



2019 Life Cycle Management

ABB Italy medium voltage products

Life Cycle process

Product status plan

ABB's products are designed for continuous evolution. It is ABB's goal to protect our customers' investment beyond the life-cycles of the underlying platform products. Life Cycle Management process is split into four steps in order to allow both ABB and the customers to properly manage the transition from Active to Obsolete in a long term way and avoid a too short swap which may generate critical situations.

Scope of this brochure is to provide life cycle status of all products under responsibility of Service Center of Medium Voltage Products:

ABB S.p.A.

Via Friuli, 4
24044 Dalmine
Italy

Our Service Center is responsible for:

- All designed and manufactured medium voltage product with SACE logo
- Replacement of all MV apparatus produced by ABB Italy Dalmine factory
- Retrofit apparatus for replacing ABB HPA gas insulated circuit breakers and contactors designed and manufactured by ABB Sweden for fitting SafeSix switchgear.

The document is updated once per year according to the latest announced shifts. Special care of the obsolete products is taken in order to support the customers either with spare parts or retrofit solutions with active equipment.

Status	Name	Product	Type	Current status start date	Next shift	
Active	ADVAC	Circuit breaker	Vacuum	-	-	
	AMVAC	Circuit breaker	Vacuum	-	-	
	ConVac	Contactora	Vacuum	-	-	
	DCBreak	Circuit breaker	Magnetic-air	-	-	
	DS1	Capacitor switch	Dry-air	-	-	
	GSec	Switch	SF6	-	-	
	HD4 ⁽¹⁾	Circuit breaker	SF6	-	-	
Equipment: available	HySec	Multifunction apparatus	SF6-Vacuum	-	-	
	PowerCube/PowerBloc 36/40,5kV	Enclosures	AIS	-	-	
Spare parts: available	UniGear ZS1	Switchgear	AIS	-	-	
	UniSec	Switchgear	AIS	-	-	
	UniSwitch version for France	Switchgear	AIS	-	-	
	VD4 ⁽²⁾	Circuit breaker	Vacuum	-	-	
	VD4G	Circuit breaker	Vacuum	-	-	
	VM1	Circuit breaker	Vacuum	-	-	
	Vmax ⁽³⁾	Circuit breaker	Vacuum	-	-	
	VSC	Contactora	Vacuum	-	-	
	Classic	HD4/C	Circuit breaker	SF6	01/09/2011	-
		HD4/UniAir-HD4/US	Circuit breaker	SF6	01/01/2017	-
Equipment: available	HD4/UniMix	Circuit breaker	SF6	01/01/2016	-	
	HD4/SEV-HD4/ESB	Circuit breaker	SF6	01/01/2018	-	
	V-Contact V	Contactora	Vacuum	01/09/2011	-	
Spare parts: available	VD4/C	Circuit breaker	Vacuum	01/09/2011	-	
	VD4/UniAir-VD4/US	Circuit breaker	Vacuum	01/01/2017	-	
	VD4/UniMix	Circuit breaker	Vacuum	01/01/2016	-	

Notes:

