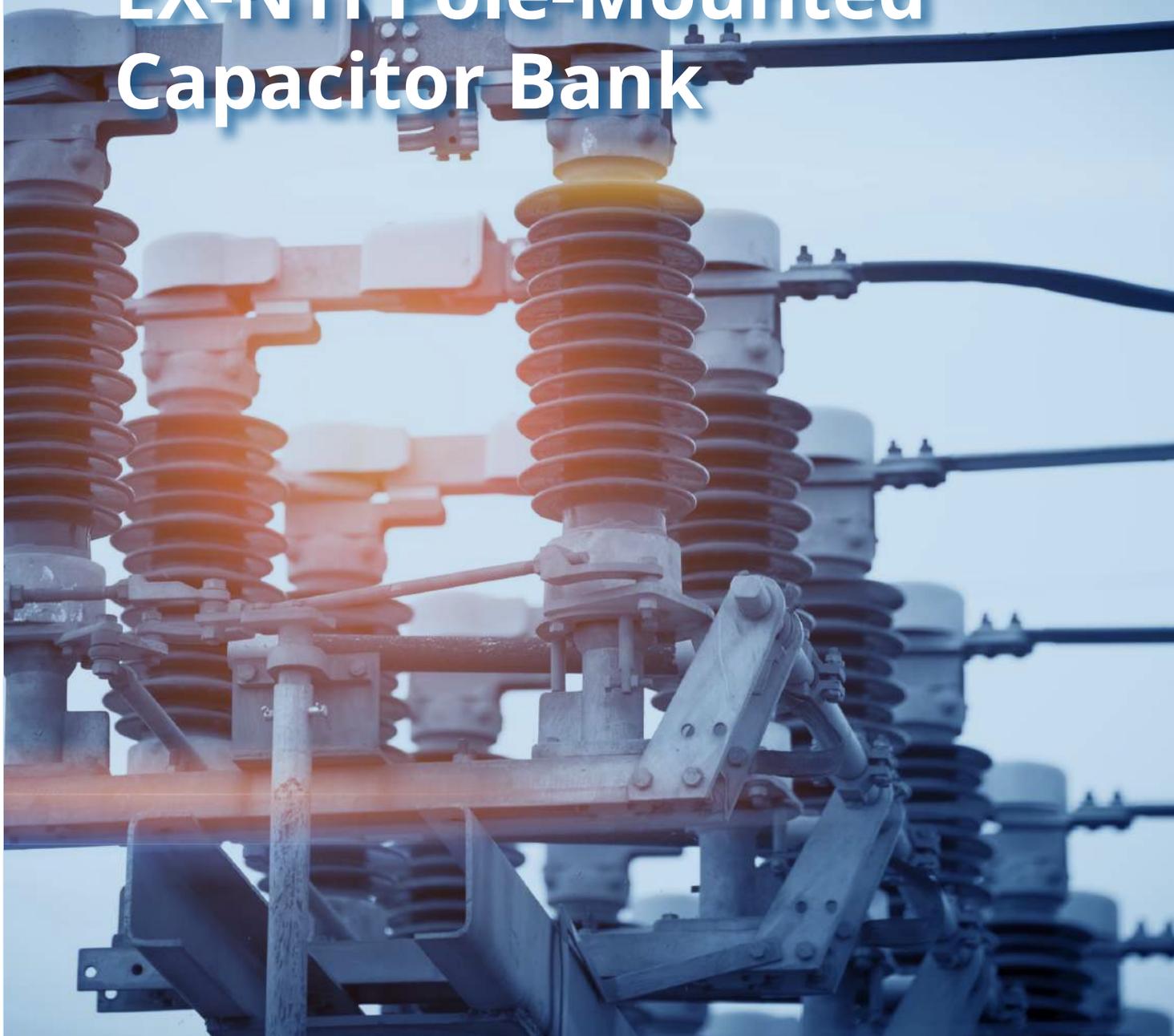


EX-NTi Pole-Mounted Capacitor Bank



EATON

Powering Business Worldwide

Solutions for a rapidly evolving world

Eaton serves a diverse and increasingly complex market with its Cooper Power™ series medium-voltage product portfolio. As well-established markets evolve and new markets emerge, we continue to innovate and adapt to the requirements of an increasingly digital and connected world. Eaton's medium-voltage equipment solutions, whether installed as a single piece of equipment or as part of an integrated solution with sophisticated controls and communication capabilities, are designed for long life and superior reliability. Eaton offers a broad range of engineering expertise—from overcurrent and overvoltage protection, relaying, communications, system analysis and other specialties—making it possible to solve even the most challenging of requirements.

