

Vacuum Circuit Breakers

VCB15/25

Selection sheet



Maintenance free

The switching module's robust design guarantees up to 50,000 rated current and 100 full rated short circuit CO operations with no maintenance required.



Continuous self-supervision

The whole trip and close circuit supervision come in a single package with any VCB. In the event of a malfunction, it will be indicated locally with LED and remotely via relay contacts.



Most compact dimension and weight

With a weight starting from 34 kg, Tavrída Electric's circuit breakers are the lightest in their class which significantly simplifies the installation process.



Any spatial orientation

Adjustment and mounting flexibility for the optimization of switchgear design, which allows to define how to make primary and secondary connections, saving even more space.



High operational speed

Opening and closing times as low as 12 ms and 24 ms respectively, enabling the implementation of fast transfer switching, arc flash mitigation or fault current limitation.

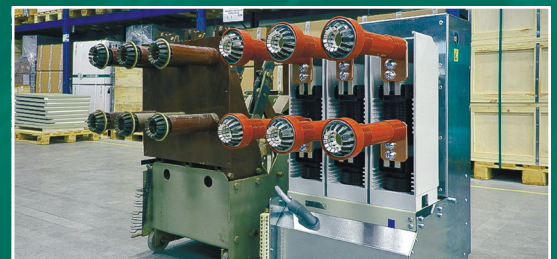


Single phase option

The perfect match for applications like transformers or generators with neutral earthing, server rooms and point on wave switching.

Tavrída Electric is a world-class manufacturer of medium voltage switchgear such as Vacuum Circuit Breakers & Automatic Circuit Reclosers. The VCB series circuit breaker is the result of extensive R&D efforts to provide outstanding performance for compact switchgear designs, retrofit programs, and special applications.

After 27 years on the market, the VCB series install base has reached 500,000 units worldwide continuing to resolve most ambitious customer problems.



Circuit Breaker Selection Guide



VCB15_LD1

Three Phase Light Duty Circuit Breakers

VCB15_LD1_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	12 kV		1							
Rated short circuit breaking current	20 kA			1						
Rated normal current	800 A				1					
Pole center distance	150 mm 180 mm 210 mm					1 2 3				
Main low terminal design	One main lower terminal if PCD is 150 mm One main lower terminal if PCD is 180 mm One main lower terminal if PCD is 210 mm Two main lower terminals if PCD is 150 mm						1 2 3 4			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (Without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (Without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (Without CM)									1 2 3 4 5 6 7 8 9



VCB25_LD1

Three Phase Light Duty Circuit Breakers

VCB25_LD1_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	17.5 kV 24 kV		1 2							
Rated short circuit breaking current	16 kA			1						
Rated normal current	800 A				1					
Pole center distance	210 mm for 17.5 kV rated voltage 210 mm for 24 kV rated voltage 275 mm for 17.5 kV rated voltage 275 mm for 24 kV rated voltage					1 2 3 4				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9





VCB15_MD1

Three Phase Medium Duty Circuit Breaker

VCB15_MD1_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	17.5 kV		1							
Rated short circuit breaking current	31.5 kA			1						
Rated normal current	1250 A				1					
Pole center distance	150 mm 210 mm					1 2				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9



VCB15_SHELL2

Three Phase Shell Circuit Breaker

VCB15_SHELL2_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	12 kV 17.5 kV		1 2							
Rated short circuit breaking current	31.5 kA			1						
Rated normal current	1250 A 2000 A				1 2					
Pole center distance	150 mm 210 mm (if rated voltage 12 kV and normal current 1250 A) 210 mm (if rated voltage 17.5 kV and normal current 1250 A) 210 mm (if rated voltage 12 kV and normal current 2000A) 210 mm (if rated voltage 17.5 kV and normal current 2000A) 275 mm (if rated voltage 12 kV and normal current 1250 A) 275 mm (if rated voltage 17.5 kV and normal current 1250 A) 275 mm (if rated voltage 12 kV and normal current 2000A) 275 mm (if rated voltage 17.5 kV and normal current 2000A)					1 2 3 4 5 6 7 8 9				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9





