

# **OEM Specification Datasheet - 8010017**

## **Vobster Marine Systems**

### **VMS1700 Oxygen Sensor**



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v1.2  
6<sup>th</sup> July 2016

## Specifications

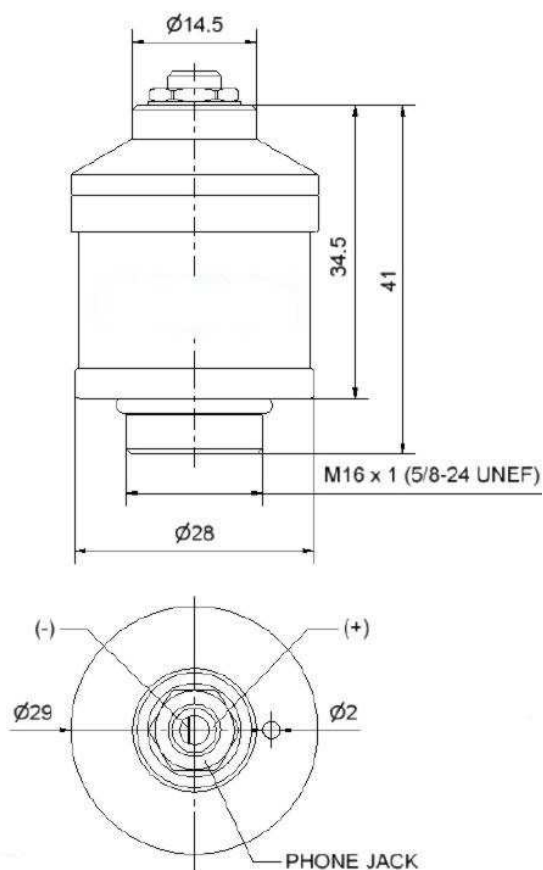
|                                           |                                                                                                                                 |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>VST part number</b>                    | 8010017                                                                                                                         |
| <b>OEM model number</b>                   | VMS1700 Oxygen Sensor                                                                                                           |
| <b>Output</b>                             | 9 – 13 mV                                                                                                                       |
| <b>Output connector</b>                   | *Switchcraft 0.141" (3.57mm) range miniature phone jack, type No. 41                                                            |
| <b>Input</b>                              | Threaded M16 x 1mm                                                                                                              |
| <b>Input O ring</b>                       | Yes                                                                                                                             |
| <b>Range</b>                              | 0 – 100% oxygen                                                                                                                 |
| <b>Pressure range</b>                     | 600 to 2500 mbar                                                                                                                |
| <b>Repeatability</b>                      | <1% volume oxygen at constant temperature and pressure                                                                          |
| <b>Linearity error</b>                    | 0.1 to 1.0 bar < 3% relative<br>0.1 to 2.5 bar < 5% relative<br>(at ppO <sub>2</sub> > 1.0 bar after 1 hour equilibration time) |
| <b>Warm up time</b>                       | < 30 minutes after sensor installed                                                                                             |
| <b>Zero offset voltage</b>                | < 0.5% oxygen reading in 100% nitrogen @ 25°C after 36 seconds                                                                  |
| <b>Cross interference</b>                 | <0.5% vol. O <sub>2</sub> response to 5% CO <sub>2</sub> balance N <sub>2</sub>                                                 |
| <b>Response time</b>                      | < 5 s for 90% of final value.                                                                                                   |
| <b>Operating humidity</b>                 | 0 – 99% R.H. (non-condensing).                                                                                                  |
| <b>Influence of humidity</b>              | - 0.03% relative per % R.H. at 25 °C.                                                                                           |
| <b>Influence of mechanical shock</b>      | < 1% after fall from 1m                                                                                                         |
| <b>Operating temperature range</b>        | 0 – 50 °C                                                                                                                       |
| <b>Storage temperature</b>                | -20 to +50 °C                                                                                                                   |
| <b>Recommended storage temperature</b>    | +5 to +15 °C                                                                                                                    |
| <b>Temperature compensation</b>           | Integrated NTC network                                                                                                          |
| <b>Temperature compensation error</b>     | 0 °C to 50 °C, 5% relative error                                                                                                |
| <b>Nominal sensor life</b>                | > 500,000 % oxygen hours                                                                                                        |
| <b>Long term output drift</b>             | < 1% vol oxygen per month, typically < -15% over sensor lifetime.                                                               |
| <b>Shelf life</b>                         | 24 months                                                                                                                       |
| <b>Load required</b>                      | ≥ 10 K Ohms                                                                                                                     |
| <b>Input - membrane protection grille</b> | No                                                                                                                              |
| <b>Input - hydrophobic membrane</b>       | Yes                                                                                                                             |
| <b>Conformal coating on PCB</b>           | Yes                                                                                                                             |
| <b>Pressure equalization - PCB</b>        | Yes – 2 x 2 mm holes                                                                                                            |
| <b>Pressure equalization - output cap</b> | Yes – 1 x 2 mm hole                                                                                                             |
| <b>Weight (approximate)</b>               | 28 g                                                                                                                            |
| <b>Flow diverter</b>                      | No                                                                                                                              |
| <b>Packaging</b>                          | Gas barrier bag - transparent                                                                                                   |
| <b>Warranty period</b>                    | 12 months from date of sales invoice                                                                                            |

All specifications are applicable at standard conditions: 1013 mbar, 25°C dry ambient air.

\* Standard steel nickel-plated washer S-1790-1 (8030490) replaced with copper alloy nickel-plated washer P-2061 (8030491)

Specifications subject to change

## Drawings/images



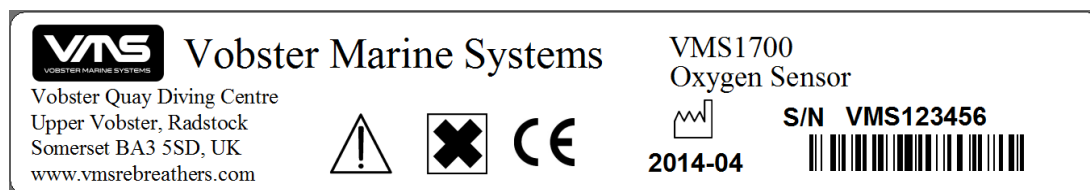
## Labelling

Oxygen sensor label 90.0mm x 15.0mm

White vinyl label, text & graphics - black

Font: **Century Schoolbook Greek BT (True Type)**

Font file name: **GrCnskn**



Gas barrier bag label 63.5mm x 46.6mm

White label, text & graphics – black

Font: **Century Schoolbook Greek BT (True Type)**

Font file name: **GrCnskn**