Market experience to enhance project success

- Custom-designed solutions
- Site evaluation
- Integration with utility systems
- Startup and commissioning
- Retrofit solutions
- Troubleshooting

Solutions to improve

- Reliability
- Efficiency
- System performance
- Safety
- Sustainability

Unmatched expertise

- Broad knowledge and expertise of medium-voltage systems
- Customized engineered-to-order capabilities
- Responsive and knowledgeable technical support
- Application and design support
- Power systems studies and analysis



Eaton Electrical

We help customers meet the demands of the world's ever-growing need for power through improving efficiency and uptime, meeting regulatory requirements and protecting people and equipment. Our electrical products help utilities generate, transmit and distribute power. And once that power is distributed, we help people use it efficiently and safely, whether in a building, industrial facility, data center or home. Our solutions range from circuit breakers to switchgear to machine controls. We offer a full portfolio of backup power and surge protection, providing maximum uptime and guarding against power surges or outages. In hazardous environments we help protect people and property with explosion-proof enclosures, signaling, notification and surveillance systems. Our comprehensive portfolio of end-to-end electrical solutions is complemented by our full-scale engineering and support services.

Our customers span a wide range of markets, including residential, commercial and institutional buildings, industrial facilities, utilities, data centers, oil and gas, mining and machine original equipment manufacturers (OEMs).

Key growth drivers:

- Among the top 4 large global players in the worldwide low- and medium-voltage electrical industry
- Strongest distribution network in North America
- Market leader for applications in harsh and hazardous applications
- Positioned well to leverage growing demand for connected and intelligent solutions Strong intellectual property position

Electrical Sector

Powering what matters

New capabilities that are safer, more sustainable, always on and secure

- Reliability
- Efficiency
- System performance
- Safety
- Sustainability





Eaton's Cooper Shanghai Power Capacitor

Established in 2004, Cooper Shanghai Power Capacitor is member of Eaton Corporation, located in the East Area of Shanghai. Equipped with a complete set of state-of-the-art power capacitor manufacturing system, the company leverages equipment automation to drive product quality improvement. By adopting patented technologies and processes in multiple key stages of production, the company ensures that its products perform beyond expectations, even in extreme working conditions.

For years, the company has been dedicated to provide comprehensive solutions for reactive power compensation and harmonic management. Product portfolio covers a full range of LV/MV/HV, extra-high, and ultra-high voltage products, including power capacitors, SVGs, APFs, pole-mounted capacitor switch, as well as reactive power compensation and filter assemblies.

Through more than 20 years of efficient operation and continuous innovation, Cooper Shanghai Power Capacitor has achieved remarkable success domestic and abroad. Its products are applied in various industries and applications including power grid systems, industrial users, commercial buildings, mining operations, and new energy & green electricity. The continuous emergence of new applications represents the company's continuous breakthroughs in reactive power compensation and filtering products.

24kV Pole-mounted Capacitor Bank

Introduction

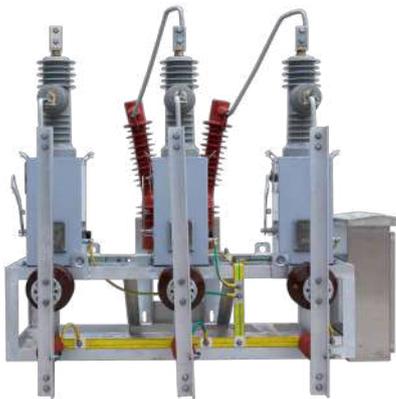
Eaton's Cooper Power™ series products deliver a versatile and integrated solution that can be tailored to specific application requirements.

Building on this comprehensive platform, Eaton also offers pole-mounted capacitor bank solutions, specifically designed for public and rural utility grids.

These assemblies bring reactive power compensation directly to the line, providing utilities with an efficient, space-saving approach to improve power quality and maximize the grid performance.

