



ST-47 Groundhog

Vehicle Static Grounding System

Featuring Dynacheck® – Automatic and Continuous Self-Checking Circuitry*

DESCRIPTION

Don't let unsure grounding / bonding methods leave you guessing. Transport vehicles should be properly tied to ground before and during the loading operation. There should never be any doubt that the grounding systems at your terminals are performing their proper function. Many systems give you little assurance of their operation. The Scully Groundhog gives you complete assurance that a proper static ground tie-in is present.

The Groundhog is a self-proving grounding verification system for

maximum safety in loading operations. It can operate in conjunction with your existing Scully Overfill Prevention System or as an independent unit utilizing a separate earth bond / ground cable. Scully Signal Company has over 30 years of electronic liquid handling experience providing the ultimate dependability, service and safety.

The Scully Groundhog ground verification system can be used for a wide variety of loading applications for use with tank trucks, rail cars, and aircraft refuelers.



Groundhog Ground Verification System



FEATURES AND BENEFITS

- Self-Proving, the Groundhog continuously monitors the grounding connection throughout the loading operation.
- Can be used in conjunction with your Scully Overfill Prevention System offering one quick connection for overfill protection and static grounding verification.
- Can also be used as a completely independent ground verification system with a special quick-release plug for grounding to a specially designed, vehicle mounted, electronic ball.

- Direct earthing tie point at loading rack available.
- Immediately shuts down the loading operation if proper static grounding is not present.
- FM approved.
- No manual checks are needed.

IMPORTANT

Static grounding is used to dissipate any static charges which can build up as a result of product flow or other vehicle movement. These charges over time may build up and exceed the ratings of the ST-47. Some applications such as rail lines and pipelines may also have stray currents present. In these situations the vehicle, rail, and pipeline must be bonded to ground independently from the Scully system. Local codes should be consulted regarding wire gauges and number of conductors. Refer to API 2003 (American Petroleum Institute) Recommended Practice "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents", and NFPA77 (National Fire Protection Association) "Recommended Practice on Static Electricity" for accepted grounding and bonding practices.

* When used in conjunction with the Scully ST-15 or ST-35 series controllers.



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Scully Ground Bolt

THE SCULLY GROUNDHOG PROVES IT

The Scully Groundhog gives you complete assurance that bonding to the vehicle's frame has been accomplished. The Groundhog is an intelligent system which continuously and automatically monitors the bonding connection during the entire loading operation.

The Groundhog is designed to immediately shut down the loading operation if the earth tie-in is broken. That's proof-positive, something no other system can provide.

The Groundhog control monitor is mounted at the loading rack.

Indicator lights on the face of the control monitor are visual proof that proper bonding has been accomplished.

The Groundhog when operating in self-proving mode requires that each vehicle be equipped with a specially designed Scully electronic Ground Ball or Bolt. Before the loading operation can begin, the controller must see an intelligent return signal from the Ground Ball or Bolt, indicating that a proper bonding connection has been made.

ARE YOUR GROUNDING SYSTEM OPTIONS LIMITED?

The Groundhog Control Unit can be wired into your existing Scully Overfill Prevention System for the ultimate safety system. Just one connection gives you overfill and grounding verification protection. This single connection simplifies loading and eliminates the need for additional plugs and cables at the loading rack. The Groundhog utilizes a separate conductor in the existing Scully

Overfill Prevention Plug and Cable together with a special Scully Ground Bolt mounted on each vehicle. The Scully Ground Bolt's sensing lead is wired to the Scully Overfill Prevention Socket. Only Scully offers you a complete, integrated overfill prevention and vehicle grounding verification system for maximum safety in your loading operations.



One Connection for Overfill Prevention and Grounding

CONTROL UNITS AND PLUG AND CABLE ASSEMBLY

If you intend to wire the Groundhog in conjunction with your existing Scully Overfill Prevention System, you need only order the control monitor. For the independent system, order the control monitor and junction box with plug and cable.

