# WirelessHart Connector

Emerson WirelessHart HartIP devices

- Name: **WirelessHart**
- Version: 2.0.0.8
- Protocol: HartIP
- Interface:TCP/IP
- Runtime: Multiplatform
- Configuration:
  - Devices / Protocols


Module Configuration
Channels Configuration
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Point Configuration
Driver Revision History


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## Module Configuration

This document has only information about the device connection settings and its address syntax.

For further Information, see:

- Devices Module
- Devices Module Reference

### Device Information

Manufacturer: Emerson

| **Hart Supported Commands** | | |
|---|---|---|
| **Command** | **Read** | **Write** |
| Command 0 – Read Unique Identifier | **Yes** | - |
| Command 3 – Read Dynamic Variables and Loop Current | **Yes** | - |
| Command 9 – Read Device Variables and Status | **Yes** | - |
| Command 13 – Read Tag, Descriptor and Date | **Yes** | - |
| Command 20 – Read Long Tag | **Yes** | - |
| Command 38 – Reset Configuration Changed Flag | **Yes** | - |
| Command 48 – Read Device Additional Status | **Yes** | - |
| Command 50 – Read Dynamic Variable Assignments | **Yes** | - |
| Command 74 – Read I/O System Capabilities | **Yes** | - |
| Command 84 – Read Sub-Device Identity Summary | **Yes** | - |
| Command 101 – Read Sub-device to Burst Message Map | **Yes** | - |
| Command 105 – Read Burst Mode Configuration | **Yes** | - |
| Command 178 – Publish Dynamic Data | **Yes** | - |

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## Channels Configuration

### Protocol Options

Not used in this driver.

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## Node Configuration

### Station Configuration

Station syntax: ***<IP address> ; <Port number>***

Where:

- ***<IP address>*:** IP address of the Hart gateway
- ***<Port number>*:** TCP port where the gateway is listening (default is 5094)

E.g.: ***192.168.0.107;5094***

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## Point Configuration

The syntax for the communication points is: ***<DeviceTag>.<Command>: <Parameter>***

E.g.: ***Acoustic708-050001.178:PVDeviceVariableValue***

Where :

- ***<DeviceTag>***: It will be brought from Hart gateway.
- ***<Command>***: Hart Commands. See the table below for the availables command.

| Command | Description |
|---|---|
| 0 | Read Unique Identifier |
| 3 | Read Dynamic Variables and Loop Current |
| 9 | Read Device Variables and Status |
| 13 | Read Tag, Descriptor and Date |
| 20 | Read Long Tag |
| 38 | Reset Configuration Changed Flag |
| 48 | Read Device Additional Status |
| 50 | Read Dynamic Variable Assignments |
| 74 | Read I/O System Capabilities |
| 84 | Read Sub-Device Identity Summary |
| 101 | Read Sub-device to Burst Message Map |
| 105 | Read Burst Mode Configuration |
| 178 | Publish Dynamic Data |

- ***<Parameter>***: It is a number that represent each parameter of the command response. See the tables below:

| **Command 0** |
|---|
| **Parameters** |
| Expansion Code |
| Expanded Device Type Code |
| Request Preambles |
| Universal Revision Level |
| Transmitter Revision Level |
| Software Revision |
| Hardware Revision Level / Physical Signing Code |
| Flags |
| Device Identification Code |
| Minimum# Response Preambles |
| Max# of Device Variable |
| Configuration Change Counter |

| |
|---|
| Extended Field Device Status |
| Manufacture Identification Code |
| Private Label Distributor |
| Device Profile |

| **Command 3** |
|---|
| **Parameters** |
| PV Loop Current (many wireless devices return NaN, no analog output) |
| PV Units Code |
| PV |
| SV Units Code |
| SV |
| TV Units Code |
| TV |
| QV Units Code |
| QV |

| **Command 9** |
|---|
| **Parameters** |
| Slot 0: Device Variable Code |
| Slot 0: Device Variable Classification |
| Slot 0: Device Variable Units Code |
| Slot 0: Device Variable Value |
| Slot 0: Device Variable Status |
| Slot 1: Device Variable Code |
| Slot 1: Device Variable Classification |
| Slot 1: Device Variable Units Code |
| Slot 1: Device Variable Value |
| Slot 1: Device Variable Status |
| Slot 2: Device Variable Code |
| Slot 2: Device Variable Classification |
| Slot 2: Device Variable Units Code |
| Slot 2: Device Variable Value |
| Slot 2: Device Variable Status |
| Slot 3: Device Variable Code |
| Slot 3: Device Variable Classification |
| Slot 3: Device Variable Units Code |
| Slot 3: Device Variable Value |
| Slot 3: Device Variable Status |
| Slot 4: Device Variable Code |

| |
|---|
| Slot 4: Device Variable Classification |
| Slot 4: Device Variable Units Code |
| Slot 4: Device Variable Value |
| Slot 4: Device Variable Status |
| Slot 5: Device Variable Code |
| Slot 5: Device Variable Classification |
| Slot 5: Device Variable Units Code |
| Slot 5: Device Variable Value |
| Slot 5: Device Variable Status |
| Slot 6: Device Variable Code |
| Slot 6: Device Variable Classification |
| Slot 6: Device Variable Units Code |
| Slot 6: Device Variable Value |
| Slot 6: Device Variable Status |
| Slot 7: Device Variable Code |
| Slot 7: Device Variable Classification |
| Slot 7: Device Variable Units Code |
| Slot 7: Device Variable Value |
| Slot 7: Device Variable Status |
| Slot 0: Time Stamp (units of 1/32 of a mS or 0.00003125 seconds or 31.25 S) |

