



**Gas monitoring system for fast and reliable detection of flammable and toxic gases used in industrial manufacturing processes**

# Midas®



## Features:

- Over 40 gases available with extended 2 year warranty\*
- Smart sensor cartridge with on board 'e-calibration' certificate
- 3 built in relays (Form C) for Alarm 1, 2 and Fault
- Power over Ethernet (PoE) communication and power platform
- Keypad Interface and remote Web Browser Interface
- Pyrolyzer and LonWorks® interface optional modules that connect to any transmitter
- Password protected menu levels to preserve system integrity
- Bright LEDs and intuitive Icon Driven, large backlit LCD display
- Factory-calibrated sensors to reduce need for frequent gas testing
- Isolated 0-22mA Analog Output with fault and event reporting
- Modbus/TCP Ethernet for easy connectivity to all control and alarm systems ports for control connectivity and service interaction
- Robust extractive pump system (2 year lifetime) sampling up to 30m
- Interactive Training Simulator tool
- CE marked for total immunity to Radio Frequency Interference
- Reflex® sensor health check for improved safety
- TempraSure™ temperature compensation technology as appropriate
- Event logging to review sensor history
- Patented reporting technology confirms likely gas release to avoid nuisance alarms

(\*standard 1 year warranty)

**Midas® is a gas monitoring system for fast and reliable response to the presence of virtually all of the gases used or generated in the Semiconductor and other industrial manufacturing applications. Midas® offers lower cost of ownership benefits for gas detection through a combination of extended sensor calibration periods, flexible communications architecture and patented diagnostics that monitor sensor performance and flow control.**

Midas® is a universal transmitter platform that detects the majority of toxic, ambient and flammable gases that must be monitored in a typical industrial process environment. The pre-calibrated 'plug-and-play' smart sensor cartridge makes sensor replacement quick and easy to manage with no tools required, and prevents any operator error associated with using incorrect or depleted sensors. Bright LED lights and an intuitive, icon driven interactive menu guarantee instant alert to the gas reading or alarm level coupled with password protected menus for configuration, test and calibration.

Midas® is very compact in size and easy access metal chassis design makes it simple to install in crowded, increasingly complex process environments or retro fit applications where space is at a premium. Midas® has flexible power and communications built in as standard including 3 on-board relays, 0-22mA analog output, Modbus/TCP Ethernet digital outputs, as well as the innovative Power over Ethernet (PoE) protocol - a single Ethernet connection for all power, control and communication requirements. Cost effective integration with PLC and FieldBus systems is greatly simplified with the Midas® architecture.

Midas® will monitor points up to 30m (100ft) away from the transmitter and flow rates are regulated automatically using patented control technology to ensure error free gas sensing operation. Honeywell Analytics designs and manufactures its own sensors using advanced robotics to ensure unbeatable quality and reliability.

Midas® is complimented by the innovative Chemcassette® range of ultra sensitive low ppb toxic gas detection analysers and our worldwide network of service engineers who operate on a 24 / 7 basis.

