

RadioHub I/O

RH-IO PC 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. This is a version for industrial use.

APPROVALS

SIL2 compliant to IEC 61508 (2010)

STANDARDS

IEC 61326-1

IEC 61000-6-7

IEC 61000-1-2

EU RED art. 3.1a / 3.1b / 3.2

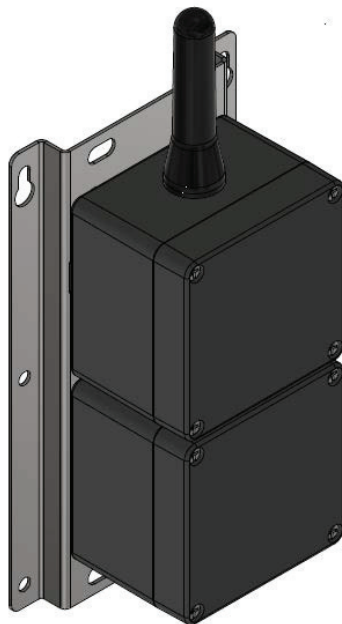
ETSI EN 301 489-1 / 301 489-17

ETSI EN 300 328

EN / IEC 60079-0

EN / IEC 60079-1

EN / IEC 60079-7



FEATURES

- Line Powered product. 24vdc
- Low power consumption
- Router and I/O device roles

The RadioHub IO gives the option of SIL2 safety communication using PROFIsafe over ISA100.11a

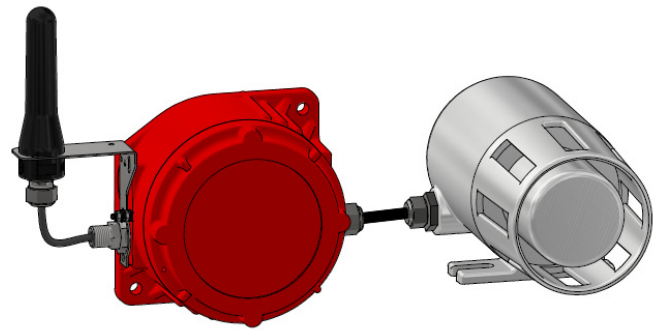
- Encrypted wireless communication
- Robust Exd IP66 PC enclosure
- Additional local input available
- Hart available for the analogue input signal

BENEFITS

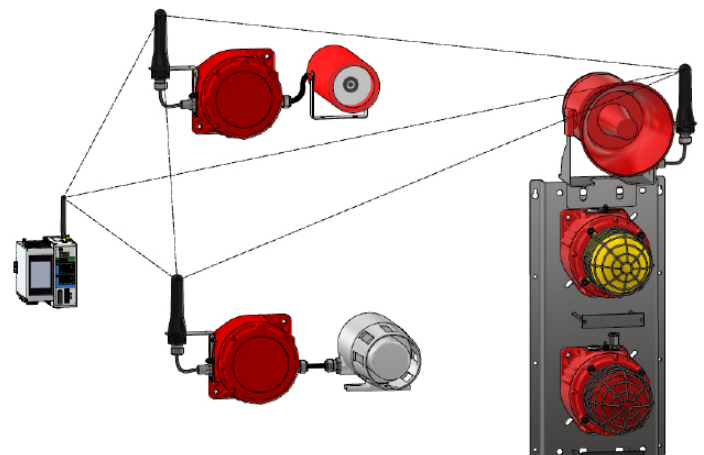
- Based on industrial standard communication protocols
- Flexible integrations with existing instruments
- Different communication protocols available, ISA100 and WirelessHART.
- Cost effective solution with the option to control 2 devices

TYPICAL APPLICATIONS

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



RadioHub EIO with point gas detector



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

PARTCODES

Version:

Partcode:

Product type

RH-IO

Enclosure

E01

GRP

E02

Stainless Steel

E03

Aluminium

E04

PC industrial

Safety

I

Standard/Industrial

S

SIL2

Terminals

T01

2.5 mm² on PCB

T02

6x 2.5 mm²

T03

6x 4 mm²

Colour

B

Black colour

S

Special colour

Antenna

A

Standard mounted on enclosure

A1

Custom cable length up to 10m

B

No antenna

N

Standard Versions

RH-IO-PC-I

E04-I-T01-B-B

RH-IO-PC-S

E04-S-T01-B-B

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

SPECIFICATION

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

Enclosure Material:

PC

Enclosure Colour:

Black

Cable Entries:

2 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:

122 x 120 x 90. Mounting ref: drawing

Humidity:

95%, Non condensing

Net Weight:

1.1 kg

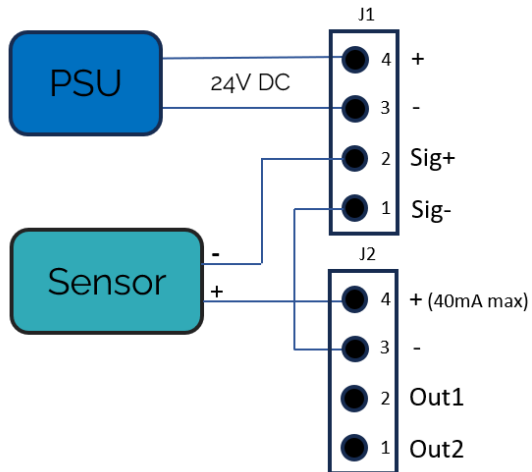
ISA100.11a

Frequency: 2400-2475MHz

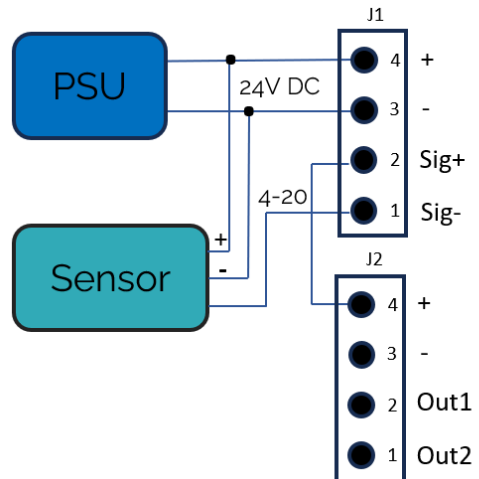
Latency: Configurable, 500 ms to 24h

4-20 mA Analogue input signal

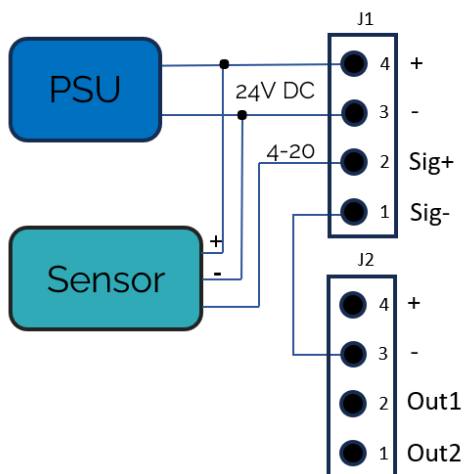
2-Wire Interface



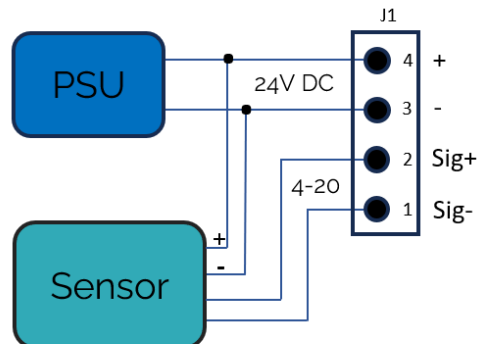
3-Wire Interface, Sinking



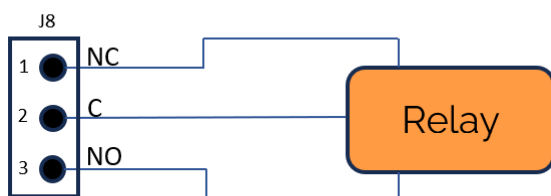
3-Wire Interface, Sourcing



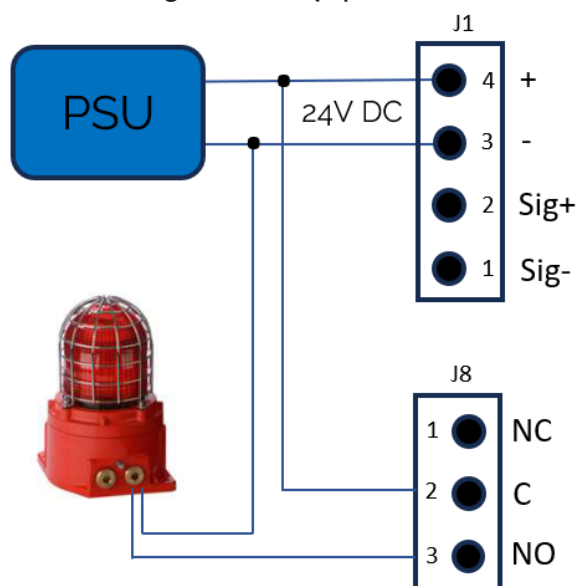
4-Wire Interface



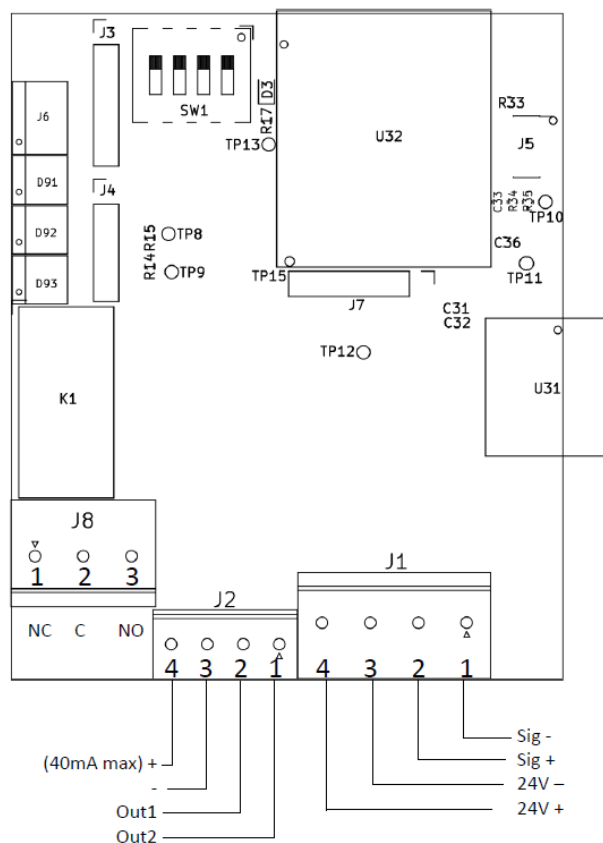
Relay Connection



High Power Equipment



Block Diagram



MCP Switch