Key Product Highlights

- Factory-assembled and pre-fabricated for quick and easy field installation
- Eaton's Type EX-7 power capacitors with patented technology and design innovation
- Advanced vacuum interrupters for high-performance switching
- Lightweight and environmentally friendly materials
- Improved power factor and voltage profile
- No regular maintenance required
- Enhanced overall power flow
- Reduced distribution losses

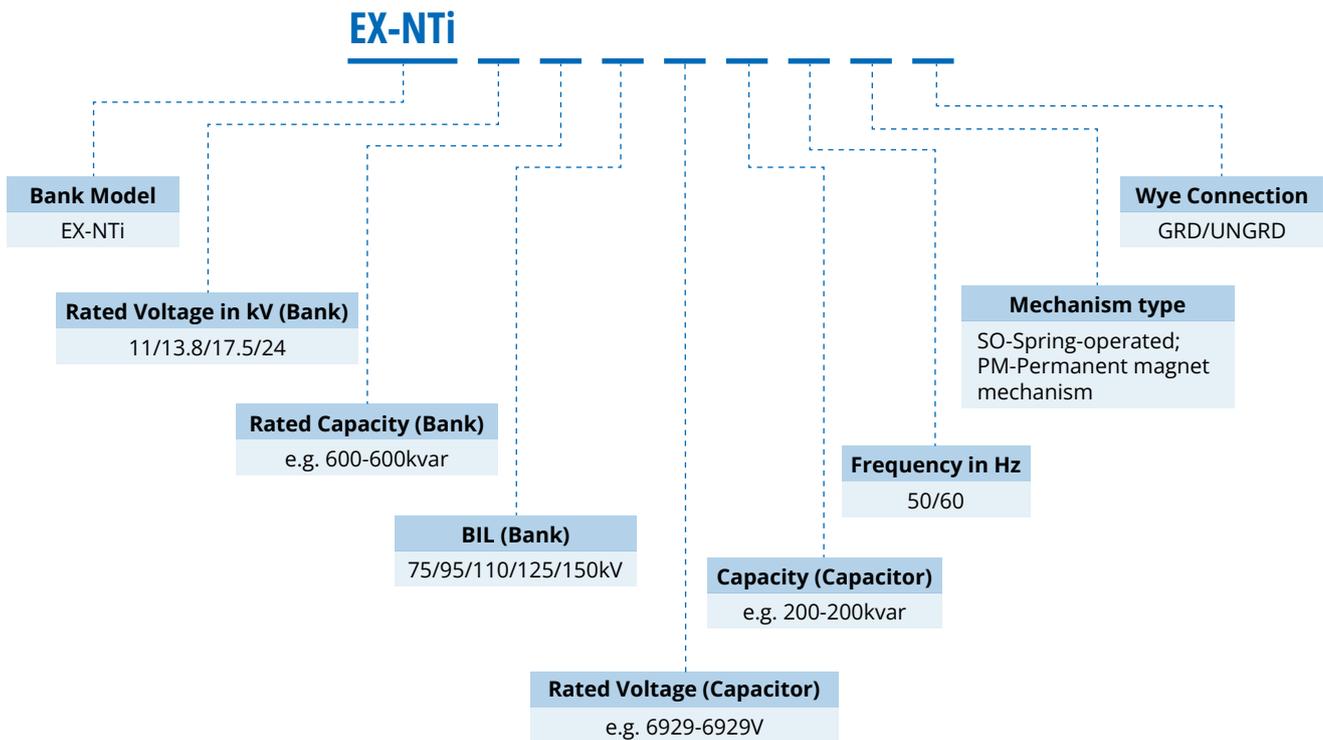


Do you know

Eaton's Cooper Power Systems has more than 70 years experience improving power quality using capacitors

Pole-mounted Capacitor Bank Solution

Model Designation of EX-NTi Pole-Mounted Capacitor Bank



Eaton provides a wide range of configurable pole-mounted capacitor switch rack solutions tailored to meet diverse reactive power compensation needs across modern distribution networks. By offering flexible options like voltage level, control methods, and installation configurations, these systems ensure optimal power factor correction, improved voltage stability, and reduced system losses.

