

Addendum to Instruction Manual 354064 Micro-Ion® Module Operating Instructions.

For use with the following Micro-Ion Modules:

354064-YE-M
354064-YD-M
354064-YN-M

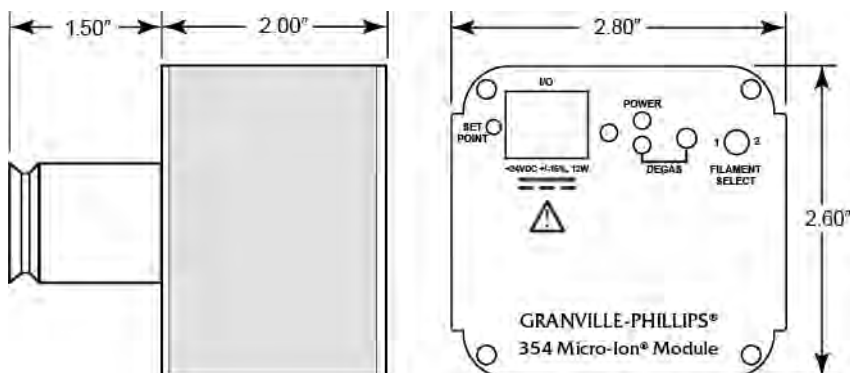
NOTICE

This document is not meant to be a substitute for product safety instructions. Consult the Instruction Manual for complete safety instructions.

Introduction

This addendum is to be used along with Micro-Ion module instruction manual 354004 for the proper installation, operation, and maintenance of this module. The 354064 module duplicates the functionality of a Micro-Ion 354001 with these exceptions: The I/O connector is an RJ-45 type, Analog Pressure Output is non-linear, a Set Point Relay is included and other I/O signals are different. The gauge is not interchangeable with the original 354003. The 354064 module is a direct replacement for the BOC Edwards AIM-S product.

Module Dimensions:



Module dimensions are different from the original 354. The gauge assembly is also different from the original 354. Dimensions shown are for 354064-YE-M.

Indicator LEDs:

Power LED Status	Description
OFF	Module not powered
Amber	Power applied, IG OFF.
Green	IG ON
Red	IG OFF, Fault

Degas LED Status	Description
OFF	Degas OFF
Yellow	Degas ON

Degas Button:

Degas may be started by pressing the Degas Button if the IG is ON. Pressing the Degas Button when the IG is OFF will have no effect. Degas will stop after two minutes or when the Degas Button is pressed again during degas.

Emission Current:

The ion gauge will operate at one of two emission currents during normal pressure measurement. When the ion gauge is turned on, emission current will be 20 μ A. As pressure drops below $3\text{E-}7$ mBar, emission current will automatically change to 4 mA. If pressure rises above $1\text{E-}6$ mBar, emission will change back to 20 μ A.

Fault Conditions:

A Fault is indicated when the Power LED turns RED. These are possible causes:

- Over Pressure Shutdown. If pressure rises above $1\text{E-}2$ mBar, the ion gauge will turn OFF.
- Filament Failure. Move Filament Select Switch to the other position to operate the other filament.
- Grid Voltage Failure. Possible mechanical gauge damage or electronics failure.

Connector Pin-out:

Connector pin out is shown as seen while looking at the connector panel on the Micro-Ion module. Degas Status, Emission Current and Gauge Status pins do not exist. Gauge Identification, Set Point Output and Set Point Trip Level pins are added.

	Pin (9-Pin D)	354 Micro-Ion	I / O	Levels
	Pin 1	+24 VDC Power input	I	+24 VDC, $\pm 15\%$ 12 watts max.
	Pin 2	Power input common	I	Power input common, 0V
	Pin 3	Analog Output	O	0 to 10V
	Pin 4	Gauge identification	O	100 K ohm Resistor to ground
	Pin 5	Analog Output Ground	O	Same as Power input common, 0V
	Pin 6	Set Point Output	O	Open collector transistor to ground, 60mA max current.
	Pin 7	Gauge ON/OFF	I	Low on or floating off
	Pin 8	Set Point Trip Level	O	0 to 10V, 2.5 K ohm impedance.

