

Rockwell Automation Library of Process Objects: Hand-operated Valve (P_ValveH0)

Version 3.5

IMPORTANT

This manual applies to the Rockwell Automation Library of Process Objects version 3.5 or earlier.
For Rockwell Automation Library of Process Objects version 5.0, see

- [PROCES-RM200](#)

For Rockwell Automation Library of Process Objects version 4.0 or later, use the following manuals:

- [PROCES-RM013](#) contains logic instructions
- [PROCES-RM014](#) contains display elements



Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.



ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

IMPORTANT

Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.



ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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Software Compatibility and Content Revisions

Table 1 - Summary of Changes

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For the latest compatible software information and to download the Rockwell Automation® Library of Process Objects, see the Product Compatibility and Download Center at <http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page>.

For general library considerations, see Rockwell Automation Library of Process Objects, publication [PROCES-RM002](#).

Additional Resources

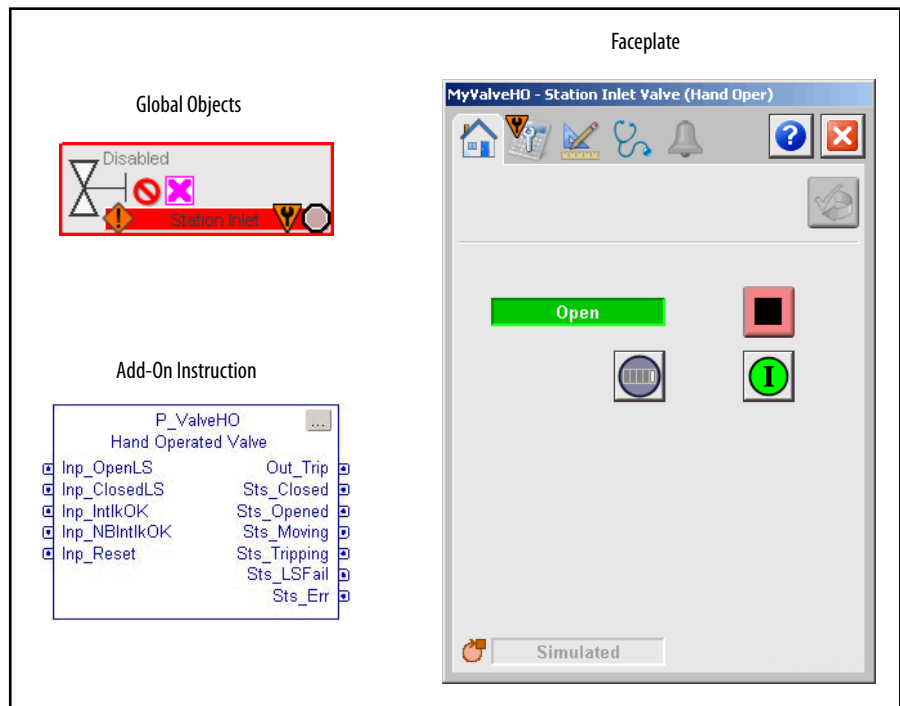
These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
PlantPAx® Distributed Control System Selection Guide, publication PROCES-SG001	Provides information to assist with equipment procurement for your PlantPAx system.
PlantPAx Distributed Control System Reference Manual, publication PROCES-RM001	Provides characterized recommendations for implementing your PlantPAx system.
Rockwell Automation Library of Process Objects, publication PROCES-RM002	Provides general considerations for the PlantPAx system library of process objects.
FactoryTalk® View Machine Edition User Manual, publication VIEWME-UM004	Provides details on how to use this software package for creating an automation application.
FactoryTalk View Site Edition User Manual, publication VIEWSE-UM006	Provides details on how to use this software package for developing and running human-machine interface (HMI) applications that can involve multiple users and servers, distributed over a network.
Logix5000™ Controllers Add-On Instructions Programming Manual, publication 1756-PM010	Provides information for designing, configuring, and programming Add-On Instructions.
Rockwell Automation Library of Process Objects: Common Alarm Block (P_Alarm) Reference Manual, publication SYSLIB-RM002	Details how to monitor an input condition to raise an alarm. Information includes acknowledging, resetting, inhibiting, and disabling an alarm. Generally the P_Alarm faceplate is accessible from the Alarms tab
Rockwell Automation Library of Process Objects: Interlocks with First Out and Bypass (P_Intlk) Reference Manual, publication SYSLIB-RM004	Explains how to collect (sum up) the interlock conditions that stop or de-energize a running or energized piece of equipment or prevent it from starting or being energized.
Rockwell Automation Library of Process Objects: 2-state Valve Statistics (P_ValveStats) Reference Manual, publication SYSLIB-RM036	Explains how to monitor stroke times and stroke counts for a 2-state (open and close) valve.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Hand-operated Valve (P_ValveHO)

The P_ValveHO (Hand-operated Valve) Add-On Instruction monitors a hand (locally) operated valve and displays its current state. The valve may have any type of actuator – handwheel, lever, motor, solenoid, pneumatic, hydraulic – but it is normally operated at the valve and only monitored by the control system via open and closed limit switches. The P_ValveHO instruction cannot control the valve to both open and closed positions, but provides an optional Trip output to command the valve to its default (fail) position. If the trip function is used, the P_ValveHO instruction checks to make sure the valve reaches the configured trip position (open or closed) if a trip command is executed.



Guidelines

Use this instruction when you need to monitor a valve (open/close) that is primarily operated by hand. The valve must have at least one limit switch for position sensing. The valve can use, but does not require, an output to remotely trip the valve to a 'safe' (default) position. On a trip, this instruction checks that the valve reaches the configured trip position and alarms if it does not within a configured time.

Do **not** use this instruction in these situations:

- When you need to remotely open and close a valve. This instruction monitors (and optionally trips) only a locally operated valve.
- If you need to operate a single-solenoid spring-return valve (fail closed or fail open), use the P_ValveSO instruction.
- If you need to operate a motor-operated valve or other valve that requires separate open and close outputs, use the P_ValveMO instruction.
- If you need to operate a multi-solenoid valve such as a mix-proof valve, use the P_ValveMP instruction instead.
- If you need to operate a throttling valve (continuously variable), use the P_AOut or P_ValveC instruction.
- If you need to operate other types of valves, try the P_DOut, P_D4SD, or P_nPos instructions.

Functional Description

The P_ValveHO instruction provides the following capabilities:

- Monitor the position feedback limit switch (or switches) from a valve and display actual valve status.
- Optionally provides the ability to trip the valve (de-energize it or drive it to a default trip position). The program (via program commands) or the operator (via the HMI faceplate) can trip the valve any time.

The optional trip function provides the following capabilities:

- Detect failure to reach the configured trip position when tripped and generate an appropriate alarm.
- Monitor interlock conditions to trip the valve and alarm when an interlock initiates moving the valve to its trip position.
- Provide for simulation of a working valve while disabling the trip output, for use in off-process training, testing, or simulation.
- Monitor I/O communication, and alarm and trip if the shed on I/O fault function is enabled on a communication fault.

Required Files

Add-On Instructions are reusable code objects that contain encapsulated logic that can streamline implementing your system. This lets you create your own instruction set for programming logic as a supplement to the instruction set provided natively in the ControlLogix® firmware. An Add-On Instruction is defined once in each controller project, and can be instantiated multiple times in your application code as needed.

Controller File

The P_ValveHO_3_5-00_AOIL5X Add-On Instruction must be imported into the controller project to be used in the controller configuration. The service release number (boldfaced) can change as service revisions are created.

Visualization Files

This Add-On Instruction has associated visualization files that provide a common user interface. These files can be downloaded from the Product Compatibility and Download Center at <http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page>.

IMPORTANT The visualization file dependencies require Process Library content imports to occur in a specific order as reflected in the following tables:

- Images
 - Global Objects
 - Standard Displays
 - HMI Tags
 - Macros
-

Images are external graphic files that can be used in displays. They must be imported for FactoryTalk View to make use of them.

When PNG files are imported, they are renamed by FactoryTalk View with a .bmp file extension, but retain a .png format.

Table 1 - Visualization Files: Images (.png)

FactoryTalk View SE Software	FactoryTalk View ME Software	Description
All .png files in the images folder	All .png files in the images folder	These are the common icons used in the global objects and standard displays for all Process Objects.

The Global Object files (.ggfx file type) in the following table are Process Library display elements that are created once and referenced multiple times on multiple displays in an application. When changes are made to a Global Object, all instances in the application are automatically updated.

Table 2 - Visualization Files: Global Objects (.ggfx)

FactoryTalk View SE Software	FactoryTalk View ME Software	Description
(RA-BAS) Common Faceplate Objects	(RA-BAS-ME) Common Faceplate Objects	Global objects used on process object faceplates.