The customized process includes the following required information:

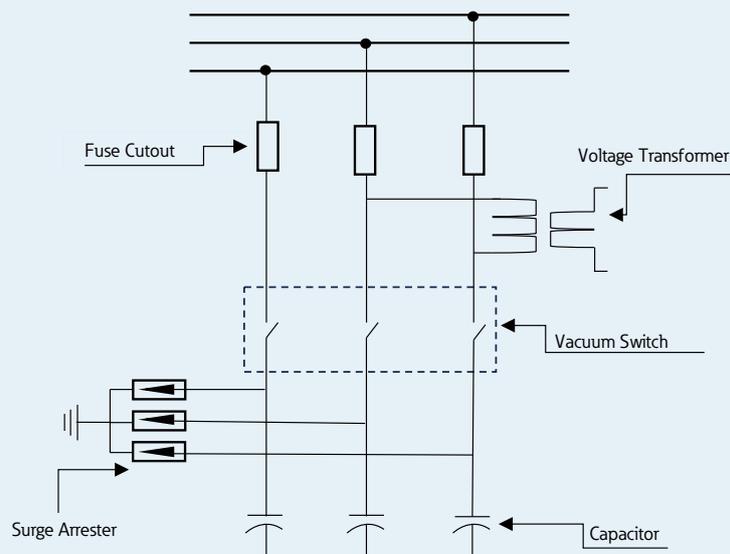
1. System Electric Parameters and Connection method;
2. Ambient Conditions
3. Bank BIL and Configuration
4. Controller and Control Strategy
5. Capacitor Switch and Units Requirements
6. Accessories:
 - Surge Arrestor
 - Voltage Transformer
 - Fuse Cutout
 - etc.

Pole-mounted Capacitor Bank Solution

Technical Specification

EX-NTi 24kV Pole-mounted Capacitor Bank

Rated Voltage, L-L (kV)	Up to 24
System Frequency (Hz)	50/60
Rated Current (A)	200/400
Capacitive switching current (A)	200/400
Rated symmetrical interrupting current for 1 sec (kA_{rms})	4.5
Rated asymmetrical interrupting current (kA_{peak})	9
Rated transient inrush current (kA)	6
Withstand peak current (kA)	12.5
Rated peak fault-making current (kA)	15
Impulse withstand voltage (kV)	75, 95, 110, 125, 150kV-BIL
Max. ambient temperature (°C)	Up to 55
Max. relative humidity (%)	Up to 90 (Non-condensing)
Operating Voltage (V)	110/220Vac
Open Close cycle time (msec)	100
Number of Poles	1
Mechanism type	Spring-operated mechanism, or Permanent magnet mechanism



Pole-mounted Capacitor Bank Solution

Eaton's Cooper McGraw-Edison™ EX™-7L Power Capacitor

EX™-7L Externally Fused Capacitor	
Capacity	10-800kvar
Voltage	1-24kV
Frequency	50/60Hz, others
Compliance Standard	IEC, IEEE, ANSI, GB, DL, NBR...
Impulse withstand voltage	75, 95, 110, 125, 150, 170kV-BIL
Dielectric Fluid	EDISOL™, Non-PCB
Temperature Category	-45°C~+55°C
Film	All-film, Extended Foil
Container	Stainless Steel
Connection	Solderless Connections
Number of Capacitor Bushing	1 or 2



Technical Features:

Dual Discharging Resistor System

- Discharging resistors equipped between terminals and in each series group, ensuring safe operation and handling
- IEC, IEEE or other customized discharging demand

EDISOL™ Capacitor Fluid

- Patent additive
- Excellent overvoltage resistance
- PCB free, biodegradable and environmentally friendly insulation oil with high ignition point
- High gas absorption and low gas release

EX™ Mechanical Crimping Connection System

- Tighter connection of components
- The impedance between components in each layer significantly reduced, ensuring low loss of capacitors
- Capable of withstanding higher instantaneous currents and partial discharge impacts
- Ensure the reliability of the connection