VCB15_HD1

Three Phase Heavy Duty Circuit Breaker

VCB15_HD1_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	17.5 kV		1							
Rated short circuit breaking current	31.5 kA			1						
Rated normal current	2500 A 3150 A				1 2					
Pole center distance	210 mm 275 mm					1 2				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9



VCB15_LD3

Single Phase Light Duty Circuit Breaker

VCB15_LD3_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	12 kV		1							
Rated short circuit breaking current	20 kA			1						
Rated normal current	800 A				1					
Pole center distance	Not applicable					1				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9





VCB25_LD3

Single Phase Light Duty Circuit Breaker

VCB25_LD3_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	24 kV		1							
Rated short circuit breaking current	16 kA			1						
Rated normal current	800 A				1					
Pole center distance	Not applicable					1				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality Without CM							1 2		
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM								1 2 3	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)									1 2 3 4 5 6 7 8 9



VCB15_MD3

Single Phase Medium Duty Circuit Breaker

VCB15_MD3_16.F		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9
Customization	Without customization	1								
Rated voltage	17.5 kV		1							
Rated short circuit breaking current	31.5 kA			1						
Rated normal current	1250 A				1					
Pole center distance	Not applicable					1				
Main low terminal design	One main lower terminal						1			
CM settings	Basic circuit breaker functionality							1		
	Without CM							2		
Rated auxiliary supply voltage	24-60 V DC								1	
	110-220 V AC/DC								2	
	Without CM								3	
Language	English (for 24-60 V DC auxiliary supply voltage)									1
	English (for 110-220 V AC/DC auxiliary supply voltage)									2
	English (without CM)									3
	Spanish (for 24-60 V DC auxiliary supply voltage)									4
	Spanish (for 110-220 V AC/DC auxiliary supply voltage)									5
	Spanish (without CM)									6
	Portuguese (for 24-60 V DC auxiliary supply voltage)									7
	Portuguese (for 110-220 V AC/DC auxiliary supply voltage)									8
	Portuguese (without CM)									9



CM_16_1

Control Module

CM_16_1		Par1	Par2	Par3	Par4	Par5
Language	English	1				
	Spanish	2				
	Portuguese	3				
Rated supply voltage and CM hardware version	24-60 V DC, version 1		1			
	110-220 V AC/DC, version 1		2			
Firmware functionality	Basic circuit breaker functionality			1		
ISM driver firmware used in CM and protection setting ⁽¹⁾	ISM15_LD_1, ISM15_LD_6 and without protection				1	
	ISM15_LD_3 and without protection				2	
	ISM15_MD_1 and without protection				3	
	ISM15_MD_3 and without protection				4	
	ISM15_Shell_2 and without protection				5	
	ISM15_HD_1 and without protection				7	
	ISM25_LD_1, ISM25_LD_2 and without protection				9	
	ISM25_LD_3 and without protection				10	
Factory configurable settings	Relay 1 - Switching module position functionality;					1
	Relay 2 - Ready functionality;					
	Relay 3 - Malfunction or Loss of auxiliary supply functionality;					
	Trip by dry contacts close command					
	Close by dry contacts close command					

1. ISM trip in case of auxiliary power supply loss protection is available. please approach local sales contact for assistance.



