One Series Device Specific HART Command Details

HART Commands:

Below is the list of the HART commands implemented in the One Series model 1XTX. Details of Universal and Common Practice Commands may be found in the Universal Command Specification (HCF_SPEC-127) and Common Practice Command Specification (HCF_SPEC-151) published by the HART Communications Foundation now part of the FieldComm Group.
http://en.hartcomm.org/

The One Series Device Descriptor is available for download at:
(Insert Link to Device Descriptor Here)

HART Commands Supported

Command	Description	Type
0	Read Device ID	Universal
1	Read Primary Variable	Universal
2	Read Loop Current and Percentage of Range	Universal
3	Read Dynamic Variables and Loop Current	Universal
6	Write Polling Address	Universal
7	Read Loop Configuration	Universal
8	Read Dynamic Variable Classifications	Universal
9	Read Device Variables with Status	Universal
11	Read Unique Identifier Associated with Tag	Universal
12	Read Message	Universal
13	Read Tag, Descriptor, Date	Universal
14	Read Primary Variable Transducer Information	Universal
15	Read Device Information	Universal
16	Read Final Assembly Number	Universal
17	Write Message	Universal
18	Write Tag, Descriptor, Date	Universal
19	Write Final Assembly Number	Universal
20	Read Long Tag	Universal
21	Read Unique Identifier Associated with Long	Universal
22	Write Long Tag	Universal
38	Reset Configuration Changed Flag	Universal
48	Read Additional Device Status	Universal
33	Read Device Variables	Common Practice
34	Write Primary Variable Damping Value	Common Practice
35	Write Primary Variable Range Values *Data written using command 35 will update the 4mA and 20mA settings in the menu.*	Common Practice
36	Set Primary Variable Upper Range Value	Common Practice
37	Set Primary Variable Lower Range Value	Common Practice
40	Enter/Exit Fixed Current Mode	Common Practice
41	Perform Self Test	Common Practice
44	Write Primary Variable Units	Common Practice
45	Trim Loop Current Zero	Common Practice
46	Trim Loop Current Gain	Common Practice
47	Write Primary Variable Transfer Function	Common Practice
54	Read Device Variable Information	Common Practice
59	Write Number of Response Preambles	Common Practice
71	Lock Device	Common Practice
76	Read Lock Device State	Common Practice
140	Write Field Stats Information *Overwrites the Max and Min values recorded by the device.*	Device Specific

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141	Read Field Stats Information *Reads the current Max and Min values from the device.*	Device Specific
144	Write Switch 1 Configuration *Writes Switch 1 Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings*	Device Specific
145	Read Switch 1 Configuration *Reads Switch 1 Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings*	Device Specific
221	Write Protect Enable/Disable, Modify Password *Allows write protect mode to be enabled/disabled and allows editing of the device password.*	Device Specific
222	Read, Write Protect Status *Reads the write protect status of the device.*	Device Specific
223	Write Trip Counters *Writes an unsigned 16-bit integer between 0 – 9999 to the trip counters associated with switch 1 and switch 2 (Trips 1 and 2).*	Device Specific
224	Trips 1 and 2 *Reads the value of the trip counters associated with switch 1 and switch 2 (Trips 1 and 2). The number is an unsigned 16-bit integer between 0 – 9999.*	Device Specific
225	Manual Reset *Resets one or more switches that are in the latched state.*	Device Specific
226	Read Switch Latch Status *Reads the latch status of one or more switches.*	Device Specific
244	Write Switch 2 Configuration *Writes Switch 2 Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings*	Device Specific
245	Read Switch 2 Configuration *Reads Switch 2 Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings*	Device Specific
246	Write Plugged Port Settings	Device Specific
247	Read Plugged Port Settings	Device Specific
248	Write Offset and Span	Device Specific
249	Read Offset and Span	Device Specific

Command 140 Write Field Stats Information

Overwrites the Max and Min values recorded by the device.

Request Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code
1 – 4	Float	Max
5 – 8	Float	Min

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code
1 – 4	Float	Max
5 – 8	Float	Min

Note: The value returned in the response data bytes reflects the rounded or truncated value actually used in the device.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection (Ex. Invalid HART Units Code)
7	Error	In Write Protect Mode
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 141 Read Field Stats Information

Reads the Max/Min values from the device.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code
1 – 4	Float	Max
5 – 8	Float	Min

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 144 Write Switch 1 Configuration

This command writes Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings to switch 1. Before updating the switch configuration, the SPH, DBH, SPL, and DBL must be checked with the same boundary checks that are done in the menu entry. An error will result in the appropriate response code. Command 144 will reset a latched condition.

