

# TI2007-001

## Cobra™ Smart NATO Slave Cable



**Power Anytime, Anywhere**

The Tesla™ Cobra™ Smart NATO Slave Cable is constructed from a rugged combination of advanced composite materials and corrosion-resistant alloys, and features Tesla™ Cobra™ NATO plugs. The result is a weatherproof NATO slave cable that will withstand the harshest battlefield conditions and other extreme environments. Incorporating state-of-the-art electronic control and monitoring circuitry, the Cobra™ Smart NATO Slave Cable can provide safe and efficient power transfer of up to 3000 peak amps — no more damage or injury to equipment, plugs and personnel.

### Features:

- State-of-the-art electronic control
- Reliable switching up to 3000 peak amps
- Reverse polarity and overvoltage protection
- Clamped cable connections
- UV, fuel, fungus, water, and oil resistant
- Easy component replacement
- Manufactured by Tesla™
- Exceeds MIL-STD-810G
- Tested to withstand 50 G of force



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# Features and Benefits

## State-of-the-Art Control

The Tesla™ Cobra Smart NATO DC Plug Cable Assembly is equipped with intelligent circuitry to monitor voltage levels and prevent potentially dangerous conditions, such as reverse polarity and over voltages. A status LED located on Cobra NATO Plug end of the cable indicates under and overvoltages, reverse polarity, and good voltage conditions. Only under a “good” voltage condition (shown in Figure 1) can power be transferred.

## Rugged, Durable, Reliable

Made from virtually indestructible composite materials, the plug housing won't crack, melt, blister, dry-rot or disintegrate. In addition, the control electronics are housed in a durable enclosure, surrounded by an impact and abrasion resistant bumper shown in Figure 2. Together these features insure that the Tesla™ Cobra Smart NATO DC Plug Cable Assembly will still be in the field long after other cables have failed.

## Internal Cable Connections

Unlike slave cables that are molded directly into the plug housing, easily accessible lugs allow for direct termination inside of the plug (See Figure 4). Additionally, compression grommets and bushings provide strain relief. This unique combination of protection eliminates potential shocks from exposed wiring due to cable stretching and splicing.

## Weatherproof Construction

Through a series of strategically placed seals and bushings, the Tesla™ Cobra Smart NATO DC Plug Cable Assembly is hermetically sealed to lock out rain, snow, sand or any other form of damaging debris.

## Replaceable Contacts

Manufactured from highly conductive alloys, the contacts are resistant to damage and corrosion. Once installed, contacts are hermetically sealed within the plug as shown in Figure 5. See Figure 3 for replacement parts.

## Insertion/Extraction Tools

Contacts can be easily replaced “in-the-field” without discarding the entire plug using the Insertion/Extraction Tools. The tools and contact replacements can be ordered through Tesla™ Customer Service at (302) 324-8910.



Figure 1: Status LED showing “Power Good”

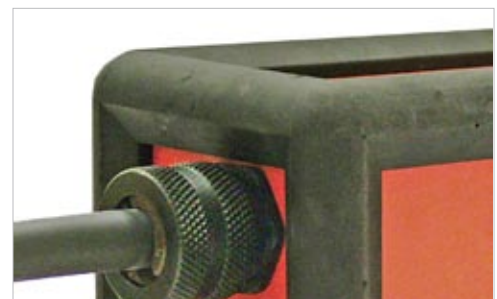


Figure 2: Impact and abrasion resistant bumper



Figure 3:  
A. Negative Insertion/Extraction Tool: TI2005-126  
NSN: 5120-01-523-8761  
B. Negative Contact: TI2005-121  
NSN: 5999-01-525-0582  
C. Positive Post: TI2004-4444

