

# Interlocks

## Connection with standard ferrules



VM4

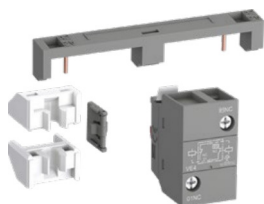


VM19

### Mechanical interlock units

The VM mechanical interlock units are designed for the interlocking of two AF contactors. When mounted between two contactors, the VM mechanical interlock unit prevents one of the contactors from closing as long as the other contactor is closed. The VM4 mechanical interlock unit includes 2 fixing clips (BB4).

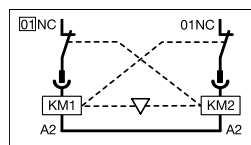
For contactors	Type	Order code	Pkg qty	Weight (1 pce)
AF09(Z)B ... AF38(Z)B-30	VM4	1SBN030105T1000	10	0.005
AF09(Z)B ... AF38(Z)B-40-00				kg
AF116(Z)B ... AF370(Z)B	VM19	1SFN030300R1000	1	0.054
AF116(Z)B ... AF146(Z)B and AF190(Z)B, AF205(Z)B	VM140/190	1SFN034403R1000	1	0.088
AF190(Z)B ... AF205(Z)B and AF265(Z)B ... AF370(Z)B	VM205/265	1SFN035203R1000	1	0.09



VEM4

### Mechanical and electrical interlock sets with screw terminals

VEM4 mechanical and electrical interlock set for the interlocking of two AF contactors. VEM4 set includes a mechanical interlock unit VM4 with 2 fixing clips (BB4) and a VE4 electrical interlock block with A2-A2 connection. Fixing the electrical interlock block to the contactor front face connects the 2 built-in N.C. interlocking contacts with the two coils. VE4 block must be used with A2-A2 connection to respect the electrical connection diagram. VE5-2 is mounted between 2 contactors on a rail.



For contactors	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
					kg

### Mechanical and electrical interlock set

AF09(Z)B ... AF16(Z)B-30	0 2	VEM4	1SBN030111R1000	1	0.035
AF26(Z)B ... AF38(Z)B-30-00					
AF09(Z)B, AF16(Z)B-40-00					
AF26(Z)B, AF38(Z)B-40-00					
AF45 ... AF95B	0 2	VE5-2	1SBN030210R1000	1	0.146

### Fixing clips

AF09(Z)B ... AF38(Z)B	BB4	1SBN110120W1000	50	0.002
-----------------------	-----	-----------------	----	-------



BB4

## VM4 mechanical interlock unit, VEM4 mechanical and electrical interlock set

### Technical data

#### Contact utilization characteristics according to IEC

Types	VM4	VM19, VM140/190, VM205/265
Mechanical durability	Number of operating cycles	5 millions operating cycles
	Max. mechanical switching frequency	1800 cycles/h
		1 million operating cycles
		300 cycles/h








#### Contact utilization characteristics according to IEC

Types	VEM4
Standards	IEC 60947-5-1 and EN 60947-5-1
Rated insulation voltage $U_i$ acc. to IEC 60947-5-1	690 V
Rated impulse withstand voltage $U_{imp}$	6 kV
Rated control voltage $U_c$	
	DC control voltage
	20...500 V DC
Conventional thermal current $I_{th} - \theta \leq 40^\circ\text{C}$	16 A
Mechanical durability	Number of operating cycles
	5 millions operating cycles
	Max. mechanical switching frequency
	1800 cycles/h
Electrical durability	Max. electrical switching frequency
	1200 cycles/h

#### Contact utilization characteristics according to UL / CSA

Types	VEM4
Standards	UL 508, CSA C22.2 N°14
Max. operational voltage	500 V AC, 500 V DC

#### Connecting characteristics

Types	VEM4
Connection capacity (min. ... max.)	
 Rigid solid	1 x 1...2.5 mm <sup>2</sup>
 Flexible with non insulated ferrule	2 x 1...2.5 mm <sup>2</sup>
 Flexible with non insulated ferrule	1 x 0.75...2.5 mm <sup>2</sup>
 Flexible with insulated ferrule	2 x 0.75...2.5 mm <sup>2</sup>
 Flexible with insulated ferrule	1 x 0.75...2.5 mm <sup>2</sup>
 Flexible with insulated ferrule	2 x 0.75...1.5 mm <sup>2</sup>
 Lugs	L < 8 mm
Connection capacity acc. to UL/CSA	1 or 2 x AWG 18...14
Stripping length	10 mm
Tightening torque	1.2 Nm / 11 lb.in
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529	IP20
Screw terminals	Delivered in open position, screws of unused terminals must be tightened
All terminals	M3,5
Screwdriver type	Flat Ø 5.5 / Pozidriv 2