



FS4309

Measuring device for oxygen, active output (0-10 V)

Measuring size: oxygen O₂

Output: 0-10 V, Relay

Highlights: O₂ content in the air



Description

The measuring device detects the oxygen level O₂ (0...25/100% vol.) in the ambient air. The transmitter converts the measured value into a standardized, analog output signal 0-10 V.

As an option, the measuring device has a backlit, rotatable display and potential-free changeover contact. In the version with a backlit LCD display, the measured values and min/max values and much more are displayed. The switching threshold and hysteresis can be set as required.

The measuring device carries out an automatic calibration at regular intervals, whereby a long-term stable measurement is guaranteed. This can be deactivated if necessary or performed manually on the device at any time.

The housing with innovative hinge locking technology, double PG screw connection, sufficient terminal space and easy-to-connect elevator terminals offers maximum installation freedom and speed. The oxygen measuring device is ideal for use in workplaces, medical facilities, HVAC applications and greenhouses.



Technical Specifications

| | |
|----------------------------------|---|
| Measurement range O ₂ | 0...25% vol. optional 0...100% vol |
| Accuracy O ₂ | ± 0,2% vol. + max. ±0,5% FS (@ 20°C, 45% r.H., 1013 mbar) |
| Temperature dependency | ±1% FS / 10 K |
| Response time (t ₉₀) | < 1 s |
| Long term stability | ±0,2% FS/year by auto-calibration ON |
| Sensor | Electrochemical sensor |
| Supply voltage | 24 V DC (±5%) |
| Current consumption | U operating: 50 mA (basic current); R: Peak 35 mA at the moment the relay is switched; D (DBL off): +3mA in addition to the basic current; D (DBL on): +15mA in addition to the basic current |
| Analogue output 0-10 V | 3-wire connection |
| Alarm output | 1 x potential-free change-over contact, 48 V, 1 A |
| Switching Hysteresis Relay | 2% of the selected scaling (without display), 0,5...5% of the selected scaling adjustable (with display) |
| Electrical connection | screw/plug terminals max. 1,5 mm ² |
| Housing | Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003 |
| Cable gland | PG11 high-strength cable gland with strain relief |
| Display | optional LCD display with backlight on/off/auto |
| Dimensions | Housing: L 89 x W 80 x H 47 mm |
| Protection type | IP65 (housing/electronic), IP20 (sensor) |
| Protection class | III |
| Working range r.H. | 0...98% r.H. in contaminant-free, non-condensing air |
| Working temperature | 0...+50°C |
| Storage temperature | -20...+50°C |
| Automatic calibration | The automatic calibration takes place every 7 days, this compensates for any drifts and achieves excellent long-term stability. To ensure this function, the device must be supplied with power for at least 7 days without interruption and ventilated with fresh air once for approx. 10 minutes within this period. The automatic calibration can be deactivated if necessary and performed manually. |
| Manual calibration | If automatic calibration is deactivated, manual calibration is recommended every 6-12 months. To do this, DIP switch 2 must be switched ON for 5 seconds with fresh air (desired zero point) and then OFF again. |
| Installation | screw fastening |
| Approvals | CE, RoHS |



Variants

| Article Number | | |
|------------------------|-----------|----------------|
| Measurement range O2 | Output O2 | Equipment |
| FS4309-U-A31-D | | |
| 0...25% | 0-10 V | Display |
| FS4309-U-A31-DR | | |
| 0...25% | 0-10 V | Display, Relay |
| FS4309-U-A31-R | | |
| 0...25% | 0-10 V | Relay |
| FS4309-U-A31-X | | |
| 0...25% | 0-10 V | - |
| FS4309-U-A32-D | | |
| 0...100% | 0-10 V | Display |
| FS4309-U-A32-DR | | |
| 0...100% | 0-10 V | Display, Relay |
| FS4309-U-A32-R | | |
| 0...100% | 0-10 V | Relay |
| FS4309-U-A32-X | | |
| 0...100% | 0-10 V | - |



Dimensional Drawing

