Infrared Gas Sensors

Axiom Series Refrigerant Gas Detector

DYNAMENT
INFRARED GAS SENSORS
a **DwyerOmega** brand

- Measures R454b in the LFL range with a resolution of 0.01% (100ppm)
- 15 year lifetime with no calibration requirements
- 5-24V voltage input range
- USB-C connector [rated IP68] allows for off-the shelf cabling options
- Onboard heater and software algorithim to minimize the impact of condensation

Description

Dynament Axiom refrigerant gas sensor utilises non dispersive infrared technology for detection and measurement of the presence of R454b to provide safety in drive to meet growing need for lower global warming potential (GWP) refrigerant gases.

Dynament NDIR detectors have a twenty-year history of meeting and exceeding gas detection needs in the most challenging of environmental applications. The Axiom series platform provides a linearized, high-resolution measurement of R454b over the lower explosive limit range.

Specifications

Operating Voltage Range	5 - 24VDC
Operating Power	Alarm Level
0.5W average	(5% LFL)
Vibration & EMC IP Rating	**IP Rating**
Certified UL60335-2-40 Annex LL	IP54
Accuracy @ alarm point	**Pressure**
±3%	80 to 110kPa
Response Time	**Warm Up Time**
<15s (to alarm level)	45s
Operating temperature range	-40 oC to +75 oC (-40 oF to 167 oF)
Humidity range	0 to 100% RH non-condensing
Digital Outputs	
RS485 Modbus	RS232 UART USB 2.0
Analog Outputs	
4-20mA	0.2-4.0V Open Collector
Lifetime	15 years
Weight	50 grams

Safety Classifications Explanation*			
Toxicity	**Flammability**	**LFL**	**Flame Propagation**
A: Lower Toxicity	1: Non flammable	N/A	No flame propagation
	2: Lower flammability	> 3.5% vol.	Exhibit flame propagation
B: Higher Toxicity	2L: Lower flammability	> 3.5% vol.	Exhibit flame propagation**
	3: Higher flammability	≤ 3.5% vol.	Exhibit flame propagation

* Flame propagation testing conducted at 60 C and 101.3kpa
** Exhibit flame propagation & maximum burning velocity of ← 10 cm/s when tested at 23 C and 101.3 kPa

Gas Reading

0.54%LFL

Connection Status

Connected: Ready

View Status Flags		Config Unit
Batch Number		B9872N20
Serial Number		00347
Firmware Revision		09.02.12A (09 April 2024)
Sensor Type		Uni
Alarm Level		5.0% LFL
MODBUS Address		1

Axiom Diagnostic Tool (ADT) requires USB-C to USB PC cable connection. Axiom diagnostic information is available through a PC application, providing real time gas reading, access to configuration settings (baud rate, Modbus address) and detailed fault information to assist with service and maintenance.
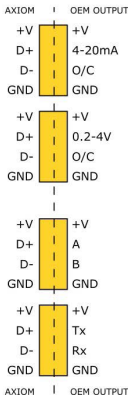
Order Code

Generate your specific part number using the convention shown below.

AX - X X X

Gas Type	Range	Output Options
454B	LFL	AMA (4-20mA)
	PPM	AVO (0.2-4.0V)
	VOL	AOC (Open Col)
		D232 (RS232)
		D485 (RS485)
		DUSB (USB 2.0)

Output wiring schematic (four conductor cable)

	OPTION 1	OPTION 2	
Analogue		4-20mA	
		0.2-4V	
Digital		RS485	
		RS232	

AXIOM | OEM OUTPUT

AXIOM	OEM OUTPUT
+V	+V
D+	4-20mA
D-	O/C
GND	GND
+V	+V
D+	0.2-4V
D-	O/C
GND	GND
+V	+V
D+	A
D-	B
GND	GND
+V	+V
D+	Tx
D-	Rx
GND	GND

AXIOM | OEM OUTPUT

Product Dimensions

78mm (3.1")

46mm (1.8")

22mm (0.9")

Compliance and Regulations

ETL Intertek CERTIFIED CSA® ISO 9001:2015 CERTIFIED

UL 60335-20-40 Edition 4 Annex LL | CSA 22.2 60335-2-40 Ed 4