

# Single Point Overfill Prevention Controllers

Featuring Dynacheck® Automatic and Continuous Self-Checking Circuitry



Model ST-15-ELK shown

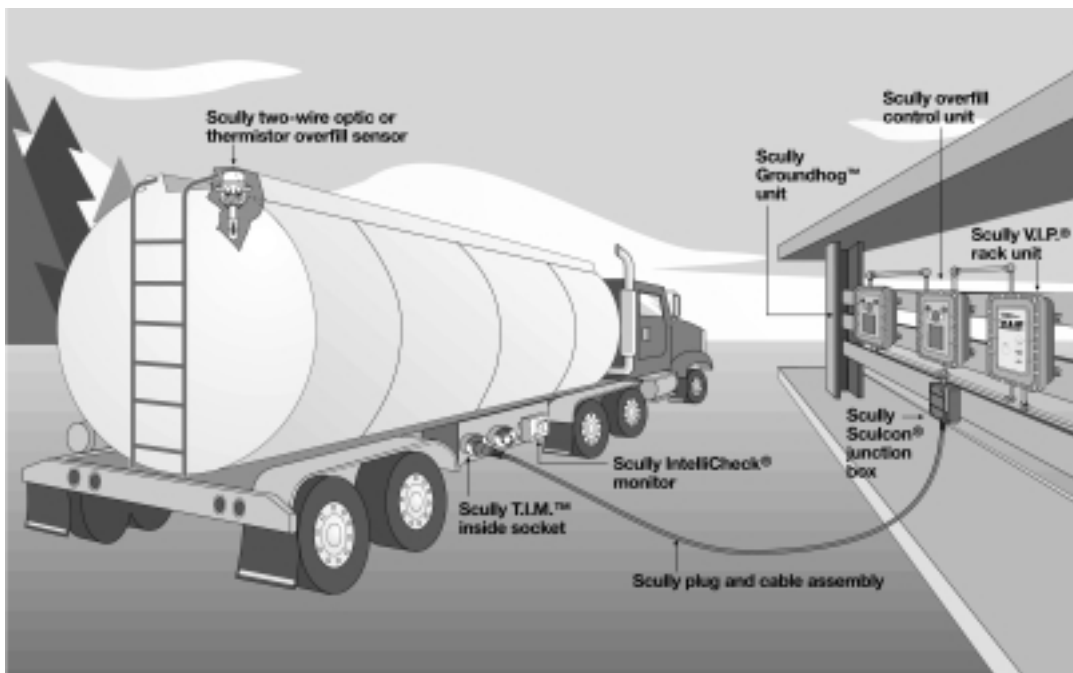
## Description

The Scully single point overfill prevention controllers feature two-wire optic or thermistor sensing. They are mounted at a loading rack or fill station for connection to a single compartment tank vehicle.

## Applications

- Tank Trucks
- Refuelers
- Rail Tank Cars
- Chemical Top and Bottom Loading

## Principle of Overfill Protection



## Design Advantages

Scully Single Point Overfill Prevention Controls are designed for use with a Scully two-wire optic or thermistor sensor. They offer all these advantages:

- Maximum safety with Dynacheck® automatic and continuous self-checking circuitry
- Will not permit loading under any fault or wet sensor conditions
- Signals for automatic shut-off of product flow within a half-second of detecting an overfill condition
- Ideal overfill prevention for refuelers, rail tank cars, tank trucks, chemical trailers and other one compartment vehicles
- 30 years of proven, dependable performance
- Easy connection to vehicles with versatile high impact plug and cable units
- Approved by Factory Mutual (FM), the Canadian Standards Association (CSA), and BASEEFA/CENELEC.

