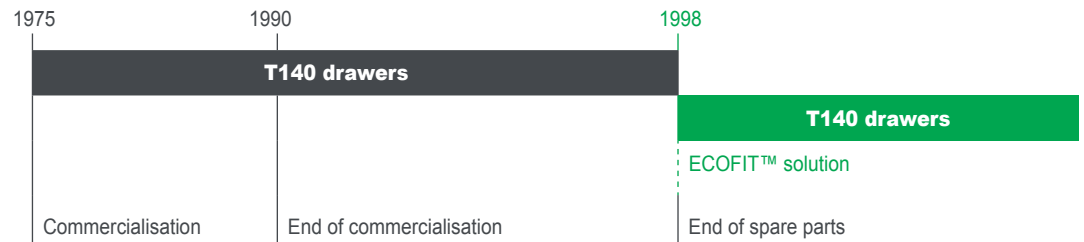
T140 drawers by T140 drawers

Original brand: **Merlin Gerin**



ECOFIT™ proposal

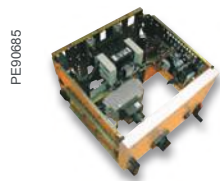
With ECOFIT™, a true extended life time



Main technical characteristics

	T140 drawers	T140 drawers
Rated operational voltage (V AC 50/60 Hz) Ue	440 V	440 V
Rated current (A) In 40° C	125-625 A	125-625 A
Number of modules	1 to 6	1 to 6

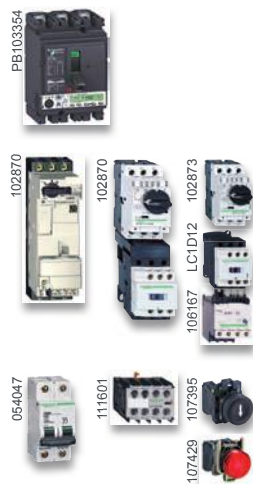
T140 drawers ECOFIT™ solution



The ECOFIT™ T140 drawer solution enables to benefit from all the enhanced features of latest technology devices.

The drawer solutions are suitable for manual or electrical operations.

T140 drawers ECOFIT™ solution - Drawer components



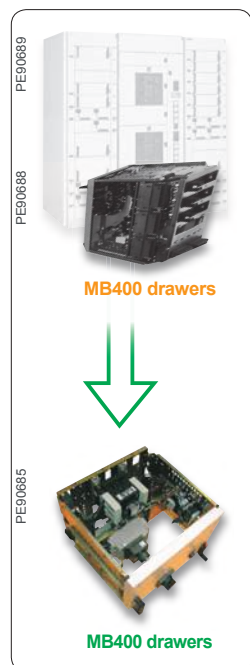
- Electrical distribution - Functional units (NSX range with Micrologic).

- Motor control command and protections - Functional units.

- Control command auxiliaries for all types of drawers.

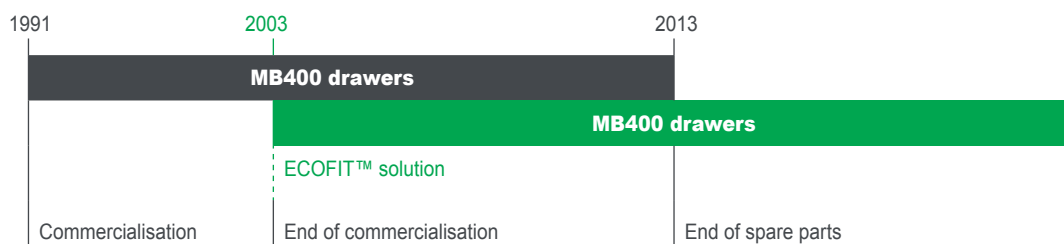
MB400 drawers by MB400 drawers

Original brand: **Merlin Gerin**



ECOFIT™ proposal

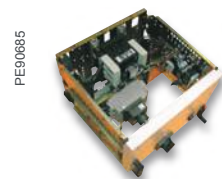
With ECOFIT™, a true extended life time



Main technical characteristics

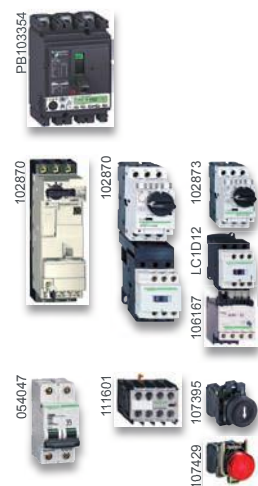
	MB400 drawers	MB400 drawers
Rated operational voltage (V AC 50/60 Hz) Ue	440V	440V
Rated current (A) In 40° C	125-625A	125-625A
Number of modules	1 to 6	1 to 6

MB400 drawers ECOFIT™ solution



The ECOFIT™ MB400 drawer solution enables to benefit from all the enhanced features of latest technology devices.
The drawer solutions are suitable for manual or electrical operations.

