

B R O A D L E Y - J A M E S



MODEL

20-03

Microprocessor Dissolved Oxygen Transmitter



1.1 FEATURES AND APPLICATIONS

The MODEL 20-03, with an appropriate dissolved Oxygen sensor, is designed to continuously measure and control dissolved oxygen in industrial, biopharmaceutical, beverage, and food processes.

Housed in a NEMA 4X (IP65) weatherproof corrosion-resistant flame retardant enclosure, the MODEL 20-03 is suitable for panel, pipe or wall mounting. All functions are accessed through the front panel membrane keyboard which features tactile feedback.

The MODEL 20-03 transmits a user selected isolated current output continuously expandable over the measurement range in either Direct or Reverse action and can be displayed in milliamps or percent. Output dampening is user selectable.

Dual programmable alarms are standard for either high or low operation. Alarm 2 may be programmed as a fault alarm. Both alarms feature independent setpoints, adjustable hysteresis and time delay action. The time delay is convenient when an alarm is used for corrective action. Time delay will ignore a temporary upset and prevent shutting down a process. An interval timer with relay is also provided.

Automatic or manual temperature compensation is keyboard selectable. The process temperature is accurately measured at the sensor and read on the display. For greater accuracy, the temperature indication may be standardized to the process temperature. The temperature may be configured to read in °Celsius or °Fahrenheit.

Algorithms are provided in the Model 20-03 software to compensate for the temperature dependent membrane permeability rate with a resolution of 0.1°C, and to calculate oxygen solubility in "ppm" at the sample temperature.

The Model 20-03 also provides a direct nano amp (nA) read-out of the OxyProbe sensor's output signal which is useful during calibration and diagnostic procedures.

▼
CE VERSION
RFI/EMI
SHIELDED

▼
ALGORITHMS
FOR TEMPERATURE
CORRECTIONS AND
ppm CALCULATIONS

▼
ISOLATED
CURRENT
OUTPUTS

▼
% SATURATION
or ppm
READOUTS

▼
NEMA 4X (IP65)
WEATHERPROOF
CORROSION-RESISTANT
ENCLOSURE



Manufacturers of pH & O₂ Sensors
for Science and Industry

SPECIFICATIONS - GENERAL

MODEL: 20-03

Operating Range:

0-29.99 ppm (mg/L), 0-299.99 % saturation, 0-80°C

Repeatability:

±0.1% of range.

Accuracy:

±1% full scale (< 3% of actual readout).

Stability:

Zero Drift: ±1% full scale/month.

Span Drift: ±1% full scale/month.

Response Time:

0-95% full scale in less than 15 seconds.

Ambient Temperature:

-10 to 65°C (14 to 149°F).

Relative Humidity:

0-95% humidity.

Temperature Compensation:

0-80°C.

Alarms:

Dual, field selectable High/Low, High/High, Low/Low

Third relay used for timer.

Current Output:

Isolated, Direct or Reverse, 0-20 mA or 4-20 mA DC

into 600 ohms maximum load.

DIN Enclosure:

Black, ABS, NEMA 4X, IP65. CSA enclosure 4.

DIN Dimensions:

144 X 144 X 192mm (5.7 X 5.7 X 7.6 inches).

Front Panel:

Membrane keyboard with tactile feed-back and user selectable security. Black and white on grey.

Electrical Classification:

Group I Panel Mount Enclosure:

- | | |
|-----|--|
| FM | Class I, Div. 2 Groups A thru D |
| | 28 VDC relays - 6.0 amps resistive only |
| | 150 mA - Groups A & B; 400 mA - Group C; |
| | 540 mA - Group D; Ci - 0; Li - 0 |
| CSA | Class I, Div. 2 Groups A thru D |
| | 28 VDC, 110 Vac & 230 Vac relays |
| | 6.0 Amps resistive only |

Power Requirements:

115 VAC, ±10%, 50/60 Hz ±6%, 4.0 W.

230 VAC, ±10%, 50/60 Hz ±6%, 4.0 W.

EMI/RFI:

EN-50081-2

EN-50082-2



Digital Display:

Red LED Character Height: 18mm (0.7 inch).

Weight/Shipping Weight:

1.1 kg/1.6 kg (2.5 lbs./3.5 lbs.).