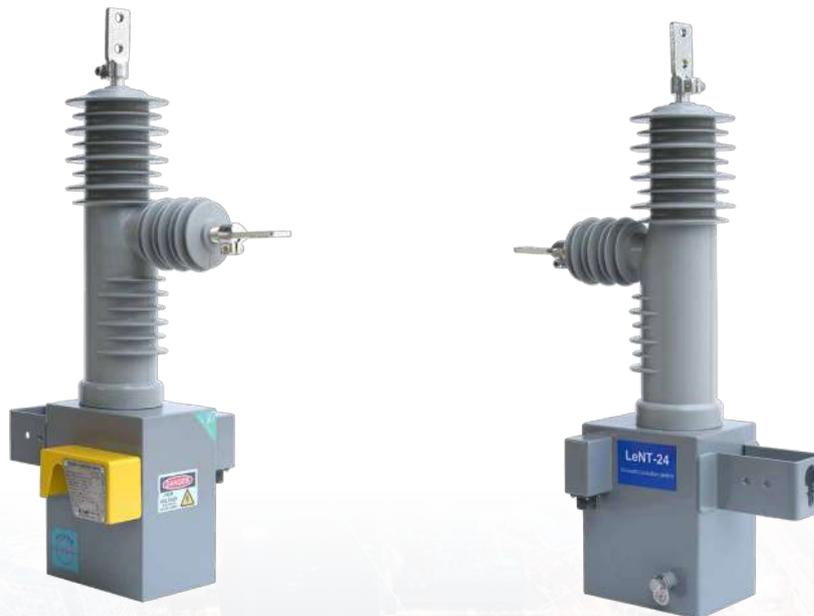
Pole-mounted Capacitor Bank Solution

Eaton's Type LeNT Capacitor Switch Description

The LeNT series capacitor switches are mainly specifically engineered to handle the demanding switching requirements of distribution capacitor banks in medium-voltage power system. This product line is primarily developed for 24kV and below class applications.

Each switch features a solid dielectric insulation system and a vacuum interrupter and is available with either a permanent magnet or a spring-operated mechanism to suit different application requirements. The design fully complies with IEEE/ANSI C37.66 standard, ensuring high reliability and performance in field conditions.

To ensure safety during live operation, all switches are equipped with wildlife protection that help shield energized terminals from accidental contact. Eaton is committed to environmental sustainability – all materials used in the LeNT switch are environmentally friendly.



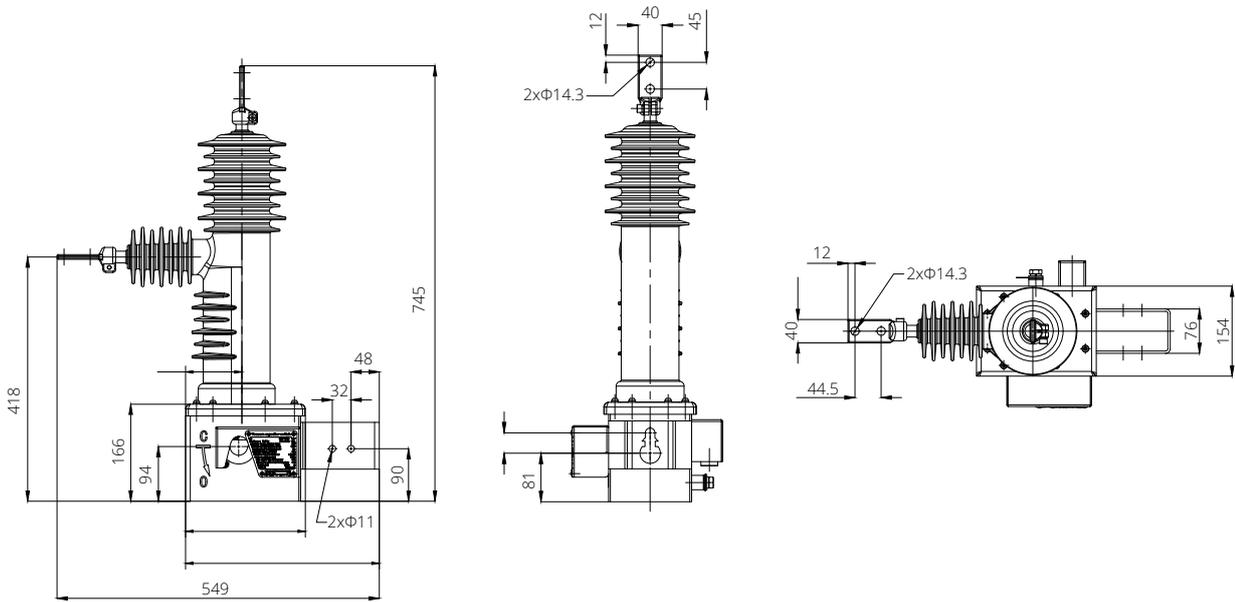
From above Images, the typical extrinsic feature and the structure of the switch can be clearly observed.

In general, capacitor switches are made up of following components: Vacuum Interrupter, Operating Mechanism, Terminal Connectors, Control Box, Pin Plug Terminal, etc.