Request Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Switch Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Response Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Switch Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Note: The value returned in the response data bytes reflects the rounded or truncated value actually used in the device.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection (Ex. Invalid Units Code)
3	Error	Passed Parameter Too Large
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode
9	Error	Dead Band (High) Value Out of Range
10	Error	Dead Band (Low) Value Out of Range
11	Error	Set Point (High) Value Out of Range
12	Error	Invalid Switch Mode
13	Error	Set Point (Low) Value Out of Range
15	Error	Invalid Latch Enable Value
16	Error	Access Restricted
32	Error	Busy

One Series Device Specific HART Command Details

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Switch Mode Codes

Open on Rise	Open on Fall	Close on Rise	Close on Fall	Open out of Window	Close out of Window
0x01	0x02	0x03	0x04	0x05	0x06

Command 145 Read Switch 1 Configuration

This command reads Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings for switch 1.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
5	Error	Too Few Data Bytes Received
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 221 Write Protect Enable/Disable, Modify Password

This command allows the user to enable or disable the write protect feature and alter the device password. All devices are shipped from the factory with a password of "0000". While the password is "0000" the write protect feature is disabled.

In order to enable the write protect feature, the password must be changed to something other than "0000". To change the password the user must send command 221 along with the current password, the new password and an operation code of "3".

To enable the write protect feature the user must send command 221along with the current password, xxxx (16 bits don't care) and the "1" operation code.

To disable the write protect feature the user must send command 221along with the current password, xxxx (16 bits don't care) and the "0" operation code.

Enabling the write protect will prevent write access to the device.

Request Data Bytes

Byte	Format	Description	Factory Setting
0 – 1	Unsigned - 16	Password	0000
2 – 3	Unsigned - 16	New Password	N/A
4	Unsigned – 8	Operation	0

Response Data Bytes

Byte	Format	Description	Factory Setting
0 – 1	Unsigned - 16	Password	0000
2 – 3	Unsigned - 16	New Password	N/A
4	Unsigned – 8	Operation	0

Write Protect Operations

0 = Disable Write Protect (Request Data: Password, xxxx, 0)
1 = Enable Write Protect (Request Data: Password, xxxx, 1)
3 = Modify Password (Request Data: Password, New Password, 3)
Modify password if changed to non-zero will enable write protect.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode (Invalid Password Provided)
15	Error	Invalid Operation (not 0, 1, 3)
16	Error	Access Restricted
32	Error	Busy

Command 222 Read, Write Protect Status

This command allows the user to read whether or not the device is in write protect mode.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	Status

Write Protect Status

0 = Write Protect Disabled
1 = Write Protected

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

Command 223 Write Trip Counters

This command allows the user to write a value to either of the trip counters. The command can be used to clear or preset these to variables to a desired number.

Request Data Bytes

Byte	Format	Description
0 – 1	Unsigned – 16	Trips1
2 – 3	Unsigned – 16	Trips2

Response Data Bytes

Byte	Format	Description
0 – 1	Unsigned – 16	Trips1
2 – 3	Unsigned – 16	Trips2

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode
11	Error	Value too high (Trips1 > 9999)
13	Error	Value too high (Trips2 > 9999)
16	Error	Access Restricted
32	Error	Busy

Command 224 Read Trip Counters

This command allows the user to read the values of the trip counters.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0 – 1	Unsigned – 16	Trips1
2 – 3	Unsigned – 16	Trips2

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

Command 225 Manual Reset

This command allows the user to perform a reset of a latched switch. The function is similar to the Manual Reset feature in the menu.

Request Data Bytes

Byte	Format	Description
0 – 1	Unsigned - 16	Password
2	Unsigned – 8	Switch Bits

Response Data Bytes

Byte	Format	Description
0 – 1	Unsigned - 16	Password
2	Unsigned – 8	Switch Bits

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
5	Error	Too Few Data Bytes Received
16	Error	Access Restricted
32	Error	Busy

Switch Bits

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
-	-	-	-	-	-	SW2 0 = Reset Latch 1 = Do Not Change	SW1 0 = Reset Latch 1 = Do Not Change

Command 226 Read Switch Latch Status

This command allows the user to read whether or not as switch is in the latched state.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned – 8	Switch Bits

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

Switch Bits

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
-	-	-	-	-	-	SW2 1 = Latched 0 = Not Latched	SW1 1 = Latched 0 = Not Latched

Command 244 Write Switch 2 Configuration

This command writes Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings to switch 2. Before updating the switch configuration, the SPH, DBH, SPL, and DBL must be checked with the same boundary checks that are done in the menu entry. An error will result in the appropriate response code. Command 244 will reset a latched condition.

