



Solve Grounding Application Problems Easily

With Mechanical Grounding Connectors from Burndy Products

There are several main objectives for providing a well-designed ground system; safety of personnel tops the list, followed by equipment protection, signal reference quality, return path for faults and/or surges, and static dissipation. In order to meet these objectives, ground system interconnections must maintain a low contact resistance, often under adverse conditions, for the expected life of the system.



Grounding connections have applications both above and below grade and, as such, are subject to various kinds of corrosion. Above grade corrosion takes place mainly through galvanic action. Below grade environments can also expose a connection to corrosion due to acidic soil conditions.

A primary task of the ground system, to safely conduct fault currents to ground, is also a leading source of stress on ground connections. Electromagnetic

forces will mechanically stress the entire ground system. Ground connections must also withstand high thermal shock due to the passing of fault current.

Structures such as fences, water pipes, and structural steel need to be bonded to the ground system to protect personnel from hazardous voltage potentials and require special considerations due to their materials and geometric configuration.

Ground Connection Design

Copper conductors and connectors are the premier choice for constructing ground systems. Copper has excellent electrical conductivity, dissipates thermal energy quickly, and has good resistance to corrosion.

All Burndy Mechanical connectors have been designed for easy installation and for outstanding durability. Only the finest high copper alloys are used in their manufacture, ensuring top performance under the most extreme environmental conditions. They are UL467 listed for direct burial applications in earth or in concrete.

More than 75 years of technological innovation have made BURNDY mechanical grounding connectors one of the most widely used, highly respected lines in the industry. There is virtually no grounding problem that this diversified line cannot help solve.



Safe Products, Safe Practices More Than Ever

We didn't set out to put together a safety focused Runner issue but safety is so important it touches almost every electrical product we carry. A big focus for product developers is to incorporate new technologies into safer product designs and safety practices are continuously developing.

As a user of products you probably want to know that you have suppliers that can show leadership in safe design and application support and will keep you abreast of developments that can help your operations.

We believe that the suppliers featured in this issue are excellent examples of continuing support and commitment to safety related practices. When they team up with WESCO, you receive the combination of products, information and support to help you operate safer and more productively.

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Lockout/Tagout: Are you in compliance?

Workplace safety is a growing concern for industry and governments. New policies and procedures are regularly being introduced or updated to reduce injury and even death in the workplace. For workers servicing and maintaining equipment, Lockout/Tagout is a key safety practice.

The Occupational Health and Safety Act of Ontario describes Lockout/Tagout practice this way: "the power supply to electrical installation, equipment or conductors shall be disconnected, locked out of service and tagged before any work is done, and while it's being done, on or near live exposed parts of the installation, equipment or conductors." The intention is to protect workers from becoming injured by power accidentally being turned on while work is underway, or to prevent service from beginning while equipment is still energized or where power is not isolated.



Maintenance of electrical equipment is constantly underway in any plant. Switchboards, panelboards, control panels, and motor control centres regularly require inspection, adjustment and routine maintenance. To support a safe work environment, Workplace Safety Legislation requires that each employer develop policies and procedures for all of their workers to follow. In addition, every worker involved in installation or maintenance needs to be trained in those procedures

and to have access to Lockout/Tagout products when servicing machinery that could start-up or release stored energy unexpectedly.

Lockout practices involve placing a lock on a circuit breaker, disconnect switch or other energy-isolating device, to make sure it cannot be switched on or moved from the closed position while work is being done. In Tagout practices, a written warning tag is attached to the place where equipment can be turned on or energized, such as at the ON switch.



While each company needs to create their own Lockout/Tagout procedures, there are seven key steps that should be included: Prepare, Shut-Down, Isolate, Apply, Control, Verify and Restore.

By addressing each of these steps your company will be able to create a comprehensive Lockout/Tagout procedure that will help protect your workers from serious injury. In order to support and keep you up-to-date on changing requirements, companies like IDEAL INDUSTRIES offer a wide variety of training materials, from videos to on-site seminars. IDEAL also carries a full line of products including new styles of valve and cable lockout systems.



Power Breaker Rec

Class 1 Reconditioning From Eaton

For a solution you can depend on when it comes to maintaining and extending the life of old, dirty, or damaged power circuit breakers - it's Class 1 Reconditioning from Eaton Electrical Services and Systems.

Eaton Electrical is setting the standard of reliability with a Class 1 reconditioning process that involves total breaker disassembly, material specific component cleaning, detailed inspection, and state-of-the-art testing, all done to uniform documented specifications.

Every breaker serviced is entered into a database where a complete maintenance profile can be accessed. This saves time and enables Eaton to respond more effectively to service requirements.