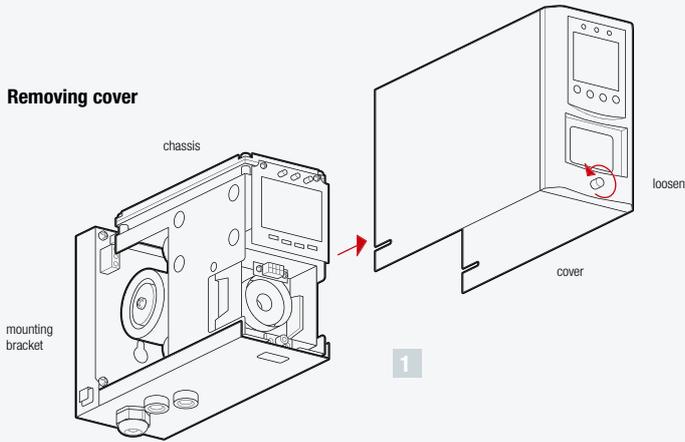


# Installation Details

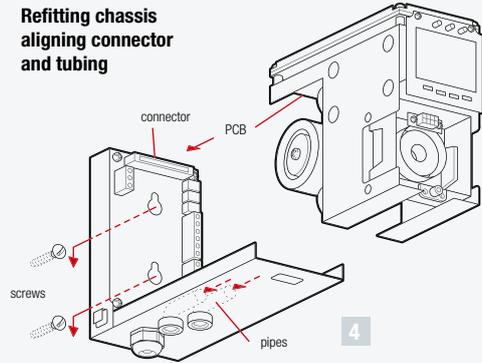


## Mechanical

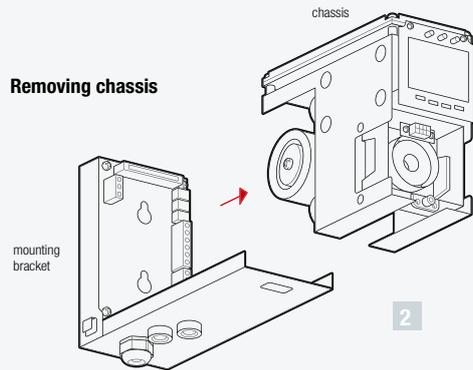
### Removing cover



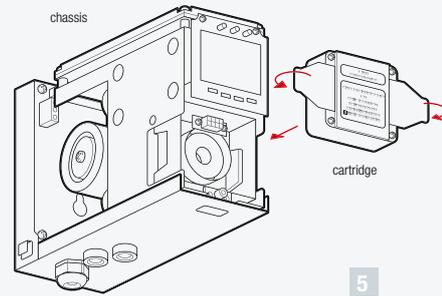
### Refitting chassis aligning connector and tubing