Table 2 - Visualization Files: Global Objects (.gfx)

FactoryTalk View SE Software	FactoryTalk View ME Software	Description
(RA-BAS) Process Alarm Objects	(RA-BAS-ME) Process Alarm Objects	Global objects used for managing alarms on process object faceplates.
(RA-BAS) Process Diagnostic Objects	(RA-BAS-ME) Process Diagnostic Objects	Diagnostic global objects used on process object faceplates.
(RA-BAS) Process Faceplate Valve Objects	(RA-BAS-ME) Process Faceplate Valve Objects	Valve global objects used on process object faceplates
(RA-BAS) Process Graphics Library	(RA-BAS-ME) Process Graphics Library	Process global object device symbols used to build process graphics
(RA-BAS) Process Help Objects	(RA-BAS-ME) Process Help Objects	Global objects used for all process objects help displays.
(RA-BAS) Process Interlock Objects	(RA-BAS-ME) Process Interlock Objects	Global objects used for managing interlocks and permissives on process object faceplates.

The Standard Display files (.gfx file type) in the following table are the Process Library displays that you see at runtime.

Table 3 - Visualization Files: Standard Displays (.gfx)

FactoryTalk View SE Software	FactoryTalk View ME Software	Description
(RA-BAS) Common-AnalogEdit	N/A	Faceplate used for analog input data entry. The FactoryTalk View ME faceplates use the native analog input data entry so no file is required.
(RA-BAS) P_Alarm-Faceplate	(RA-BAS-ME) P_Alarm-Faceplate	The faceplate that is used for managing alarms for the object.
(RA-BAS) P_Alarm-Help	(RA-BAS-ME) P_Alarm-Help	Alarm Help information that is accessed from the P_Alarm faceplate.
(RA-BAS) P_ValveHO-Faceplate	(RA-BAS) P_ValveHO-Faceplate	The faceplate that is used for the object
(RA-BAS) P_ValveHO-Quick	(RA-BAS) P_ValveHO-Quick	The Quick display that is used for the object
(RA-BAS) Process Valve Family-Help	(RA-BAS-ME) Process Valve Family-Help	The Help display for Valve objects
(RA-BAS) P_Intlk-Faceplate	(RA-BAS-ME) P_Intlk-Faceplate	Optional The interlock faceplate used for the object. Use this file if your Discrete Output has an associated P_Intlk object and you enable navigation to its faceplate from the Discrete Output faceplate.
(RA-BAS) P_ValveStats-Faceplate	(RA-BAS-ME) P_ValveStats-Faceplate	Optional Valve statistics faceplate display that is used for the object Use this file if your object has an associated P_ValveStats object and you enable navigation to the P_ValveStats faceplate from the object faceplate.
(RA-BAS) Process Interlock Family-Help	(RA-BAS-ME) Process Interlock Family-Help	Optional Interlock/permissives help display that is used for the object Use this file if you use the P_Intlk or P_Perm faceplate.

HMI Tags are created in a FactoryTalk View ME application to support tab switching on Process Library faceplates. The HMI tags may be imported via the comma-separated values file (.csv file type) in the following table.

Table 4 - Visualization Files: HMI Tags (.csv)

FactoryTalk View SE Software	FactoryTalk View ME Software	Description
N/A	FTVME_PlantPaxLib_Tags_3_5_XX.csv where XX = the service release number.	These tags must be imported into the FactoryTalk View ME project to support switching tabs on any Process Object faceplate.

Controller Code

This section describes the parameter references for this Add-On Instruction.

Hand-operated Valve Input Structure

Input parameters include the following:

- Input data elements (Inp_) are typically used to connect field inputs from I/O modules or signals from other objects.
- Configuration data elements (Cfg_) are used to set configurable capabilities and features of the instruction.
- Commands (PCmd_, OCmd_, MCmd_) are used by program logic, operators, and maintenance personnel to request instruction actions.

Table 5 - P_ValveHO Input Parameters

Input Parameter	Data Type	Alias For	Default	Description
EnableIn	BOOL		1	<p>Ladder Diagram: If the rung-in condition is true, the instruction's Logic routine executes. If the rung-in condition is false, the instruction's EnableInFalse routine executes.</p> <p>Function Block Diagram: If true, or not connected, the instruction's Logic routine executes. If the parameter is exposed as a pin and wired, and the pin is false, the instruction's EnableInFalse routine executes.</p> <p>Structured Text: No effect. The instruction's Logic routine executes.</p>
Inp_OpenLS	BOOL		0	Valve open limit switch; 1 = Confirmed open.
Inp_ClosedLS	BOOL		0	Valve closed limit switch; 1 = Confirmed closed.
Inp_IntlkOK	BOOL		1	1 = Interlocks OK, interlock not tripping valve.
Inp_NBIntlkOK	BOOL		1	1 = Non-bypassable interlocks OK, interlock not tripping valve.
Inp_IOFault	BOOL		0	Input communication status: 0 = OK 1 = Fail
Inp_Sim	BOOL		0	Simulation input. When set to 1, the instruction keeps the trip output de-energized and simulates a working valve. When set to 0, the instruction monitors the valve normally.
Inp_SimOpen	BOOL		0	1 = Sets simulated valve state to open. 0 = No change.
Inp_SimClose	BOOL		0	1 = Sets simulated valve state to closed. 0 = No change.
Inp_Reset	BOOL		0	Input parameter used to programmatically reset alarms. When set to 1, all alarms requiring reset are reset.
Cfg_HasTrip	BOOL		0	1 = Trip output is connected to valve. 0 = Monitor only.
Cfg_TripOpen	BOOL		0	1 = Trip opens valve. 0 = Trip closes valve.
Cfg_HasOpenLS	BOOL		1	1 = Valve provides an open limit switch signal.
Cfg_HasClosedLS	BOOL		1	1 = Valve provides a closed limit switch signal.

Table 5 - P_ValveHO Input Parameters

Input Parameter	Data Type	Alias For	Default	Description
Cfg_UseOpenLS	BOOL		1	1 = Use Valve Open limit switch for failure checking.
Cfg_UseClosedLS	BOOL		1	1 = Use Valve Closed limit switch for failure checking.
Cfg_LSFail	BOOL		1	1 = Both switches ON = fail. 0 = Both switches OFF = fail.
Cfg_HasIntlkObj	BOOL		0	1 = Tells HMI a P_Intlk is connected to Inp_IntlkOK and Inp_NBIntlkOK. IMPORTANT: The name of the Interlock object in the controller must be this object's name with the suffix '_Intlk'. For example, if your P_ValveHO object has the name 'ValveHO123', then its Interlock object must be named 'ValveHO123_Intlk'.
Cfg_HasStatsObj	BOOL		0	1 = Tells HMI a P_ValveStats is monitoring this valve. IMPORTANT: The name of the Valve Stats object in the controller must be this object's name with the suffix '_ValveStats'. For example, if your P_ValveHO object has the name 'ValveHO123', then its Valve Stats object must be named 'ValveHO123_ValveStats'.
Cfg_PCmdClear	BOOL		1	When this parameter is 1, program commands are cleared once they are acted upon. When set to 0, program commands remain set until cleared by the application program logic. IMPORTANT: Clearing this parameter online can cause unintended program command execution.
Cfg_OCcmdResets	BOOL		0	1 = New operator trip command resets fault. 0 = Reset required to clear fault.
Cfg_ShedOnFailToTrip	BOOL		0	1 = Continue trip and alarm on Fail to Trip Fault. 0 = Alarm only on Fail to Trip Fault.
Cfg_ShedOnIOFault	BOOL		0	1 = Continue trip and alarm on I/O Fault. 0 = Alarm only on I/O Fault.
Cfg_HasTripFailAlm	BOOL	TripFail.Cfg_Exists	0	These parameters determine whether the corresponding alarm exists and is checked or if the alarm does not exist and is not used. When this parameter is 1, the corresponding alarm exists.
Cfg_HasTransitStallAlm		TransitStall.Cfg_Exists		
Cfg_HasIntlkTripAlm		IntlkTrip.Cfg_Exists		
Cfg_HasIOFaultAlm		IOFault.Cfg_Exists		
Cfg_TripFailResetReqd	BOOL	TripFail.Cfg_ResetReqd	0	These parameters determine whether a reset is required to clear the alarm status. When these parameters are 1, the alarm is latched ON when the alarm occurs. After the alarm condition returns to normal, a reset is required to clear the alarm status. When these parameters are 0, no reset is required and the alarm status is cleared when the alarm condition returns to normal. IMPORTANT: If the reset clears the alarm, it also acknowledges the alarm.
Cfg_TransitStallResetReqd		TransitStall.Cfg_ResetReqd		
Cfg_IntlkTripResetReqd		IntlkTrip.Cfg_ResetReqd		
Cfg_IOFaultResetReqd		IOFault.Cfg_ResetReqd		
Cfg_TripFailAckReqd	BOOL	TripFail.Cfg_AckReqd	1	These parameters determine whether an acknowledgement is required for an alarm. When these parameters are 1, the acknowledge (ack) bit is cleared when the alarm occurs. An acknowledge command (for example, PCmd_FailAck or Fail.OCcmd_Ack) is required to acknowledge the alarm. When set to 0, the Acknowledge bit is set when an alarm occurs, indicating an acknowledged alarm and no acknowledge command is required.
Cfg_TransitStallAckReqd		TransitStall.Cfg_AckReqd		
Cfg_IntlkTripAckReqd		IntlkTrip.Cfg_AckReqd		
Cfg_IOFaultAckReqd		IOFault.Cfg_AckReqd		
Cfg_TripFailSeverity	INT	TripFail.Cfg_Severity	1000	These parameters determine the severity of each alarm. This drives the color and symbol that are used to indicate alarm status on the faceplate and global object. The following are valid values: 1...250 = Low 251...500 = Medium 501...750 = High 751...1000 = Urgent IMPORTANT: For FactoryTalk View software version 7.0, this severity parameter drives only the indication on the global object and faceplate. The Alarms and Events definition of severity drives the color and symbol that is used on the alarm banner and alarm summary as well as the value returned by FactoryTalk Alarms and Events display commands.
Cfg_TransitStallSeverity		TransitStall.Cfg_Severity		
Cfg_IntlkTripSeverity		IntlkTrip.Cfg_Severity	500	
Cfg_IOFaultSeverity		IOFault.Cfg_Severity	1000	

