

MODEL TS420

Oxygen Deficiency Detector



Features

- LCD Indicator
- 2-Wire Loop-Powered
- 4-20mA Analog Output
- Adjustment-free Calibration
- Compact Size
- Wireless Capability

Benefits

- Display indicates status, fault and calibration cues
- Eliminates the need for output loop supply reducing installation and cabling costs
- Industry standard output for remote alarm and fault indication
- Lower calibration costs
- Permits sensor usage in space-restrictive areas
- Compatible with ELPRO Technologies wireless transmitters

Description

The General Monitors Model TS420 is a toxic gas sensor that continuously monitors for oxygen deficiency and provides an analog output signal. The TS420 utilizes electrochemical cell technology to detect oxygen deficiency in % by volume.

The TS420's electronics are encapsulated within a chemically resistant plastic housing with detector information processed at the point of detection. The loop powered TS420 provides 4-20mA output signal proportional to 0 to 25% by volume oxygen at the detector. Another feature of the TS420 is the LCD indicator which provides status, fault and calibration cues.

The TS420 Oxygen Deficiency Detector can be used in General Purpose, Intrinsically Safe, Increased Safety or Explosion-proof areas (when used with the appropriate accessories).

Applications

- Water Treatment
- Wastewater Treatment Facilities
- Pharmaceuticals
- Pulp & Paper
- Chemical Plants
- Refineries
- Food & Beverage
- Petrochemical
- Utilities



MODEL TS420

System Specifications

Sensor Type: Electrochemical cell

Measuring

Range: 0-25% oxygen

Repeatability: $\pm 1\%$ v/v

Typical Response

Time: T90 < 15 sec

Classification: Class I, Division 1 & 2,
Groups A,B,C & D, Class I Zone 0,
AEx ia IIC T6; Ex ia IIC T6; EEx ia
IIC T6; Class II, Divisions 1 & 2,
Groups E, F & G; Class III
IP67, Type 4X

Accessories: Field Mounted Display, flow block,
splash guard, plastic junction box,
aluminum junction box, calibration
kits and intrinsically safe barrier,
multi-channel controller

Warranty: 1 year (cell)
2 years (electronics)

Approvals: UL, C-UL, CSA, ATEX and
CE Marking

Note: Not approved for use in atmospheres
> 21% by volume O₂.

Environmental Specifications

Operating Temperature

Range: -4°F to +122°F (-20°C to +50°C)

Storage Temperature

Range: -4°F to +122°F (-20°C to +50°C)

Storage Temperature

Range* (Electrochemical Cells)
-32°F to +68°F (0°C to +20°C)

Operating Humidity

Range: 0% to 99% RH, non-condensing

Operating Pressure

Range: Atmospheric +/- 10%

*Requirements are driven by electrochemical cell specifications.

Electrical Specifications

Input Power: 10-35 VDC 3.5 to 22mA
loop-powered

Analog Signal: 3.5-22mA (600 Ohms Max.)
Fault 3.5mA
Start up 3.6mA
Cal 3.75mA
20.9% normal
atmosphere 17.37mA
0 to 25% 4 to 20mA
O₂ by volume (proportional)
Over-range 22mA

RFI/EMI

Protection: Complies with EN50081-2,
EN50082-2

Status

Indicators: Liquid Crystal Display (LCD)
with status, fault and calibration
cues

Faults

Monitored: Calibration and sensor removal

Cable

Requirements: 2-conductor shielded cable, Max.
cable distance @ 24 VDC normal
(20 ohm loop):
18AWG - 5000 ft

Wireless

Communication: Available with ELPRO wireless
transmitters

Mechanical Specifications

Diameter: 1.75 inches (44 mm)

Length: 4.5 inches (114 mm)

Weight: 0.5 lbs (0.23kg)

Mounting: 3/4" NPT

Housing: Chemically Resistant Plastic

Standard

Configuration: TS420-1-1-0-1

Specifications subject to change without notice.

Represented by

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