legrand

Pass & Seymour

Stay Safe with Proper Ground Indication

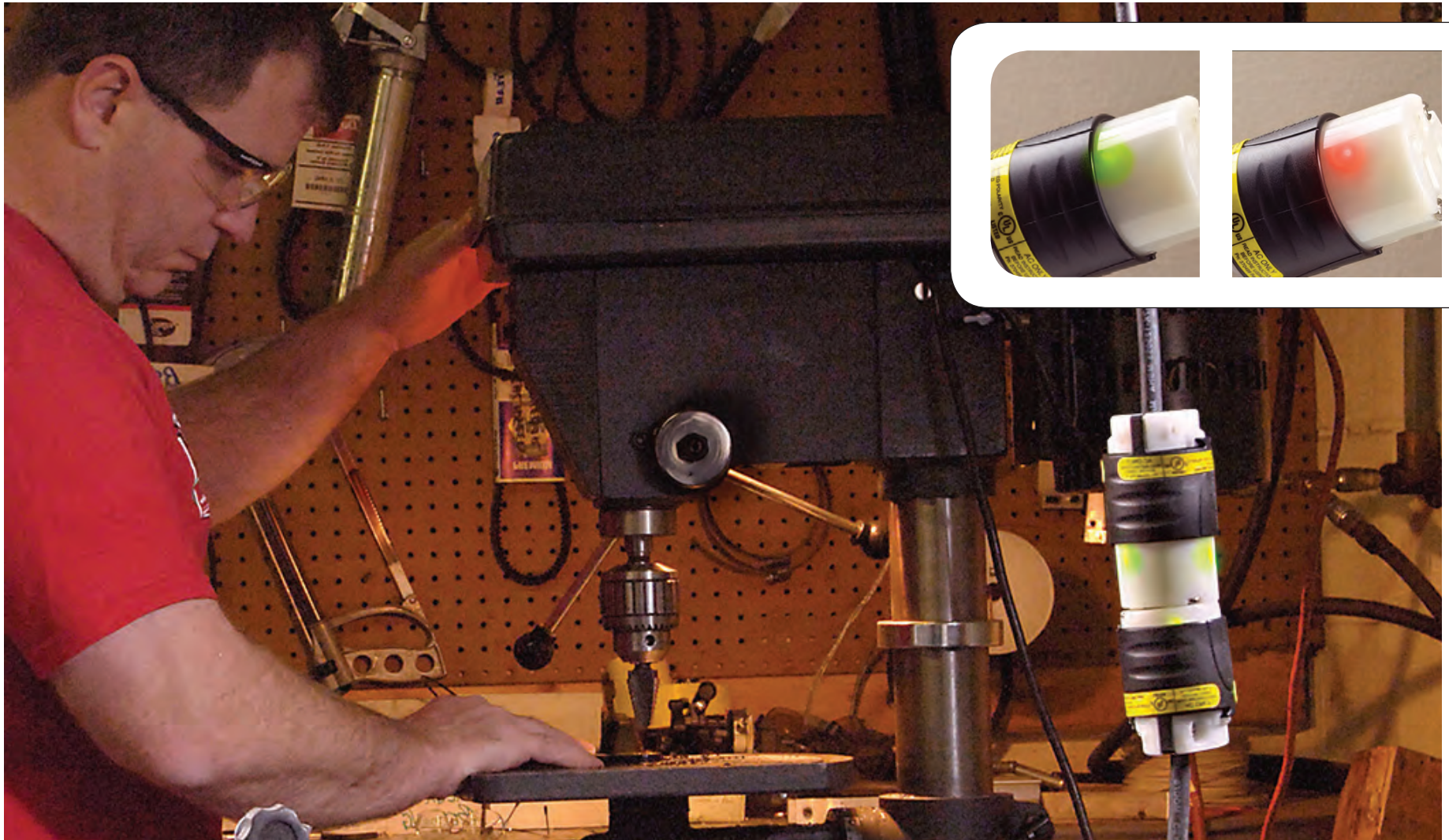
Ground Continuity Monitoring (GCM) Straight Blade Plugs & Connectors

Ground Continuity Monitoring

Safety is probably the largest single factor driving changes in the electrical industry today. The increased presence of organizations such as OSHA® and the NFPA®, along with issues like rising insurance costs and the renegotiation of labor contracts, has business owners scrutinizing their safety programs more than ever before.

Of all the potential safety hazards, the proper grounding of electrical equipment always seems to be near the top of the list. In fact, electrical grounding and ground-fault issues are constantly among the most commonly cited OSHA violations, year after year. Legrand/Pass & Seymour went out into the field and asked customers what feature or function we could incorporate into our plug and connector products to increase their safety value. Their answer – "Proper ground indication."

The Pass & Seymour Ground Continuity Monitoring (GCM) Plug & Connector series, with its dual LED system, will monitor your upstream circuit for improper grounding and multiple mis-wire conditions.