VCB15_MD1_16D		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9	Par10	Par11	Par12
Customization	Without customization	1											
Rated voltage	17.5 kV		2										
Rated short circuit current	31.5 kA			1									
Rated normal current	1250 A				1								
Phase center distance	150 mm 210 mm					1 2							
Terminal center distance	205 mm						1						
Lower terminal height	260 mm if PCD is 150 mm 260 mm if PCD is 210 mm							1 2					
CM settings	Basic circuit breaker functionality Without CM							1 2					
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM									1 2 3			
Auxiliary circuits plug	Plastic plug Metal plug										1 2		
Optional interlock	Without optional interlocks Interlock against VCB rack in/out without auxiliary voltage - 220 V AC/DC											1 2	
Language	English (for 24-60 V DC auxiliary supply voltage) English (for 110-220 V AC/DC auxiliary supply voltage) English (without CM) Spanish (for 24-60 V DC auxiliary supply voltage) Spanish (for 110-220 V AC/DC auxiliary supply voltage) Spanish (without CM) Portuguese (for 24-60 V DC auxiliary supply voltage) Portuguese (for 110-220 V AC/DC auxiliary supply voltage) Portuguese (without CM)												1 2 3 4 5 6 7 8 9

Draw-Out Unit with Heavy Duty Circuit Breaker



VCB15_HD1_16D		Par1	Par2	Par3	Par4	Par5	Par6	Par7	Par8	Par9	Par10	Par11	Par12
Customization	Without customization	1											
Rated voltage	17.5 kV		2										
Rated short circuit current	31.5 kA			1									
Rated normal current	2000 A 1250 A				1 2								
Phase center distance	210 mm 275 mm					1 2							
Terminal center distance	310 mm						1						
Lower terminal height	260 mm if PCD is 150 mm 260 mm if PCD is 210 mm							1 2					
CM settings	Basic circuit breaker functionality Without CM								1 2				
Rated auxiliary supply voltage	24-60 V DC 110-220 V AC/DC Without CM									1 2 3			
Auxiliary circuits plug	Plastic plug Metal plug										1 2		
Optional interlock	Without optional interlocks Interlock against VCB rack in\out without auxiliary voltage - 220 V AC/DC											1 2	
Language	English (for 24-60 V DC auxiliary supply voltage)												1
	English (for 110-220 V AC/DC auxiliary supply voltage)												2
	English (without CM)												3
	Spanish (for 24-60 V DC auxiliary supply voltage)												4
	Spanish (for 110-220 V AC/DC auxiliary supply voltage)												5
	Spanish (without CM)												6
	Portuguese (for 24-60 V DC auxiliary supply voltage)												7
	Portuguese (for 110-220 V AC/DC auxiliary supply voltage)												8
	Portuguese (without CM)												9



VCB Accessories and spare parts



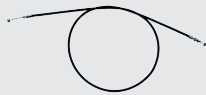
Manual generator

The manual generator is used to charge the CM_16_1 in cases where the main auxiliary power supply is not available



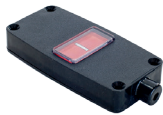
Interlocking kits

The kit attaches to the ISM Interlocking shaft and serves as a manual trip / lockout accessory



Release and indication cables

The flexible release and indication cables are used for interlocks or ISM position indicator connection to the ISM



Position indicator

The position indicator used together with CBcomp_RelCable_1 to indicate the ISM main circuit position



Insulation kits

The insulation kits provide compliance with declared BIL level (125 kV / 95 kV)



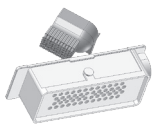
Mounting kit

The kit is used with the ISM15_HD_1 only. The kit attaches to the ISM required mounting points to provide 95 kV BIL



Connector

The kit is used to provide Switchgear fixed contact counterpart for DOU main circuits connection



Plug

The kit is used to provide counterpart for draw-out unit (DOU) auxiliary circuits connector in the switchgear panel



Draw-out unit interlocking kit



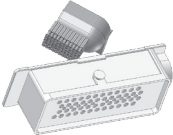


The interlock blocks DOU rack in/out functionality in case auxiliary voltage (provided for solenoid installed on DOU plate) is absent



Indoor switching module and control module

Indoor switching module and control module can be ordered separately as spare parts

