

# MTL GIR6000 replacement modules

## Individual sensor, pump & filter modules

### Introduction

Modular Gas Sensors are the key feature of the MTL GIR6000 Biogas Analyser design. They are designed to be replaceable, on-site, with minimal interruption to the operation of the instrument, given that the location of the instrument is in a recognised hazardous area.

In addition to the main Gas Sensor modules there are three other module types, namely, the Pump module, the Filter module and the Link module. This document describes the replacement process for any of these module types.

#### CAUTION

##### READ THE SAFETY INFORMATION OVERLEAF!

Do not begin work until you have read and understood the information provided there.

These instructions should be read in conjunction with the Instruction Manual – INM MTL GIR6000.

### Initial instrument shutdown

To add or change any replaceable module, **it is important to follow the procedure described here.**

1. Isolate the sample gas inlet supply- using the local manual isolation valve.
2. Disconnect the sample gas inlet pipe from the analyser.



#### WARNING!

Failure to isolate the sample gas supply pipe before disconnection may result in toxic gas escaping.

3. Leave the analyser running for 5 minutes (to purge air through system)

#### NOTE

Purging the gas analyser will result in gas readings falling to zero, which may generate alarms.

4. Power down the analyser using the external AC power isolation switch.



#### WARNING!

Failure to shut down the MTL GIR6000 before replacing a module may result in an explosion risk.

5. Open the outer door.

### Module removal and replacement

#### CAUTION

It is advised that any person handling an unplugged module should wear an ESD grounding wrist strap to prevent inadvertent static damage to any of the module's electrical components. The ESD COMMON GROUND jack socket provided at the lower left corner of the inner door may be used if the enclosure is provided with a suitable ground connection.

Each module is held in place with two threaded bolts at the top and bottom of its front panel. The modules are keyed and will only fit in the door panel at the appropriate location. A Phillips or flat-bladed screwdriver is required to loosen the bolts after which they can be freed by hand.

The module should be drawn straight out of the panel (see photograph), which will disconnect both the gas and electrical connections at the rear of the module automatically.

*Additional effort will be required to remove a Filter Module because of the additional O-rings it uses. Remove the Module by exerting equal force on the both the handle and top bolt.*



Module removal



Module insertion

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November 2016

## NOTE

Before ANY module is inserted into a position on the inner door, ALWAYS check the O-ring seals for any sign of damage; replace any that appear to show signs of damage or wear. It is also good practice to do a quick visual inspection on the pins of the module's multi-way connector to check for any bent or distorted pins.

Remove any packaging from the new module and, before inserting it into the door panel, take care to align it with the guides on each side of the opening. When the guides are engaged, insert the module gently into the door until the connectors are encountered then press firmly to engage both gas and electrical connectors.

Tighten the two bolts with the fingers and then use a screwdriver to tighten the bolts to a recommended torque of 1.5 Nm – i.e. sufficient to prevent them being unscrewed by hand.

## Leak Testing

It is now necessary, following any module replacement, to perform a Module Leak Test. All leak-testing procedures are described in the MTL GIR6000 Instruction Manual (Section 7.4. Leak-testing)

## ATEX Safety Instructions for

### MTL GIR6000 sensor, pump & filter modules

The replacement modules form part of the certification of the MTL GIR6000 and are not separately certified. Refer to the certificate and instructions of the MTL GIR6000 for full details.

The following information is in accordance with the Essential Health and Safety Requirements (Annex II) of the EU Directive 94/9/EC [the ATEX Directive - safety of apparatus] and is provided for those locations where such requirements are applicable.

## General

- This module must only be installed, operated and maintained by competent personnel. Such personnel shall have undergone training, which included instruction on the various types of protection and installation practices, the relevant rules and regulations, and on the general principles of area classification. Appropriate refresher training shall be given on a regular basis. [See clause 4.2 of EN 60079-17].
- The module is designed for operation in a MTL GIR6000 gas analyser which is mounted in a Zone 2 hazardous area.
- This equipment has been designed to meet the requirements of EN 60079-0 and EN 60079-15.

## Installation

- The installation must comply with the appropriate European, national and local regulations, which may include reference to the IEC code of practice IEC 60079-14. In addition, particular industries or end users may have specific requirements relating to the safety of their installations and these requirements should also be met. For the majority of installations the Directive 1999/92/EC [the ATEX Directive - safety of installations] is also applicable.
- The module is designed for operation in a Zone 2 hazardous area.
- The removable modules must not be inserted or removed unless the MTL GIR6000 has been de-energised and isolated from the sample gas supply.

## Inspection and maintenance

- Inspection and maintenance should be carried out in accordance with European, national and local regulations which may refer to the IEC standard IEC 60079-17. In addition specific industries or end users may have requirements which should also be met.
- There are potential electrostatic hazards when cleaning the equipment. Clean only with a damp cloth

## Repair

A module cannot be repaired by the user and must be replaced with an equivalent certified product – see 'Disposal' on this instruction sheet.

## Disposal of modules



Any module removed from this equipment must not be treated as general waste. By ensuring that this product is disposed of correctly you will be helping to prevent potentially negative consequences for the environment and human health, which could otherwise be caused by incorrect waste handling of this product.

For more detailed information about take-back and equipment recycling visit our website.

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Publication No. INS MTL GIR6000 Rev 2 141116  
November 2016

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