Table 5 - P_ValveHO Input Parameters

Input Parameter	Data Type	Alias For	Default	Description
Cfg_SimFdbkT	DINT		3	Delay to echo back of open/closed status when in simulation (seconds).
Cfg_TripFailT	DINT		10	After tripped, time to reach trip position before alarm (seconds).
Cfg_TransitStallT	DINT		60	Time not confirmed open or closed before alarm (seconds).
PCmd_Trip	BOOL		0	When Cfg_PCcmdClear is 1: <ul style="list-style-type: none"> Set PCmd_Trip to 1 to trip the valve This parameter is reset automatically When Cfg_PCcmdClear is 0: <ul style="list-style-type: none"> Set PCmd_Trip to 1 to trip the valve This Parameter is not reset automatically
PCmd_Reset	BOOL		0	<ul style="list-style-type: none"> Set PCmd_Reset to 1 to reset all alarms requiring reset This parameter is always reset automatically
PCmd_TripFailAck	BOOL	TripFail.PCcmd_Ack	0	<ul style="list-style-type: none"> Set PCmd_<Alarm>Ack to 1 to Acknowledge alarm The parameter is reset automatically
PCmd_TransitStallAck		TransitStall.PCcmd_Ack		
PCmd_IntlkTripAck		IntlkTrip.PCcmd_Ack		
PCmd_IOFaultAck		IOFault.PCcmd_Ack		
PCmd_TripFailSuppress	BOOL	TripFail.PCcmd_Suppress	0	When Cfg_PCcmdClear is 1: <ul style="list-style-type: none"> Set PCmd_<Alarm>Suppress to 1 to suppress alarm Set PCmd_<Alarm>Unsuppress to 1 to unsuppress alarm These parameters reset automatically When Cfg_PCcmdClear is 0: <ul style="list-style-type: none"> Set PCmd_<Alarm>Suppress to 1 to suppress alarm Set PCmd_<Alarm>Suppress to 0 to unsuppress alarm PCmd_<Alarm>Unsuppress is not used These Parameters do not reset automatically
PCmd_TransitStallSuppress		TransitStall.PCcmd_Suppress		
PCmd_IntlkTripSuppress		IntlkTrip.PCcmd_Suppress		
PCmd_IOFaultSuppress		IOFault.PCcmd_Suppress		
PCmd_TripFailUnsuppress		TripFail.PCcmd_Unsuppress		
PCmd_TransitStallUnsuppress		TransitStall.PCcmd_Unsuppress		
PCmd_IntlkTripUnsuppress		IntlkTrip.PCcmd_Unsuppress		
PCmd_IOFaultUnsuppress		IOFault.PCcmd_Unsuppress		
PCmd_TripfailUnshelve	BOOL	TripFail.PCcmd_Unshelve	0	<ul style="list-style-type: none"> Set PCmd_<Alarm>Unshelve to 1 to Unshelve alarm The parameter is reset automatically
PCmd_TransitStallUnshelve		TransitStall.PCcmd_Unshelve		
PCmd_IntlkTripUnshelve		IntlkTrip.PCcmd_Unshelve		
PCmd_IOFaultUnshelve		IOFault.PCcmd_Unshelve		
OCmd_Trip	BOOL		0	Operator command to trip valve.
OCmd_Bypass	BOOL		0	Operator command to bypass all bypassable interlocks.
OCmd_Check	BOOL		0	Operator command to check (not bypass) all interlocks.
MCmd_Disable	BOOL		0	Maintenance command to disable valve. If the valve trip option is selected (Cfg_HasTrip = 1), the trip output is held energized.
MCmd_Enable	BOOL		0	Maintenance command to enable valve (not tripped unless required).
OCmd_Reset	BOOL		0	Operator command to reset all alarms requiring reset.
OCmd_ResetAckAll	BOOL		0	Operator command to reset and acknowledge all alarms and reset latched shed conditions.

Hand-operated Valve Output Structure

Output parameters include the following:

- Output data elements (Out_) are the primary outputs of the instruction, typically used by hardware output modules; however, they can be used by other application logic.
- Value data elements (Val_) are numeric outputs of the instruction for use by the HMI. Values can also be used by other application logic or software packages.
- Source and Quality data elements (SrcQ_) are outputs of the instruction used by the HMI to indicate PV source and quality.
- Status data elements (Sts_) are bit outputs of the instruction for use by the HMI. Status bits can also be used by other application logic.
- Error data elements (Err_) are outputs of the instruction that indicate a particular configuration error. If any Err_bit is set, then the Sts_Err configuration error summary status is set and the Invalid Configuration indicator is displayed on the HMI.
- Not Ready data elements (Nrdy_) are bit outputs of the instruction for use by the HMI for displaying the Device Not Ready indicator.
- Alarm data elements (Alm_) are outputs of the instruction that indicate a particular alarm has occurred.
- Acknowledge data elements (Ack_) are outputs of the instruction that indicate the corresponding alarm has been acknowledged.
- Ready data elements (Rdy_) are bit outputs of the instruction used by the HMI to enable or disable Command buttons and entry fields.

Table 6 - P_ValveHO Output Parameters

Output Parameter	Data Type	Alias For	Description
EnableOut	BOOL		Enable Output: The EnableOut signal is not manipulated by this instruction. Its output state always reflects EnableIn input state.
Out_Trip	BOOL		1 = Trip valve to safe/fail state.
SrcQ_IQ	SINT		I/O signal source and quality.
SrcQ			Final valve status source and quality: GOOD 0 = I/O live and confirmed good quality 1 = I/O live and assumed good quality 2 = No feedback configured, assumed good quality TEST 8 = Device simulated 9 = Device loopback simulation 10 = Manually entered value UNCERTAIN 16 = Live input, off-specification 17 = Value substituted at device/bus 18 = Value substituted by maintenance (Has and not Use) 19 = Shed, using last good value 20 = Shed, using replacement value BAD 32 = Signal failure (out-of-range, NaN, invalid combination) 33 = I/O channel fault 34 = I/O module fault 35 = Bad I/O configuration (for example, scaling parameters)

Table 6 - P_ValveHO Output Parameters

Output Parameter	Data Type	Alias For	Description
Val_Cmd	SINT		Device command: 0 = None 7 = Trip
Val_Fdbk	SINT		Device feedback: 0 = Moving 1 = Closed 2 = Opened 3 = Limit Switch failure
Val_Sts	SINT		Device confirmed Status: 0 = Unknown 1 = Closed 2 = Opened 8 = Moving 13 = Tripping 33 = Disabled
Val_Fault	SINT		Device fault status: 0 = None 16 = Transit Stall 18 = Fail to Trip 32 = I/O Fault 34 = Configuration error
Val_Notify	SINT		Current alarm level and acknowledgement (enumeration): 0 = No alarm 1 = Alarm cleared: a reset or acknowledge is required 2 = Low (acknowledged) 3 = Low (unacknowledged) 4 = Medium (acknowledged) 5 = Medium (unacknowledged) 6 = High (acknowledged) 7 = High (unacknowledged) 8 = Urgent (acknowledged) 9 = Urgent (unacknowledged)
Sts_Closed	BOOL		1 = Valve is confirmed closed.
Sts_Opened	BOOL		1 = Valve is confirmed open.
Sts_Moving	BOOL		1 = Valve not requested to trip and is not confirmed open or closed.
Sts_Tripping	BOOL		1 = Valve requested to trip and has not reached trip position.
Sts_Bypass	BOOL		1 = Bypassable interlocks are bypassed.
Sts_BypActive	BOOL		1 = Bypassing active (bypassing or maintenance).
Sts_Disabled	BOOL		1 = Valve is disabled.
Sts_LSFail	BOOL		1 = Limit switch overlap failure.
Sts_NotRdy	BOOL		1 = Device Not Ready, see detail bits for reason.
Nrdy_Disabled	BOOL		1=Device Not Ready: <ul style="list-style-type: none"> • Device disabled by Maintenance • Configuration error • Interlock not OK • Tripped (at device or by command) • Device Failure (shed requires reset) • I/O Fault (shed requires reset)
Nrdy_CfgErr			
Nrdy_Intlk			
Nrdy_Trip			
Nrdy_Fail			
Nrdy_IOFault			
Sts_MaintByp	BOOL		1 = Maintenance bypass is active, display icon.

