

ISM15_SHELL_2 Series

Three-Phase
vacuum circuit breakers

**5 YEAR
WARRANTY**



Tavrida Electric solutions ensure reliable power system operation in more than 80 countries.



- 15kV systems
- up to 2000 A continuous rated current
- 31.5 kA short circuit breaking current
- Magnetically actuated vacuum interrupters
- Tested to 30,000 CO operations at full load
- Maintenance free and light weight
- 5-year warranty

Tavrida Electric is a world-class manufacturer of medium voltage switchgear such as Vacuum Circuit Breakers & Automatic Circuit Reclosers. The ISM 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 30 years on the market, the ISM series install base has reached over 500,000 units worldwide continuing to resolve most ambitious customer problems.

ISM15_SHELL_2 Series



The ISM_Shell_2 Series Circuit Breaker Module has superior characteristics for fast trip applications as well as high-duty switching. The interrupters are driven by three (3) separate magnetic actuators (one per pole) and the module is capable of 30,000 close-open operations at full load.

The ISM_Shell can handle as much as 2000A continuous with 31.5kA interrupting. At only 21" high and 9" deep, the exceptionally compact, solid dielectric design insulates the phases from each other while the direct, linear connection from the actuator to the interrupter delivers a break time of less than 3 cycles as a standard. A 1 cycle break time is available for special applications.

An integrated trip lever at the rear of the module blocks the unit operation electrically as well as mechanically. Six NO and six NC contacts are built-in and a visual position indicator is also provided.

This simple design results in the highest reliability available today. Tavrída delivers a maintenance free breaker with a life expectancy of up to 30,000 close-open operations.

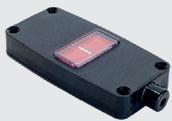
The CM_16 Control Module serves as the interface between the ISM and a host of third party relays and controls.

ISM Accessories and Spare Parts¹



Control module (CM):

Control module (the CM is a microprocessor based controller that provides ISM operation, protection and data logging functions) can be ordered separately as a spare part. One control module is required per breaker.



Position indicator:

The position indicator is used together with indication cable to indicate the ISM main contacts state. Note: the position indicator is supplied with each SHELL breaker.



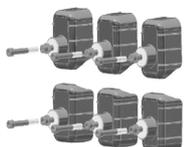
Interlocking kits:

The kit attaches to the ISM shaft and serves as a manual trip / lockout accessory (the push button kit serves only as a manual trip accessory). The kits can be used with Shell2 breakers only with the additional CBkit_Interlock_8 – approach local sales contact for assistance.



Manual generator:

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



Insulation kit:

The insulation kit provides the necessary phase-to-phase and phase to-ground insulation for most compact designs when standard clearance requirements cannot be met.

¹Additional accessories are available. Contact Tavrída Electric North America Inc. for details.

Basic Operating Parameters

Rated Data

Rated voltage (U_p), up to	15kV
Rated continuous current (I_p)	1250A (2000A ¹)
Rated power frequency withstand voltage (U_d)	36kV
Rated lightning impulse withstand voltage (peak) (U_p)	95kV
Rated short-circuit breaking current (I_{sc})	31.5kA
Rated peak withstand current (I_p , close and latch)	82kA
Rated short-time withstand current, 4s (I_k)	31.5kA
Rated frequency	50/60Hz

Switching Performance

Mechanical life (CO cycles)	30,000
Operating cycles, rated current (CO cycles)	30,000
Electrical endurance, breaking current (O-CO cycles)	50
Closing time ²	20ms ²
Opening time ²	8ms ²

Standards

Design class with regard to severity of service conditions in accordance with IEC 60932	Class 1
International testing standards	IEC 62271-100, GB 1984-2003, IEEE C 37.09
Mechanical vibration withstand capability according to IEC 60271, IEC 60068	Class 4M4

Other Data

Resistance of main circuit	<18 μ Ohm
Available pole center distances	150mm, 210mm, 275mm (5.91inch, 8.27inch, 10.83inch)
Type of driving mechanism	Monostable magnetic actuator
Weight	51-55kg (112.44lbs-121.25lbs)

Auxiliary contacts

Number of available auxiliary contacts	6NO + 6NC
Rated power frequency test voltage	2kV

¹1200A rating for ISM_Shell_2(150). 2000A rating for all other pole center distances

²Closing and opening times of the ISM without control module standard recognition times.