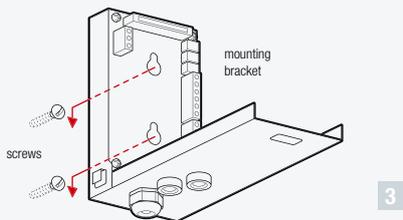
### Removing chassis



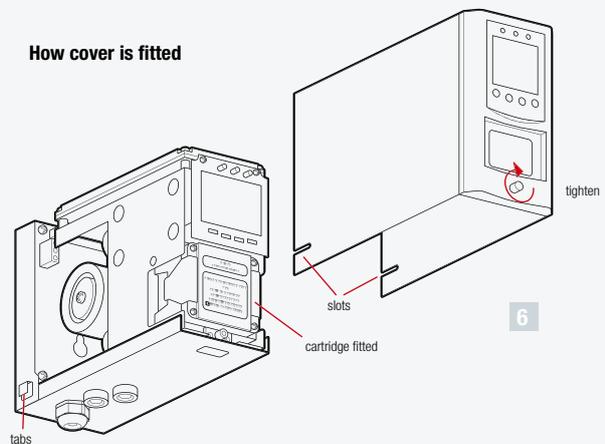
### How cartridge is fitted



### Attaching bracket to screws on a wall



### How cover is fitted

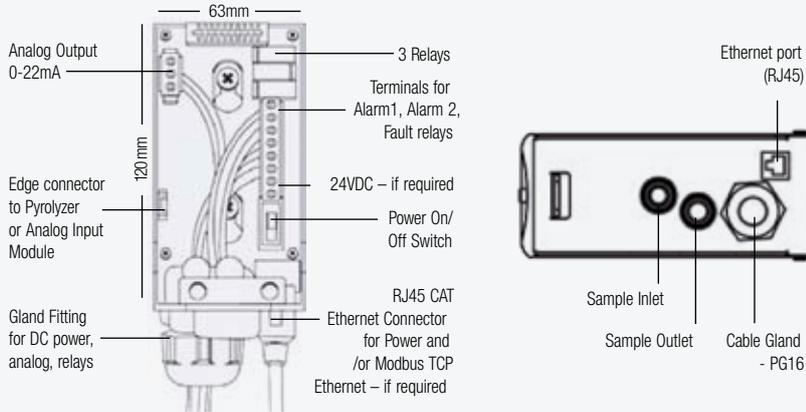


# General Specifications



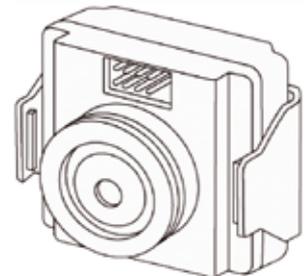
## Electrical

All wiring permutations shown for example purposes



## Detectable Gases

Gas Name	Chemical Formula	Range	Sensor Part Number
Ammonia	NH <sub>3</sub>	0 - 100ppm	MIDAS-S-NH3
Arsine	AsH <sub>3</sub>	0 - 0.2ppm	MIDAS-S-ASH
Boron Trichloride	BCl <sub>3</sub>	0 - 8.0ppm	MIDAS-S-HCL
Boron Trifluoride	BF <sub>3</sub>	0 - 8.0ppm	MIDAS-S-HFX
Boron Trifluoride (Low Level)	BF <sub>3</sub>	0 - 2.0ppm	MIDAS-S-HFL
Bromine	Br <sub>2</sub>	0 - 0.4ppm	MIDAS-S-BR2
Carbon Dioxide	CO <sub>2</sub>	0 - 2.0% vol	MIDAS-S-CO2
Carbon Monoxide	CO	0 - 100ppm	MIDAS-S-COX
Chlorine	Cl <sub>2</sub>	0 - 2.0ppm	MIDAS-S-HAL
Chlorine Dioxide	ClO <sub>2</sub>	0 - 0.4ppm	MIDAS-S-BR2
Chlorine Trifluoride	ClF <sub>3</sub>	0 - 0.4ppm	MIDAS-S-SF4
Diborane	B <sub>2</sub> H <sub>6</sub>	0 - 0.4ppm	MIDAS-S-HYD
Dichlorosilane	H <sub>2</sub> SiCl <sub>2</sub>	0 - 8.0ppm	MIDAS-S-HCL
Diffluoromethane	CH <sub>2</sub> F <sub>2</sub>	0 - 120ppm	MIDAS-S-CFX
Disilane	Si <sub>2</sub> H <sub>6</sub>	0 - 20ppm	MIDAS-S-SHX
Fluorine	F <sub>2</sub>	0 - 4.0ppm	MIDAS-S-HAL
Germane	GeH <sub>4</sub>	0 - 0.8ppm	MIDAS-S-HYD
Hexafluorobutadiene	C <sub>4</sub> F <sub>6</sub>	0 - 40ppm	MIDAS-S-CFX
Hydrogen (% LEL)*	H <sub>2</sub>	0 - 100% LEL	MIDAS-S-LEL
Hydrogen (ppm)	H <sub>2</sub>	0 - 1000ppm	MIDAS-S-H2X
Hydrogen Bromide	HBr	0 - 8.0ppm	MIDAS-S-HCL
Hydrogen Chloride	HCl	0 - 8.0ppm	MIDAS-S-HCL
Hydrogen Cyanide	HCN	0 - 20ppm	MIDAS-S-HCN
Hydrogen Fluoride	HF	0 - 12ppm	MIDAS-S-HFX
Hydrogen Fluoride (Low Level)	HF	0 - 2.0ppm	MIDAS-S-HFL
Hydrogen Sulphide	H <sub>2</sub> S	0 - 40ppm	MIDAS-S-H2S
Hydrogen Sulphide (High Level)	H <sub>2</sub> S	0 - 100ppm	MIDAS-S-HSH
Methane (% LEL)*	CH <sub>4</sub>	0 - 100% LEL	MIDAS-S-LEL
Methyl Fluoride	CH <sub>3</sub> F	0 - 60ppm	MIDAS-S-CFX
Nitrogen Dioxide	NO <sub>2</sub>	0 - 12ppm	MIDAS-S-NO2
Nitrogen Oxide	NO	0 - 100ppm	MIDAS-S-NOX
Nitrogen Trifluoride	NF <sub>3</sub>	0 - 40ppm	MIDAS-S-HFX
Octafluorocyclopentene	C <sub>5</sub> F <sub>8</sub>	0 - 40ppm	MIDAS-S-CFX
Oxygen Proficiency & Deficiency	O <sub>2</sub>	0 - 25% vol	MIDAS-S-O2X
Ozone	O <sub>3</sub>	0 - 0.4ppm	MIDAS-S-O3X
Phosphine	PH <sub>3</sub>	0 - 1.2ppm	MIDAS-S-PH3
Phosphorous Oxchloride	POCl <sub>3</sub>	0 - 0.4ppm	MIDAS-S-POC
Silane	SiH <sub>4</sub>	0 - 20ppm	MIDAS-S-SHX
Silane (low level)	SiH <sub>4</sub>	0 - 2.0ppm	MIDAS-S-SHL
Sulphur Dioxide	SO <sub>2</sub>	0 - 8.0ppm	MIDAS-S-SO2
Sulphur Hexafluoride	SF <sub>6</sub>	0 - 8000ppm	MIDAS-S-CFX
Sulphur Tetrafluoride	SF <sub>4</sub>	0 - 0.4ppm	MIDAS-S-SF4
Tetra Ethyl Ortho Silicate	TEOS	0 - 40ppm	MIDAS-S-TEO
Tungsten Hexafluoride	WF <sub>6</sub>	0 - 12ppm	MIDAS-S-HFX
Tungsten Hexafluoride (Low Level)	WF <sub>6</sub>	0 - 2.0ppm	MIDAS-S-HFL