Table 6 - P_ValveHO Output Parameters

Output Parameter	Data Type	Alias For	Description
Sts_Almlnh	BOOL		1 = An Alarm is shelved, disabled, or suppressed, display icon.
Sts_Err	BOOL		1 = Error in config: See detail bits for reason.
Err_Has	BOOL		1 = Error in config: Must have at least one limit switch.
Err_Use	BOOL		1 = Error in config: Must use at least one limit switch.
Err_Timer	BOOL		1 = Error in config: Trip check timer preset (use 0...2,147,483).
Err_Sim	BOOL		1 = Error in config: Simulation timer preset (use 0...2,147,483).
Err_Alarm	BOOL		1 = Error in config: Invalid alarm delay or severity.
Sts_TripFail	BOOL	TripFail.Inp	1 = Valve failed to trip (did not reach trip position).
Sts_TransitStall		TransitStall.Inp	1 = Valve Transit Stall (valve has not reached either end of travel).
Sts_IntlkTrip		IntlkTrip.Inp	1 = Valve tripped by an interlock Not OK.
Sts_IOFault		IOFault.Inp	I/O comm fault status: 0 = OK 1 = Bad
Alm_TripFail	BOOL	TripFail.Alm	1 = Valve failed to trip (did not reach trip position) alarm.
Alm_TransitStall		TransitStall.Alm	1 = Valve Transit Stall (not at either end of travel) alarm.
Alm_IntlkTrip		IntlkTrip.Alm	1 = Alarm: Valve tripped by an interlock Not OK.
Alm_IOFault		IOFault.Alm	1 = I/O Fault alarm.
Ack_TripFail	BOOL	TripFail.Ack	1 = Alarm (Fail to Trip, Transit Stall, Interlock Trip, or I/O Fault) acknowledged.
Ack_TransitStall		TransitStall.Ack	
Ack_IntlkTrip		IntlkTrip.Ack	
Ack_IOFault		IOFault.Ack	
Sts_TripFailDisabled	BOOL	TripFail.Disabled	1 = Alarm (Fail to Trip, Transit Stall, Interlock Trip, or I/O Fault) disabled has been disabled by maintenance.
Sts_TransitStallDisabled		TransitStall.Disabled	
Sts_IntlkTripDisabled		IntlkTrip.Disabled	
Sts_IOFaultDisabled		IOFault.Disabled	
Sts_TripFailShelved	BOOL	TripFail.Shelved	1 = Alarm (Fail to Trip, Transit Stall, Interlock Trip, or I/O Fault) has been shelved by Operator.
Sts_TransitStallShelved		TransitStall.Shelved	
Sts_IntlkTripShelved		IntlkTrip.Shelved	
Sts_IOFaultShelved		IOFault.Shelved	
Sts_TripFailSuppressed	BOOL	TripFail.Suppressed	1 = Alarm (Fail to Trip, Transit Stall, Interlock Trip, or I/O Fault) has been suppressed by Program.
Sts_TransitStallSuppressed		TransitStall.Suppressed	
Sts_IntlkTripSuppressed		IntlkTrip.Suppressed	
Sts_IOFaultSuppressed		IOFault.Suppressed	

Table 6 - P_ValveHO Output Parameters

Output Parameter	Data Type	Alias For	Description
Rdy_Trip	BOOL		1 = Ready to receive Operator command (Trip, Bypass, Check, Disable, Enable, Reset, or ResetAckAll) (enables HMI button).
Rdy_Bypass			
Rdy_Check			
Rdy_Disable			
Rdy_Enable			
Rdy_Reset			
Rdy_ResetAckAll			
P_ValveHO	BOOL		Unique parameter name for auto-discovery.

Hand-operated Valve Local Configuration Tags

Configuration parameters that are array, string, or structure data types cannot be configured as parameters for Add-On Instructions. Configuration parameters of these types appear as local tags to the Add-On Instruction. Local tags can be configured through the HMI faceplates or in Studio 5000 Logix Designer® application by opening the instruction logic of the Add-On Instruction instance and then opening the Data Monitor on a local tag. These parameters cannot be modified by using controller logic or Studio 5000 Logix Designer application export/import functionality.

Table 7 - Input Local Configuration Tags

Tag Name	Data Type	Default	Description
Cfg_Desc	STRING_40	'Hand-operated Valve'	Description for display on HMI. This string is shown in the title bar of the faceplate.
Cfg_Label	STRING_20	'Valve Monitor'	Label for graphic symbol displayed on HMI. This string appears on the graphic symbol.
Cfg_Tag	STRING_20	'P_ValveHO'	Tagname for display on HMI. This string is shown in the title bar of the faceplate.

Operations

This section describes the primary operations for Add-On Instructions.

Modes

The P_ValveHO instruction does not have modes and does not use an embedded P_Mode Add-On Instruction. The P_ValveHO instruction is used to monitor a locally operated valve. If the optional trip function is used, the operator, program, or interlock logic can trip the valve at any time.

Alarms

This instruction uses the following alarms, which are implemented by using embedded P_Alarm and P_Gate Add-On Instructions.

Alarm Name	P_Alarm Name	P_Gate Name	Description
Interlock Trip	IntkTrip	None	Raised when the optional trip function is used and an interlock 'not OK' condition triggers the trip output to the valve. If interlocks are not bypassed, a bypassable interlock or a non-bypassable interlock 'not OK' condition initiates an interlock trip. If interlocks are bypassed, only a non-bypassable interlock 'not OK' condition initiates an interlock trip.
I/O Fault	IOFault	None	Raised when the Inp_IOFault input is true. This input is usually used to indicate to the instruction that a communication failure has occurred for its I/O. If the I/O Fault is configured as a shed fault and the optional trip function is used, the trip output is triggered until reset.
Transit Stall	TransitStall	None	Raised when the valve is using both open and closed limit switches and neither position is confirmed (the valve position is in transit) for the configured transit stall time.
Trip Failure	TripFail	None	Raised is the valve has and is using the optional trip feature, an attempt is made to trip the valve, and the limit switch feedbacks show that the valve did not reach the configured tripped position (opened or closed) within the configured fail to trip time.


Parameters of the P_Alarm object can be accessed by using the following convention: [P_Alarm Name].[P_Alarm Parameter].

See Rockwell Automation Library of Process Objects: Common Alarm Block (P_Alarm) Reference Manual, publication [SYSLIB-RM002](#), for more information.

Simulation

Simulation in P_ValveHO disables the normal input and lets you select a simulated input to see the reaction of the Hand-operated Valve.

You must set the Inp_Sim parameter in the controller to '1' to enable simulation.

The Loopback Test icon  is displayed at the bottom left of the Operator faceplate, indicating the device is in simulation.

You can set the following parameters to simulate the corresponding input to the hand-operated valve:

- Inp_SimOpen - sets simulated valve state to open
- Inp_SimClose - sets simulated valve state to closed
- Cfg_SimFdbkT - number of seconds to wait for echo back of Open/Closed status when in Simulation

When you have finished in simulation, set the Inp_Sim parameter in the controller to '0' to return to normal operation.

Execution

The following table explains the handling of instruction execution conditions.

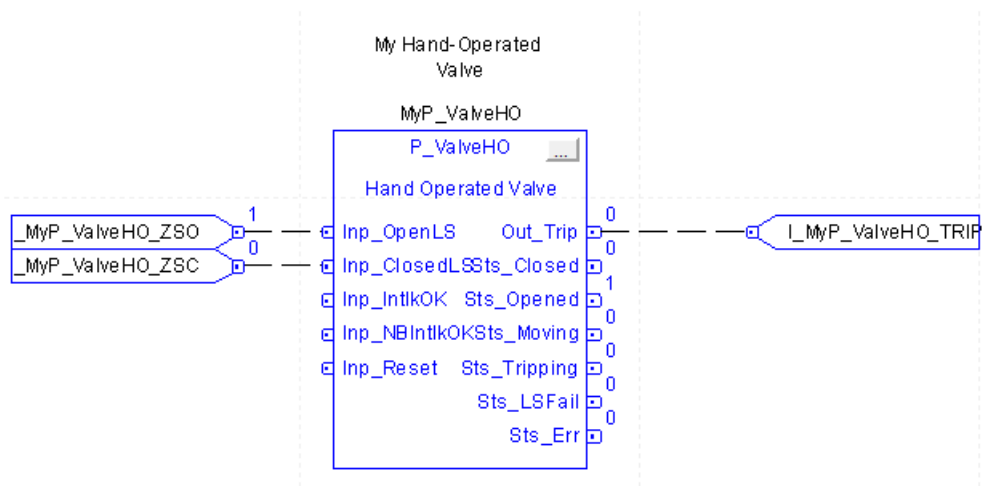
Condition	Description
EnableIn false (false rung)	Handled the same as if the trip function option were disabled. The trip output (Out_Trip) is de-energized if Cfg_HasTrip is 0, and is energized if Cfg_HasTrip = 1. All alarms are cleared.
Powerup (prescan, first scan)	Any commands received before first scan are discarded. The valve trip output is de-energized to prevent a nuisance trip on first scan. Embedded P_Alarm instructions are handled in accordance with their standard powerup procedures. See the reference manual for the P_Alarm Instructions for more information.
Postscan (SFC transition)	No SFC postscan logic is provided.