(1) With exception of some variants which are Classic

(2) With exception of some variants which are Classic

(3) With exception of Vmax/RU which is Limited

Status	Name	Product	Type	Current status start date	Next shift
Limited	CBE	Enclosures	AIS	01/02/2010	-
	PR521	Relay	Digital	01/01/2019	01/07/2019
	S-HD4, EM-L-HD4, EM-U-HD4	Service trucks	SF6	01/01/2019	01/01/2028
	SHS2	Switch	SF6	01/01/2018	-
	UniMix	Switchgear	AIS	01/01/2018	-
	UniMotor (¹)	Switchgear	AIS	-	-
	UniMotor enclosure (¹)	Enclosures	AIS	01/09/2011	-
	UniSafe	Switchgear	AIS	01/01/2006	-
	UniSwitch 24	Switchgear	AIS	01/07/2018	-
	UniSwitch version for Belgium	Switchgear	AIS	01/07/2018	-
	Univer C	Switchgear	AIS	-	-
	Univer G12	Switchgear	AIS	-	-
	VM1/ZT8	Circuit breaker	Vacuum	01/01/2018	-
	Vmax/RU	Circuit breaker	Vacuum	01/01/2016	-
Obsolete	BEU2	Switchgear	GIS	-	-
	BEU21	Switchgear	GIS	01/01/2018	-
	BEU3	Switchgear	GIS	01/07/2015	-
	CBF	Enclosures	AIS	01/07/2016	-
	CSF1	Switchgear	RMU	-	-
	CSF2	Switchgear	RMU	-	-
	CSFU	Switchgear	RMU	-	-
	DIARC (²)	Circuit breaker	Magnetic-air	-	-
	eVD4	Circuit breaker	Vacuum	01/01/2019	-
	eVM1	Circuit breaker	Vacuum	01/01/2013	-
	HA/BEU for BEU2 and BEU3	Circuit breaker	SF6	01/07/2015	-
	HA1-2-3	Circuit breaker	SF6	31/03/1999	-
	HAD	Circuit breaker	SF6	-	-
	HAR	Circuit breaker	SF6	-	-
	H-Breaking	Circuit breaker	SF6	-	-
	HD4/BE, HX for BEU21	Circuit breaker	SF6	01/01/2019	-
	HM1	Circuit breaker	SF6	01/01/2013	-
	Normal AT	Switchgear	AIS	-	-
	PR511	Relay	Digital	-	-
	PR512	Relay	Digital	01/01/2013	-
	PR521DK	Relay	Digital	-	-
	REF542	Relay	Digital	01/01/2010	-
	REF542plus 1.x	Relay	Digital	-	-
	RG	Circuit breaker	Minimum oil	-	-
	RGE	Circuit breaker	Minimum oil	-	-
	RM	Circuit breaker	Minimum oil	-	-
	S5	Relay	Digital	-	-
	SCU	Relay	Digital	01/01/2010	-
	SFA	Circuit breaker	SF6	-	-
	SFE	Circuit breaker	SF6	-	-
	SRC	Contactactor	SF6	01/04/2012	-
	UniAir	Switchgear	AIS	01/07/2018	-
	UniArc	Switchgear	AIS	01/07/2015	-
	UniSwitch 36	Switchgear	AIS	-	-
Univer G36	Switchgear	AIS	01/07/2015	-	
VRB	Circuit breaker	Vacuum	-	-	
VRC	Contactactor	Vacuum	31/03/1999	-	
ZS1 (³)	Switchgear	AIS	01/07/2015	-	
Equipment: not available					
Spare parts: not ensured					

Notes:

(¹) Replacement of enclosure manufactured after 1985 is available

(²) Circuit breakers manufactured before 1984 include asbestos components inside the arc-chutes

(³) ZS1 switchgear is different from UniGear ZS1 which is active

Spare parts and retrofit solution availability

Products details

Spare parts have been categorized into groups as per the following:

- Poles: assembly parts in which main interruptive components are installed in
- Mechanism: operating mechanism which drives the interruptive parts
- Auxiliary equipment: LV equipment onboard the operating mechanism (spring charging motor, coils, magnets, contacts, etc.)
- Tulip contacts: moving contacts onboard the apparatus arms
- Complete device: for those products which cannot be split into sub-assemblies
- Monoblocs: spouts, shutters and branches
- Earthing switch: earthing switch and relevant accessories

- Line disconnecter: line disconnecter and relevant accessories
- LV compartment devices: protection relay, auxiliary relays, MCB and terminal board

The following charts give an overview of the currently available spare parts in our stock and retrofit solutions for replacing phased-out equipment with active products. Spare parts in "Not ensured" status could become "Not available" during the year depending on requests. Please contact ABB for checking availability. See relevant 2018 Life Cycle Management for marine application.

Obsolete apparatus and relay			Active products	Spare parts				
Name	Product	Type	Retrofit solution	Poles	Mechanism	Auxiliary equipment	Tulip contacts	Complete device
DIARC ⁽¹⁾ ⁽²⁾	Circuit breaker	Magnetic-air	HD4, VD4	Not available	Not available	Not available	Not available	Not available
eVD4	Circuit breaker	Vacuum	VD4 Digitup	Not available	Not available	Not available	Not available	Not available
eVM1	Circuit breaker	Vacuum	VM1+met.&prot.	Not available	Not available	Not available	Not available	Not available
HA/BEU	Circuit breaker	SF6	HD4/BEU available only for HA3/BEU 24/36kV 1250A 25/32KA	Not available	Not available	Not available	Not available	Not available
HA1-2-3	Circuit breaker	SF6	HD4, VD4	Not available	Not available	Not available	Not available	Not available
HAD	Circuit breaker	SF6	HD4, VD4	Not available	Not available	Not available	Not available	Not available
HAR	Circuit breaker	SF6	HD4, VD4	Not available	Not available	Not available	Not available	Not available
H-Breaking	Circuit breaker	SF6	HD4, VD4	Not available	Not available	Not available	Not available	Not available
HD4/BE, HX per BEU21	Circuit breaker	SF6	n.a.	Not available	Not available	Not available	Not available	Not available
HM1	Circuit breaker	SF6	n.a	Not available	Not available	Not available	Not available	Not available
PR511 ⁽²⁾	Relay	Digital	PR521, REF601	Not available	Not available	Not available	Not available	Not available
PR512 ⁽²⁾	Relay	Digital	REF601, REJ603	Not available	Not available	Not available	Not available	Not available
PR521DK	Relay	Digital	REF601 CEI 0-16 version	Not available	Not available	Not available	Not available	Not available
REF542 ⁽²⁾	Relay	Digital	REF542plus release 3.0, Relion® family	Not available	Not available	Not available	Not available	Not available
REF542plus release 1.x ⁽²⁾	Relay	Digital	REF542plus release 3,0, Relion® family	Not available	Not available	Not available	Not available	Not available