Class 1 Reconditioning



Local Engineering Service technicians are fully qualified to pull the breaker at your site and arrange transportation to the nearest Eaton Electrical Aftermarket Center of Excellence (ACE) for reconditioning. On the breaker's return, they perform all necessary reinstallation, start-up and commissioning procedures. This enables rapid return-to-service. Eaton



Circuit Conditioning

Engineering Services and Systems

Electrical's inventory of spare breakers can also address emergency change-outs if necessary. Eaton Electrical Class 1 reconditioning is a six-step process:

- ♦ Inspect and document
- ♦ Disassemble to component level
- ♦ Clean, inspect and replate (where required)
- ♦ Reassemble
- ♦ Operate and test
- ♦ Track in Master database

Every breaker serviced is entered into a database where a complete maintenance profile can be accessed.

Eaton Electrical's breaker engineering expertise, technology, and accountability are second to none. Even if they didn't originally manufacture your breaker, Eaton Electrical can Class 1 recondition your breaker to the highest quality standards. Add a Digtrip trip system retrofit and you have the best-reconditioned breaker with the most advanced trip system.

When it comes to extending power breaker life and performance, you can get Eaton Electrical's Class 1 Reconditioning from the bottom up.



Cutler-Hammer

Mechanical Protection for Your Plant Network

At many facilities, exposed network cables are the most vulnerable components to physical damage and loss of the network.

Because of the low voltage of network cables, electrical code requirements for mechanical protection are not necessary and mechanical protection measures are often not taken. When accidental damage occurs, however, it usually results in data loss and can mean costly down time.

The alternative of a separate conduit based system for the network can be costly when the



time and labour to install it is considered, especially when network requirements are frequently changing.

For this situation, Armoured cables are a great solution. They can be specified for indoor or outdoor applications and offer ease of installation and a high degree of mechanical protection. With a customer protection solution from Eastern Wire and Conduit, you get to specify the exact requirements and combinations of conductors for your network along with whatever cable identification you need.

Options include galvanized steel or aluminum armouring. For jacketing, specially formulated

PVC can provide extra protection from dust or water intrusion, and sequential meter markings can



Custom armouring of cables helps you gain more control of your network.

improve cable utilization. Custom printing and colour options are of benefit for improved identification and foster troubleshooting.

Custom protection and identification from Eastern helps you protect your valuable plant network to reduce accidents and down time. You also gain control over installation costs and cable identification.

Eastern Wire and Conduit is a Canadian based division of Tyco International Ltd. that has been providing cabling solutions for close to 40 years. For more information on Eastern Protection and Identification solutions, contact your local WESCO branch.

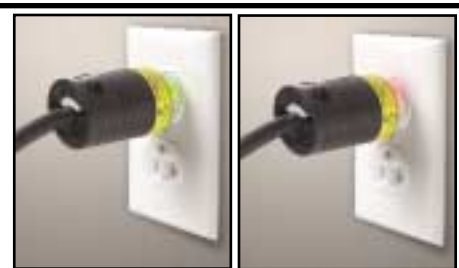




Give SAFETY the Green Light... and Hazardous Conditions the Red Light

If you add power status indicators to plugs and connectors, you add convenience. That's a good start. But the new Straight Blade And Turnlok Plugs and Connectors from Pass & Seymour do far more-- they monitor ground continuity. They warn of other hazardous conditions. And they feature multiple, dual-color LEDs to speed troubleshooting.

No matter how tough the cords and cables in your workplace are, they'll always be vulnerable to accidental damage.



Green LED Propoground continuity throughout the cordset and back to the panel.

Red LED Either a ground continuity fault or miswire in the cordset, or even a problem in both.

For example, a forklift could crush a cord against a sharp edge or misplaced screw. Without continuous ground continuity monitoring, it's unlikely anyone would discover the problem before the next scheduled test.

With ground continuity monitoring, you will significantly reduce the risk of job site injury. That's a value that builds over time to amount to far more than the cost of the connector.

Ground Continuity Monitoring devices also save time and labour, due to a full range of quick-install

features, including keyed housing, backed out terminal screws, and tapered wire wells.

Design features like the rugged integral cord grip, reinforced ground pin and brass alloy plug blades ensure these devices will provide excellent conductivity and stand up to harsh environments year after year.

Put the Pass & Seymour Monitoring Plugs and Connectors to work for you, and get enhanced safety and productivity. Just what you'd expect from the company that brought you blown-fuse indicating LEDs on mechanical interlocks and trip-indicating LEDs on GFCIs.



Pass & Seymour
legrand

Contact a branch near you!

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