MB400 drawers ECOFIT™ solution - Drawer components



- Electrical distribution - Functional units (NSX range with Micrologic).

- Motor control command and protections - Functional units.

- Control command auxiliaries for all types of drawers.

LV Drawers - Associated offers



Available for
ECOFIT™ solutions
using Masterpact
NT/NW and
Compact NS

Specific spare parts: for any spare parts request for the fixe part, please contact your local correspondent.

Drawer components

• Electrical distribution – Functional units (NSX range)



Micrologic	2.2 or 2.3	5.2 or 5.3	6.2 or 6.3
Type		A - E	A - E
Functions	LSI protection	LSI protection Ammeter Energy meter	LSI protection Ammeter Energy meter

A: Current measurements, fault indications, display and current maximeter. Specificities: 6.0 provides earth fault protection (residual or Source Ground Return); 7.0 provides earth leakage protection.

E: A + Instantaneous measurement of power and energy without earth leakage protection.

• Motor control command and protections – Functional units

1 component motor feeder	2 components motor feeder	3 components motor feeder
Circuit breaker - Contactor combination	Thermomagnetic circuit breaker + Contactor	Thermomagnetic circuit breaker or switch-disconnector fuse + Contactor + Thermal protection

• Control command auxiliaries for all types of drawers

Miniature circuit-breaker Protection auxiliary circuit	Auxiliary relays
Ground fault protection	Push buttons and lights



Protection relays

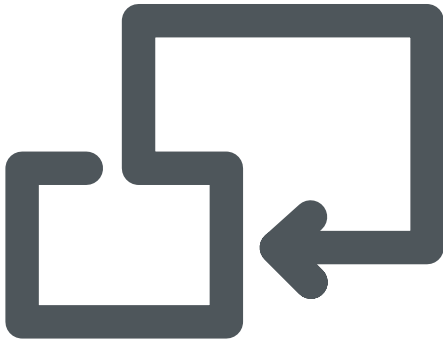
Contents

Protection relay upgrade benefits	C-2
CO	C-3
CDG	C-4
DPU 445	C-5
HCB	C-6
IAC	C-7
KCGG 122 & 142	C-8
M range - MCGG 11, 21 & 22	C-9
M range relay - MCTI 39-40	C-10
MCGG 62	C-11
Sepam 2000	C-12
VIP - RM6+	C-13
VIP & Vigirex - Various equipment	C-14

Protection upgrade benefits



Improve the performance of your system with the latest technology in micro-processor based integrated relays.



Accuracy

Flexibility

Ease of use

Reduced costs

Why protection upgrade?

By replacing solid state and older type electromechanical protection relays with technologically advanced multi-function microprocessor-based digital relays, the performance accuracy and longevity of your system can be significantly improved.

With a number of different protection functions Schneider Electric's range of relays can provide a range of options to include metering; communication; event capture; monitoring and control. Units are self-diagnostic to provide enhanced reliability. It is normally possible to use the existing current and potential transformers and auxiliary digital relay inputs.

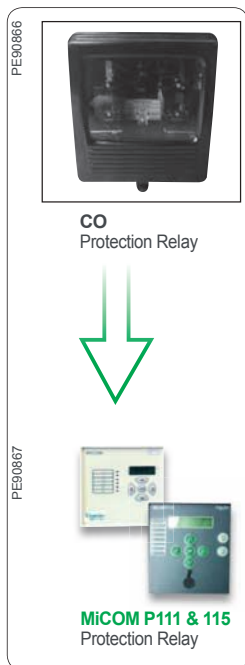
Schneider Electric's application based approach makes it easy to select the appropriate relay for your needs.

What are the benefits?

- > System protection at the current level reduces unnecessary outages and minimise stresses to equipment.
- > Increased accuracy of measurement assists in cost allocation and understanding power demand requirements.
- > High reliability from advanced self supervision systems.
- > The integrated functions of the relay allow for communications and control of the equipment either as a stand-alone unit or as part of networked systems.
- > All components in the protection chain are referenced and interface rapidly.
- > No constraints for integration in cubicles due to the compact size of the base unit.
- > Settings and adjustments are entered via the device's keypad and visually displayed.
- > The amalgamation of functions into one self-diagnosing meter reduces expenditure and saves on space.

