

APTER POWER ENGINEERING REFERENCE

# 8C-PAIH51

## Series 8 HART Analog Input Module

The 8C-PAIH51 is a coated Series 8 analog-input module that digitizes sixteen 4-20 mA channels and exchanges HART process and diagnostic data with smart field transmitters.

| Parameter     | Technical value                  |
|---------------|----------------------------------|
| Manufacturer  | Honeywell                        |
| Product model | 8C-PAIH51                        |
| Part number   | 51454352-175                     |
| System family | Experion Series 8 I/O            |
| Document      | Installation & Application Guide |
| Country       | USA                              |
| HS code       | 8537101190                       |

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**One verified model, one engineered configuration path.**

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SCAN FOR PRODUCT & QUOTE

8C-PAIH51

## 2. Installation Planning

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The 8C-PAIH51 is a coated Series 8 analog-input module that digitizes sixteen 4-20 mA channels and exchanges HART process and diagnostic data with smart field transmitters.

### Pre-installation sequence

- Choose the IOTA matching the required redundancy.
- Confirm whether each transmitter is loop-powered or self-powered.
- Validate the 200-ohm input path before HART polling.
- Commission analog scaling and digital variables as separate checks.

### Matched components

- 8C-TAIX51 nonredundant IOTA
- 8C-TAIX61 redundant IOTA
- HART field transmitter
- Series 8 controller and cabinet power

### 3. Wiring and Interface Checks

| Installation item      | Required technical value                    |
|------------------------|---------------------------------------------|
| Module model           | 8C-PAIH51                                   |
| Part number            | 51454352-175                                |
| Input type             | Current; 2-wire or self-powered transmitter |
| Channels               | 16 single-ended                             |
| A/D resolution         | 16 bit                                      |
| Input range            | 4 to 20 mA through 200 Ohm                  |
| Scan rate              | 50 ms                                       |
| Filter                 | Single-pole RC; -3 dB at 6.5 Hz             |
| NMRR at 60 Hz          | 19 dB                                       |
| Crosstalk, dc to 60 Hz | -60 dB                                      |

#### Interface controls

- Use only the 8C-PAIH51 hardware identity and the matched components listed for this product.
- Record wiring, polarity, addressing or channel allocation before disturbing installed conductors.
- Keep field circuits de-energized until continuity and insulation checks are complete.
- Apply the product-specific limits in the table during loop or channel testing.

## 4. Commissioning and Functional Test

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- 1 Confirm that 8C-PAIH51 and part number 51454352-175 match the cabinet record.
- 2 Verify the connection to 8C-TAIX51 nonredundant IOTA before applying operating power.
- 3 Check the product function: digitizes analog process-current channels.
- 4 Simulate or apply a controlled signal for hart pressure and differential-pressure inputs.
- 5 Compare the channel indication or output state with the control database.
- 6 Record baseline values and restore the field circuit to its operating configuration.

## 5. Diagnostics and Return to Service

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### Product-specific diagnostic questions

#### How should an engineer verify 200-ohm input path on 8C-PAIH51?

Use the 8C-PAIH51 technical limit or configuration stated for 200-ohm input path, then verify it at the installed channel before service.

#### What must be checked for 50 ms scan on 8C-PAIH51?

Treat 50 ms scan as a product-specific commissioning point and compare the field condition with the Honeywell hardware configuration.

#### Which system detail controls TAIX51 versus TAIX61 on 8C-PAIH51?

The required check concerns TAIX51 versus TAIX61; confirm the connected hardware is the matched component listed for 8C-PAIH51.

#### Why is it important to confirm self-powered transmitter on 8C-PAIH51?

For self-powered transmitter, isolate the circuit, record its present configuration and apply the stated Honeywell limit before re-energization.

### RETURN-TO-SERVICE CHECK

Confirm model 8C-PAIH51, cabinet wiring, control-system channel assignment and the intended field response before releasing the equipment for production.