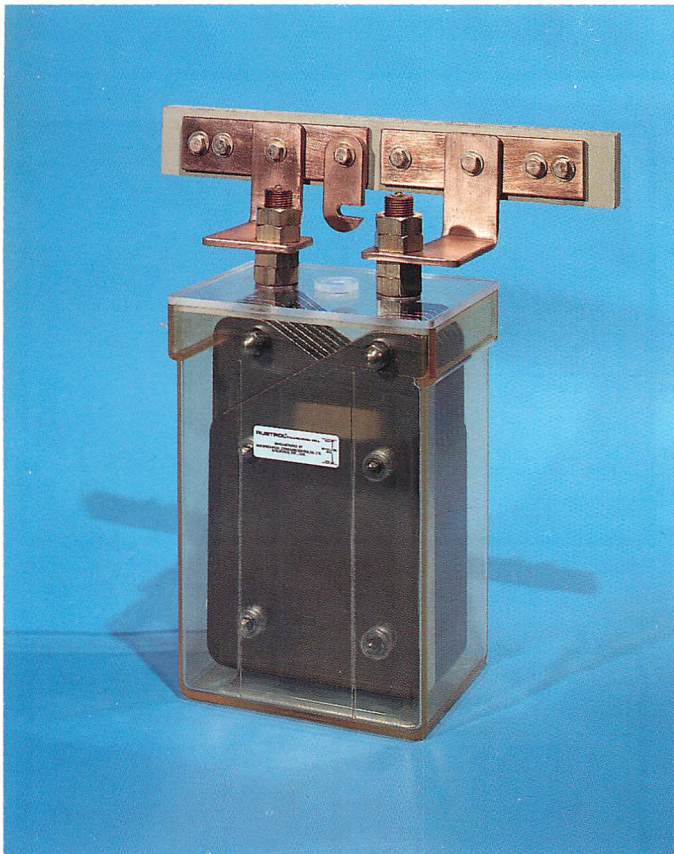


RUSTROL[®]

POLARIZATION CELL



**INDISPENSABLE
FOR
SAFE GROUNDING
AND
EFFICIENT
CATHODIC
PROTECTION**

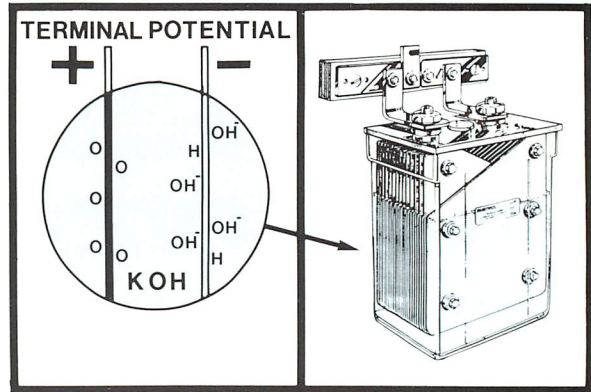
Manufactured by
INTERPROVINCIAL CORROSION CONTROL COMPANY LIMITED
Burlington, Ontario, Canada
INTERNATIONAL CORROSION CONTROL INC.
Lewiston, N.Y., U.S.A.

TELEPHONE: (905) 634-7751
FAX: (905) 333-4313

RUSTROL[®] is a registered trademark of these firms.

HOW RUSTROL® CELLS WORK

Rustrol polarization cells contain pairs of pure nickel plates immersed in KOH electrolyte. The surfaces of these plates instantly polarize when separated metallic structures are connected to opposite terminals. The polarizing film blocks dc, to contain cathodic protection current, while freely passing ac. Personnel are safely protected from shock hazards during ac faults. Insulating fittings and equipment are protected during electrical disturbances. Polarization cells are indispensable to secure safe electrical isolation.

