

RadioHub I/O

RH-IO GRP Series

PRODUCT OVERVIEW

The RadioHub I/O from Mimes enables the transformation of wired equipment into wireless IIoT devices for both standard and SIL2 applications. Utilizing the ISA100 wireless standard, it prioritizes both safety and cybersecurity, featuring Profisafe protocols and 128-bit AES encryption.

Any equipment with an analogue input interface can be converted for wireless access, and it is also possible to control devices using a monitored safety relay output through the same wireless link. This versatility makes the RadioHub I/O suitable for a wide range of applications, whether with new or existing equipment that requires wireless signaling. Additionally, it is certified for use in explosive atmosphere and hazardous areas, including zones 1 and 2.



APPROVALS

SIL2 compliant to IEC 61508 (2010)
ATEX DEMKO 16 ATEX 1466X
IECEx UL 15.0003X

STANDARDS

IEC 61326-1
IEC 61000-6-7
IEC 61000-1-2
EU RED art. 3.1a / 3.1b / 3.2
ETSI EN 301 489-1 / 301 489-17
ETSI EN 300 328
EN / IEC 60079-0
EN / IEC 60079-1
EN / IEC 60079-7

CODING

RadioHub:

T. amb -20°C to +70°C
IECEx

ATEX II 2G
Ex db IIC Gb T6
Ex tb IIIC Db T80

Antenna:

Ex II GD
EX eb IIC T4 Gb
Ex tb IIIC T135°C Db
T. amb -20°C to +69°C

FEATURES

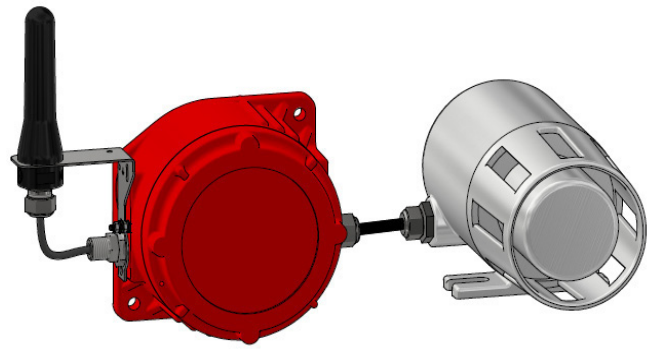
- Line powered product 24 vdc
- Low power consumption
- Router and I/O device roles
- The RadioHub IO gives the option of SIL2 safety communication using PROFIsafe over ISA100.11a
- Encrypted wireless communication
- Robust Exd IP66/67 GRP enclosure
- Additional local input available
- Hart available for the analogue input signal

BENEFITS

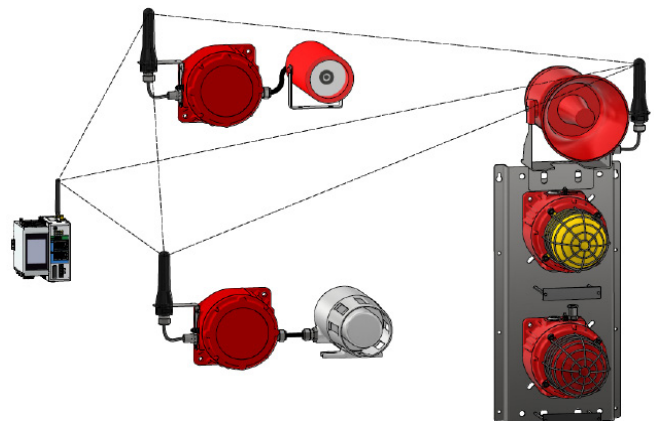
- Based on industrial standard communication protocols
- Flexible integrations with existing instruments
- Different communication protocols available, ISA100 and WirelessHART
- Cost effective solution with the option to control 2 devices

TYPICAL APPLICATIONS

- Petrochemical
- O&G onshore and offshore
- Marine applications
- Industrial applications
- Offshore wind