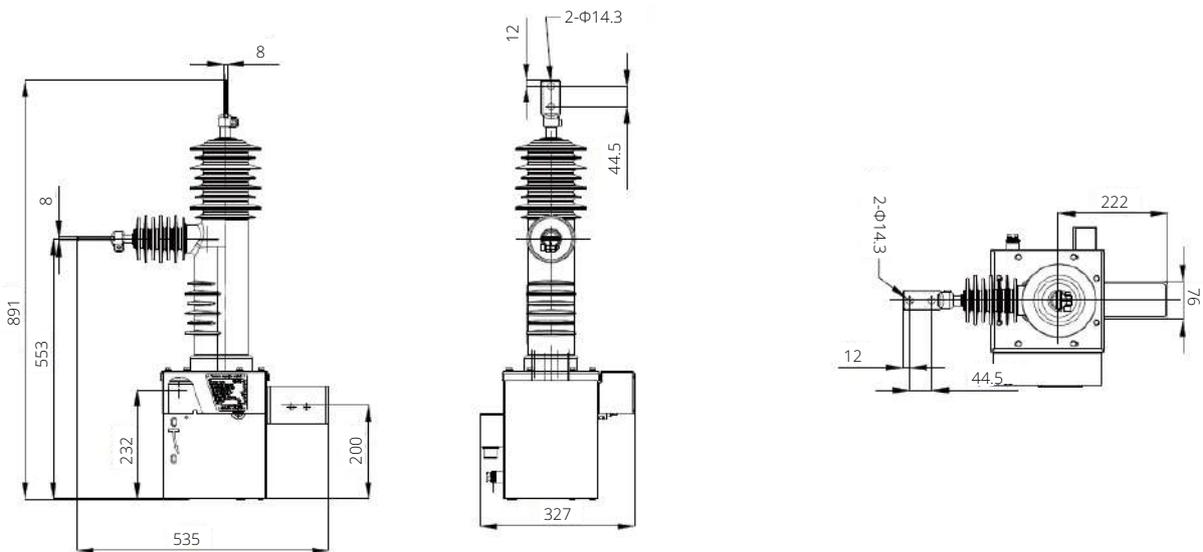
Pole-mounted Capacitor Bank Solution

Switch Dimension Reference

Permanent Magnet Mechanism Dimension



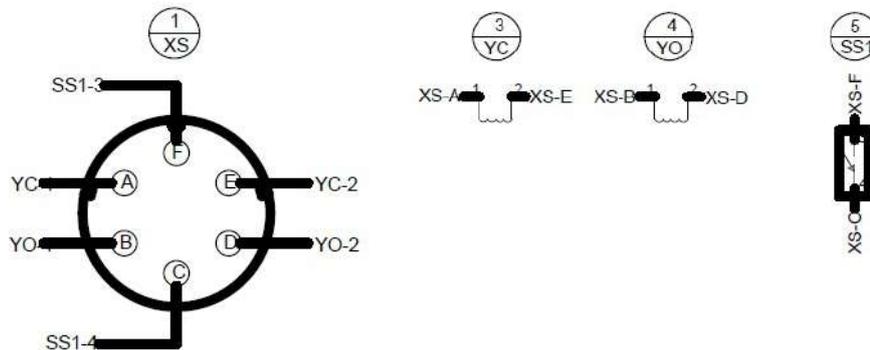
Spring-Operated Mechanism Dimension



Pole-mounted Capacitor Bank Solution

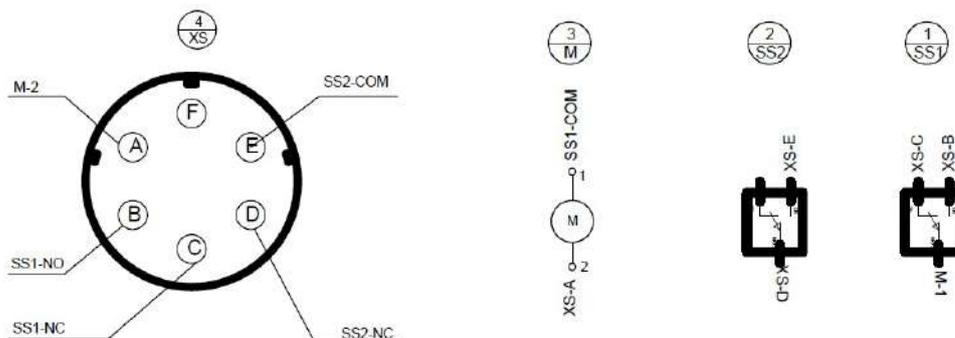
Pin Plug Terminal

Permanent Magnet Mechanism



Series Nr.	Code	Designation	QTY	Remarks
1	XS	Socket/C61909-025 MS3012A 18-12P	1	
2	XP	Plug/C61909-026 MS3012A 18-12P	1	Adjunct
3	YC	Permanent Magnet Mechanism Closing Coil	1	
4	YO	Permanent Magnet Mechanism Opening Coil	1	
5	SS1	Microswitch/C617101-011 RCSK-1-11A	1	

Spring-Operated Mechanism



Series Nr.	Code	Designation	QTY	Remarks
1	XS	Socket/C61909-025 MS3012A 18-12P	1	
2	XP	Plug/C61909-026 MS3012A 18-12P	1	Adjunct
3	M	Shaded pole AC motor with gearbox/C62204-003 AC110V	1	
4	SS1	Microswitch/C617115-026 XV-152-1C25	1	
5	SS2	Microswitch/C617115-026 XV-152-1C25	1	

Pole-mounted Capacitor Bank Solution

Pole-Mounted Capacitor Bank Ordering Guide

System Information

System Voltage (kV-LL)	
Maximum System Voltage (kV-LL)	
System Frequency (Hz)	
System Fault Current (kA)	
System Grounding	<input type="checkbox"/> Grounded <input type="checkbox"/> Ungrounded

Capacitor Switch Bank Information

Nameplate Language	<input type="checkbox"/> Spanish <input type="checkbox"/> Portuguese <input type="checkbox"/> English <input type="checkbox"/> Others _____
Bank Rated Voltage (kV-LL)	
Bank Rated kVAR	
Bank Rated BIL (kV)	
Bank Connection	<input type="checkbox"/> Grounded Single Wye <input type="checkbox"/> Ungrounded Single Wye
Mechanism Type	<input type="checkbox"/> Spring-operated <input type="checkbox"/> Permanent Magnet
Capacitor Bank Controller	<input type="checkbox"/> _____

Accessories

Surge Arresters	<input type="checkbox"/>
Voltage Transformer	<input type="checkbox"/>
Line Post Current Sensor	
Fuse Cutouts	
