

# 9468-33-08-10

## IS1+ HART Analogue Universal Module for Zone 2

R. STAHL 9468-33-08-10 is an eight-channel HART analogue universal module for IS1+ Remote I/O in Zone 2. Each channel can be configured as an intrinsically safe analogue input or output with line-fault monitoring.

|       |               |             |                                                            |
|-------|---------------|-------------|------------------------------------------------------------|
| BRAND | R. STAHL      | FAMILY      | R. STAHL IS1+ Remote I/O                                   |
| PART  | 9468-33-08-10 | SYSTEM ROLE | Provides eight individually configurable analogue channels |

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9468-33-08-10

### MANUFACTURER SOURCE RECORD

IS1+ HART Analogue Universal Module for Zone 2 Ex i - 9468/33-08-10  
R. STAHL single data sheet, article 210660

# Product Overview

## SYSTEM FUNCTION

R. STAHL 9468-33-08-10 is an eight-channel HART analogue universal module for IS1+ Remote I/O in Zone 2. Each channel can be configured as an intrinsically safe analogue input or output with line-fault monitoring.

### FUNCTION 1

Provides eight individually configurable analogue channels

### FUNCTION 2

Supports 0/4 to 20 mA input and output operation

### FUNCTION 3

Carries bidirectional HART communication

### FUNCTION 4

Supports line-fault monitoring and Zone 2 hot swap

## System Components

| COMPONENT           | DOCUMENTED ROLE                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host / carrier      | R. STAHL IS1+ Remote I/O                                                                                                                                                                                                                                       |
| Primary interface   | Provides eight individually configurable analogue channels                                                                                                                                                                                                     |
| Engineering context | The module plugs into BusRail 9494 and interfaces approved Ex i field circuits through the documented IS1+ terminal arrangement. Commissioning verifies channel mode, 0/4 to 20 mA scaling, HART communication, line-fault monitoring and station diagnostics. |
| Commissioning duty  | Complete controlled input simulation and output proof tests before returning the station to service.                                                                                                                                                           |

## TECHNICAL NOTE

Install 9468-33-08-10 on the documented BusRail 9494 position and record every channel's input/output mode, HART assignment, intrinsically safe field circuit and line-fault setting before removal. Restore the approved IS1+ configuration and prove each loop, diagnostic LED and HART communication under controlled conditions.

# Technical Data

| PARAMETER            | VALUE                    | PARAMETER                 | VALUE                       |
|----------------------|--------------------------|---------------------------|-----------------------------|
| Official type        | 9468/33-08-10 AUMH 08 Z2 | Hot swap                  | Permitted in Zone 2         |
| Article number       | 210660                   | Current consumption       | 220 mA at 20 mA per channel |
| Channels             | 8                        | Maximum power             | 5.3 W                       |
| Channel function     | Analogue input or output | Maximum power dissipation | 3.7 W                       |
| Signal range         | 0/4 to 20 mA             | Resolution without HART   | 14.75 bit                   |
| Communication        | HART                     | Resolution with HART      | 12.75 bit                   |
| Explosion protection | Ex ia IIC                | Maximum output load       | 750 ohm at 20 mA            |
| Mounting platform    | BusRail 9494             | Protection rating         | IP20                        |

## Related Products on Apter Power

| MODEL         | SYSTEM ROLE              | APTER POWER PAGE                        |
|---------------|--------------------------|-----------------------------------------|
| 9470/32-16-11 | IS1+ digital I/O module  | <a href="#">View 9470/32-16-11 page</a> |
| 9440/15-01-11 | IS1 CPU and power module | <a href="#">View 9440/15-01-11 page</a> |

### ENGINEERING BOUNDARY

Confirm 9468-33-08-10, 9468/33-08-10 AUMH 08 Z2, article 210660, BusRail 9494 position, module hardware execution, terminal and Ex i wiring, channel modes, HART configuration, line-fault settings, shielding, grounding and controlled loop-test status before commissioning.

## Channel Configuration and Diagnostics

| ENGINEERING ITEM    | OFFICIAL-SOURCE CHECK                                                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Line diagnostics    | The module provides line-fault monitoring and channel status indication; verify the configured diagnostics after installation.                   |
| Commissioning proof | Confirm IS1+ recognition, channel LEDs, line-fault status, HART communication and controlled input/output loop tests for every assigned channel. |

# Applications and Precautions

## Common Applications

### Zone 2 HART transmitter input

Acquires intrinsically safe 0/4 to 20 mA measurements with HART device communication.

### Intrinsically safe control output

Drives approved analogue final elements from a configured IS1+ output channel.

### Mixed analogue marshalling

Assigns input and output roles independently across eight field channels.

### Remote I/O loop diagnostics

Uses channel LEDs, line-fault monitoring and HART status during controlled maintenance.

## Product Precautions

- 1

Confirm 9468-33-08-10, official type 9468/33-08-10 AUMH 08 Z2 and article 210660.
- 2

Place the process loops and final elements in the approved maintenance state.
- 3

Follow the Zone 2 and intrinsic-safety work procedure and apply ESD controls.
- 4

Record every channel mode, 0/4 to 20 mA range, HART address and line-fault setting.
- 5

Verify BusRail 9494 position, terminal assignment, cable shield and Ex i circuit segregation.
- 6

Restore the approved IS1+ station and channel configuration before loop energization.
- 7

Review module and channel LEDs, line-fault status and HART communication loop by loop.
- 8

Complete controlled input simulation and output proof tests before returning the station to service.

## IMPORTANT NOTICE

Confirm 9468-33-08-10, 9468/33-08-10 AUMH 08 Z2, article 210660, BusRail 9494 position, module hardware execution, terminal and Ex i wiring, channel modes, HART configuration, line-fault settings, shielding, grounding and controlled loop-test status before commissioning.

| ACCEPTANCE CHECK   | REQUIRED EVIDENCE                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------|
| Identity           | 9468-33-08-10                                                                                        |
| Configuration      | Review module and channel LEDs, line-fault status and HART communication loop by loop.               |
| Functional release | Complete controlled input simulation and output proof tests before returning the station to service. |

## Engineer FAQ

### Q1 Which IS1+ carrier is required for 9468-33-08-10?

Use the documented BusRail 9494 position and preserve the approved IS1+ station and terminal arrangement.

### Q3 Which signal and protocol does 9468-33-08-10 support?

Each channel supports 0/4 to 20 mA operation with bidirectional HART communication.

### Q5 What must be recorded before removing 9468-33-08-10?

Record BusRail position, terminal map, input/output role, scaling, HART assignment, line-fault setting, shields and Ex i loop identity for all eight channels.

### Q7 How should the outputs of 9468-33-08-10 be verified?

Test each configured output with the approved loop load and confirm the expected 0/4 to 20 mA response without bypassing process interlocks.

### Q2 How many channels does 9468-33-08-10 provide?

The module provides eight channels, each configurable as an analogue input or analogue output.

### Q4 Can 9468-33-08-10 be replaced while the Zone 2 station remains energized?

The official record supports hot swap in Zone 2, subject to the approved hazardous-area and intrinsic-safety work procedure.

### Q6 What line diagnostics are available on 9468-33-08-10?

The module provides line-fault monitoring and channel status indication; verify the configured diagnostics after installation.

### Q8 What completes commissioning of 9468-33-08-10?

Confirm IS1+ recognition, channel LEDs, line-fault status, HART communication and controlled input/output loop tests for every assigned channel.

## COMMISSIONING RELEASE CRITERIA

Complete controlled input simulation and output proof tests before returning the station to service.

## MANUFACTURER SOURCE RECORD

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