RadioHub IO with point gas detector



Using RadioHub IO with different field devices in a wireless ISA100 network

PARTCODES

VERSION: PART CODE:

Product type	RH-IO	
Enclosure	E01	GRP
	E02	Stainless Steel
	E03	Aluminium
	E04	GRP/PC industrial
Safety	I	Standard/Industrial
	S	SIL2
Terminals	T01	2.5 mm ² on PCB
	T02	6x 2.5 mm ²
	T03	Custom
Colour	R	Red colour
	S	Special colour
Antenna	A	Standard mounted on enclosure
	A1	Custom cable length up to
	N	10m No antenna
Standard versions	RH-IO-GRP-I	RH-IO-E01-I-To1-R-A
	RH-IO-GRP-S	RH-IO-E01-S-To1-R-A

NETWORK AND COMMUNICATIONS

Encryption	128 - Bit AES
Network Modes	STAR/MESH/STARMESH
Antenna Connection	MMCX
Antenna	Omnidirectional 2.4-5.8 GHz
Configuration and Software	Serial port. Bluetooth Low Energy
Communication	PROFIsafe/ISA 100.11a.
External Communication (Gateway Dependant)	Modbus TCP, OPC UA, PROFIsafe/PROFINET

SPEifications

DC:

24v dc (20-30v dc)

Power Consumption:

5 mA_{nom}, 30 mA_{max}

Input:

4-20 mA (0-25 mA), HART Pending

3 wire and 4 wire configurations

(sink and source)

Outputs:

30 Vdc 2A Relay

2 Open collector 80 mA

Option: 3 LED indication possible

Ingress Protection:

IP66/67

Enclosure Material:

GRP (Glass Reinforced Polyester)

Enclosure Colour:

Natural Red

Cable Entries:

4 x M20x1.5 mm

Adaptors to M25, 1/2" & 3/4" NPT can be specified

Wiring:

12-20 AWG (2.5-0.35 mm²)

Operating Temp:

-40°C to +70°C [-58°F to 158°F]

Dimensions:

150.7 x 50.7 x 95.5

Humidity:

95%, Non condensing

Net Weight:

2.7 kg

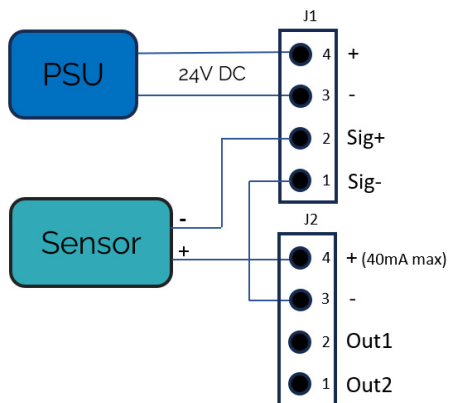
ISA100.11a:

Frequency: 2400-2475MHz

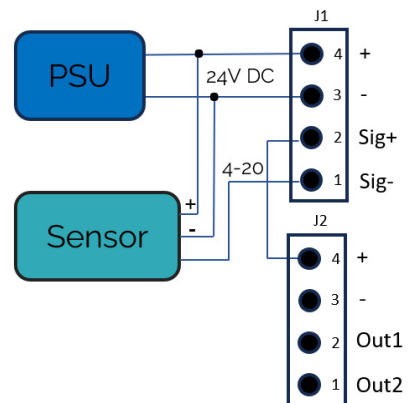
Latency: Configurable, 500 ms to 24h

4-20 mA Analogue input signal

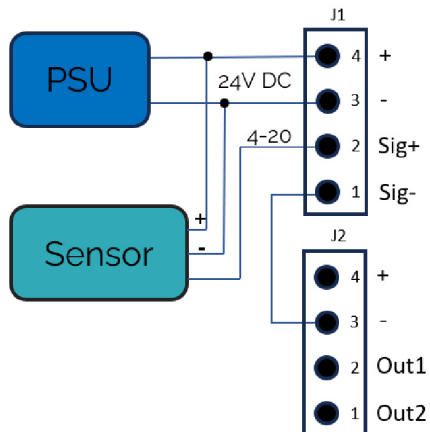
2-Wire Interface



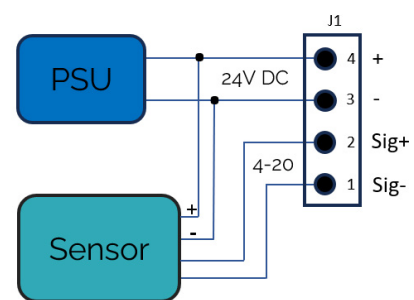
3-Wire Interface, Sinking



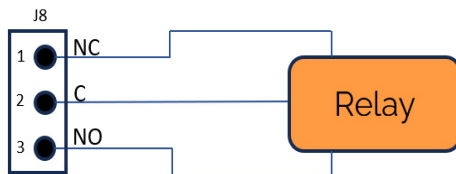
3-Wire Interface, Sourcing



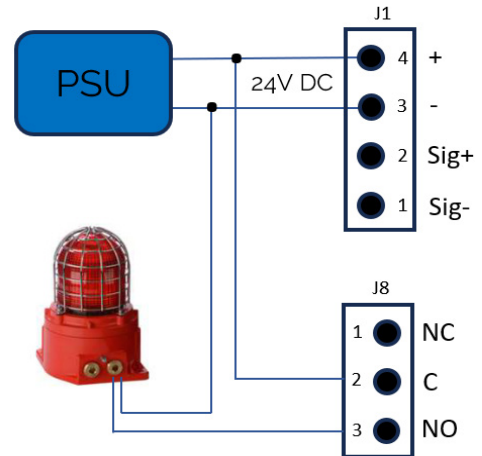
4-Wire Interface



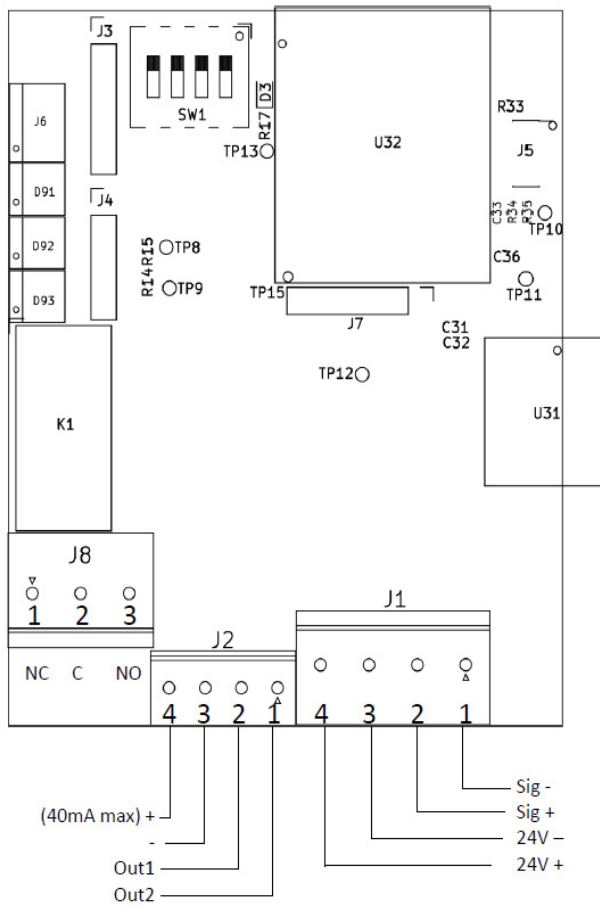
Relay Connection



High Power Equipment



Block Diagram



MCP Switch