CO by **MiCOM P111/115**

Original brand: **General Electric**



ECOFIT™ proposal

With ECOFIT™, a true extended life time

CO		
Commercialisation	End of commercialisation	End of spare parts

2011

MiCOM P111/115

ECOFIT™ solution

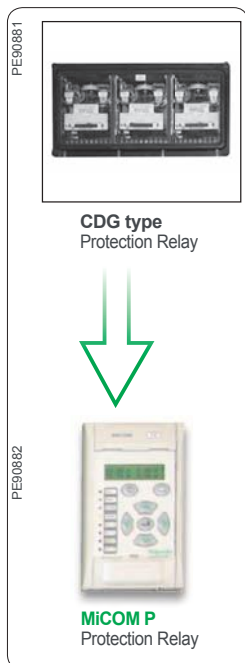
Main technical characteristics

	CO	MiCOM P111/115
Case	FT-11 or FT 21	Fit FT-11 & FT 21 cutout
Replacement Type	-	1 for 3* with minimal rewiring
Type	Electromechanical	Numerical
Functionality	Single phase overcurrent	3 phase + Ground overcurrent
Power supply	-	24 VDC - 250 VDC
Communication	-	IEC 60870-5-103, Modbus RTU

*1 ECOFIT™ P111/115 – CO9 solution could replace 3 single phase CO9 units.

CDG - CAG - CTMM - CTMFM by **MiCOM P1x –P2x or Vamp 5x**

Original brand: **Areva or older**



ECOFIT™ proposal

With ECOFIT™, a true extended life time

CDG - CAG - CTM range relays			MiCOM or Vamp
Commercialisation	End of commercialisation	End of spare parts	ECOFIT™ solution

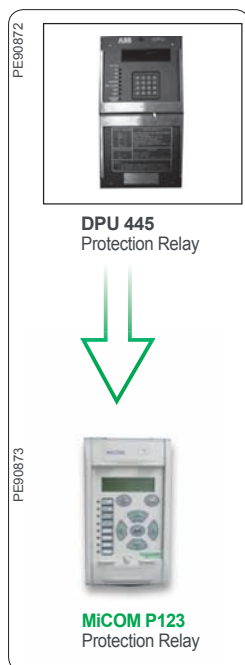
Old relay models		ECOFIT™ solutions	Description
CDG - CAG		MiCOM P122/P123	Feeder protection relay (Modbus/IEC103)
CTMM - CTMFM		MiCOM P211	Motor protection relay (Modbus/IEC103)
CDG - CAG		VAMP 50/52	Feeder protection relay (IEC 61850)

Main technical characteristics

	CDG - CAG - CTM range relays	MiCOM or Vamp
Case	Based on 1 or 3 independent units	20TE, 4U withdrawal case, mounted as plug and play solution into the existing DGC /CAG/ CTM range case
Replacement Type	-	1 withdrawal relay for 3 individual units
Type	Electromechanical & induction disk relay type	Numerical
Functionality	Selective earth & phase fault overcurrent	3 phase & earth overcurrent
Frequency range	Calibrated for 50 Hz or 60 Hz only	50 to 60 Hz +/- 20 %
Communication	-	IEC 60870-5-103, ModBus

DPU 445 by **MiCOM P123**

Original brand: **ABB**



ECOFIT™ proposal

With ECOFIT™, a true extended life time

DPU 445		
Commercialisation	End of commercialisation	End of spare parts

2011

MiCOM P123

ECOFIT™ solution

Main technical characteristics

	DPU 445	MiCOM P123
Case	DPU 445	Fit existing cutout
Replacement Type	-	1 for 1 with minimal rewiring
Type	Digital	Numerical
Functionality	3 phase feeder	3 phase + ground feeder overcurrent
Power supply	24 VDC - 125 VDC	24 VDC - 250 VDC
Communication	-	Courier, DNP 3.0, IEC 60870-5-103, ModBus RTU