Draw-out unit accessories and spare parts






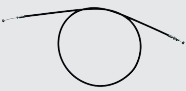

DRAW-OUT UNIT ACCESSORIES/SPARE PARTS		APPLICABILITY PER UNIT	
		VCB15	
		MD1_D	HD1_D
<div>Manual generator</div> <div></div> <div>CBunit_ManGen_1 for CM_16_1(220_Par2_Par3)</div> <div>CBunit_ManGen_2 for CM_16_1(60_Par2_Par3)++</div>		<div>•</div> <div>•</div>	<div>•</div> <div>•</div>
<div>Connector</div> <div></div> <div>SGkit_Connector_1(Par1_Par2)</div>		<div>•</div>	<div>•</div>
<div>Plug</div> <div></div> <div>CBkit_Plug_(Par1)</div>		<div>•</div>	<div>•</div>
<div>Interlocking kit</div> <div></div> <div>CBkit_Interlock_6(Par1)</div>		<div>•</div>	<div>•</div>
<div>ISM and CM</div> <div></div> <div>ISM15_XX**</div> <div>CM_16_1</div>		<div>•*</div> <div>•*</div>	<div>•*</div> <div>•*</div>

* Accessory or spare part is installed or included in the delivery.

** ISM and CM are selected in accordance with the Circuit breaker version – approach local sales contact for assistance.



Fixed type VCB accessories and spare parts



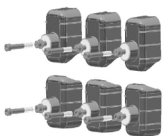
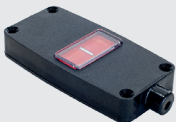


FIXED TYPE VCB ACCESSORIES/SPARE PARTS		APPLICABILITY PER UNIT									
		VCB15						VCB25			
		LD1	LD3	MD1	MD3	HD1	Shell2		LD1		LD3
							12 kV	17.5 kV	17.5 kV	24 kV	
Manual generator 	CBunit_ManGen_1 for CM_16_1(220_Par2_Par3)	•	•	•	•	•	•	•	•	•	•
	CBunit_ManGen_2 for CM_16_1(60_Par2_Par3)	•	•	•	•	•	•	•	•	•	•
Interlocking kit 	CBkit_Interlock_1	•	• ¹						•	•	• ¹
Interlocking kit 	CBkit_Interlock_3(Par1) (rotary switch type)			•	•	•	• ²	• ²			
Interlocking kit 	CBkit_Interlock_4(Par1) (key switch type)			•	•	•	• ²	• ²			
Interlocking kit 	CBkit_Interlock_5(Par1) (push button type)			•	•	•	• ²	• ²			
Release cable 	CBcomp_RelCable_1(Par1) Relcable is included in the CBkit_Interlock_3/4/5 package			•	•	•	•	•			
Mounting kit 	CBmount_ISM15_1					•					

1) Accessory or spare part is installed or included in the delivery.

2) CBkit_Interlock3/4/5 can be used with Shell2 VCBs only with the additional CBkit_Interlock_8 – approach local sales contact for assistance.

3) 150pcs version of VCB15_Shell2 is supplied with CBkit_Shell15 insulation kit.

4) ISM and CM are selected in accordance with the Circuit breaker version – approach local sales contact for assistance.

FIXED TYPE VCB ACCESSORIES/SPARE PARTS		APPLICABILITY PER UNIT									
		VCB15							VCB25		
		LD1	LD3	MD1	MD3	HD1	Shell2		LD1		LD3
							12 kV	17.5 kV	17.5 kV	24 kV	
Insulation kit											
	CBkit_Ins_3								•	• ¹	• ¹
Insulation kit											
	CBkit_Ins_4			•	•						
Insulation kit											
	CBkit_Shell15_1						• ³	• ¹			
Position indicator											
	CBkit_PosInd_1			• ¹	• ¹	• ¹	• ¹	• ¹			
Indication cable											
	CBcomp_IndCable_1(Par1)			• ¹	• ¹	• ¹	• ¹	• ¹			
ISM and CM											
	ISM15_XX ⁴	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹			
	ISM25_XX ⁴								• ¹	• ¹	• ¹
	CM_16_1	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹

1) Accessory or spare part is installed or included in the delivery.

