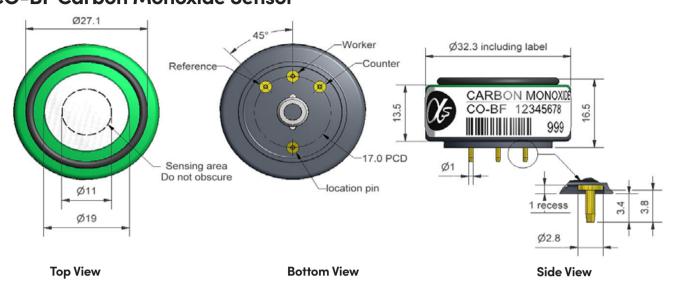
www.dorgean.com

## *α***lphasense**

Technical specifications Version 1.0

## **CO-BF Carbon Monoxide Sensor**



Dimensions are in millimetres (± 0.1 mm).

| Performance        | Sensitivity Response time Zero current Resolution Range Linearity Overgas limit  | nA/ppm in 400ppm CO t90 (s) from zero to 400ppm CO ppm equivalent in zero air RMS noise (ppm equivalent) ppm limit of performance warranty ppm CO error at full scale, linear at zero, 1000ppm CO maximum ppm for stable response to gas pulse    |   | 80 to 130 < 25 < ± 4 < 0.5 5,000 < ± 30 10,000  |
|--------------------|--|---|---|---|
| Lifetime           | Zero drift<br>Sensitivity drift<br>Operating life  | ppm equivalent change/year in lab air<br>% change/year in lab air, monthly test<br>months until 80% original signal (24-month warranted)  |   | < 0.1<br>< 3<br>> 24  |
| Environmental      | Sensitivity @ -20°C<br>Sensitivity @ 50°C<br>Zero @ -20°C<br>Zero @ 50°C   | % (output @ -20°C/output @ 20°C) @ 400ppm CO<br>% (output @ 50°C/output @ 20°C) @ 400ppm CO<br>ppm equivalent change from 20°C<br>ppm equivalent change from 20°C   |   | 70 to 88<br>102 to 115<br>< - 1 to + 4<br>< ± 6   |
| Cross Sensitivity  | Filter capacity Filter capacity Filter capacity Filter capacity Filter capacity H <sub>2</sub> S sensitivity NO <sub>2</sub> sensitivity Cl <sub>2</sub> sensitivity NO sensitivity SO <sub>2</sub> sensitivity H <sub>2</sub> sensitivity C <sub>2</sub> H <sub>4</sub> sensitivity NH <sub>3</sub> sensitivity | ppm·hrs ppm·hrs ppm·hrs ppm·hrs  % measured gas @ 20ppm % measured gas @ 10ppm % measured gas @ 50ppm % measured gas @ 20ppm % measured gas @ 20ppm % measured gas @ 20ppm % measured gas @ 400ppm % measured gas @ 400ppm % measured gas @ 20ppm | $H_2S$ $NO_2$ $NO$ $SO_2$ $H_2S$ $NO_2$ $CI_2$ $NO$ $SO_2$ $H_2$ at $20^{\circ}C$ $C_2H_4$ $NH_3$ | 250,000<br>120,000<br>120,000<br>160,000<br>< 0.1<br>< 0.1<br>< 0.1<br>< 25<br>< 0.1<br>< 65<br>< 65<br>< 0.1 |
| Key Specifications | Temperature range Pressure range Humidity range Storage period Load resistor Weight  | °C<br>kPa<br>% rh continuous<br>months @ 3 to 20°C (stored in sealed pot)<br>Ω (recommended)<br>g   |   | -30 to 50<br>80 to 120<br>15 to 90<br>6<br>10 to 47<br>< 13   |

## Figure 1 Sensitivity Temperature Dependence

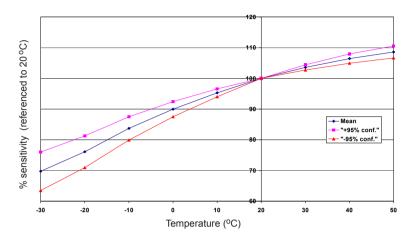
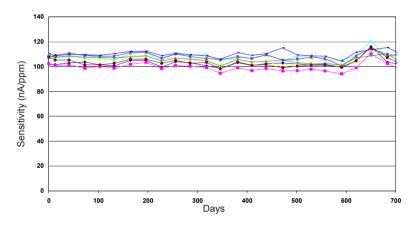


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

The mean and ± 95% confidence intervals are shown.

Figure 2 Sensitivity Long-term Stability



When sensors are tested monthly, their very good stability shows that they can be used in fixed sites, where maintenance and recalibration costs are important.

Figure 3 Response to 1% CO

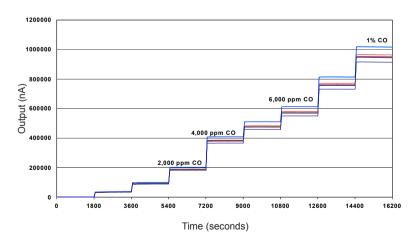


Figure 3 shows the response to step changes in CO concentrations from zero to 1% by volume.

At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions. NOTE: all sensors are tested at ambient environmental conditions unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within.(©ALPHASENSE LTD) Doc. Ref. CO-BF/SEP22