## Preventive maintenance kits for SELMA2 mapped drive control systems

SP25 EN REVB 2007

Preventive maintenance kits contain all necessary replacement parts for the specific scheduled maintenance. The content of each kit is carefully defined to match the SELMA 2 maintenance schedule.

The kits have been specified based on ABB's extensive SELMA 2 system and component maintenance experience.



Preventive maintenance kit is a selected package of necessary parts needed for SELMA 2 mapped system preventive maintenance service.

### **Benefits**

- Pre-defined, genuine service parts are provided according to the maintenance schedule
- Easy-to-order coded material package
- Kit pricing is more economical than the cost of purchasing individual parts
- Reduced maintenance costs
- Increased maintenance performance efficiency
- Preventive maintenance kits provide the correct parts for each preventive maintenance

#### Service provides

The delivered preventive maintenance (PM) kits contain the service parts for preventive maintenance. See table below:

PM kits can be selected and ordered by giving the original project number or sales number of SELMA 2 mapped system.

	Every 3 <sup>rd</sup>	Every 6 <sup>th</sup>	Every 9th
	year	year	year
Cooling fan unit in cabinet	X		
Batteries on SELMA boards	х		
Fan filters in cabinet and cooling system	x		
Keyboard overlay		x	
Fan in SELMA cabinet		х	
New: Power unit in SELMA cabinet or Updates: Capacitors of power unit			х

# Preparations before preventive maintenance

PM kits are delivered on lead-time basis, contrary to normal spare parts, hence the PM kits must be ordered well in advance of the planned preventive maintenance.

More information regarding PM kits and their content visit: www.abb.com/partsonline.

Product Lifecycle Services

- Installation & Commissioning
- Training
- Support & Remote Services
- Spare Parts & Repairs
- Maintenance & Field Services
- Migration & Retrofits
- Optimization







Service notes

#### Maintenance schedule

Based on ABB's experience, however, failure probability of such industrial products equipped with electronic components increases after years of operation. For control system products this period is typically 5 to 10 years. One of the main reasons for failures is the aging of components, but it is also highly affected by operational conditions.

A component failure may cause consequential damage to other parts of the control system.

A maintenance schedule provides a systematic and functional means of maintaining SELMA 2 control systems. It is based on extensive experience and knowledge of manufacturing and maintaining SELMA 2 systems. Specifications of component suppliers are observed carefully.

The environmental and operational conditions of the system are also considered. Demanding environments, such as high ambient temperature, humidity or dirtiness, can measurably shorten component lifetime and also maintenance and component replacement intervals.

ABB recommends an annual inspection in addition to regular maintenance to be carried out to ensure optimum control system performance through its entire lifetime.