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Request Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Switch Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Response Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Switch Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Note: The value returned in the response data bytes reflects the rounded or truncated value actually used in the device.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection (Ex. Invalid Units Code)
3	Error	Passed Parameter Too Large
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode
9	Error	Dead Band (High) Value Out of Range
10	Error	Dead Band (Low) Value Out of Range
11	Error	Set Point (High) Value Out of Range
12	Error	Invalid Switch Mode
13	Error	Set Point (Low) Value Out of Range
15	Error	Invalid Latch Enable Value
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column

6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Switch Mode Codes

Open on Rise	Open on Fall	Close on Rise	Close on Fall	Open out of Window	Close out of Window
0x01	0x02	0x03	0x04	0x05	0x06

Command 245 Read Switch 2 Configuration

This command reads Mode, Set Points, Dead Bands, Latch Settings, Trip Delay Settings for switch 2.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned – 8	Spare
1	Unsigned – 8	HART Units Code
2 – 5	Float	Dead Band (High)
6 – 9	Float	Dead Band (Low)
10 – 11	Unsigned - 16	Trip Delay
12	Unsigned - 8	Mode
13	Unsigned - 8	Latch Enabled
14 – 17	Float	Set Point (High)
18 - 21	Float	Set Point (Low)

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
5	Error	Too Few Data Bytes Received
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 246 Write Plugged Port Information

Writes the plugged port time and plugged port threshold to the pluggedporttime_t and pluggedportThreshold fields of menusettings_t.

Request Data Bytes

Byte	Format	Description
0	Unsigned - 8	PP Time
1	Unsigned - 8	HART Units Code
2 – 5	Float	PP Threshold

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	PP Time
1	Unsigned - 8	HART Units Code
2 – 5	Float	PP Threshold

Note: The value returned in the response data bytes reflects the rounded or truncated value actually used in the device.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection (Ex. Invalid HART Units Code)
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode
11	Error	Invalid Plugged Port Time Setting
12	Error	Plugged Port Threshold Setting Out of Range
16	Error	Access Restricted
32	Error	Busy

PP Time Settings

Off = 0
1 Minute = 1
1 Hour = 2
24 Hours = 3

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 247 Read Plugged Port Information

Reads the plugged port time and plugged port threshold from the pluggedporttime_t and pluggedportThreshold fields of menusettings_t.

Request Data Bytes

One Series Device Specific HART Command Details

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	PP Time
1	Unsigned - 8	HART Units Code
2 – 5	Float	PP Threshold

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

PP Time Settings

Off = 0
1 Minute = 1
1 Hour = 2
24 Hours = 3

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 248 Write Offset and Span

Writes an offset and span into the displayOffset and displaySpan fields of menusettings_t. May also force a change of units. This command will use the units code from the HART common table 2.64 for temperature and 2.65 for Pressure.

Request Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code

1 – 4	Float	Offset
5 – 8	Float	Span

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code
1 – 4	Float	Offset
5 – 8	Float	Span

Note: The value returned in the response data bytes reflects the rounded or truncated value actually used in the device.

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection (Ex. Invalid HART Units Code)
5	Error	Too Few Data Bytes Received
7	Error	In Write Protect Mode
11	Error	Offset Value Too High
12	Error	Offset Value Too Low
13	Error	Span Value Too High
15	Error	Span Value Too Low
16	Error	Access Restricted
18	Error	Invalid Units Code
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 249 Read Offset and Span

Reads offset and span from the displayOffset and displaySpan fields of menusettings_t. Reads units from sensor units_t. This command will the use units code from the HART common table 2.64 for temperature and 2.65 for Pressure.

Request Data Bytes

Byte	Format	Description
None		

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	HART Units Code
1 – 4	Float	Offset
5 – 8	Float	Span

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit

Command 48 Read Additional Device Status

Returns device information not included in the response code or the device status byte.

Request Data Bytes

Byte	Format	Description
0 – 5	Bits or Enum	Device Specific Status
6	Bits	Extended Device Status, Ref. Common Table 17
7	Bits	Device Operating Mode, Ref. Common Table 14
8	Bits	Standardized Status 0, Ref. Common Table 29
9	Bits	Standardized Status 1, Ref. Common Table 30
10	Bits	Analog Channel Saturated, Ref. Common Table 27

11	Bits	Standardized Status 2, Ref. Common Table 31
12	Bits	Standardized Status 3, Ref. Common Table 32
13	Bits	Analog Channel Fixed, Ref. Common Table 28
14 – 24	Bits or Enum	Device Specific Status