HCB by **MiCOM P521**

Original brand: **ABB**

PE90870



HCB
Protection Relay



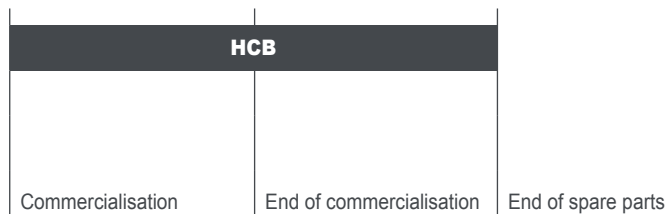
PE90871



MiCOM P521
Protection Relay

ECOFIT™ proposal

With ECOFIT™, a true extended life time



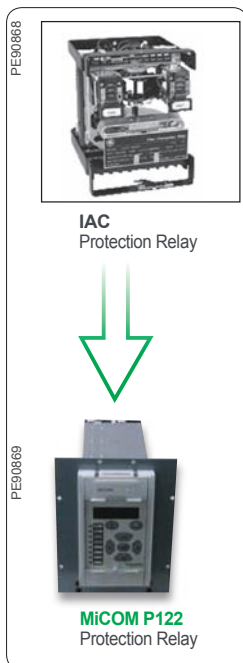
2009

MiCOM P521

ECOFIT™ solution

Main technical characteristics

	HCB	MiCOM P521
Case	FT-42	Fit existing cutout
Replacement Type	-	1 for 1 with minimal rewiring
Type	Electromechanical	Numerical
Functionality	3 phase differential	3 phase differential
Power supply	-	24 VDC - 250 VDC
Communication	-	IEC 60870-5-103, ModBus RTU

IAC by **MiCOM P122**Original brand: **General Electric****ECOFIT™ proposal**

With ECOFIT™, a true extended life time

IAC		
Commercialisation	End of commercialisation	End of spare parts

2011

MiCOM P122

ECOFIT™ solution

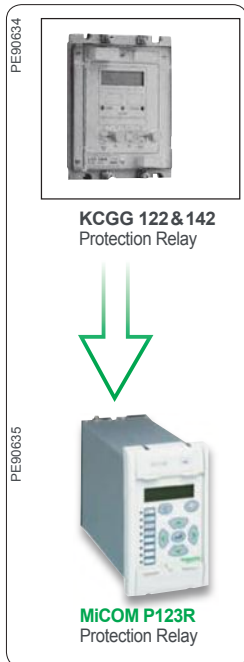
Main technical characteristics

	IAC	MiCOM P122
Case	<i>S1, S2, L2 or M1</i>	Fit S1, S2, L2 or M1 cutout
Replacement Type	-	1 for 3* with minimal rewiring
Type	<i>Electromechanical</i>	Numerical
Functionality	<i>Single phase overcurrent</i>	3 phase + Ground overcurrent
Power supply	-	24 VDC - 250 VDC
Communication	-	Courier, DNP3.0, IEC 60870-5-103, ModBus RTU

*1 ECOFIT™ P122 – IAC solution could replace 3 single phase IAC units.

KCGG 122 & 142 by MiCOM P123R

Original brand: **Areva**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	K range relay - KCGG 122 & 142	MiCOM P123R
Case	20TE size flush mounting	20TE size flush mounting
Installation	Withdrawable case	Withdrawable case
Language	English	Multilanguage
Communication	KBus / Courier	KBus / Courier, DNP3, IEC60870-5-103
Power supply	24 V / 125 VDC - 48 V / 250 VDC	24 V / 250 VDC - 48 V / 240 VDC
Digital input supply	48 VDC only	According to Power Supply (above)

ECOFIT™ KCGG 122 & 142 upgrades: diagnosis + implementation/installation of a fully industrialised solution

Improve the performance of your system with the latest technology in micro-processor based integrated relays.



Full retrofit solution Sustainability

- Replacement of the protection relay and optimised maintenance.
- Access to spare parts, new communication protocols and software facilities.
- Schneider Electric technical support and guarantee.

Manufacturer expertise

- Solution developed by our specialist engineers.
- Enhanced performance.
- Retrofit process optimised.
- Installation warranted by the manufacturer.

Consultancy and audit - Engineering solutions & optimisation

Local support & assistance - Maintenance & refurbishment



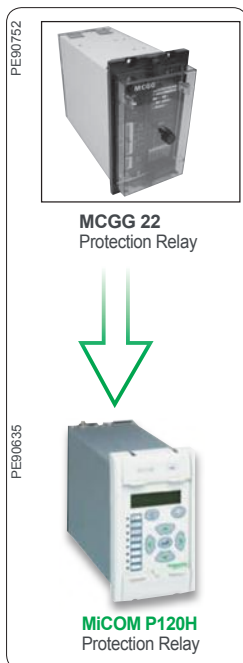
No mechanical or electrical impact on your installation. Implementation and site test within a very limited time.

New features enabled:

- Advanced HMI for local control functions.
- Standard communication protocols (Modbus, IEC 60870-5-103, DNP3 or KBUS/Courier).
- Monitoring & Automation facilities..

