

Protection technology for advanced power transmission systems



Flexible Alternating Current Transmission System (FACTS) is a system of static equipment used for the transmission of electrical energy. FACTS allows a power grid owner to transmit more power over the same line without having to add additional lines. Eaton's Cooper Power™ series UltraSIL™ housed FACTS Protector is a special application surge arrester applied in FSC, SVC and HVDC systems.

Meets industry standards

The FACTS Protectors use the proven technology of the UltraSIL station arresters, including Eaton's MOV disks, 100% silicone rubber housings and composite wrap arrester modules that provide primary and secondary moisture seals. This ensures a long trouble-free service life. The UltraSIL housed FACTS Protectors are manufactured in our world-class ISO 9001:2004 certified facility.

The UltraSIL housed FACTS Protectors have been certified to the IEC 60099-4:2004, IEC 60143-2:1994 and IEEE® Std C62.11™:2004 standards. They have also been rigorously tested to additional energy and column matching procedures to ensure they meet or exceed all requirements of the applicable standards as noted above.

Features

- Ratings from 2.55 kV to 420 kV U_c
- Energy 8.9 kJ/kV U_c per column
- Energy up to 1.5 MJ per column
- 40 kA pressure relief rating
- Lightweight design
- Silicone rubber housing
 - Ideal for severe environmental conditions
 - Lower losses
- Height 8 mm/kV U_c
- Protective ratios 1.95–2.7



Production tests

Eaton has implemented a complete production test program specifically for the UltraSIL housed FACTS Protector to ensure a quality product.

Each varistor disk undergoes a series of electrical tests that include:

- Physical inspection
- Discharge voltage test
- Reference voltage at 6 mA
- Power loss measured at $1.05 \times U_c$
- TLD energy impulses 3 times each
- Discharge at AC wave energy equal to 40 kJ per disk
- Per batch thermal stability test
- Per batch aging test

Individual FACTS Protectors are also tested as follows:

- 100% physical inspection
- 100% reference voltage test
- 100% power loss test
- 100% partial discharge
- 100% matched to all other parallel columns to within 5 A or 5% or better



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For Eaton's Cooper Power series product information, visit
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