Response Data Bytes

Byte	Format	Description
0 – 3	Bits	32 Device Specific Fault Bits
4	Bits	8 Device Specific Mode Bits
5	Enum	Device Specific Fault Code (E-Code)
6	Bits	Extended Device Status, Ref. Common Table 17 (Bit 1, Device Variable Alert Supported, Ovr, Under and Ext. Over/Underrange, or any Dev. Var Status not normal)
7	Bits	Device Operating Mode, Ref. Common Table 14 (Returns 0x00)
8	Bits	Standardized Status 0, Ref. Common Table 29 0x02 = E-25 Flash CRC Error 0x04 = SRAM Diagnostic Fault 0x10 = E-07, E-08, E-09 0x40 = E-04, E-10 thru E-14, E-20 thru E-23, E-32, E-52, E-53, E-67, E-84, E-98, E-99, E105 0x80 = Device Configuration Locked (Locked or Write Protect)
9	Bits	Standardized Status 1, Ref. Common Table 30 (Returns 0x00)
10	Bits	Analog Channel Saturated, Ref. Common Table 27 (Bit 0 Supported, mA High or Low)
11	Bits	Standardized Status 2, Ref. Common Table 31 (Returns 0x00)
12	Bits	Standardized Status 3, Ref. Common Table 32 (Returns 0x00)
13	Bits	Analog Channel Fixed, Ref. Common Table 28 (0x01 when Fixed)
14 – 24	Bits or Enum	Device Specific Status

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
6	Error	Device Specific Command Error
8	Warning	Update In Progress
16	Error	Access Restricted
32	Error	Busy

Device Specific Fault Bits:

31	**30**	**29**	**28**	**27**	**26**	**25**	**24**
Not Used	Non-Sleep Error	Stack Error	Code Error	Control Flow	Fault Flags Structure Error	Switch Check (Reverse Compare)	Safety Output Pin
23	**22**	**21**	**20**	**19**	**18**	**17**	**16**
Unused	Data Structure Fault	ConfigField CRC	ConfigFactory CRC	Unused	PV Data Corrupt	Analog Value Primary (Conversion Fault or Saturated)	Generic Diagnostics Fault
15	**14**	**13**	**12**	**11**	**10**	**9**	**8**
RAM Fault	Flash CRC	Ext. NV	CPU Fault	Unused	Test Code	HW Init	Code Init.

	Fault	Memory Fault			Fault	Configuration Fault	Error
7	**6**	**5**	**4**	**3**	**2**	**1**	**0**
Sensor Short	Sensor Open	Sensor Ext. Underrange (Not Used)	Extreme Overrange	Relay Monitor Fault (Not Used)	Sensor Underrange	Sensor Overrange	Keypad Stuck

Device Specific Mode Bits:

7	6	5	4	3	2	1	0
Critical Fault	Fault Flags Corrupt					Menu Active	Plugged Port

Device Specific Fault Code (E-Code):

Reference table of One Series fault codes for definitions.

Command 54 Read Device Variable Information

Request Data Bytes

Byte	Format	Description
0	Unsigned - 8	Device Variable Code

Response Data Bytes

Byte	Format	Description
0	Unsigned - 8	Device Variable Code

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1 – 3	Unsigned - 24	Device Variable Transducer Serial Number (KANBAN Number)
4	Enum	Device Variable Limits/Minimum Span Units Code
5 – 8	Float	Device Variable Upper Transducer Limit (Factory URL + 10% of Span)
9 – 12	Float	Device Variable Lower Transducer Limit (Factory LRL – 3% of Span, limited to -14.7 psi)
13 – 16	Float	Device Variable Damping Value (Filter Setting in Seconds)
17 – 20	Float	Device Variable Minimum Span (50% of Factory URL - LRL)
21	Enum	Device Variable Classification (Ref. Common Table 21)
22	Enum	Device Variable Family (250)
23 – 26	Time	Acquisition Period (0x320)
27	Bits	Device Variable Properties (0) Ref. Common Table 65

Command-Specific Response Codes

Code	Class	Description
0	Success	No Command Specific Errors
2	Error	Invalid Selection
5	Error	Too Few Bytes Received
6	Error	Device Specific Command Error
16	Error	Access Restricted
32	Error	Busy

HART Units Codes Supported:

HART Units Code	Description	
1	in wc	Inches of water column
6	psi	Pounds per Square Inch
7	bar	Bar
8	mbar	Millibar
10	kg/cm^2	Kilograms per Centimeter Squared
12	kPa	Kilo Pascals
237	mPa	Mega Pascals
32	°C	Degrees Celsius
33	°F	Degrees Fahrenheit