ORDERING INFORMATION

| <i>Model</i> | <i>Description</i> | <i>Part Number</i> |
|-----------------|---|--------------------|
| ST-47-115 EL | Control Monitor with Lamps (115 VAC operation) | 08508 |
| ST-47-115 ELK | Control Monitor with Lamps and Key Protected Bypass Switch (115 VAC operation) | 08220 |
| ST-47-115 ELK/D | Control Monitor with Lamps and Key Protected Bypass Switch (115 VAC operation) With Deadman Switch | 08749 |
| ST-47-240 EL | Control Monitor with Lamps (240 VAC operation) | 08675 |
| ST-47-240 ELK | Control Monitor with Lamps and Key Protected Bypass Switch (240 VAC operation) | 08502 |
| SC-47 | Rack Mounted Heavy Duty Junction Box with 20' Straight Cable and Ground Proving Plug for Connection to Vehicle Mounted Ground Proving Ball (Independent System) | 08249 |
| SC-47CC | Rack Mounted Heavy Duty Junction Box with 32' Coiled Cable and Ground Proving Plug for Connection to Vehicle Mounted Ground Proving Ball (Independent System) | 08567 |
| SC-47CC/D | Same as SC-47-CC with Additional Circuitry for the Deadman Switch for Aviation Applications | 08653 |



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Scully Groundhog Control Monitor with Plug/Cable or with Dual Ground Stud Connector

RELIABILITY AND LEGACY IN GROUNDING SYSTEMS

The Scully grounding verification system ensures that unless the proper bonding connection has been made, the loading process will not begin. It will automatically shut down the loading operation if the bond is broken. The Groundhog's intelligent monitoring capabilities and the special electronic circuitry inside the Scully Ground Ball and Ground Bolt form a self-proving system.

No manual checks are needed. Only the Scully Groundhog can provide you with the safest and most dependable means for vehicle grounding verification. It maintains the integrity of your loading operation.

SCULLY HAS A SYSTEM FOR EVERY APPLICATION

The Groundhog can be used as a completely independent system. This system is ideal for top loading or applications where a Scully Overfill Prevention System is not in use.

The control monitor connects to a heavy duty Sculcon® junction box with attached cable and special quick release snap-on plug. The Scully Ground Plug connects to a specially designed electronic Scully Ground Ball

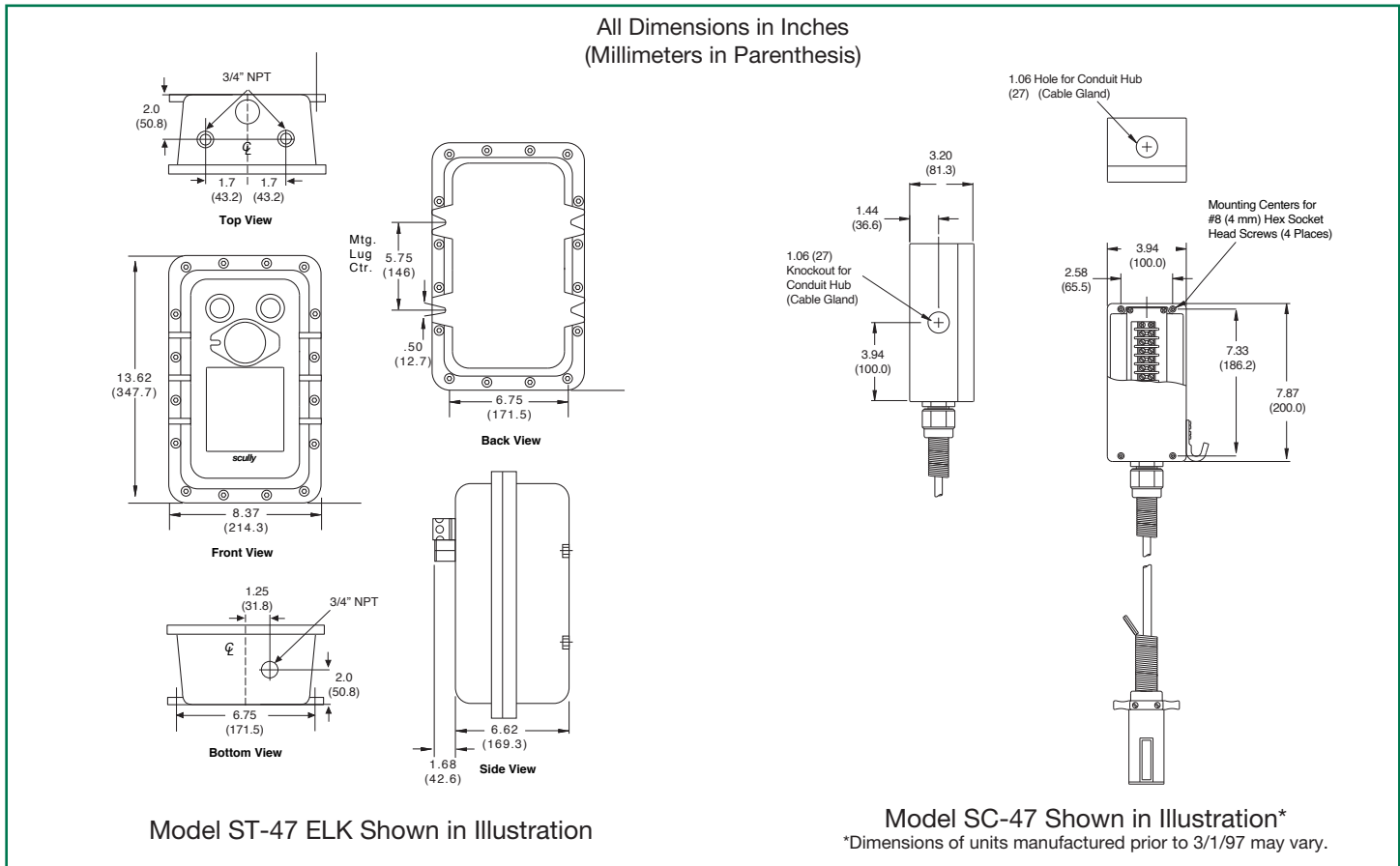
mounted on each vehicle. The controller in conjunction with the Ground Ball provides and verifies vehicle grounding before loading can begin. The controller must receive an electronic return signal from the Ground Ball throughout the loading operation.

