

The Shocking Truth

INCORRECT TORQUE APPLIED TERMINALS CAUSING FAILURES ON ELECTRICAL NETWORKS

In the complex world of electrical networks, even the smallest missteps can lead to major consequences. One often underestimated but crucial aspect is the torque applied to terminals. Failure to get this right can wreak havoc, causing supply interruptions, equipment damage and pose safety risks.

Pillar terminals, often referred to as terminal blocks, play a pivotal role in the operation of electrical networks. These uncomplicated components serve as connection points for electrical connections and bear the responsibility of ensuring a consistent and dependable electrical flow. They are commonly used in distribution boards, LV Underground Turrets, and various industrial applications.



The Importance of Proper Torque

Proper torque, the measure of rotational force, is imperative when securing connections within electrical networks. It ensures that conductors are firmly held in place, minimizing

resistance and preventing the creation of loose or arcing connections. An incorrect torque be it under or over torqued can lead to a range of issues:

Overheating and Fire Risk

When terminals are not sufficiently tightened, resistance in the connection can increase. This resistance generates heat, which, if left unchecked, may lead to the ignition of surrounding materials, causing fires.

Voltage Drop

Inadequate torque can result in high resistance connections, leading to voltage drop issues. This can cause appliances and equipment to underperform and can be a significant problem in industrial settings.

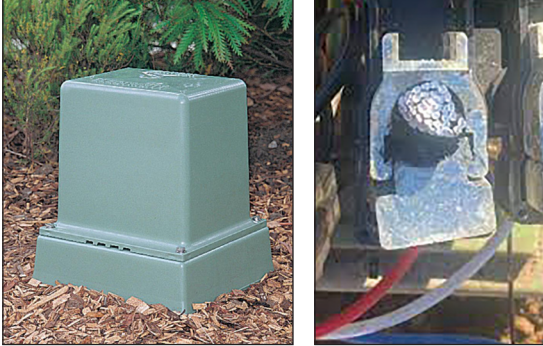
Corrosion and Deterioration

Loose connections can lead to air and moisture ingress, causing corrosion. Over time, this can weaken the connection and degrade its performance, potentially leading to electrical failures.



Safety Hazards

Loose connections can also result in intermittent electrical contact or even open circuits. These issues can be a safety hazard, potentially leading to electrical shocks, equipment failures, and costly downtime.



The Importance of cable preparation

Cable preparation ensures that the conductive core of the cable is exposed without any damage or interference. This is essential for creating a low-resistance path for electrical current to flow, which minimizes the risk of overheating and electrical fires. Additionally, neatly prepared cables make it easier to connect to terminals, reducing the chances of loose connections or arcing that can lead to equipment failure or safety hazards. Well-prepared cables are less prone to corrosion, as exposed conductors are less likely to trap moisture, extending the lifespan of the connection. Cable preparation is not just a routine step; it is a fundamental practice that directly impacts the safety, efficiency, and longevity of electrical connections, making it a cornerstone in electrical work.

Preventing Failures

To prevent cable preparation and torque-related failures on electrical networks, several measures should be taken:

Use of correct equipment

Before any connection can be made, correct cable preparation is a must. Stripping the outer jacket or insulation and cleaning prepares the conductor for the electrical connection. Tools such as torque wrenches or screwdrivers with torque control, should be employed when tightening connections and terminals. All this equipment prepares and in-turn help maintain connection consistency and precision.

Consult Manufacturer Guidelines

Manufacturers often provide cable preparation and torque specifications for their components. Always follow these recommendations to guarantee secure connections.

Regular Maintenance

Regularly inspect connections to verify their torque and overall condition. Maintenance schedules should be established to identify and address potential issues promptly.

Training and Education

Train personnel in the proper techniques of cable preparation and securing pillar terminals. Understanding the importance and its implications is essential for safe and effective electrical network management.

Quality Control

For electrical installations, maintain stringent quality control procedures, ensuring that all connections meet the required torque specifications.



Insulated Torque Wrench and Sockets

While it may seem like a small detail, correct cable preparation and the application of pillar terminals is paramount for the safety and functionality of electrical networks. Neglecting these critical aspects can lead to overheating, fires, voltage drop, corrosion, safety hazards, and costly equipment failures.



Stripping Tool

Conductor Cleaning



Cleaning Wipes

Contact TEN for information on the complete range of Insulated and Un-insulated Torque Wrenches and Sockets, and cable preparation and cleaning equipment.

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