Notes:

⁽¹⁾ Arc chambers are not available

⁽²⁾ Replacement with site adaptations

^(*) AE mechanism and its components are not available

Not available	Not available
Not ensured	Not ensured
Available	Available
Not applicable	Not applicable

Obsolete apparatus and relay				Active products		Spare parts		
Name	Product	Type	Retrofit solution	Poles	Mechanism	Auxiliary equipment	Tulip contacts	Complete device
				RG ⁽³⁾	Circuit breaker	Minimum oil	HD4, VD4	Not available
RGE ⁽²⁾	Circuit breaker	Minimum oil	OHB	Not available	Not available	Not available	Not available	Not available
RM	Circuit breaker	Minimum oil	HD4, VD4	Not available	Not available	Not available	Not available	Not available
S5 ⁽²⁾	Relay	Digital	PR521, REF601	Not available	Not available	Not available	Not available	Not available
SCU ⁽²⁾	Relay	Digital	REF542plus release 3.0, Relion® family	Not available	Not available	Not available	Not available	Not available
SFA	Circuit breaker	SF6	HD4, VD4	Not available	Not available	Not available	Not available	Not available
SFE ⁽²⁾	Circuit breaker	SF6	OHB	Not available	Not available	Not available	Not available	Not available
SRC ⁽²⁾	Contacto	SF6	V-Contact VSC	Not available	Not available	Not available	Not available	Not available
VRB ⁽⁴⁾	Circuit breaker	Vacuum	HD4, VD4	Not available	Not available	Not available	Not available	Not available
VRC ⁽²⁾ (4)	Contacto	Vacuum	V-Contact family	Not available	Not available	Not available	Not available	Not available

Notes:
 (1) Arc chambers are not available
 (2) Replacement with site adaptations
 (3) AE mechanism and its components are not available
 (4) Vacuum interrupters are not available

Not available	Not available
Not ensurd	Not ensurd
Available	Available
Not applicable	Not applicable

Obsolete switchgears				Active products		Spare parts		
Name	Product	Type	Replacement solution	Monoblocs	Earthing switch	Line disconnecto	LV compartment devices	Circuit breaker or retrofit solution (*)
				BEU2 ⁽²⁾	Switchgear	GIS	ZX family	Not available
BEU21 ⁽²⁾	Switchgear	GIS	ZX family	Not available	Not available	Not available	Not available	Not available
BEU3 ⁽²⁾ (6)	Switchgear	GIS	ZX2 family	Not available	Not available	Not available	Not available	Not available
CSF1 ⁽²⁾ (6)	Switchgear	RMU	SafeRing, SafePlus	Not available	Not available	Not available	Not available	Not available
CSF2 ⁽²⁾ (6)	Switchgear	RMU	SafeRing, SafePlus	Not available	Not available	Not available	Not available	Not available
CSFU ⁽²⁾ (6)	Switchgear	RMU	SafeRing, SafePlus	Not available	Not available	Not available	Not available	Not available
Normal AT ⁽²⁾	Switchgear	AIS	UniSec	Not available	Not available	Not available	Not available	Not available
UniAir	Switchgear	AIS	UniSec	Not available	Not available	Not available	Not available	Not available
UniArc ⁽²⁾	Switchgear	AIS	UniGear ZS1	Not available	Not available	Not available	Not available	Not available
UniSwitch 36 ⁽²⁾	Switchgear	AIS	UniGear	Not available	Not available	Not available	Not available	Not available
UniVer G36 ⁽²⁾	Switchgear	AIS	UniGear ZS3.2	Not available	Not available	Not available	Not available	Not available
ZS1 ⁽²⁾	Switchgear	AIS	UniGear ZS1	Not available	Not available	Not available	Not available	Not available

Notes:
 (2) Replacement with site adaptations
 (6) Line disconnecto and earthing switch are included in the inox compartment
 (*) Please refer to previous tables for checking availability of circuit breakers and relevant spare parts or retrofit solutions

Not available	Not available
Not ensurd	Not ensurd
Available	Available
Not applicable	Not applicable