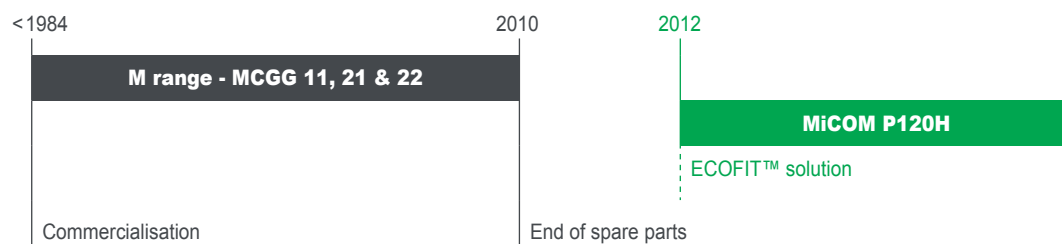
M range - MCGG 11, 21 & 22 by **MiCOM P120H**

Original brand: **Areva**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

Case	20TE size flush mounting	20TE size flush mounting
Installation	Withdrawable case	Withdrawable case
Language	English	Multilanguage
Communication	KBus / Courier	KBus / Courier, DNP3, IEC60870-5-103
Power supply	24 V / 125 VDC - 48 V / 250 VDC	24 V / 250 VDC - 48 V / 240 VDC
Digital input supply	48 VDC only	According to Power Supply (above)

M range - MCTI 39-40 by **MiCOM P821MF**

Original brand: **Areva**

PE90751



MCTI 39-40
Protection Relay



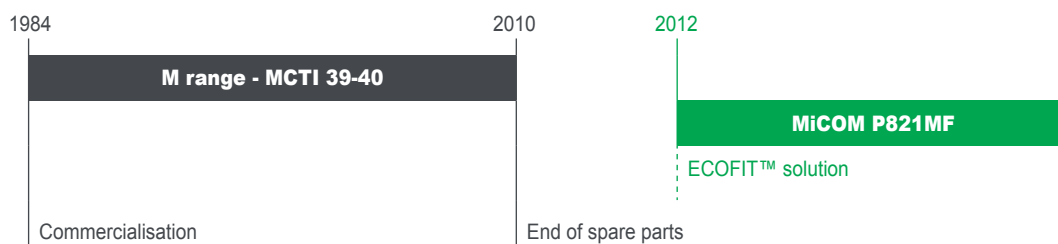
PE90635



MiCOM P821MF
Protection Relay

ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	M range relay - MCTI 39-40	MiCOM P821MF
Case	20TE size flush mounting	20TE size flush mounting
Installation	Withdrawable case	Withdrawable case
Language	English	Multilanguage
Communication	KBus / Courier	KBus / Courier, DNP3, IEC60870-5-103
Power supply	24 V / 125 VDC - 48 V / 250 VDC	24 V / 250 VDC - 48 V / 240 VDC
Digital input supply	48 VDC only	According to Power Supply (above)

MCGG 62 by **MiCOM P126**

Original brand: **Areva or older**

PE90874



MCGG 62
Protection Relay



PE90875



MiCOM P126
Protection Relay

ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	MCGG 62	MiCOM P126
Case	Size 6	Fit existing cutout
Replacement Type	-	1 for 1 plug-and-play
Type	Static	Numerical
Functionality	3 phase overcurrent	3 phase + ground overcurrent
Power supply	24 VDC - 125 VDC	24 VDC - 250 VDC
Communication	-	DNP 3.0, IEC 60870-5-103, ModBus RTU

Sepam 2000 by Sepam 60 - 80 series

Original brand: **Merlin Gerin**

PE90638



Sepam 2000
Protection Relay



PE90639



Sepam 60-80 series
Protection Relay

ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main technical characteristics

	Sepam 2000	Sepam serie 80	Sepam serie 60*
Motor Application	M06, M07, M08, M14	X	
	M02 to M05, M09, M11, M15, M16, M20 to M23		X
Sub-station Application	S02, S03, S06 to S09	X	
	S01, S04, S05		X
Bus Bar Application	B02, B04, B07, B12	X	
	B01, B03		X
Transformer Application without temp measurement	T01 to T03, T06, T07, T09, T10, T12 to T15, T17 to T19	X	
	T04, T05, T11, T16		X
Transformer Application with temp measurement	T21, T22, T23, T26, T27, T29, T30, T32 to T35, T37 to T39	X	
	T24, T25, T31, T36		X
Generator Application	G01 to G08, G12, G13, G15 to G18	X	
		X	
Capacitor bank Application	C02, C04, C06, C08		X
	C01, C03		
Transformer Diff. Application	D02, D22	X	

* Sepam serie 80 will be proposed in case of customised Logipam on the original Sepam 2000

ECOFIT™ Sepam 2000 upgrades: diagnosis + implementation/installation of a fully industrialised solution

Improve the performance of your system with the latest technology in micro-processor based integrated relays.