See the Logix5000 Controllers Add-On Instructions Programming Manual, publication [1756-PM010](#), for more information.

Programming Example

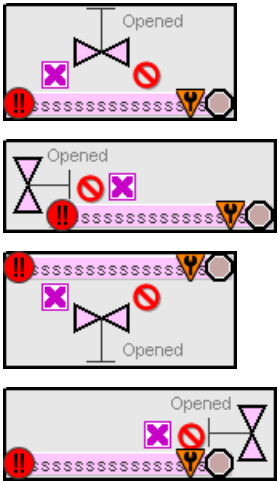
The following is a simple example of P_ValveHO.

Boolean parameters I_MyP_ValveHO_ZSO and I_MyP_ValveHO_ZSC are used as inputs. One output, I_MyP_ValveHO_TRIP is wired to an output that trips the valve to its fail position when energized.



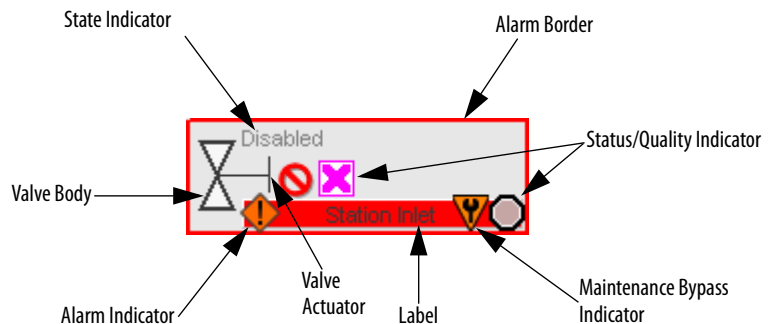
Display Elements

A display element (global object) is created once and can be referenced multiple times on multiple displays in an application. When changes are made to the original (base) object, the instantiated copies (reference objects) are automatically updated. Use of global objects, in conjunction with tag structures in the ControlLogix system, aid consistency and save engineering time.

Display Element Name	Display Element	Description
GO_P_ValveH0 GO_P_ValveH02 GO_P_ValveH01 GO_P_ValveH03		Hand-operated Valves shown in various orientations.

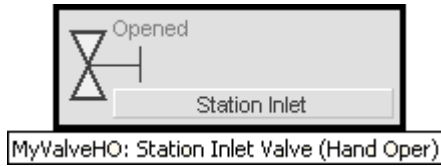
Common attributes of the hand-operated valve graphic symbols include the following:

- Graphical representation of the valve and actuator
- Current state of the valve in text
- Status/quality indicators
- Maintenance bypass indicator
- Label
- Color changing alarm border that blinks on unacknowledged alarm
- Alarm indicator that changes color with the severity of the alarm



Each graphic symbol provides end-users with the following:

- Information on the valve’s current state
- Touch field to open the object’s faceplate
- Tooltip to display the object’s configured tag and description



State Indicators






The State Indicator text changes and the valve body symbol color changes depending on the state of the valve.

Table 8 - Valve State Colors

Body Color	State
Dark Gray	Closed
Left or top - Dark Gray, right or bottom - white	Moving or tripping close
Left or top - white, right, or bottom - dark gray	Moving or tripping open
White	Opened

Status/Quality Indicators

One of these symbols appears on the graphic symbol when the described condition is true.

Graphic Symbol	Description
	Invalid configuration.
	Data quality bad/failure.
	Data Quality degraded: uncertain, test, simulation, substitution, or out of specification.
	The input or device has been disabled.
	Device not ready to operate.

TIP

When the Invalid Configuration indicator appears, you can find what configuration setting is invalid by following the indicators. Click the graphic symbol to open the faceplate. The Invalid Configuration indicator appears next to the appropriate tab at the top of the faceplate to guide you in finding the configuration error. Once you navigate to the tab, the misconfigured item is flagged with this indicator or appear in a magenta box.

For the Hand-operated Valve Add-On Instruction instruction, the invalid configuration indicator appears under any of the following conditions:

- The trip fail check time is set to a value less than zero or greater than 2,147,483 seconds.
- The feedback Simulation time is set to a value less than zero or greater than 2,147,483 seconds.
- The valve has no feedback configured on the Engineering tab of the faceplate (both Cfg_HasOpenLS and Cfg_HasClosedLS are zero).
- Valve feedback has been disabled on the Maintenance tab of the faceplate (both Cfg_UseOpenLS and Cfg_UseClosedLS are zero).
- Alarm Severity is set to a value less than 1 or greater than 1000.

TIP When the Not Ready indicator appears, you can find what condition is preventing operation by following the indicators. Click the graphic symbol to open the faceplate. The Not Ready indicator appears next to the appropriate tab at the top of the faceplate to guide you in finding the condition. When you navigate to the tab, the condition preventing operation is flagged.




For the Hand-operated Valve Add-On Instruction, the Device Not Ready indicator appears under the following conditions:




- Device has been disabled by Maintenance.
- There is a configuration error.
- Interlock is not OK.
- Device has tripped at the device or by command.
- Device Failure and shed requires reset.

I/O Fault and shed requires reset.

Alarm Indicators

One of these symbols appears on the left side of the label to indicate the described alarm condition and the alarm border and label background change color. The alarm border and label background blink if acknowledgement of an alarm condition is required. Once the alarm is acknowledged, the alarm border and label background remain the color that corresponds to the severity of the alarm.

Symbol	Border and Label Background	Description
	No change in color	Alarm Inhibit: an alarm is suppressed by the Program, disabled by Maintenance, or shelved by the Operator.
	White	Return to normal (no alarm condition), but a previous alarm has not been acknowledged.
	Blue	Low severity alarm.

Symbol	Border and Label Background	Description
	Yellow	Medium severity alarm.
	Red	High severity alarm.
	Magenta	Urgent severity alarm.
No symbol	No change in color	No alarm or alarm inhibit condition, and all alarms are acknowledged.

See Rockwell Automation Library of Process Objects: Common Alarm Block (P_Alarm) Reference Manual, publication [SYSLIB-RM002](#), for more information.

Maintenance Bypass Indicator

This symbol appears to the right of the label to indicate that a maintenance bypass has been activated.

TIP When the Maintenance Bypass indicator appears, you can find what condition was bypassed by following the indicators. Click the graphic symbol to open the faceplate. The Maintenance Bypass indicator appears next to the appropriate tab at the top of the faceplate to guide you in finding the bypass. Once you navigate to the tab, the bypassed item is flagged with this indicator.

For the P_ValveHO instruction, the Maintenance Bypass indicator appears under the following conditions:

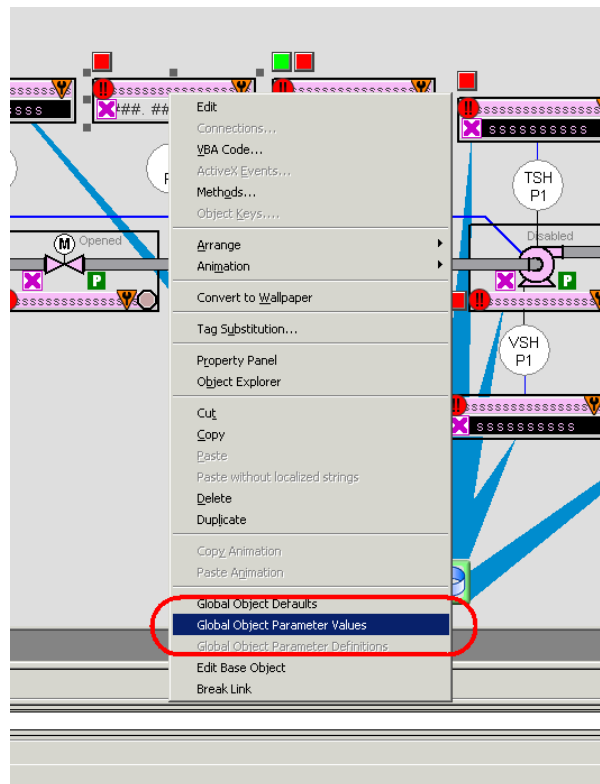
- The valve's open limit switch has been bypassed (Cfg_HasOpenLS = 1 and Cfg_UseOpenLS = 0).
- The valve's closed limit switch has been bypassed (Cfg_HasClosedLS = 1 and Cfg_UseClosedLS = 0).
- Bypassable interlocks have been bypassed.

IMPORTANT At least one limit switch must be 'used' at all times.