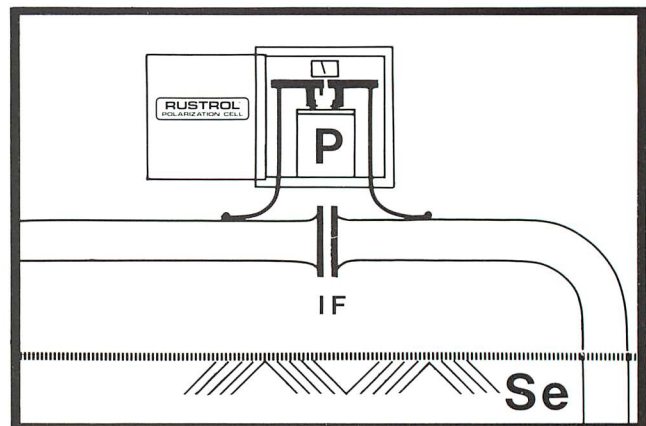


Polarized surface film blocking dc in the polarization cell, shown mounted on isolated bus.

FOR SAFE, COST EFFECTIVE CATHODIC PROTECTION, USE RUSTROL®

Separated underground or submerged metallic structures are efficiently protected. Isolated structures which must remain effectively grounded to the ac utility's network, are designed to meet this requirement in national electrical safety codes. Installations specifying Rustrol polarization cells for cathodic isolation, are regularly accepted by North American electrical inspectors.

The cathodically isolated structure is uniformly covered by a protective surface film. Corrosion control management is made easy at a greatly reduced cost. Cathodic polarization is secured without stray current interference. Corrosion certainly is prevented.

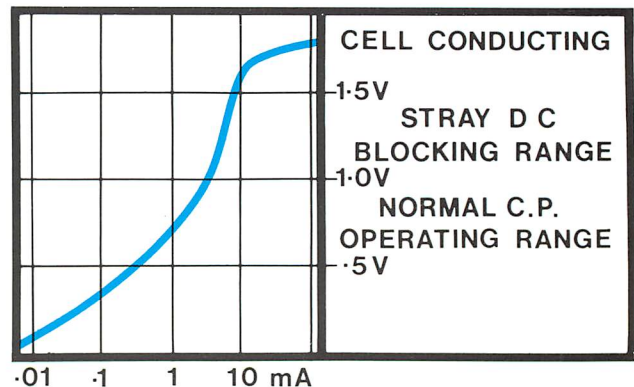


Polarization cell (P) safely protecting isolation fitting (I.F.) of cathodically isolated structure (Se).

FOR OUTSTANDING PERFORMANCE, SELECT RUSTROL®

Up to 1.7 volts dc are blocked for cathodic isolation. DC traction or foreign sources that cause fluctuations beyond the 1.2 V operating range may require two or more cells connected in series.

Plates of pure nickel, the chosen metal since polarization cells were invented in 1956, are a feature exclusive to Rustrol.



Polarization current vs terminal potential. Polarization curve for 25 kA Rustrol cell.

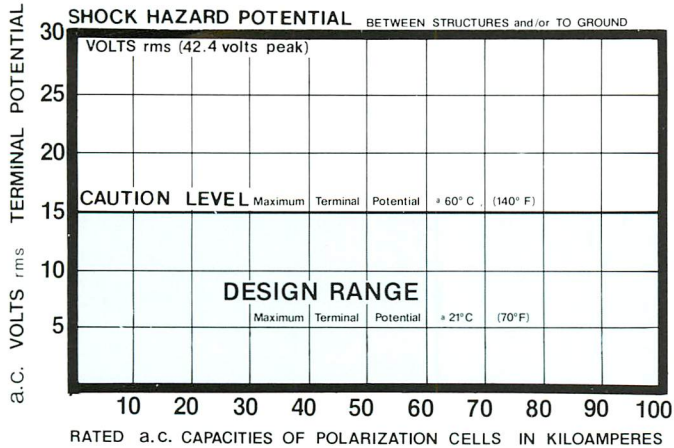
EXCEL WITH RUSTROL® IN CORROSION PREVENTION

- BLOCK STRAY CURRENT FROM FOREIGN SOURCES
- NULLIFY INTERFERENCE TO FOREIGN STRUCTURES
- MITIGATE INDUCED AC POTENTIALS
- CONFINE PROTECTIVE CURRENT

KNOW CORROSION IS PREVENTED AT THE LEAST COST

EFFECTIVE GROUNDING IS SECURED TO NATIONAL ELECTRICAL SAFETY CODE STANDARDS

Structures remain electrically continuous to the ac power supply's grounding network by connecting bus through a polarization cell system.

