Tech Bulletin

Cord Reels with GFCI and Open Neutral Protection

L 4545 123 7A
Duplex outlet box
with GFCI

L 70075 123 9G
Triple tap receptacle
with GFCI

Ground-fault circuit interrupter's (GFCI's) are used for personal protection of the operator. They are required per most building codes in bathrooms, kitchens and garages. These places typically have sources of water that could draw current through the operator. The GFCI will trip and stop the current from injuring the operator.

A typical GFCI continually looks for small differences in the "going" current and the "returning" current in the circuit caused by leakage to ground. If the GFCI senses this, it will quickly shut off the electricity to prevent the possibility of operator injury. Per UL 943, the range of leakage current before the GFCI will trip is 4 to 6mA.

Reelcraft reels do not use the same GFCI's as used in typical household applications. GFCI's on Reelcraft cord reels have an additional feature of Open Neutral Protection. If the neutral wire is disconnected or "open" in any way, there are some situations in which a large charge could be stored in the connected device, creating a potentially dangerous situation. In a GFCI with open neutral protection, the electricity will also shut off if the neutral line is no longer connected. ***NOTE: Not all GFCI's include open neutral protection though it is a requirement per UL355 for portable GFCI's.***

UL 355 Requirements for GFCI Cord Reels (Updated Feb 2010)
Paragraph 4.3, 4.4 – Cord reels, that employ Ground-Fault Circuit Interrupter outlet(s) and are connected to the power supply by means of flexible cord with an attachment plug and/or that employ slip rings, shall be provided with open neutral protection as part of the GFCI.

Definition Paragraph 2.7.1 – Open Neutral Protection consists of the opening of the line contacts of a protective device when either line contact loses power. As an example, if the input neutral opens due to a broken conductor or loose plug connection, the protective device circuitry would not receive power and therefore would not operate to provide protection. A current path from line to ground could exist under these circumstances; a person in contact with the line conductor could receive a shock. *-Source standardscatalog.ul.com*

For any further questions, please contact customer service at 1-855-634-9109.

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