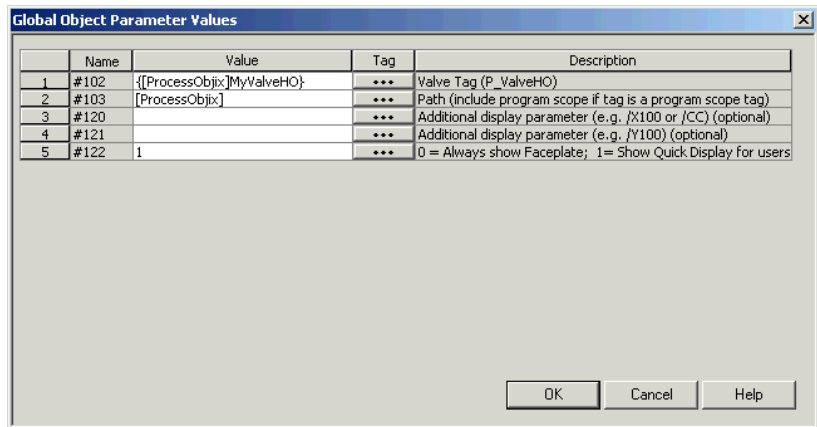
Using Display Elements

The graphic symbol for P_ValveHO instruction can be found in the global object file (RA-BAS) Process Graphics Library.ggfx.

1. Copy the global object from the global object file and paste it in the display file.
2. In the display, right-click the global object and choose Global Object Parameter Values.



The Global Object Parameter Values dialog box appears.



The global object parameters are as follows.

Parameter	Required	Description
#102	Y	Object tag to point to the name of the associated object Add-On Instruction in the controller.
#103	Y	Path used for display navigation features to other objects. Include program scope if tag is a program scope tag.
#120	N	Additional parameter to pass to the display command to open the faceplate. Typically used to define position for the faceplate.
#121	N	Additional parameter to pass to the display command to open the faceplate. If defining X and Y coordinate, separate parameters so that X is defined by #120 and Y is defined by #121. This lets the same parameters be used in subsequent display commands originating from the faceplate.
#122	Y	These are the options for the global object display: 0 = Always show faceplate 1 = Show Quick Display for users without Maintenance access (Code C) 2 = Always show Quick Display

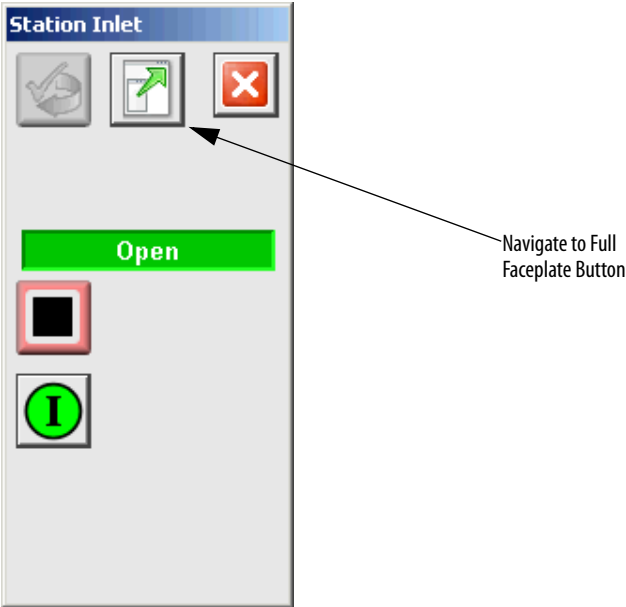
3. Type the tag or value in the Value column as specified in the Description column.

TIP Click the ellipsis (...) to browse and choose a tag.
Values for items marked '(optional)' can be left blank.

4. Click OK.

Quick Display

The Quick Display screen provides the means for operators to perform simple interactions with the P_ValveHO instruction instance. From the Quick Display, you can navigate to the faceplate for full access for operation, maintenance, and configuration.



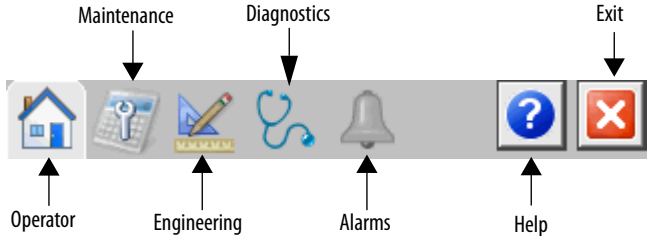
Faceplate

The P_ValveHO faceplate consists of five tabs and each tab consists of one or more pages.

The title bar of each faceplate contains the value of local configuration tags Cfg_Tag and Cfg_Desc.



The Operator tab is displayed when the faceplate is initially opened. Choose the appropriate icon at the top of the faceplate to access a specific tab.



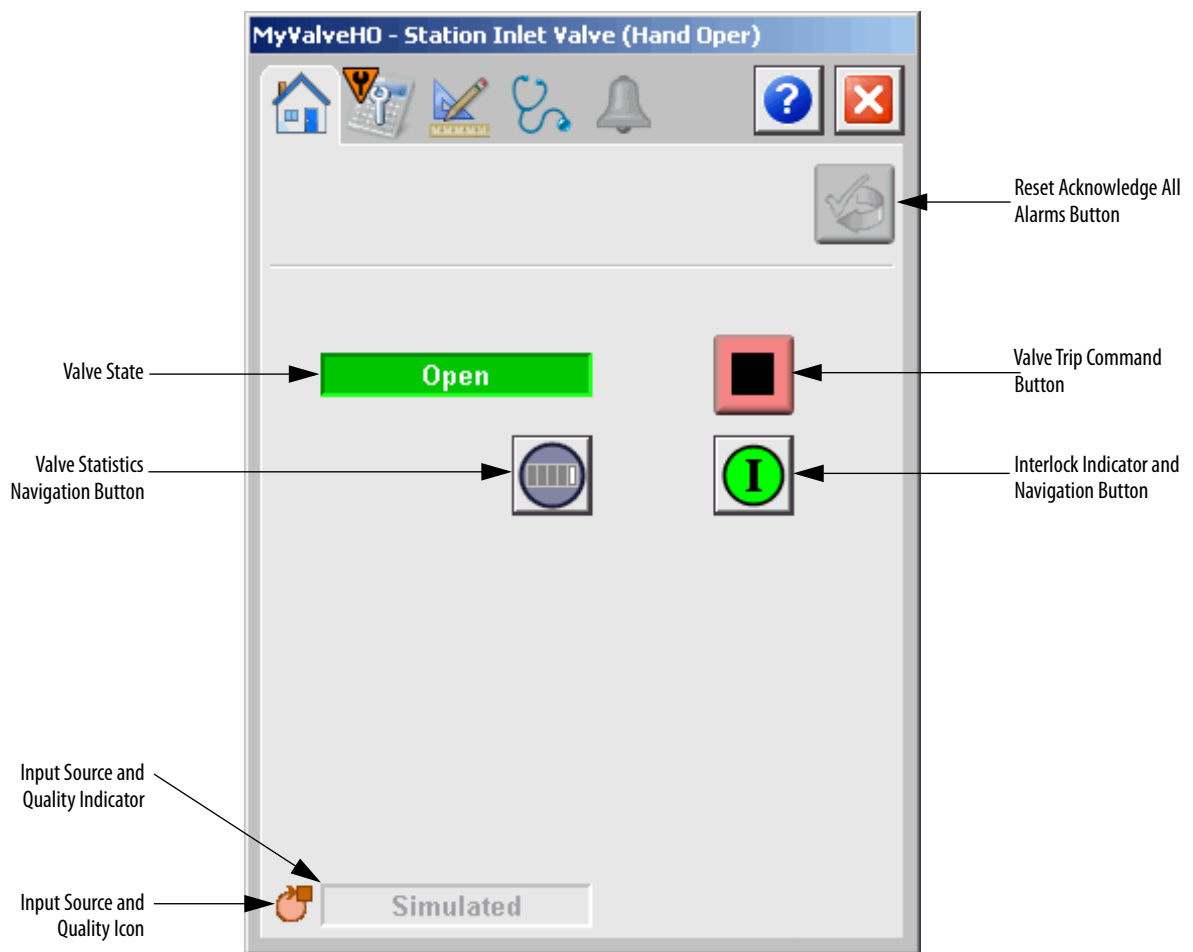
The faceplate provides the means for operators, maintenance personnel, engineers, and others to interact with the P_ValveHO instruction instance, including viewing its status and values and manipulating it through its commands and settings. When a given input is restricted via FactoryTalk View security, the required user security code letter is shown in the tables that follow.

Operator Tab

The Faceplate initially opens to the Operator ('Home') tab. From here, an operator can monitor the device status.





The Operator tab shows the following information:

- Valve state (closed, moving, opened, tripping, disabled, or I/O fault)
- Interlock status
- Input Source and Quality indicator (See 'SrcQ' in the Output parameters table on [page 14](#) for details)



The following table shows the functions on the Operator tab.

Table 9 - Operator Tab Description

Button/Field	Action	Security Required
	Click to reset and acknowledge all alarms.	Acknowledge alarms (code F)
	Click to trip (stop) the valve.	Normal operation of devices (code A)
	Click to open the interlocks faceplate.	None
	Click to open valve statistics faceplate.	