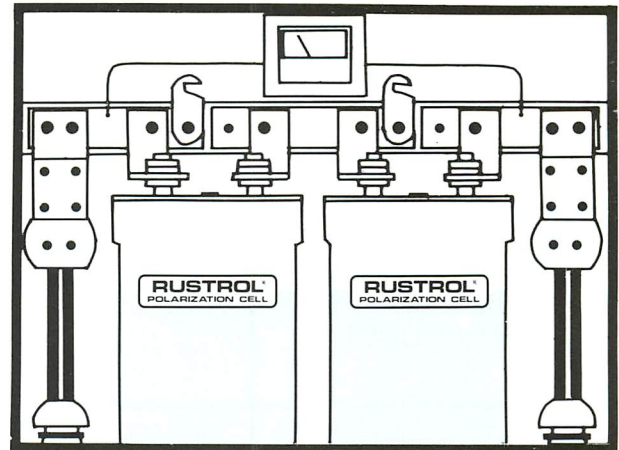


DESIGN PARAMETERS FOR ELECTROLYTIC GROUNDING to electrical safety code requirements

Premium Rustrol cells, bus, and enclosures are safely rated to pass 1/2 second ac faults with a terminal potential rise across the cell of about 10 V rms. Generally a design level of 15 V rms is adequate, although it is not unusual to design to a lower level. Personnel and equipment are safely protected.

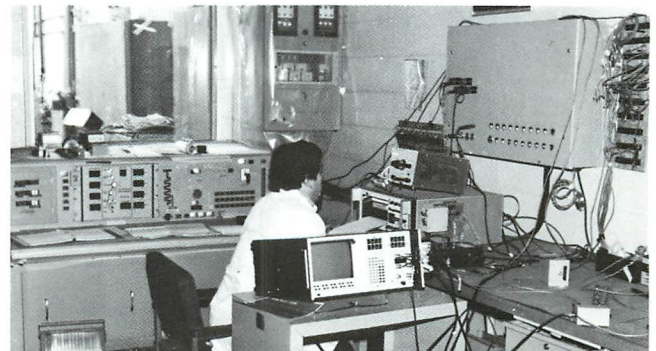
QUALITY WITH A PROVEN RECORD

- Rustrol polarization cells and hardware are manufactured using only pure metals as electrical conductors. Components machined and assembled match Rustrol's high quality assurance standards.
- Researched and developed models are fully acceptance-tested to the approval of independent high current test laboratories prior to marketing.
- Worldwide users of Rustrol cells report required maintenance is minimal at their operating temperature and exposure conditions.
- Service life of more than 25 years with minimal variance in the level of the electrolyte is reported.



PREMIUM RUSTROL® CELLS CONNECTED IN SERIES

Usually one cell is required to safely decouple tanks, stations, or piping from metallic contact to the electrical grounding grid. Two or more remotely located cells are used for larger plants, refineries, wharves, long pipe-type power cable circuits and pipelines. Where stray current interference is extreme, Premium cells are connected in series or in parallel, either to block dc or pass ac.



A typical independent high current laboratory acceptance testing Rustrol protective electrical equipment.

RUSTROL® SYSTEMS

RUSTROL polarization cells are rated from 5 kA to 100 kA ac fault capacities in 5 kA steps. Cables are connected through RUSTROL isolated bus and enclosure systems.

A STANDARD RUSTROL SYSTEM blocks dc, suppresses ac voltages, and will safely pass its rated capacity ac fault. The Standard system is adequate for decoupling applications, if major power disturbances are not the primary exposure; isolated bus also may be optional.