## Safety Features

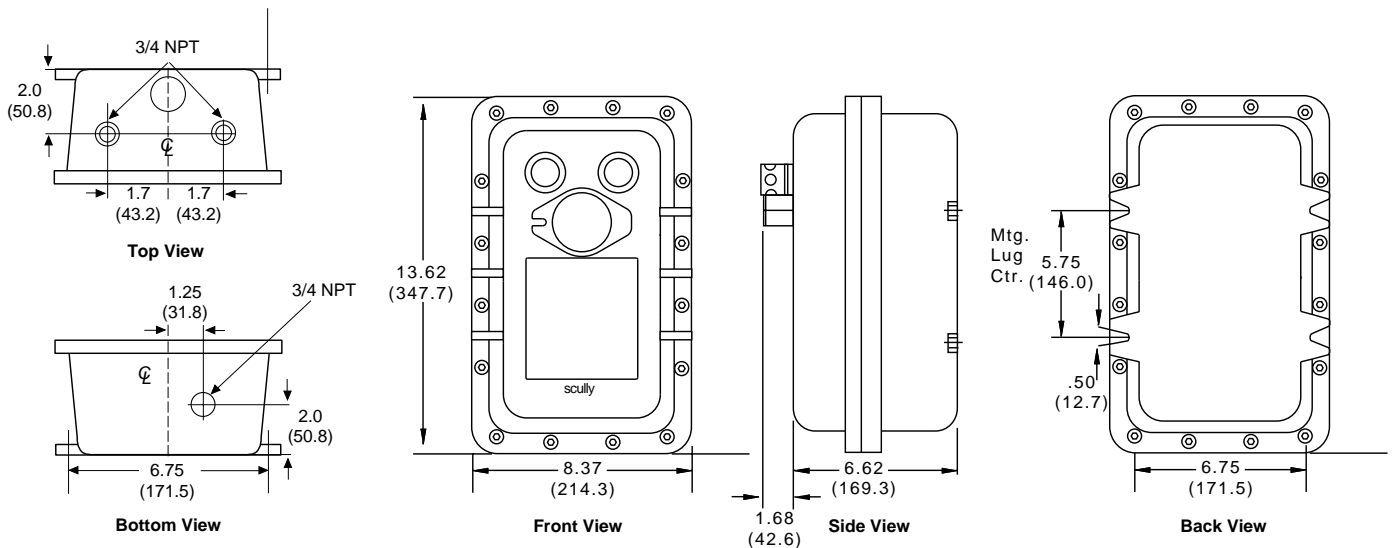
The system incorporates Scully's unique and exclusive Dynacheck concept. To ensure that the system will always detect an overfill condition, the controller uses pulsed signals which continuously check the entire system operation. The controller, wiring, connections and sensors are checked for faults up to 30 times per second. If a sensor comes in contact with liquid, or in the unlikely event of a system fault, pulsed signals cease and the controller automatically signals for immediate

shutdown of the loading operation. Shutdown is accomplished by controlling pumps, valves, terminal automation systems, etc..

The ST-15 provides the vehicle with an adequate static ground path to the rack provided the vehicle overfill equipment is wired and maintained to factory specifications. For additional ground proving options, the system works in conjunction with the Scully Groundhog™ Self-Proving Ground Verification System.

## Technical Diagram of Model ST-15 ELK

All Dimensions in inches (Millimeters in Parenthesis)



**scully**



## Technical Specifications

### Compatible Sensors

FM & CSA Approved  
Versions of:

Thermistor Sensors  
SP-BL, SP-BLU, SP-BLH

Two-wire Optic Sensors  
SP-TO, SP-TOM, SP-IO,  
SP-IR, SP-TO(SS),  
SP-TO(SS)HP

BASEEFA/CENELEC  
Approved Versions of:

Thermistor Sensors  
SP-BLK, SP-BLUK, SP-BLHK

Two-wire Optic Sensors  
SP-TO, SP-TO(SS)  
SP-TO(SS)HP  
SP-IO, SP-IR

Enclosures:

Explosion-proof, weathertight.  
Corrosion inhibiting epoxy  
paint optional. Consult Scully  
for the availability of non-  
explosion-proof weathertight  
enclosures

Indicator Lamps:

Red = Power On/Non-Permit  
Green = Permit

Approvals:

ST-15: FM & CSA; Class 1,  
Division 1, Group D hazardous  
locations.

ST-15C: BASEEFA/CENELEC,  
EExd IIB T6 and EEx ia IIC.  
Consult Scully for additional  
approvals.

Turn on response time: 6 - 30 seconds (typical) for thermistors.  
Two-wire optics turn on instantly.

Shutdown  
Response Time: 0.5 seconds maximum

Power Requirements: 105 - 130 VAC, 50-60 Hz, 20 watts  
maximum, 210 - 250 VAC nominal,  
50-60 Hz, 20 Watts maximum

Connections: Provided by internal terminal strips

Output Control: One normally open volt free  
contact, rated 250 VAC, 5A resistive,  
energized when the sensor is dry

Output Control Fuse: Internal 5 Amperes

Size: Refer to Diagram for E, EL, ELK models.  
Consult factory for the ELKPB.

Weight: 28 lbs. (12.7 kg) E, EL, ELK Units  
50 lbs. (23 kgs) ELKPB

Data Sheets: Sensors: 60715, 60621, 60632,  
67101 and 67102

Sockets: 60674

Plugs & Cables: 60614 or 60714

Grounding System: 60733

NOTE: The Scully ST-15 is an intrinsically safe system.  
For maximum safety, it should be used only in conjunction with  
sensors manufactured by Scully not to jeopardize the conditions  
of the approvals.

