

Product Specification of:

## O<sub>2</sub> - **leadfree** Medical Sensor / Type MLF - 16D



### :: KEY FEATURES ::

#### Lead free, RoHS compliant, long-life expectancy, digital sensor output signal.

*All characteristics are based on conditions at 25 °C, 50% RH and 1013 hPa and gas flow > 2.5 L/min.*

|                                           |                                                                                                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Measurement Range:</b>                 | 0.01 to 100 Vol.%O <sub>2</sub>                                                                    |
| <b>Resolution:</b>                        | 15 Bit used (16 Bit processor, 1 Bit for algebraic sign)                                           |
| <b>Output signal</b>                      | 0 to 32768                                                                                         |
| <b>Initial Output Signal Range:</b>       | 2546 to 4455 @ dry ambient air                                                                     |
| <b>Electrical connector</b>               | 4-pin Molex (digital sensor output signal, I <sup>2</sup> C interface)                             |
| <b>Power Consumption:</b>                 | < 15 mW @ dry ambient air                                                                          |
| <b>Mechanical Mating Connector:</b>       | fits for M16x1 DIN 13 or 5/8-24 UNEF                                                               |
| <b>Nominal Sensor Life:</b>               | > 2,000,000 Vol.%O <sub>2</sub> h                                                                  |
| <b>Expected Operating Life:</b>           | 4 years @ ambient air, depending on application                                                    |
| <b>Response Time <math>t_{90}</math>:</b> | < 7 s                                                                                              |
| <b>Signal Drift (long term):</b>          | < 0.1%/month of sensor output signal @ dry ambient air                                             |
| <b>Signal Drift (short term):</b>         | < 0.1 Vol.%O <sub>2</sub> / day @ dry ambient air, constant environmental / measurement conditions |
| <b>Static Temperature Error:</b>          | < ±10% @ 40-50 °C<br>< ±1.5% @ 20-40 °C<br>< ± 2% @ 10-20 °C<br>< ±10% @ 0-10 °C                   |
| <b>Operating Temperature:</b>             | 0 - 40 °C; intermittent 40 - 50 °C                                                                 |
| <b>Ambient Pressure Range:</b>            | 500 to 1250 mbar                                                                                   |
| <b>Zero Offset Equivalents:</b>           | < 0.3 Vol.%O <sub>2</sub> @ 100 Vol.%N <sub>2</sub> applied for 5 min                              |
| <b>Linearity Error:</b>                   | < 3 % @ 100 Vol.%O <sub>2</sub> applied for 5 min                                                  |
| <b>Influence of Humidity:</b>             | - 0.03 % rel. O <sub>2</sub> reading per % RH                                                      |
| <b>Temperature Compensation:</b>          | NTC on sensor PCB                                                                                  |
| <b>Interferences:</b>                     | according to DIN EN ISO 80601-2-55                                                                 |
| <b>Weight:</b>                            | approximately 20g                                                                                  |
| <b>Material in contact with media:</b>    | PPS, PTFE, ABS, FPM, stainless steel                                                               |



### :: STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE ::

|                                |                                                                                          |
|--------------------------------|------------------------------------------------------------------------------------------|
| <b>Temperature Range:</b>      | - 20 °C to 40 °C<br>5 °C to 25 °C      recommended<br>40 °C to 50 °C      maximum 1 week |
| <b>Ambient Pressure Range:</b> | 500 to 1250 mbar                                                                         |
| <b>Humidity:</b>               | up to 100% RH, non condensing                                                            |
| <b>Shelf Life:</b>             | < 6 months recommended                                                                   |

### :: RELATED PRODUCTS ::

| Product                        | Part-No. | Housing Colour | Other Specifics                                         |
|--------------------------------|----------|----------------|---------------------------------------------------------|
| O <sub>2</sub> -Sensor MLF-16D | 47 11 16 | white          | RoHS compliant, lead free, digital sensor output signal |
| O <sub>2</sub> -Sensor MLF-16  | 47 03 16 | white          | RoHS compliant, lead free, analog sensor output signal  |

*This data sheet is subject to change without prior notice. [MLF-16D-Rev05-2018\_1219.doc]*