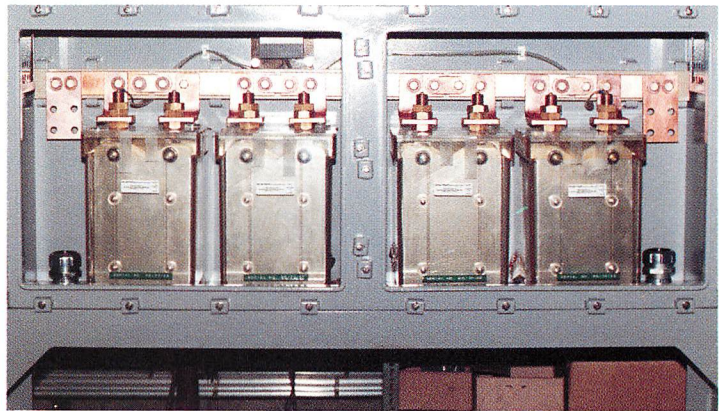
A PREMIUM RUSTROL SYSTEM fully meets the requirements in national electrical safety codes to secure effective grounding. Premium rated cells are fixed to stress relieved bus in steel enclosures. Electrodynamic forces are rigidly contained during ac faults and other electrical disturbances. The potential across the cell is limited to within a safe 15 volts rms. Premium quality cells with larger nickel and copper cross-section give that extra confidence where safety and performance must excel.

RUSTROL® SYSTEM SELECTION GUIDE

SELECTION CRITERIA	STANDARD	PREMIUM	ISOLATED BUS
AC POWER GROUNDING		✓	✓
AC FAULTS		✓	✓
AC POWER PULSES	✓	✓	Optional
LIGHTNING SURGES	✓	✓	Optional
STRAY DC INTERFERENCE	✓	✓	
INDUCED AC VOLTAGES	✓	✓	
1.7 V DECOUPLING THRESHOLD	✓	✓	
MINIMUM MAINTENANCE	✓	✓	✓
MAXIMUM LIFE EXPECTANCY		✓	✓
MINIMUM COST	✓		

RUSTROL® SYSTEM OPTIONS

ENCLOSURES TO NEMA OR
 CUSTOM STANDARDS
 STANDARD OR PREMIUM BUS
 BUS IN SERIES OR PARALLEL
 POTENTIAL METERS
 DENSIMETERS
 SS ENCLOSURES
 LIQUID TIGHT CONNECTORS
 SUNSHIELDS
 FILTERED OR ION CONTROL VENTS
 CP POTENTIAL CONTROL SENSING
 STATIC GROUNDING ELECTRODES
 SHUNTS, LINK BOARDS
 CUSTOM REQUIREMENTS



Premium Rustrol System with various options in a custom NEMA 4 Enclosure.

Technical guidance is promptly provided by qualified personnel.

Engineering services to design and commission a system for your application are available from professional consultants on request.

Inquiries are invited for additional technical data or case histories. To reach a qualified RUSTROL distributor in your area, please call (905) 634-7751, Fax (905) 333-4313, or directly contact:

Interprovincial Corrosion Control Company Limited

Head Office:

930 Sheldon Court, Burlington, Ontario, Canada, L7L 5K6

Regional Offices:

Montréal, Québec & Calgary, Alberta

International Corrosion Control Inc.

P.O. Box 441, Lewiston, New York, USA, 14092

Phone: (905) 634-7751 • Fax: (905) 333-4313

Website: www.Rustrol.com

Email: contact@rustrol.com

Cathodic Isolator™ and Rustrol® are registered trademarks for the above companies.

WHILE PUBLISHED STATEMENTS ARE BELIEVED TO BE ACCURATE, THEY ARE OFFERED AS SUGGESTIONS ONLY. ANY USE THEREOF IS AT THE USER'S INDEPENDENT DISCRETION. NO WARRANTY OR REPRESENTATION IS INTENDED. RUSTROL POLARIZATION CELL PRODUCTS AND EQUIPMENT ARE SOLD SUBJECT TO THE TERMS AND CONDITIONS APPEARING IN OUR PRINTED ORDER ACKNOWLEDGEMENT. WHERE A RUSTROL PRODUCT INTERCONNECTS WITH A COMPONENT SUPPLIED BY OTHERS, NO WARRANTY IS APPLICABLE AGAINST FAILURE CAUSED BY MISMATCH OF THE NON-RUSTROL COMPONENT TO THE RUSTROL COMPONENT. NOR WILL THE MANUFACTURER OF THE RUSTROL PRODUCT BE LIABLE FOR DAMAGES RESULTING FROM THE MISMATCH TO EITHER THE RUSTROL OR THE NON-RUSTROL PRODUCT.