	Years from start-up																				
	0	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Start-up	Р																				
Operation Station																					
➤ Visual inspection	$\vdash$	1	Т	1	ı	1	П	1	ī	П	ī	1	Т		Т	1	П	1	ı	ı	Т
> Mechanical joints	$\vdash$	i	i	i	i	i	H	i	ΙĖ	i i	H	i	Η	Ť	H	i	Ť	i	Ť	Ť	ΙĖ
➤ Key board overlay	-	Ť	Ť	Η	R	Ť	Ħ	Τ̈́	Η	Ħ	R	Ť	Η̈́	Ť	ΗĖ	Η	R	Τ̈	Η	ΙŤ	ΙĖ
> Output device	-	ī	Ť	Ť	1	ī	H	ī	Ť	i i	1	1	Ť	i	H	i	Ť	ī	Ť	Ť	i i
> Inspection of disk station/stations		Р	i	i	Р	ī	Ť	Р	i	i	Р	1	i	Р	i	i	Р	ī	ī	Р	Ť
> Operate system function test		Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р
> System backup				Р					Р					Р					Р		
SELMA 2 cabinet			_				_		_								_		_		
➤ Visual inspection		1	ī	1	1	1	Т	1	ı	1	ı	1	ī	1	Т	1	1	1	1	1	Т
➤ Mechanical joints		i	Ť	i	ī	ī	H	Ť	i i	1	i i	1	i i	Ť	H	i i	Τ	i	Ť	Ť	Ħ
➤ Main power supply (UPS)		Ė	Ė	P	Ė		Ė		P		Ė		Ė	P	Ė		Ė		P		Ė
➤ Auxiliary voltages	-	1	1	Ť	1	1	$\vdash$	1	i i	1	<u> </u>	1	1	i	$\vdash$	1	1	1	Ť	T	Ιī
➤ Power supply unit		Ť	Ť	Ť	i	i	Ħ	R	Ť	i i	Ť	ī	Η	Ť	Η̈́	i i	R	i	Η	Ť	ΗĖ
> Cooling fan unit	-	R	Η̈́	Η̈́	R	Η	H	R	i	H	R	i	Η	R	H	ΗĖ	R	÷	i i	R	ΗĖ
➤ Batteries on SELMA boards	$\vdash$	R	H	i	R	i	H	R	i i	i	R	i	H	R	H	i	R	i	÷	R	H
> Fan on SELMA	$\vdash$	ì	H	H	R	÷	H	Ĥ	i i	H	R	÷	÷	<u>``</u>	H	H	R	÷	÷	i i	H
> Cleaning/ change of fan filter	$\vdash$	R	i i	i	R	i	H	R	i	÷	R	1	÷	R	÷	÷	R	i	i	R	H
> Cleanling/ change of fair filter	$\vdash$	<u> </u>	<del>  '</del>	P	_	<u> </u>	<del>  '</del>	<u> </u>	P	<del>  '</del> -	<u> </u>	'	<del>  '</del>	P	<del>  '</del> -	<del>  '</del>	<u> </u>	<u>'</u>	P	<u> </u>	⊢÷
Cleanliness of SELMA racks	$\vdash$			Р										Р					Р		_
Battery																					
➤ Visual inspection		1	1	1	1	1		1	1	1	1	-1	1	-1	1	1	1	- 1	1	-1	1
Mechanical joints		1	1	1	1	1		1	1	1	1	-1	1	1	1	1	1	1	1	1	1
Auxiliary voltages		1	1	1	1	1	1	1	1	1	1	-1	1	-1	1	1	1	-1	1	-1	1
Water levels of batteries		1		1	1	-1		- 1	1	1	1	- 1		- 1		1	1	- 1	1		1
Cooling system																					
Visual inspection		1	ı	1	1	1	1	1	1	1	1	-1	1	1	ı	1	1	1	-1	1	1
➤ Mechanical joints		1	1	-1	1	1	1	1	1	1	1	-1	1	1	1	1	1	- 1	1	1	1
> Cleaning/ change of fan filter		R	Т	T	R	Τ	Т	R	Т	Т	R	-1	Т	R	Т	Т	R	Т	Т	R	T
Parameters																					
➤ Inspection and change		1	Т	1	1	1	П	1	1	1	1	-1	1	1	ı	1	1	1	ı	1	T
➤ Backing-up the parameters		Р			Р			Р			Р			Р			Р			Р	Г
from programs to EEPROM  M-Unit (DG automatic)		<u> </u>			Ľ		<u> </u>	<u> </u>			L.						L.			<u> </u>	
> Checking the panels	_	1			1		_	1			1	1		1			1		-	1	1
➤ Switch function inspection	_	Р			Р			Р			Р			Р			Р			Р	
Updates in Electric Repair Center																					
Change the capacitors of power units		1	1	1	1	1	1	R	1	1	1	1	1	1	1	1	R	1	1	-1	1
Improvements																				_	_
SW / HW upgrade to improve performance if necessary		1	١.	1	1	1	١.	1	1	1		1	ı	1	1	1	1	Т	1	1	١.
➤ ABB VideoPrint		T	T	T	ı	ı	1	1	T	1	1	1	1	Т	$\overline{}$	1	1	ı	1	T	Т
➤ SELMA 2 modbus	-	i	H	i	i	i	H	Η	i	H	H	i	H	i	H	i	Ι÷	i	H	i	H
➤ Electrical interface RS232	-	÷	H	H	÷	÷	H	†	H	H	H	i	H	÷	H	H	H	÷	÷	H	H
	$\vdash$	,							'								<u>'</u>				
Spare Parts																					



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- R = Replacement of component
- I = Inspection (visual inspection, correction and replacement if needed)
- P = Performance of on-site work (commissioning, tests, measurements, etc.)