

The warning "*substitution of components may impair intrinsic safety*" can be found on the approval labels of a wide range of portable gas monitors.

In order to guarantee the intrinsic safety of a product, Australian standards and the third party certifying bodies that test to these standards, require that only parts from the original equipment manufacturer be used, as specified on the manufacturer's engineering drawings, when servicing approved monitoring instruments.

AS/NZS 3800:2012 Electrical equipment for explosive atmospheres – Repair and overhaul states:

#### **6.2.10 Electrical components**

Components such as resistors, transistors, zener diodes, etc., may be replaced with items purchased from the manufacturer or certificate holder.....

.....In intrinsically safe systems, replacing components with alternate types not listed in the system certificate documentation is a modification and shall not occur without additional certification.

#### **6.4 Alterations and modifications**

Alterations defined in the certificate shall be verified by a responsible person. Any change to the equipment as certified, including component parts, is considered a modification. Modification of intrinsic safety equipment shall not be carried out without verification by the manufacturer and/or the certification authority.

This means that all replacement parts such as sensors and battery packs must carry the Instrument manufacturer's part number and be supplied only by the manufacturer or a manufacturer authorised distributor. In addition, instrument repairs involving replacement of board-level components must be performed by the manufacturer or a fully authorised service centre.

In some cases instrument manufacturers source generic sensors from second-party providers but, in most cases, these are modified for use in a particular instrument with the addition of "smart-sensor" circuitry that can hold sensor type, serial number and / or calibration data; removal of this circuitry for fitment to alternatively sourced, generic sensors not only constitutes a modification, voiding any Ex certification, but also renders any data-log recordings, containing sensor specific data, inaccurate.

**The use of non-OEM replacement parts or accessories, or repair by an unauthorized service centre will violate all intrinsic safety approvals, void all warranties and shift all product liability to the end user of the equipment.**

- Air-Met Scientific is the sole distributor and manufacturer-authorized service centre, for Industrial Scientific, within Australia.
- Air-Met Scientific is also a NATA accredited Recognised Service Facility, under the ANZEx scheme, for the service, repair and overhaul of the EX i certified equipment that we sell.