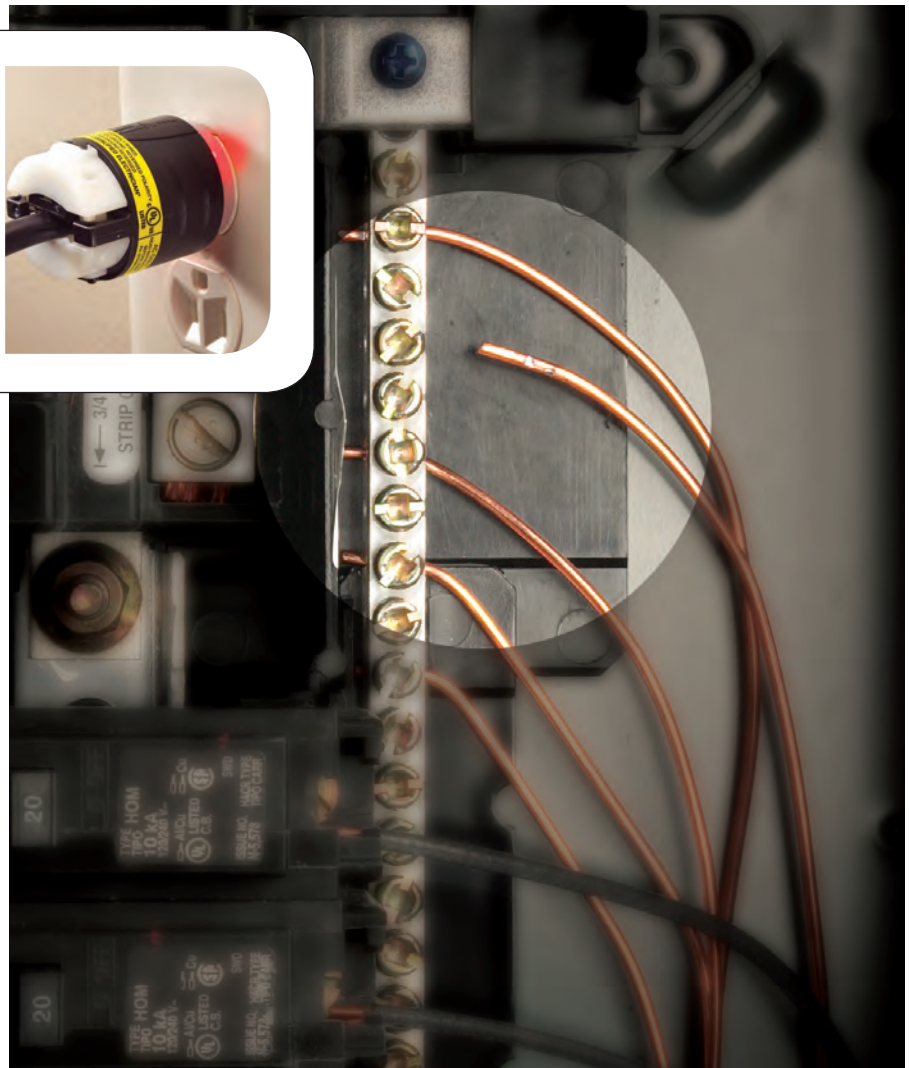
Upstream Monitoring

GCM technology allows the plug or connector to look upstream, or toward the panel. As seen in (Fig.A), a break in ground continuity or reversed polarity from the receptacle back to the panel will be indicated by a Red LED on the plug body immediately upon insertion.

Conversely, the Green LED is illuminated in (Fig.B) because the problem lies downstream of the GCM plug, in the cord itself. Therefore, the plug sees no problem.

This setup, using both a GCM plug and connector, will also be very helpful in troubleshooting. A green light on the plug and a red light on the connector tells you that your problem exists within the cordset. However, red lights on both ends indicate a definite problem behind the wall, as well as a potential problem with the cordset.

(Fig.A)



(Fig.B)

LED Indication

Every GCM plug and connector is equipped with two (2) sets of red and green LEDs to help indicate multiple potentially hazardous wiring conditions. The LEDs have been oriented approximately 180° apart so they're visible from any angle.

A combination of one, both, or no lighted LEDs at all will indicate any one of the seven (7) different wiring conditions listed below.

** These devices have been listed by UL as a circuit test suitable for determining ground continuity and power status only.**

GREEN LED
Properly wired and grounded

RED LED
Open ground or reversed polarity

NO LED
Open hot or open neutral or hot and ground reversal

GREEN AND RED LEDs – Hot and ground reversal (250V models only)

Additional Features

In addition to the obvious safety benefit of the GCM Plugs & Connectors, other enhancements help speed installation.

Single-plane wiring on all 15 and 20 amp Straight Blade products minimizes installation time by placing all three terminal screws on the same plane, facing the same direction. Just line up all three wires, slide them into the terminals, and tighten the screws.

Color-coded terminal screws have also been incorporated into the entire product line for easier terminal identification.

Applications

A GCM product would be used in any application that would require a plug or connector. Here are just a few examples.

Power Tools – Portable power tools are used in different environments on different circuits almost every day. The user is never sure of the quality of the circuit into which they're plugging their power tool. Is the circuit wired correctly? Has time taken its toll on the wire, the terminations, or even the receptacle contacts? Without a means of indication, you just can't be sure.

Cordsets – Most people will give a cordset a cursory once-over before using it to be sure it looks reasonably safe. But what if the integrity of the cord is compromised while it is being used? There are a lot of 50-foot-plus cords used in industrial facilities and on job sites, and those cords are subject to constant abuse. They are run over by vehicles and lift trucks, and pulled across rocks and debris than can cut through the outer insulation. A GCM plug will tell you the condition of the circuit that you are plugging in to, and the connector body will alert you immediately if the cord is damaged.

Required Test Areas – A number of facilities require that receptacles be tested on a consistent basis for proper ground. Since the GCM product line is UL listed as a circuit tester suitable for determining ground continuity and power status, having a GCM plug installed on maintenance equipment for the facility could save a lot of time and effort, as these receptacles will constantly be tested during normal daily use.

designed to be better.™

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