If the object is configured to have an interlock object (for example, Cfg_HasIntlkObj is true), the interlock indication becomes a button that opens the faceplate of the source object used as an interlock (often this is a P_Intlk interlock object). If the object is not configured in this way, the interlock is an indicator only.





The Operator tab also has a button to open the Valve Statistics faceplate if the valve is configured to use the P_ValveStats object (Cfg_HasStatsObj = 1). When the object is not configured to have an P_ValveStats instruction, the Valve Statistics button is not displayed.

See these publications for more information:

- Rockwell Automation Library of Process Objects: Interlock with First Out and Bypass (P_Intlk) Reference Manual, publication [SYSLIB-RM004](#)
- Rockwell Automation Library of Process Objects: 2-state Valve Statistics (P_ValveStats) Reference Manual, publication [SYSLIB-RM036](#)







One of these symbols appears to indicate the described interlock condition.

Table 10 - Operator Tab Interlock Status

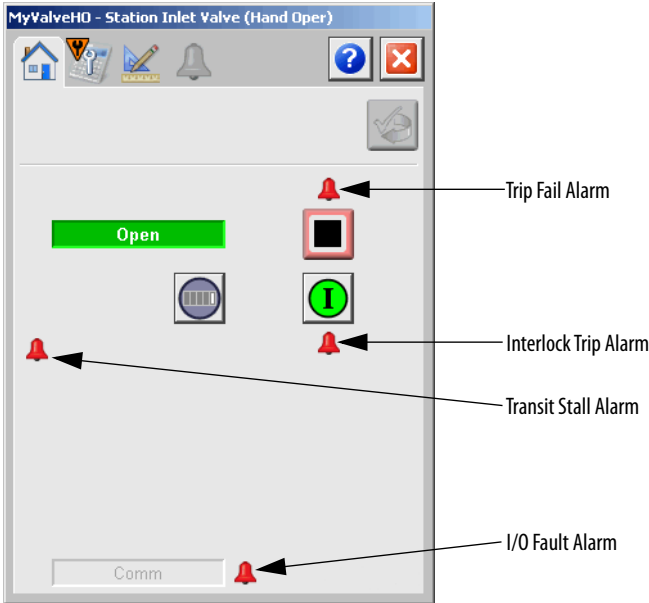
Graphic Symbol	Description
	One or more conditions not OK
	Non-bypassed conditions OK
	All conditions OK, bypass active
	All conditions OK

The following table shows the alarm status symbols used on the Operator tab.

Table 11 - Operator Tab Alarm Status

Graphic Symbol	Alarm Status
	In Alarm (Active Alarm)
	In Alarm and Acknowledged
	Out of Alarm but not Acknowledged
	Alarm Suppressed (by Operator) (Alarm is logged but not displayed)
	Alarm Disabled (by Maintenance)
	Alarm Shelved (by Program)

Alarm indicators appear on the Operator tab when the corresponding alarm occurs.

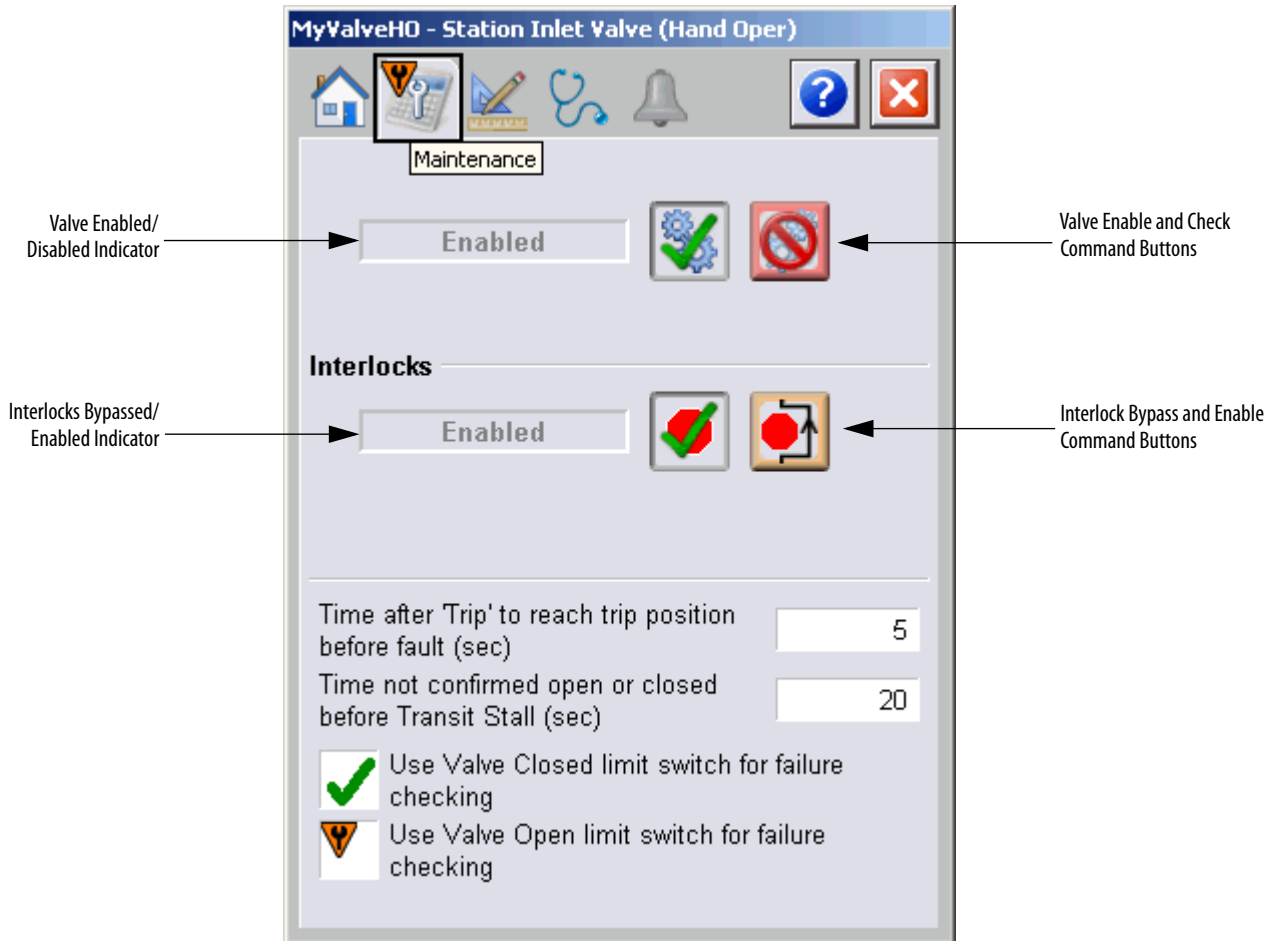


Maintenance Tab

Maintenance personnel use the information and controls on the Maintenance tab to adjust device parameters, troubleshoot and temporarily work around device problems, and disable the device for routine maintenance.





The Maintenance tab shows the following information:

- Whether the valve is enabled or disabled
- Whether interlocks are checked or bypassed



The following table shows the functions on the Maintenance tab.