| **Command 13** |
|---|
| **Parameters** |
| Tag |
| Descriptor |
| Day |
| Month |
| Year since 1900 |

| **Command 20** |
|---|
| **Parameter** |
| Long Tag |

| **Command 38** |
|---|
| **Parameter** |
| Configuration Change Counter (previously read value) |

| **Command 48** |
|---|
| **Parameters** |

| |
|---|
| Transmitter Status 0 |
| Transmitter Status 1 |
| Transmitter Status 2 |
| Transmitter Status 3 |
| Transmitter Status 4 |
| Transmitter Status 5 |
| Extended Device Status |
| Device Operating Mode |
| Standardize Status 0 |
| Standardize Status 1 |
| Analog Channel Saturated |
| Standardize Status 2 |
| Standardize Status 3 |

| **Command 50** |
|---|
| **Parameters** |
| Device Variable mapped to PV |
| Device Variable mapped to SV |
| Device Variable mapped to TV |
| Device Variable mapped to QV |

| **Command 74** |
|---|
| **Parameters** |
| Maximum Number of I/O Cards (must be 1) |
| Maximum Number of Channels per I/O Card (must be 1) |
| Maximum Number of Sub-Devices per Channel (must be 1) |
| Number of devices detected (the count includes the I/O system itself) |
| Maximum number of delayed responses supported by the I/O system. (must be  2) |
| Master mode for communication on channels. 1 = Primary Master (default) |
| Retry count to use when sending commands to a sub-device. (Range 2  value  5) |

| **Command 84** |
|---|
| **Parameters** |
| Sub-device index |
| I/O Card |
| Channel |
| Manufacturer Id |
| Expanded Device Type Code |
| Device Id |

| |
|---|
| Universal Command Revision |
| Long Tag |
| Device Revision |
| Device Profile |
| Private Label Distributor |

| **Command 101** |
|---|
| **Parameters** |
| Burst Message |
| Sub-device Index (index 0 indicates the I/O System itself) |

| **Command 105** |
|---|
| **Parameters** |
| Burst Mode Control Code |
| Command Number (usually 31 for HART 7 devices, see Extended Command Number) |
| Device Variable Code Assigned to Slot 0 |
| Device Variable Code Assigned to Slot 1 |
| Device Variable Code Assigned to Slot 2 |
| Device Variable Code Assigned to Slot 3 |
| Device Variable Code Assigned to Slot 4 |
| Device Variable Code Assigned to Slot 5 |
| Device Variable Code Assigned to Slot 6 |
| Device Variable Code Assigned to Slot 7 |
| Burst Message |
| Maximum number of burst messages supported by this device |
| Extended Command Number |
| Update Time (burst period) |
| Maximum Update Time |
| Burst Trigger Mode |
| Device Variable Classification |
| Trigger Units Code |
| Trigger Level |

| **Command 178** |
|---|
| **Parameters** |
| Number of command in the structure (typically 2 for cmd 9 and cmd 48) |
| Command Number 1 (typically 9) |
| Command Number 1 Byte Count (varies depending on command payload) |
| Command Number 1 Response code |

| |
|---|
| Extended Device Status |
| PV Device Variable Code |
| PV Device Variable Classification |
| PV Device Variable Units Code |
| PV Device Variable Value |
| PV Device Variable Status |
| SV Device Variable Code |
| SV Device Variable Classification |
| SV Device Variable Units Code |
| SV Device Variable Value |
| SV Device Variable Status |
| TV Device Variable Code |
| TV Device Variable Classification |
| TV Device Variable Units Code |
| TV Device Variable Value |
| TV Device Variable Status |
| QV Device Variable Code |
| QV Device Variable Classification |
| QV Device Variable Units Code |
| QV Device Variable Value |
| QV Device Variable Status |
| PV % Range Device Variable Code (variable code = 244 typically) |
| PV % Range Device Variable Classification |
| PV % Range  Device Variable Units Code  (typically 57 = %) |
| PV % Range Device Variable Value |
| PV % Range  Device Variable Status |
| PV Loop Current Device Variable Code (variable code = 245 typically) |
| PV Loop Current  Device Variable Classification |
| PV Loop Current  Device Variable Units Code (typically 39 = mA) |
| PV Loop Current  Device Variable Value |
| PV Loop Current  Device Variable Status |
| PV Time Stamp |
| Command Number 2 (typically 48) |
| Command Number 2 Byte Count (varies depending on command payload) |
| Command Number 2 Response code |
| Transmitter status byte 0 |
| Transmitter status byte 1 |
| Transmitter status byte 2 |
| Transmitter status byte 3 |
| Transmitter status byte 4 |
| Transmitter status byte 5 |

| |
|---|
| Extended Device Status |
| Device Operating Mode |
| Standardized Status 0 |
| Standardized Status 1 |
| Analog Channel Saturated (usually 0) |
| Standardized Status 2 |
| Standardized Status 3 |

## Driver Revision History

| **WirelessHart Revision History** | |
|---|---|
| **Version** | **Notes** |
| 2.0.0.8 | Initial release on new documentation standards. |

**In this section...**

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