



CATHODIC ISOLATORS

REVISION 1

APPLICATION

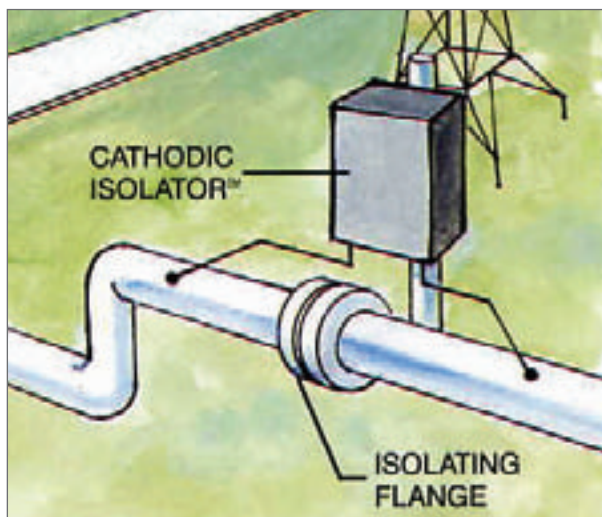
Onshore – Pipelines & Storage Tanks

CATHODIC ISOLATOR DATA

Electrical Isolation for Effective Cathodic Protection



Safe Cathodic Isolation



The uniquely designed Cathodic Isolator™ developed by Rustrol® Systems effectively confines the current needed for cathodic protection, while providing a safe grounding path during all types of electrical disturbances.

Cathodic protection, proven by decades of service in a variety of applications, prevents corrosion of buried or submerged metallic structures.

Cathodic protection is most efficiently and uniformly applied when the primary structure is electrically isolated – i.e. all metallic/electrical contacts with foreign structures are eliminated. Electrical isolation gives three main benefits:

- Restriction of the required protective current to the surface of the primary structure to produce a uniform polarised level of protection.
- Minimization of stray DC current interference.
- Prevention of galvanic current between metallic structures.

Cathodic isolation is a superior form of electrical isolation. Cathodic isolation maintains stringent electrical grounding requirements and confines the protective current at the surface of the primary structure. The result is highly effective, uniform protection against corrosion.

The Rustrol® Cathodic Isolator™ meets safety standards for effective grounding and conforms to the need for safe operating practices worldwide, ie; not to exceed 15Volts rms (caution) potential most often stipulated by design.

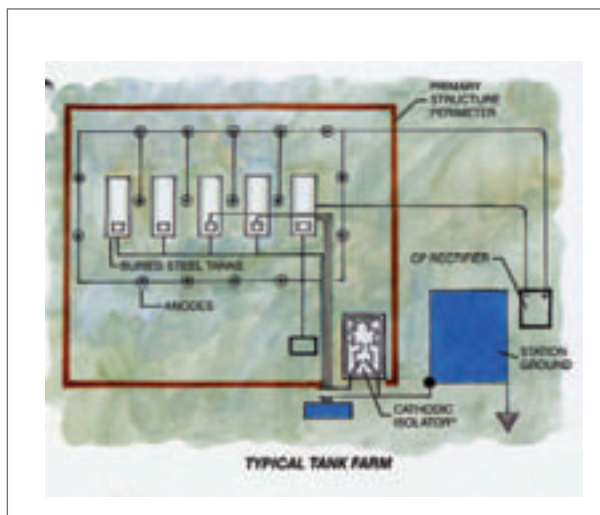
The Cathodic Isolator™ provides all of the advantages of electrical isolation necessary for cathodic protection by blocking the protective current at the electrical isolating device – such as across a pipeline isolating flange. As soon as the potential across the isolating flange exceeds the pre-set voltage threshold, the Rustrol® Cathodic Isolator™ responds instantly.



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Versatile Protection



The Cathodic Isolator™ protects personnel and equipment during all types of electrical disturbances by providing an effective grounding path which instantly conducts:

- AC Fault Currents
- Lightning
- AC Induction
- Power Switching Surge Currents

The Cathodic Isolator™ is indispensable for safe electrical isolation – to assure unprecedented protection of your personnel and equipment.