1. Disconnection of existing terminal blocks



2. Presentation of new ECOFIT™ S2000



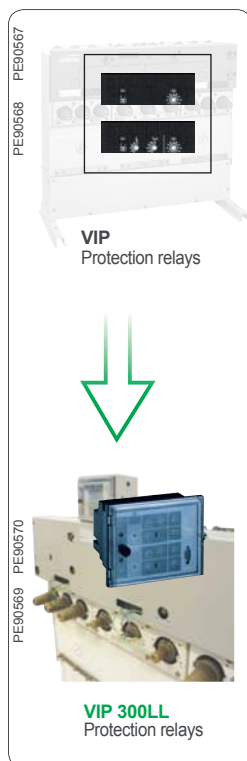
No mechanical or electrical impact on your installation. Implementation and site test within a very limited time.

New features enabled:

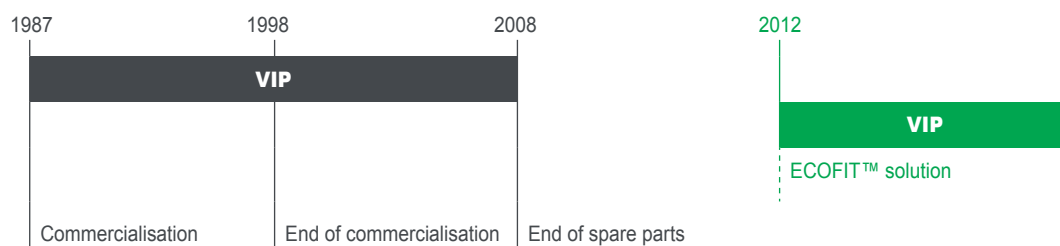
- Advanced HMI for local control functions.
- Standard communication protocols (Modbus, IEC 61850).
- Monitoring & advanced graphical interface for automations and logics.

RM6+ / VIP by **VIP + ECOFIT™ kit**

Original brand: **Merlin Gerin**



A true extended life time

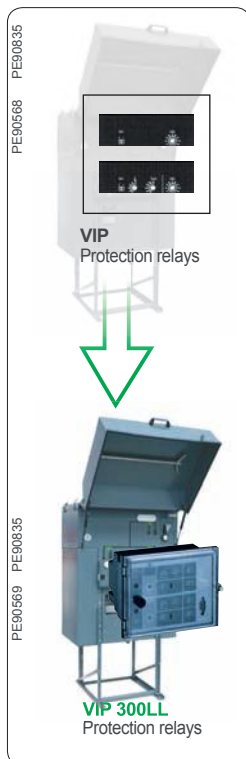


Proposed substitution

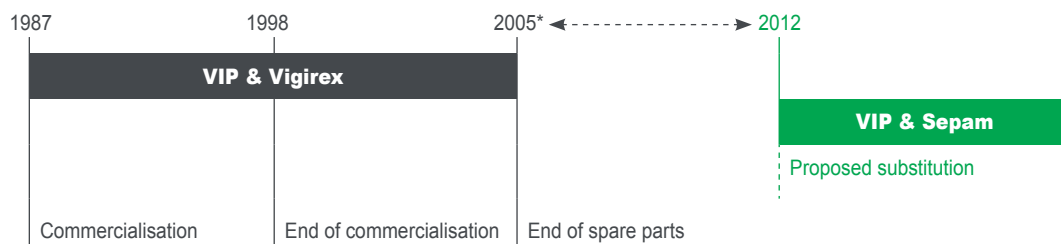
RM6+			
Phase overcurrent protection IDMT (Inverse Definite Minimum Time)	VIP 11R		VIP 300LL
Phase overcurrent protection IDMT (Inverse Definite Minimum Time)	VIP 12R		VIP 300LL
Phase overcurrent and earth-fault protection IDMT and DT IEC 60255	VIP 200		VIP 300LL

Various equipment/ VIP & Vigirex by **VIP & Sepam**

Original brand: **Merlin Gerin**



A true extended life time



* Depending on the range

Proposed substitution

Various equipments

Phase overcurrent and Earth-fault protection IDMT and DT IEC 60255	VIP 200RMR		VIP 300LH
Sensitive earth-fault protection	Vigirex RH110		Sepam series 10
Phase overcurrent protection IDMT	VIP 13		VIP 30 - VIP 300 - TBC
Phase overcurrent protection DT	VIP 17		VIP 37
Phase overcurrent and Earth-fault protection IDMT and DT IEC 60255	VIP 200		VIP 300
Sensitive earth-fault	VIP 50		Sepam series 10