Trip Point Setup:

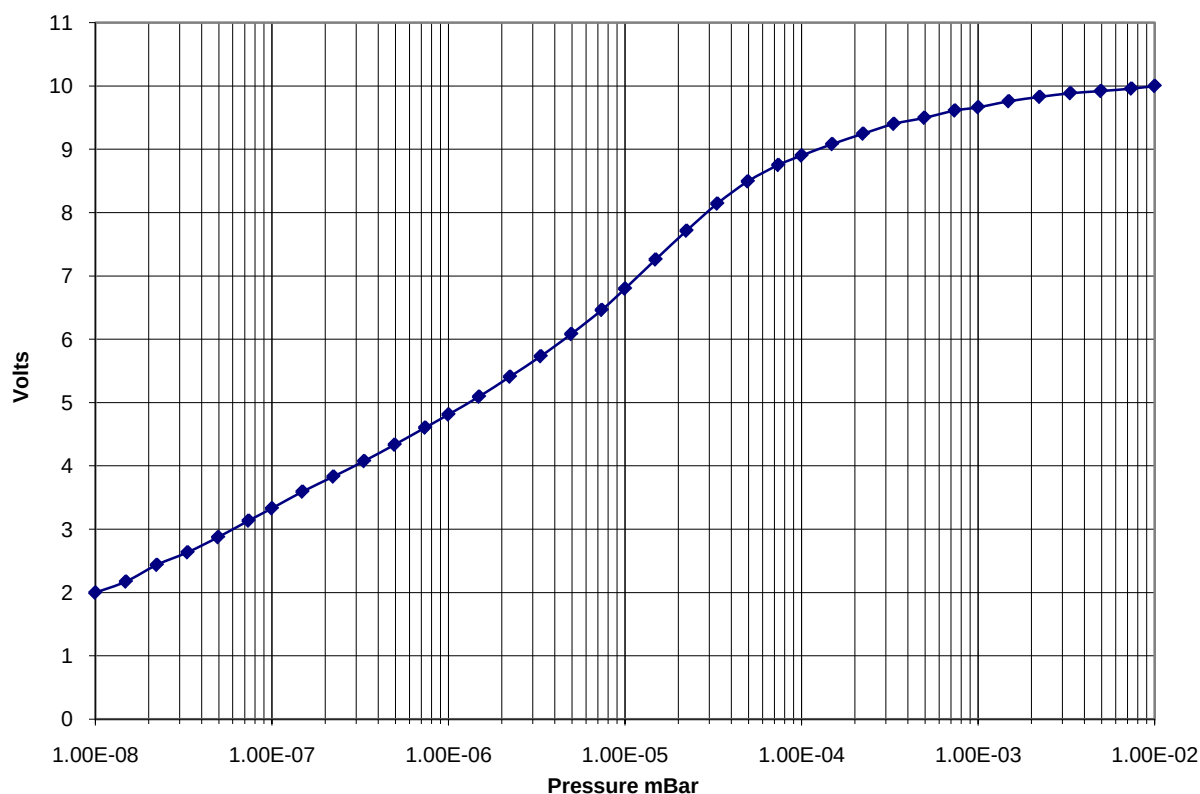
Measure the voltage on the Set Point Trip Level pin while adjusting the trip point potentiometer to set the trip point value. The scale is the same as the Analog Output. The Trip point transistor will turn off when the pressure is higher than the Trip Level, letting the Set Point Output pin float. The Trip Point will turn on when the pressure is 50mV lower than the Trip Level, connecting the Set Point Output pin to ground.

Pressure Measurement:

Analog Output is a non-linear voltage proportional to pressure. When the module Ion Gauge is OFF or in an error (fault) state, Analog Output is less than 2 volts.

Pressure, mBar	Analog output Volts
1.00E-08	2.0
2.40E-08	2.5
5.80E-08	3.0
8.10E-08	3.2
1.10E-07	3.4
1.50E-07	3.6
2.10E-07	3.8
2.90E-07	4.0
4.00E-07	4.2
5.40E-07	4.4
7.30E-07	4.6
9.80E-07	4.8
1.30E-06	5.0
1.70E-06	5.2
2.20E-06	5.4
2.80E-06	5.6
3.60E-06	5.8
4.50E-06	6.0
5.60E-06	6.2
6.90E-06	6.4
8.40E-06	6.6
1.00E-05	6.8
1.20E-05	7.0
1.40E-05	7.2
1.70E-05	7.4
2.00E-05	7.6
2.40E-05	7.8
2.90E-05	8.0
3.50E-05	8.2
4.30E-05	8.4
5.70E-05	8.6
7.90E-05	8.8
1.20E-04	9.0
1.90E-04	9.2
3.30E-04	9.4
6.70E-04	9.6
1.70E-03	9.8
3.60E-03	9.9
1.00E-02	10.0

Analog Output



Replacement Gauges:

354065-YE	dual Yttria-coated Iridium Filament, NW25KF Flange
354065-YD	dual Yttria-coated Iridium Filament, NW16KF Flange
354086-YE	dual Yttria-coated Iridium Filament, NW25KF Flange w/ baffle



MKS Instruments, Inc.
 Granville-Phillips Products Division
 6450 Dry Creek Parkway
 Longmont, CO 80503-9501
 Phone: 1-303-652-4400 or 1-800-776-6543

Visit our website at www.mksinst.com/granville-phillips

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