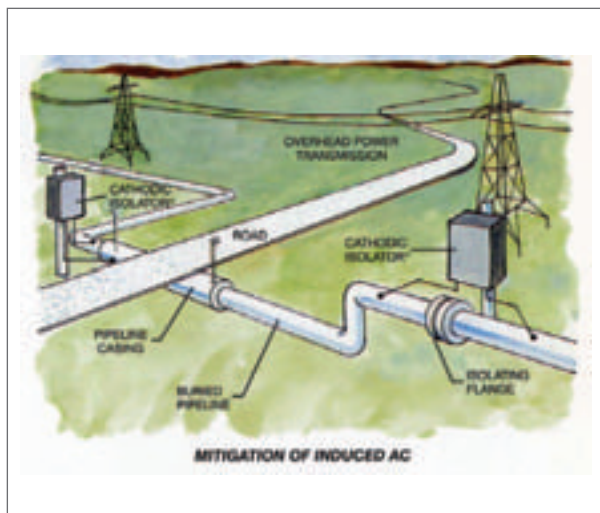
Rustrol®'s Proven Quality Assures Reliable Operation

Unique developments in electronic circuitry are incorporated in the Rustrol® solid state Cathodic Isolator™ to assure acute sensitivity, instant response and fail-safe, maintenance free operation in a non-electrolytic environment.

The Cathodic Isolator™ and associated hardware feature the most advanced and reliable components now available. Each critical component is precisely machined and carefully assembled to meet Rustrol®'s exceptionally stringent quality assurance standards.

Research and development models have undergone thorough acceptance testing by independent high-current test facilities and have been fully approved (test data available on request).

Applications for Cost Effective Operation



Along with performing a key role in safe and effective corrosion control, the Rustrol® Cathodic Isolator™ also serves to reduce both capital and maintenance costs of cathodic protection systems. Cost effective applications include:

- AC fault current protection across isolating flanges and other devices.
- Mitigation of induced AC on pipelines and other structures.
- Lightning protection for equipment, including CP rectifiers.
- De-coupling of the primary structure eg; Fuelling facility from contact with the electrical utilities grounding network.



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CATHODIC ISOLATOR™ SELECTION GUIDE

Cathodic Isolator™ (CI):
Standard assembly is installed in a performance test rated, NEMA-4 aluminum enclosure, complete with access cover and locking hasp.

AC Fault Current Exposure:
(as specified by the customer)

<input type="checkbox"/> 5 kA - 1 cycle @ 60 Hz rms	<input type="checkbox"/> 40 kA - 1 cycle @ 60 Hz rms
<input type="checkbox"/> 10 kA - 1 cycle @ 60 Hz rms	<input type="checkbox"/> 50 kA - 1 cycle @ 60 Hz rms
<input type="checkbox"/> 20 kA - 1 cycle @ 60 Hz rms	<input type="checkbox"/> 60 kA - 1 cycle @ 60 Hz rms
<input checked="" type="checkbox"/> 30 kA - 1 cycle @ 60 Hz rms	<input type="checkbox"/> 75 kA - 1 cycle @ 60 Hz rms
	<input type="checkbox"/> 85 kA - 1 cycle @ 60 Hz rms
	<input type="checkbox"/> 100 kA - 1 cycle @ 60 Hz rms

(Refer to Drawing No. CI-60 for detailed specifications, applicable ratings @ 50 Hz rms are available)

Surge/Lightning Protection (SL):
Standard assembly, peak surge current @ 8/20 μ sec.

Primary @ 100,000 Amperes

Secondary @ 70,000 Amperes

Voltage Threshold:
Standard assembly @ 6 volts rms or as specified by the customer within the suggested range of 2.5-20 volts rms.

Mitigation of Induced AC - Steady State @ 60 Hz rms:
Selection range 0-100 Amperes, as specified by the customer.

<input checked="" type="checkbox"/> 12 amps	<input type="checkbox"/> 36 amps	<input type="checkbox"/> 75 amps
<input type="checkbox"/> 24 amps	<input type="checkbox"/> 48 amps	<input type="checkbox"/> 100 amps

Optional Accessories:
(as specified by the customer)

- Potential meter
- Small arms proof enclosure
- Submersible enclosure
- Special finishes (specify)
- Test Port
- Quick disconnect wiring harness
- Any other features (specify)

CI- 30- SL- 6- A12- specify
(Typical ordering code)