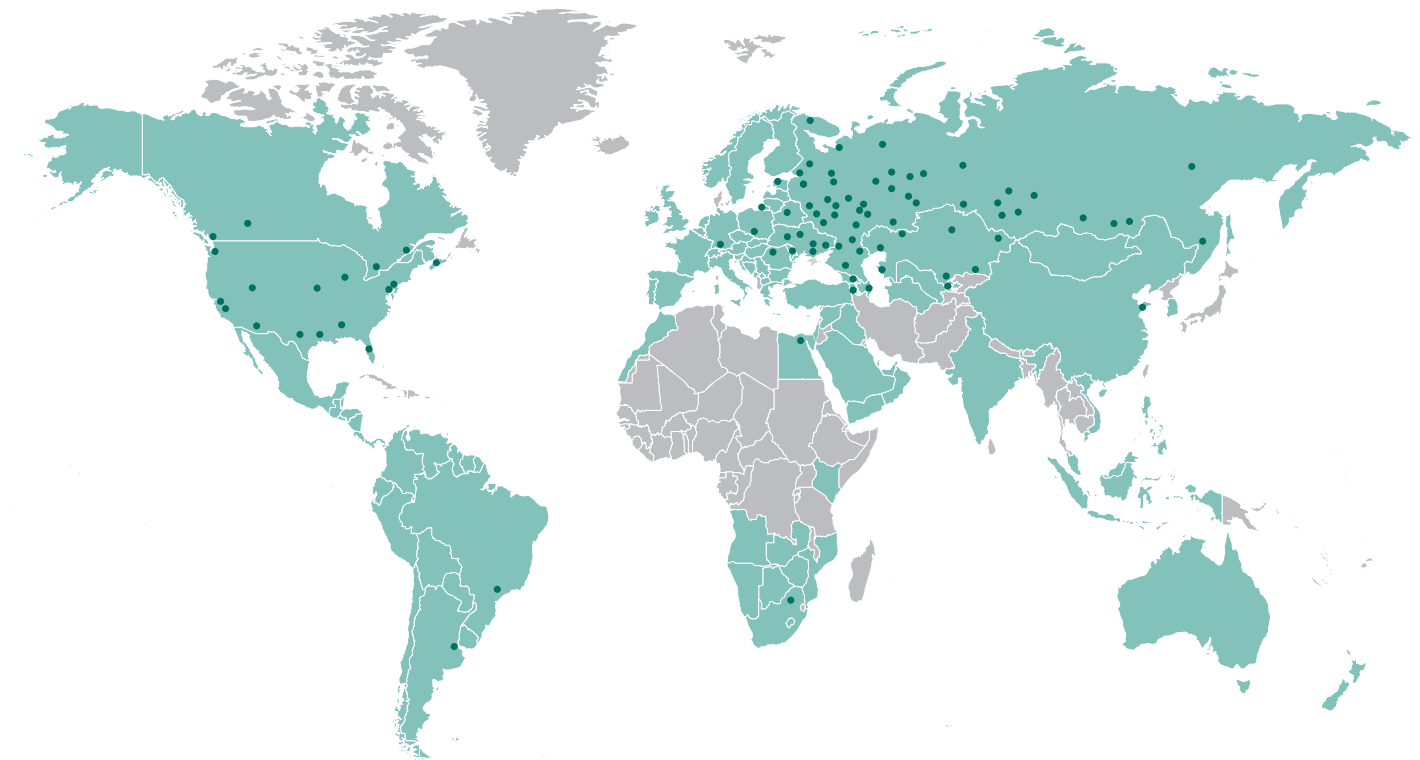
2) CBkit_Interlock3/4/5 can be used with Shell2 VCBs only with the additional CBkit_Interlock_8 – approach local sales contact for assistance.

3) 150pcs version of VCB15_Shell2 is supplied with CBkit_Shell15 insulation kit.

4) ISM and CM are selected in accordance with the Circuit breaker version – approach local sales contact for assistance.



**If you would like to obtain more detailed information about our solutions
or become one of our local partners, please feel free to contact us**



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