Substation automation

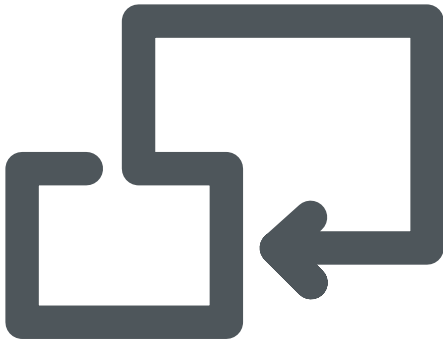
Contents

Control System upgrade benefits	D-2
BAY Controller BM9x00	D-3
PACIS OI	D-4
PSCN3020 HMI	D-5
SEEFox HMI	D-6

Control System upgrade benefits



Improve the performance of your system with the latest technology in micro-processor based integrated relays.



Ready for future extensions

Ease of use

Enhance graphical features

Costs reduction

Why Control Systems upgrade?

Upgrade solutions intend to improve the performance of your control system with the latest technology in computers. This is also the opportunity to benefit from computer and OS upgrading to Windows 7 to get enhanced performances and advanced features for the new HMI

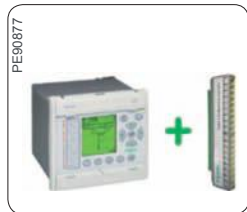
Considering the large variety of legacy control systems still in operation with limited extension and maintenance facilities, these Ecofit solutions provide an opportunity to benefit of a unique HMI software and standard communication protocol based on IEC61850.

What are the benefits?

- > Enables smooth and consistent legacy Control System solutions modernization.
- > Open, flexible and scalable architecture facilitating aggregation of several systems at substation level.
- > Easiness for future extensions.
- > Fast implementing without substation shut down, original control systems can remain in operation in most of cases
- > No modification of existing communication network protocol (Modbus TCP or IEC 61850, as well as protective relays communication protocol) . This could be done step by step in further stages.
- > Realtime trends of analog values as tooltip
- > Zoom in/ Zoom out
- > Monitoring facilities by color bar graph status easy implementation
- > Cost effective solution providing advanced graphical interface features and enhanced performances.
- > Secured migration managed by the manufacturer, thanks to an automatic migration tool and the use of a standard protocol.

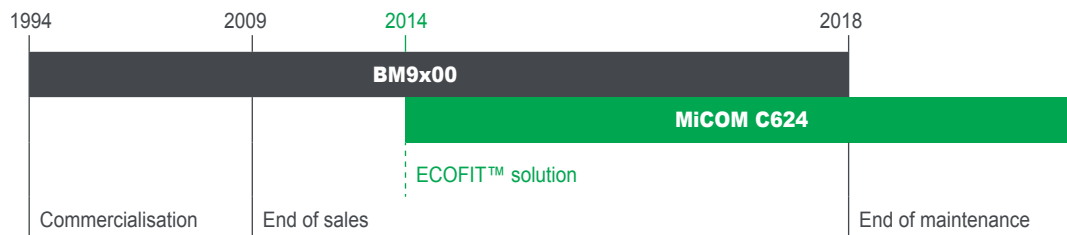
Bay Controller BM9x00 by **MiCOM C624**

Original brand: **Areva or older**



ECOFIT™ proposal

With ECOFIT™, a true extended life time

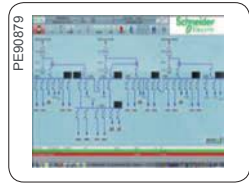


Main characteristics and performances

BM9x00	MiCOM C624
Communication through legacy EFIP protocol with the SCADA level	Standard communication through IEC61850 protocol to SCADA level
Connection with Modbus, IEC103 or KBus communication with protection relay protocol	Connection with Modbus, IEC870-5-103, IEC 870-5-101 Kbus (with K101CVT converter) and IEC61850 protocol for downstream relays
No front side communication available for setting files management	Hardened to match substation cyber security requirements.