The Dual Stud Connector is used for connection to vehicles equipped with two Ground Studs mounted side-by-side, on a tank vehicle chassis.

| REPLACEMENT PARTS | | |
|-------------------|---|--------------------|
| <i>Model</i> | <i>Description</i> | <i>Part Number</i> |
| Ground Ball | Truck Mounted Electronic Ground Proving Ball for Independent Grounding System | 08274 |
| Ground Bolt | Truck Mounted Electronic Ground Proving Bolt for Wiring to Overfill Prevention Socket | 08560 |
| Coiled Cable | Replacement Plug and 32' Coiled Cable Assembly for SC-47 | 08566 |
| Straight Cable | Replacement Plug and 20' Straight Cable Assembly for SC-47 | 08219 |
| Plug | Replacement Plug only for SC-47 | 08565 |
| Module 115 | Replacement Module for 115 VAC Models | 09511 |
| Bulb, 135V | Replacement Indicator Lamp Bulb for 115 VAC Older Models | 27005 |
| LED Bulb | Red LED Candelabra for 120V | 09384 |
| LED Bulb | Green LED Candelabra for 120V | 09385 |
| Module 240 | Replacement Module for 240 VAC Models | 09512 |
| Bulb, 250V | Replacement Indicator Lamp Bulb for 240 VAC Models | 27006 |
| Deadman Control | Deadman Switch with Coiled Cable | 08863 |
| Connector | DUAL Ground Stud Connector and 32' Coiled Cable Assembly for SC-47 | 32682 |
| Stud | Brass Ground Stud | 32681 |

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TECHNICAL SPECIFICATIONS

| | |
|--------------------------------|---|
| Operation Temperature: | -40° to +140° F (-40° to +60° C). |
| Enclosure: | Explosion-Proof Weather-Proof Housing. |
| Indicators: | Red—not grounded/non-permit. Green—grounded/permit. |
| Response Time: | 0.5 seconds maximum. |
| Electrical Connections: | Internal terminal strips, identified for easy installation. |
| Bypass Switch: | Key lockable off-on bypass switch for ELK model only. |
| Output Control: | One normally open user contact rated 250VAC, 5A resistive load. |

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|----------------------------|--|
| Power Requirements: | |
| ST-47-115 Models: | 105–125 VAC, 50/60 Hz. 0.250 Amperes maximum. |
| ST-47-240 Models: | 208–240 VAC, 50/60 Hz. 0.125 Amperes maximum. |
| Shipping Weights: | ST-47 ELK; 26 lbs (12 kgs) ST-47 EL; 26 lbs (12 kgs) SC-47; 9 lbs (4 kgs) |
| Approvals: | Explosion-proof with intrinsically safe ground connection outputs. Rated for Class I, Groups C & D Hazardous Locations, by FM Global (FM) to Canadian and United States standards. |

SIL Capable



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