Cable Accessories	<input type="checkbox"/> 1m <input type="checkbox"/> 2m <input type="checkbox"/> 3m <input type="checkbox"/> Others _____
Others	

General Information

Altitude (Feet Above Sea Level)	
Maximum Temperature (°C)	
Minimum Temperature (°C)	
Wind Load (MPH)	
Seismic Level	
Pollution Level	

Capacitor Unit Information

Unit Rated Voltage (kV)	
Unit Rated kVAR	
Unit Rated BIL (kV)	
Bushing Creepage	<input type="checkbox"/> 12" <input type="checkbox"/> 22" <input type="checkbox"/> 32"
Number of Capacitor Unit Bushings	<input type="checkbox"/> 1 <input type="checkbox"/> 2
Capacitor Unit Type	

Other Information (if any)

Eaton is an intelligent power management company dedicated to protecting the environment and improving the quality of life for people everywhere. We make products for the data center, utility, industrial, commercial, machine building, residential, aerospace and mobility markets. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power - today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're helping to solve the world's most urgent power management challenges and building a more sustainable society for people today and generations to come.

Founded in 1911, Eaton has continuously evolved to meet the changing and expanding needs of our stakeholders. With revenues of nearly \$25 billion in 2024, the company serves customers in more than 160 countries. Eaton entered the Chinese market in 1993 and has grown significantly since then. In 2004, Eaton moved its Asia-Pacific headquarters from Hong Kong to Shanghai. Today, Eaton has nearly 8,000 employees and 19 manufacturing facilities in China.

For more information about Eaton China, visit www.eaton.com.cn
Follow Eaton China WeChat account: **Eaton_China**

Cooper Shanghai Power Capacitor Co., Ltd.
No. 955 Shengli Road, East Area of Zhangjiang Hi-Tech Park,
Shanghai, 201201. Tel: 021-28993600
Fax: 021-28993983
www.Eaton.com.cn/Capacitor
www.Eaton.com
© 2025 Eaton Company All Rights Reserved.
09-2025