# Components - Exploded View



Figure 4: Easily accessible terminal lugs



Figure 5: Hermetically sealed and easily replaceable contacts

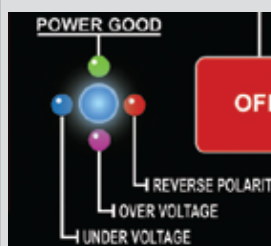


Figure 5: Under Voltage

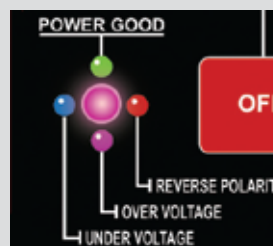


Figure 6: Over Voltage

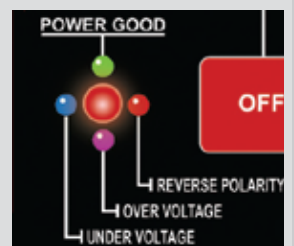


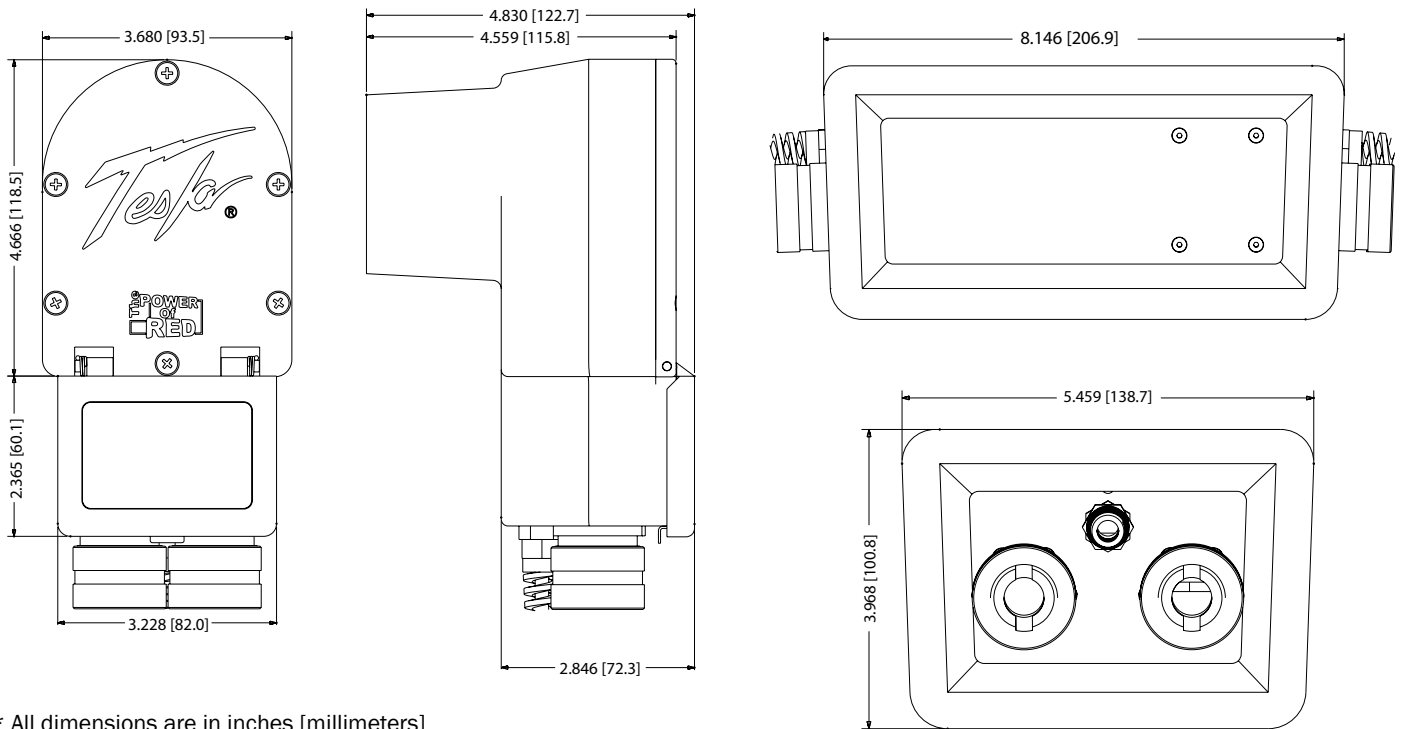
Figure 7: Reverse Polarity

**Figure 6:** When the status indicator is flashing blue, the input voltage is below 24 V. This will not disengage the contactor if it is already engaged.

**Figure 7:** When the status indicator is flashing violet, the input voltage has exceeded 31.7 V. This will disengage the contactor after 1 second.

**Figure 8:** A flashing red status indicator means a reverse polarity condition. This will disengage the contactor instantaneously.

# Dimensions and Technical Specifications



\* All dimensions are in inches [millimeters]

## Technical Specifications:

Input Voltage Range	12 - 32 Vdc
Peak Current	3000 A
Rated Current	1500 A
Power Consumption (Disengaged)	170 mA
Power Consumption (Engaged)	500 mA
Inrush Current (@ 28 Vdc)	3.8 A @ 130 mS
Air Gap-leakage Path	0.355" (9 mm)
Protection Class	IP28C
Optional	
Overcurrent Protection Range	1 - 2000 A
Overcurrent Protection Delay	10 mS - 1.0 second
Overvoltage Max	60 V
Status Indicator LED	Red = reverse polarity Blue = undervoltage (< 23.9 v) Violet = overvoltage (> 31.7 v) Green = power okay (24.0 v - 31.6 v)
Operating Temperature	-25° to 60° C (-32° to 140° F)
Storage Temperature	-40° to 85° C (-40° to 185° F)
Weight (25 ft cable)	36.2 lbs. (16.5 kg)
Warranty	2 years (3 years optional)



## Field Tested

To prove its toughness and dependability, the Cobra NATO Plug was subjected to the harshest abuse. The photo above shows the NATO plug can withstand the weight of a 70 ton M1 Abrams tank. Even after this severe punishment, the plug was still fully functional.