For standard 1 year sensor warranty use the order part number format MIDAS-S-XXX; for extended 2 year warranty use the format MIDAS-E-XXX

\* Midas® detectors are not ETL approved for monitoring in or sampling from classified areas above 25% LEL

# Technical Summary



Transmitter Dimension	
Size (unit with Sensor)	120 x 63 x 150mm (H x W x D)
Weight (unit with Sensor)	0.8kg
Pyrolyzer Dimensions (Regular and High Temperature versions)	
Size (MIDAS-T-00P)	70 x 63 x 83mm (H x W x D)
Weight (MIDAS-T-00P)	0.41kg
Size (MIDAS-T-HTP)	113 x 10 x 140mm (H x W x D)
Weight (MIDAS-T-HTP)	1.25kg
Power Requirements	
Operating Voltage	24VDC Nominal + / - 10%
Operating Voltage with Power over Ethernet (PoE)	36-57VDC via PoE, 48VDC Nominal
Power Consumption	
Transmitter Unit	~ 5.0W
With Pyrolyzer (Option)	< 12.95W
Outputs	
Visual	Alarm, Power and Fault lights as well as back lit LCD display with all gas readings and events
Relays	3 relays for Alarm1, Alarm 2 and Fault rated 1.0A @ 30VDC or 0.5A @ 125VAC; configurable NO or NC, latched or unlatched
Analogue	2-wire isolated, 0-22mA, Sink or Source
Digital Communications	Standard: Modbus / TCP Ethernet / Power over Ethernet (PoE). Option: LonWorks®
Service Port	RS232C / PPP protocol
Certification & Specification	
European	CE marked; meets EN 50270:1999 (Type2) and EN 55011:2000
Environmental	ETL approved UL 61010B and CSA-C22.2 No. 1010.1-92
Performance	Designed to meet with UL 2075 (pending 2004)
Electrical	IEEE 802.3af-2003
Response Times	
Flow Rate	500ml/min
Transport Time	2-30 seconds maximum
Performance	
	LDL < LAL
	LAL = ½ TLV (typically 12% FSD)
	FSD = 4 x TLV

Sampling Distance	
Tubing Length	Up to 30m (100ft) with FEP tubing dependent on gas
Ambient Point Monitoring	In line air filter recommended
Exhaust Length	Up to 30m (100ft)
Tubing Requirement	
Sample	6.35mm OD (¼") x 3.18mm (⅛"), FEP, 30m (100ft) maximum dependent on gas type
Exhaust	6.35mm (¼") OD x 4.76mm (⅜"), FEP, 30m (100ft)
Operating Temperature	
Unit with Sensor	0°C (32°F) to 40°C (104°F)
Wiring Requirement	
4-20mA/DC Power/Relays	14 AWG Maximum
Digital	Shielded CAT 5 cable or equivalent, RJ45 connector
Gas Concentration Display & Interface	
Instrument	4-digit alphanumeric display with separate measurement units, flow rate bar graph and other icon driven indicators. 4 button membrane keypad
Remote Interface	PC/ PDA Internet Browser access via Ethernet or other Bus system
Warranty	
Transmitter Unit	1 year
Sensor Cartridge	1 year standard; 2 year with extended warranty program
Expected Lifetime of Pump	> 2 years
Installation Details	
Mounting	Wall mounted using 2 pre-drilled holes on rear chassis
Material	Steel case with paint finish

Ordering Information	
Unit	Part Number
Transmitter	MIDAS-T-001
Pyrolyzer (NF <sub>3</sub> )	MIDAS-T-00P
Pyrolyzer (High Temperature)	MIDAS-T-HTP
LonWorks® Interface	MIDAS-T-LON

# Our Product Range



## Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

- » Detection of flammable, oxygen and toxic gases (including exotics)
- » Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared
- » Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)
- » Cost effective regulatory compliance solutions

## Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces.

These include:

- » Detection of flammable, oxygen and toxic gases
- » Single gas personal monitors – worn by the individual
- » Multi-gas portable gas monitors – used for confined space entry and regulatory compliance
- » Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

## Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

- » Full technical support
- » Expert team on hand to answer questions and queries
- » Fully equipped workshops to ensure quick turnaround on repairs
- » Comprehensive service engineer network
- » Training on product use and maintenance
- » Mobile calibration service
- » Customised programmes of preventative/corrective maintenance
- » Extended warranties on products

### Find out more

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