## Model Identification

ST-15: FM and CSA approved models

ST-15C: BASEEFA/CENELEC approved models

"E" Suffix: Explosion-proof housing, IP 65 protection

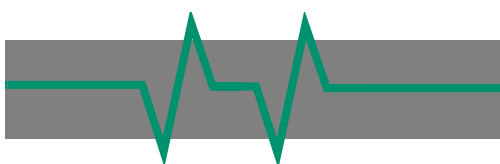
"L" Suffix: Red, power on/non-permit and green permit indicator lamps

"K" Suffix: Lockable bypass switch for management authorization to load without overfill prevention

"PB" Suffix: Start/Stop Push Button

## Ordering Information BASEEFA/CENELEC Approved Models

Model	Description	Part #
ST-15C-120-E	Single Point Controller with Explosion-proof Housing, 120VAC	09632
ST-15C-120-EL	Single Point Controller with Explosion-proof Housing and Indicator Lamps, 120VAC	09633
ST-15C-120-ELK	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, 120VAC	09631
ST-15C-240-E	Single Point Controller with Explosion-proof Housing, 240VAC	08632
ST-15C-240-EL	Single Point Controller with Explosion-proof Housing and Indicator Lamps, 240VAC	08633
ST-15C-240-ELK	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, 240VAC	08631



scully

## Ordering Information for FM and CSA Approved Models

Model	Description	Part #
ST-15-115-E	Single Point Controller with Explosion-proof Housing, 115VAC	07748
ST-15-115-EL	Single Point Controller with Explosion-proof Housing and Indicator Lamps, 115VAC	07528
ST-15-115-ELK	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, 115VAC	07677
ST-15-115-ELKPB	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, and Start/Stop Push Buttons, 115VAC	07530
ST-15-240-E*	Single Point Controller with Explosion-proof Housing, 240VAC	07749
ST-15-240-EL*	Single Point Controller with Explosion-proof Housing and Indicator Lamps, 240VAC	07640
ST-15-240-ELK*	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, 240VAC	07547
ST-15-240-ELKPB*	Single Point Controller with Explosion-proof Housing, Indicator Lamps, Lockable Bypass Switch, and Start/Stop Push Buttons, 240VAC	07536

\* Note: 240 volt versions are not CSA approved

## Replacement Parts for FM and CSA Approved Models

Model	Description	Part #
115 VAC	Control circuit module only, ST-15-115H	07647
240 VAC	Control circuit module only, ST-15-240H	07699
All	Relay contact fuse	26311
ST-15-EL(KPB)	Indicator lamp bulb 115 volts unit	27005
ST-15-EL(KPB)	Indicator lamp bulb 240 volts unit	27006
ST-15-EL(KPB)	Red replacement lens	27076
ST-15-EL(KPB)	Green replacement lens	27075
ST-15-ELK(PB)	Lockable box for bypass switches	08360
ST-15-ELK(PB)	Bypass switch operator	26055

## Replacement Parts for BASEEFA/CENELEC Approved Models

Model	Description	Part #
240 VAC	Control module only ST-15C-240H	08656
120 VAC	Control module only ST-15C-120H	08756
All	Mains fuse, one ampere, 240V/4000A, interrupt internal	26343
All	Relay contact fuse, five ampere, 240V	26350
240 VAC	Indicator lamp bulb, 240V/6 watts	27065
120 VAC	Indicator lamp bulb, 120V/6 watts	27085
240 VAC	Red indicator lamp, complete assembly	27061
240 VAC	Green indicator lamp, complete assembly	27062
120 VAC	Red indicator lamp, complete assembly	27083
120 VAC	Green indicator lamp, complete assembly	27084
All	Red indicator lamp, lens replacement assembly	27063
All	Green indicator lamp, lens replacement assembly	27064
All	Key lockable box for bypass switch	08360
All	Bypass switch operator	26093
All	Bypass switch contact block	26022

*Biclops, Dynacheck, Dynamic Faylsafe, Dynamic Self-Check, Dynamic Self-Checking, Dynamic Self-Test, Dynamic Self-Testing, Faylsafe, Go Anywhere, Groundhog, IntelliCheck, IntelliTank, Intellitrol, Intelliview, Load Anywhere, MagneLink, Maxsafety, MulteCept, R.S.V.P., SAFS, SAFFS, Sculcon, Scultrrol, Scully, Scul-Lock, Scul-Tite, TABS and V.I.P. are registered trademarks of Scully Signal Company. Specifications are subject to change without notice.*

**Worldwide Contact**  
**Scully Signal Company**  
 70 Industrial Way  
 Wilmington, MA 01887 USA  
 Tel: 1-800-272-8559 or (617) 692-8600  
 Fax: (617) 692-8620  
 email: [sales@scully.com](mailto:sales@scully.com)  
[www.scully.com](http://www.scully.com)



60629 Rev. A

© Scully Signal Company, Printed in USA, June 1998

♻️ Printed on recycled paper

