



# ScuL-Sense™ Five-Wire Optic Sensor

## Liquid Level Sensor for Road Tanker Overfill Prevention

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



### DESCRIPTION

Scully five-wire optic sensors are purpose-built for liquid petroleum product overfill prevention and point level detection.

Scully offers a 5-year warranty on overfill prevention sensors for fixed tank trailer and storage tank applications. Scully sensors have the longest running safety record in the industry and are manufactured in Scully's U.S. factory, which prides itself on its strict quality and safety standards.

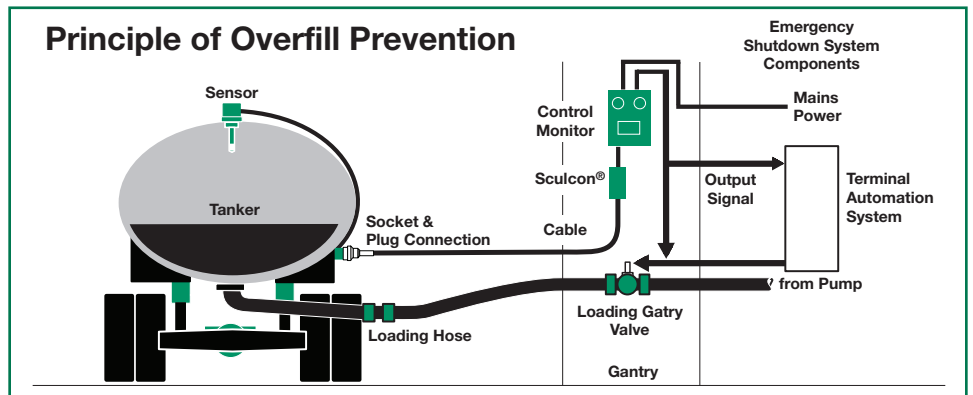
They are designed to be used with the Scully Intellitrol® and ST-35C series gantry control monitors. The sensors can also be used with the Scully IntelliCheck® II Monitor or Scully Load Anywhere® Truck Monitor. There is no waiting for the control monitors' permit

light to go on because the sensor requires no warm up time. Overfill prevention applications include road tankers, rail cars and storage tanks.

The five-wire optic sensor is a critical component in Scully's unique and patented Dynacheck circuit design. When used in conjunction with Scully electronic monitoring equipment, our overfill protection sensor will provide consistent failsafe monitoring. By constantly checking a "closed loop" pulsing signal across the entire system, Scully ensures a safe and reliable loading operation. If rising fuel contacts the sensor, this signal is interrupted and the controlling pumps and valves are shutdown. No operator involvement is needed to end the loading operation.

### 5-Wire Sensor

The ScuL-Sense™ design is ATEX compliant and withstands temperature related stresses, dramatically improving reliability across a wide operating range.



### IEC 61508 SIL3 Capable Element

when used in a SIL certified system

$$\lambda_{DU}=1.0 \text{ FIT}^* \quad \lambda_{SU}=116 \text{ FIT}^*$$

\*FIT = Failure In Time (1x10<sup>9</sup> failures per hour)

### FEATURES AND BENEFITS

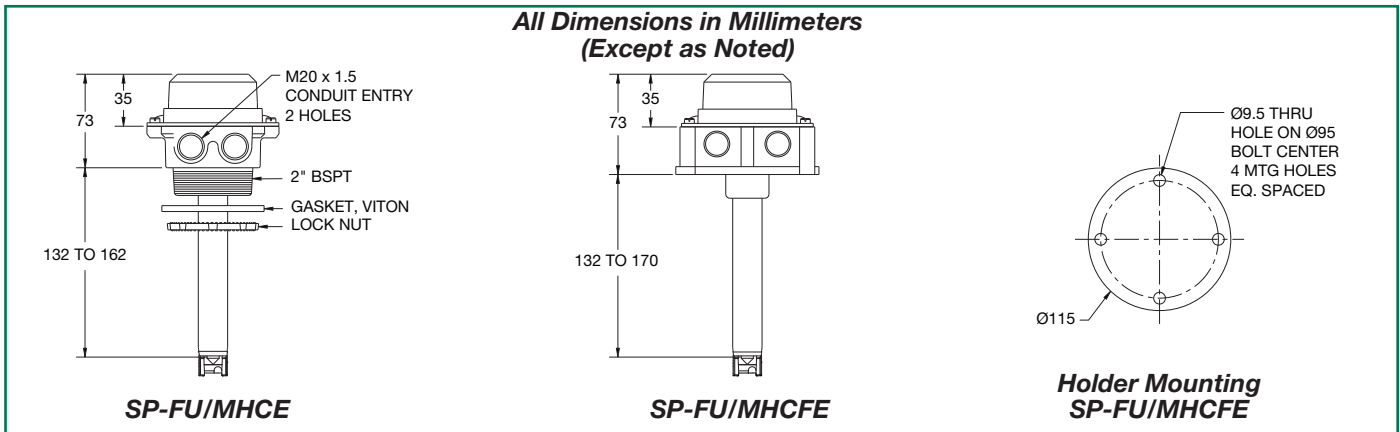
- Maximum safety with Dynacheck— Automatic and continuous self-checking circuitry when used with Scully electronic rack and vehicle onboard monitoring systems.
- Scully's field-proven electro-optics technology.
- Wide Temperature Range.
- Adjustable Sensing Level.
- Instant-On™— Instant permissive signal. No warmup time required.
- Quick purging of liquid— "fast" repermit as product level drops below the sensing point.
- Fully compatible with all Scully optic controllers.
- ATEX approvals per directive 94/9/EC.



67297 Rev F

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EUROPEAN  
ELECTRONIC  
PRODUCT  
LINE

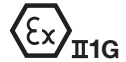


## TECHNICAL SPECIFICATIONS

**Operating Temp. Range:** -40°C to +60°C  
**Petroleum Product Range:** Petroleum Blends through #2 Oil  
**Exposed Materials:** Aluminum, zinc, borosilicate (Pyrex®) glass, epoxy, conductive nylon and Viton® seals  
**Level Repeatability:** ±1 mm  
**Electrical Leads:** 40 cm long, 0.33 mm<sup>2</sup> (22 AWG)

**Cable Entry:** Two holes, M20 x 1.5 threads  
**Detection Level and Size:** The detection level is adjustable, refer to sensor outline drawing above, shown for 175mm shaft length.  
**Approvals:** The sensor is intrinsically safe for mounting in Zone 0 according to ATEX Directive 94/9/EC  
 Ex ia IIB T5 Ga (-40°C ≤ Ta ≤ +60°C)

SIL Capable



ORDERING INFORMATION				Part Number for EN13922 Wire Colours
Model	Description	Shaft Length	Part Number	
SP-FU/MHCE(SC)	Five-Wire Optic Sensor, 2" BSPT holder, 35mm Short Cap	175mm	09031L1	09031L1E
		300mm	09038L1	09038L1E
		375mm	09048L1	09048L1E
SP-FU/MHCFE(SC)	Five-Wire Optic Sensor, flanged holder, 35mm Short Cap	175mm	09030L1	
		300mm	09037L1	
REPLACEMENT PARTS				Part Number for EN13922 Wire Colours
Model	Description	Shaft Length	Part Number	
SP-FU	Five-Wire Optic Sensor, (without holder)	175mm	09036L1	09036L1E
		300mm	09039L1	09039L1E
		375mm	09049L1	09049L1E
SP-MHCE(SC)	2" BSPT Threaded Holder Only		08714	
SP-MHCFE(SC)	Flanged Holder Only		08284	

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