Life cycle services

Tailor-made services for every life cycle stage

The whole world of ABB services hereby represented is at your disposal for making the best use of ABB medium voltage assets at every life cycle stage:

Active

- Long-term support thanks to Power Care customer support agreements
- Extended warranty application
- Worldwide Service competence, ready for prompt actuation
- Certified ABB spare parts ready in stock to guarantee their availability throughout the product life time (Active, Classic and Limited stages)

Classic

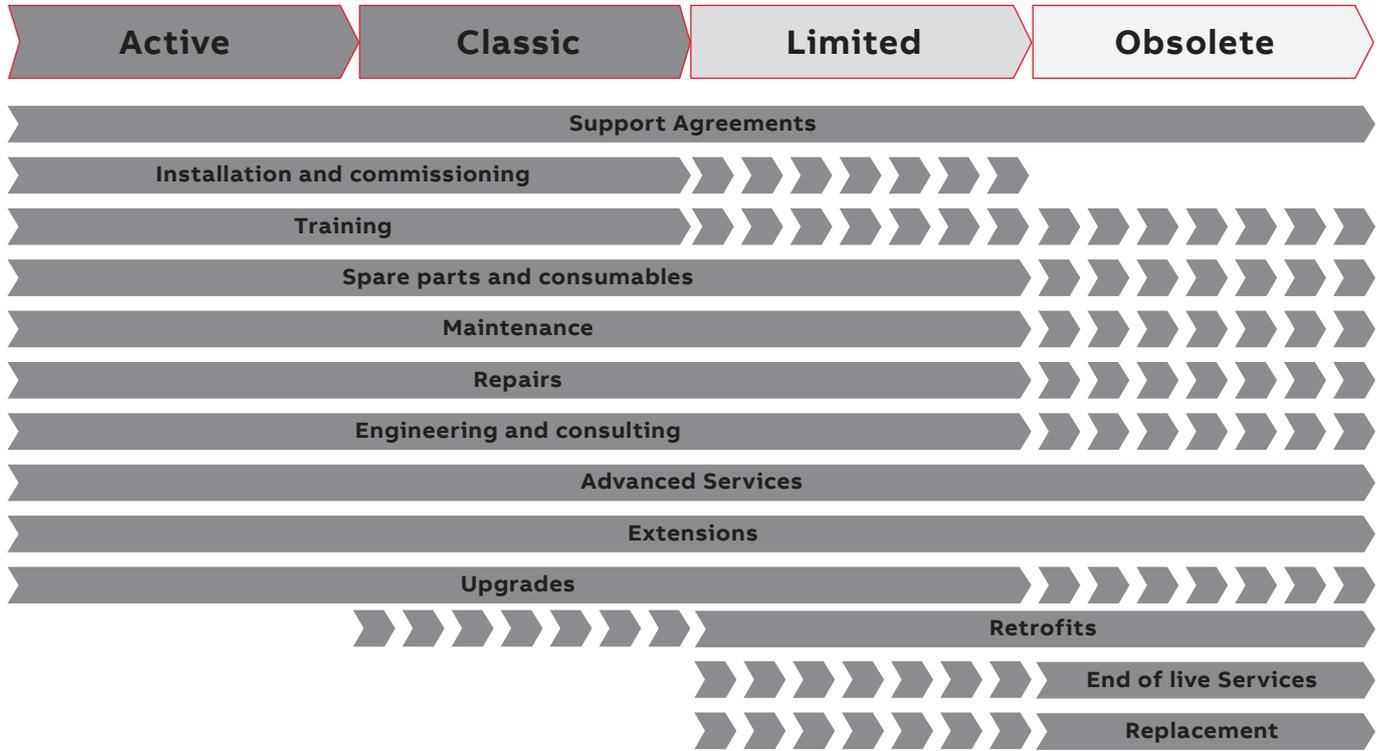
- “Last Buy” opportunity of complete equipment
- Good chance to obtain spare parts as per active products conditions
- Best time to keep equipment healthy via Power Care customer support agreements
- Call for training with wide coverage thanks to worldwide footprint still available.

Limited

- Spare parts fully available
- Retrofit solutions can already be applied
- Power Care customer support agreements designed to keep the service experience as per active products

Obsolete

- Spare parts could be still accessible on request.
- Retrofit solutions are usually available. The use of active products allows a new life to be given to the plants.
- Our consultancy services are always available for supporting cost-effective and optimized investments. Special care is given to obtain a soft shift to new applications and solutions.



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For further details please contact:



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More product information:
abb.com/mediumvoltage
Your contact center:
abb.com/contactcenters
More service information:
abb.com/service

