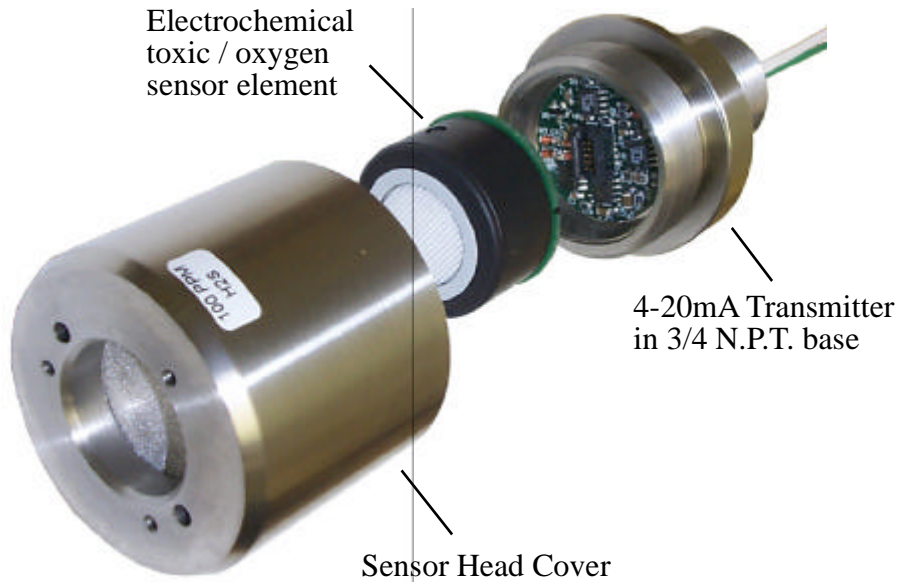


## FEATURES:

- Field replaceable toxic / oxygen sensor module.
- Range & target gas configured on sensor module.
- Improves system noise immunity because low level sensor signals are protected within the stainless steel sensor head.
- Industry standard 4-20mA signal may be transmitted thousands of feet on 2-wires.
- Suitable for Division 1 & 2 hazardous areas. May be installed as an intrinsically safe device with a barrier, or, explosion-proof for NEMA 7 installations.
- Missing sensor forces <2mA FAULT indication.
- Easily interfaced to R. C. Systems 1, 2, 6, or 16 channel receiver / display / alarm products.
- 2-wire 4-20mA signal is nonpolar with protective “steering diode” interface.
- Standard "Fault Supervision" circuitry continuously monitors for failed sensor. 4-20mA output transmits <2mA during failures.



The R. C. Systems Co. Inc. Model ST-49 is a 2-wire 4-20mA Sensor Transmitter . It accepts low power toxic or oxygen electrochemical sensor modules and functions in a 2-wire 4-20mA “sink” mode to transmit gas values to an appropriate receiver device. The ST-49 overcomes noise immunity problems associated with electrochemical sensors by enclosing all low level signals within a grounded stainless steel sensor head. Target gas type and range are determined by the field replaceable sensor module.

Calibration and / or validation of monitored gas values must be performed at the receiver device. R. C. Systems Inc. offers single, dual, six, eight and 16 channel receivers suitable for calibration, display, alarm and transmission of monitored gas values.

The ST-49 is enclosed in a rugged stainless steel enclosure suitable for installation into potentially hazardous environments. It is intrinsically safe (IS) with an approved IS barrier, or explosion-proof in NEMA 7 installations. An optional junction box is available for connection to field wiring.

Missing or defective sensors are detected and flagged by transmitting a value of less than 2mA to the receiver. Sensor elements are interchangeable with other R. C. Systems Inc. “smart” sensor products to reduce spare sensor inventory requirements.

The ST-49 functions with loop voltages ranging from 9 - 36VDC. Voltage drop across the ST-49 is less than 9 volts. An integral “transient voltage suppressor” protects the ST-49 and receiver devices in case of lightning or other surge voltage levels.

## SPECIFICATIONS

### SENSOR MODULE

Industry standard electrochemical type sensor with range configuration resistor and shorting transistor integrated into "smart" sensor module.

### ANALOG OUTPUT

2-wire 4-20mA current sink; 9-36 VDC; less than 2mA FAULT value transmitted in case of missing or faulty sensor module.  
Max output = 25mA

### APPROVALS

CSA pending

### ACCURACY

± 5% of full scale.

### AMBIENT TEMPERATURE RANGE

-40 - 60 degrees C

### TEMPERATURE DRIFT

Less than .1% per degree C over ambient temperature range.

### POWER SUPPLY

9-36 VDC @ 25mA

### HOUSING

316 Stainless enclosure suitable for Class 1, Groups A,B,C,D;  
Class 2, Groups E,F,G.

## ORDERING INFORMATION

Part # Structure = 49-XX-YYYY-Z

Suffix XX = Gas Type (standard range shown)

"Series 7" industry standard Echem sensors supplied by user.

YYYY defines measurement range coded such that 0-25 = **0025**, 0-100 = **0100**, 0-1000 = **1000** and so on.

Z defines Engineering Units with 1 = ppm, 2 = ppb, and 3 = % by volume

### ACCESSORIES:

10-0193 = ST-49 junction box  
10-0198 = Sensor splash guard with remote calibration port  
10-0203 = Sensor calibration cup  
10-0205 = Sensor flow cell for process monitoring  
10-0187 = Sensor replacement tool kit

ALL DIMENSIONS IN INCHES