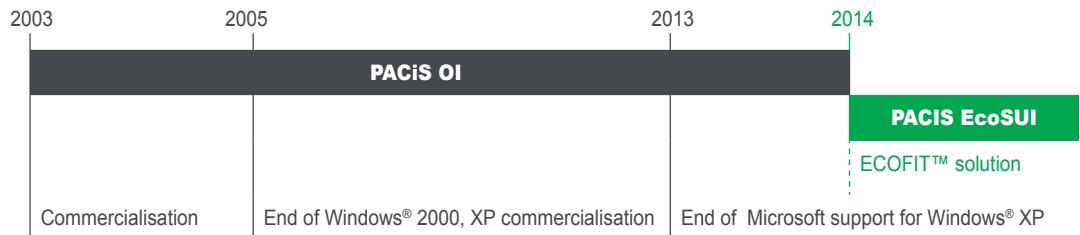
PACIS OI V3.X UP TO V4.6 by **PACIS EcoSUI**

Original brand: **Areva or older**



ECOFIT™ proposal

With ECOFIT™, a true extended life time

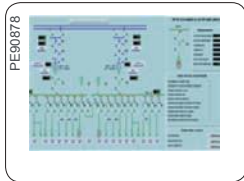


Main characteristics and performances

PACIS OI	PACIS EcoSUI
Windows® 2000 or XP	Windows® 7 (32/64bits) Windows® server 2008 64bits
One Ethernet network management Multi-LAN through IEC/IEC Gateways	Multiple IEC61850 client access points
Maximum handled dataflow 100 Measured Values archived /sec / server	Direct IEC61850 configuration by import of SCD file
Off-line modification & Time delayed deployment of database after recompilation	Immediate deployment of database modification
Redundancy switch over within 1 mn	Hot redundancy seamless switchover
Maximum handled dataflow 100 Measured Values archived /sec / server	Handled dataflow up to 3000 MV archived /sec /server

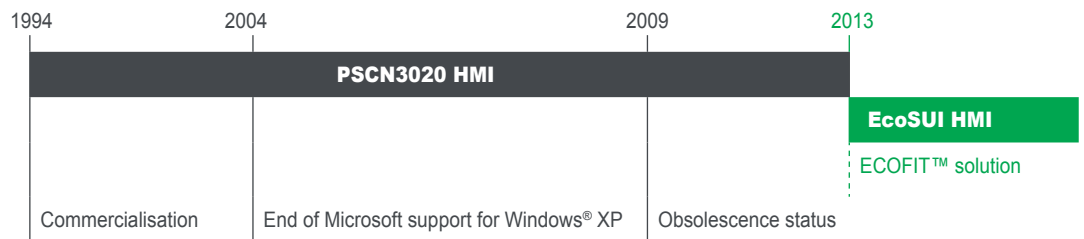
PSCN3020 HMI by EcoSUI HMI

Original brand: **Areva or older**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main characteristics and performances

PSCN3020 HMI	EcoSUI HMI
Windows® NT4 OS / 2	Windows® 7
One EFIP network management	Open to Ethernet IEC61850 for all future extension and step by step replacement of bay controllers
Configuration & database generation using proprietary & obsolete software	Direct IEC61850 configuration by import of SCD file for all new extensions
Redundancy switch over within 1 mn	Hot redundancy seamless switchover
Handled dataflow limited by EFIP protocol	Handled dataflow up to 3000 MV archived /sec /server, once fully migrated to IEC61850

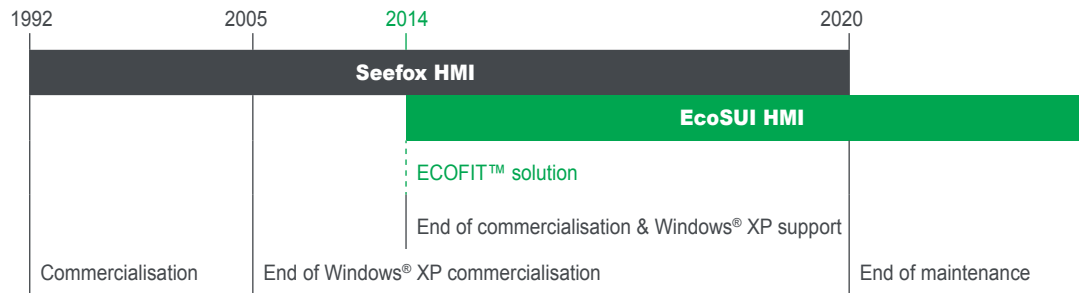
Seefox HMI by EcoSUI HMI

Original brand: **Schneider Electric**



ECOFIT™ proposal

With ECOFIT™, a true extended life time



Main characteristics and performances

Seefox HMI	EcoSUI HMI
Windows® XP	Full Schneider Electric HMI and tools design operating on Windows® 7
Based on third party HMI limited to Modbus TCP or Modbus + communication protocol	IEC 61850 native in modeling configuration and communication
Configuration tools no more supported or with limited upgrade facilities	Ready for all standard substation extension using IEC61850 standard
	Compliant with substation cyber security requirements

Notes

[illegible]

Notes

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