Table 12 - Maintenance Tab Descriptions

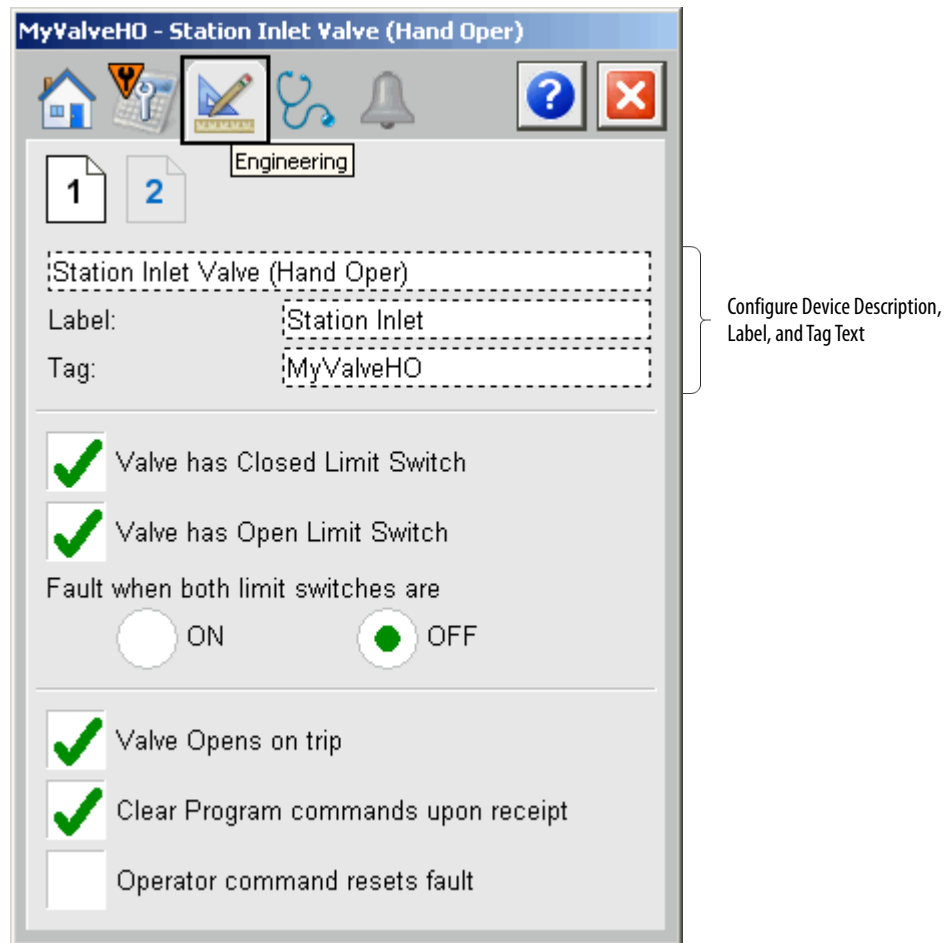
Button/Field	Action	Security	Configuration Parameters
	Click to enable valve.	Equipment maintenance (code C)	None
	Click to disable valve. If the valve is configured to have a trip output, it is held energized.		
	Click to enable checking of all interlocks.	Disable alarms, bypass permissives, and interlocks (code H)	
	Click to bypass checking of bypassable interlocks.		
Time after 'Trip' to reach trip position before fault (seconds)	Type the amount of time to allow the valve to reach its trip position after a trip command is received before raising a trip fail alarm.	Configuration and tuning maintenance (code D)	Cfg_TripFailT
Time not confirmed open or closed before Transit Stall (seconds)	Type the amount of time (in seconds) that the valve is not confirmed open or closed before a Transit Stall.		Cfg_TransitStallT
Use valve closed limit switch for failure checking	Check to have the valve configured to use the closed limit switch. Clear the checkbox to temporarily bypass the closed limit switch.	Equipment maintenance (Code C)	Cfg_UseClosedLS
Use valve open limit switch for failure checking	Check to have the valve configured to use the open limit switch. Clear the checkbox to temporarily bypass the open limit switch.		Cfg_UseOpenLS

Engineering Tab

The Engineering tab provides access to device configuration parameters and ranges, options for device and I/O setup, displayed text, and faceplate-to-faceplate navigation settings, for initial system commissioning or later system changes.

The Engineering tab is divided into two pages.

Engineering Tab Page 1

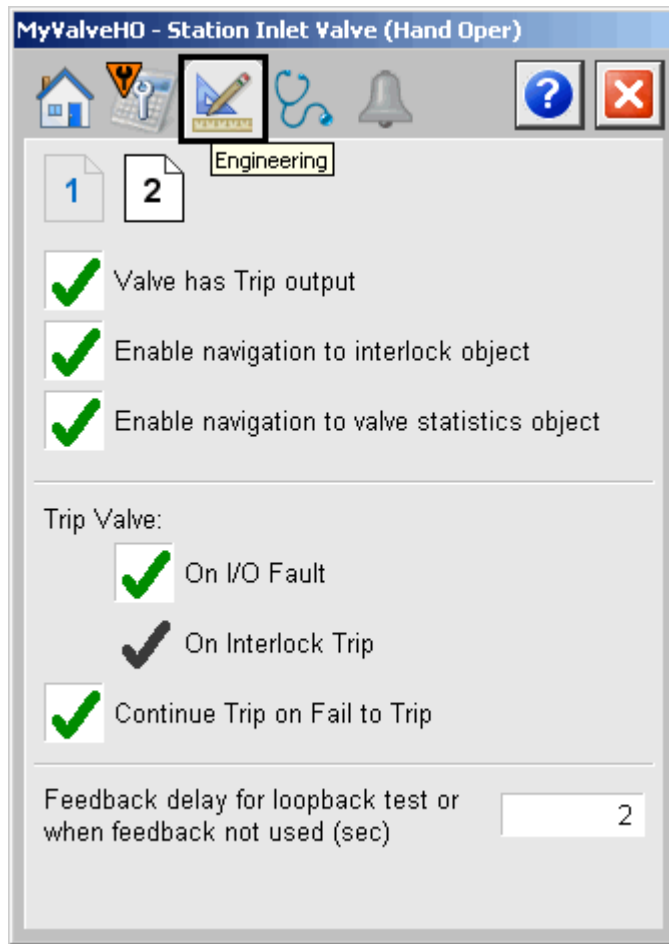


The following table lists the functions on page 1 of the Engineering tab.

Table 13 - Engineering Tab Page 1 Description

Function	Action	Security	Configuration parameters
Description	Type the device description to show on the faceplate title bar.	Engineering configuration (code E)	Cfg_Desc
Label	Type the label to show on the graphic symbol.		Cfg_Label
Tag	Type the text to show on the tooltip and on the title bar of each faceplate.		Cfg_Tag
Valve has Closed Limit Switch	Check if the valve has a closed limit switch and the switch is wired to Inp_ClosedLS for position monitoring.	Engineering configuration (code E)	Cfg_HasClosedLS
Valve has Open Limit Switch	Check if the valve has an open limit switch and the switch is wired to Inp_OpenLS for position monitoring.		Cfg_HasOpenLS
Fault when both limit switches are ON/OFF	Click 'ON' if both limit switches are OFF when the valve is moving in normal operation. Click 'OFF' if both limit switches are ON when the valve is moving in normal operation. This selection determines which limit switch combination indicates abnormal operation.		Cfg_LSFail
Valve opens on trip	Check if sending the trip output to the valve causes it to open (fail open valve). Clear this checkbox if sending the Trip output to the valve causes it to close (fail closed valve).		Cfg_TripOpen
Clear program commands on receipt	Check to clear program commands on receipt.		Cfg_PCmdClear
Operator command resets fault	Check to allow the operator trip command to reset any previous faults (I/O fault, fail to trip, interlock trip), then trip the valve. Clear this checkbox to reset faults using only the reset command.		Cfg_OCmdResets

Engineering Tab Page 2



The following table shows the functions on page 2 of the Engineering Tab.

Table 14 - Engineering Tab Page 2 Description

Function	Action	Security	Configuration Parameters
Valve has Trip output	Check if a trip output is connected to the P_ValveHO instruction to trip the valve on an interlock or trip command. This makes the trip command button visible on the operator tab.	Engineering configuration (Code E)	Cfg_HasTrip
Enable navigation to interlock object	Check if an interlock object is connected to Inp_Intlk. This changes the interlock indicator on the operator tab to a button that opens the interlocks faceplate. IMPORTANT: The name of the Interlock object in the controller must be this object's name with the suffix '_Intlk'. For example, if your P_ValveHO object has the name 'ValveHO123', then its Interlock object must be named 'ValveHO123_Intlk'.		Cfg_HasIntlkObj

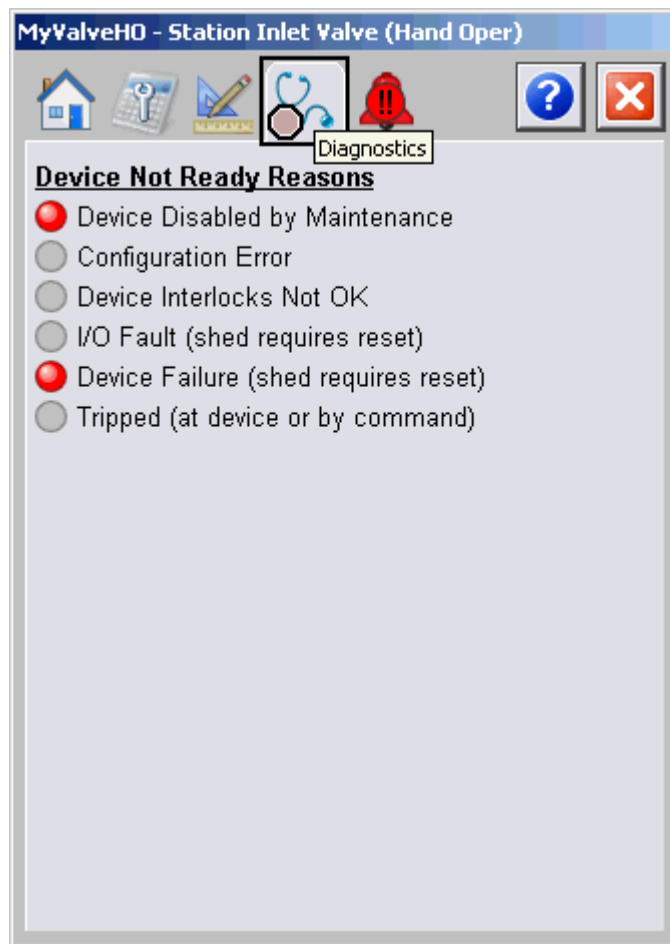
Table 14 - Engineering Tab Page 2 Description

Function	Action	Security	Configuration Parameters
Enable navigation to a valve statistics object	<p>Check if a Valve Stats instruction is used with this valve. This makes the Valve Statistics button visible; clicking this button opens the valve statistics faceplate for this valve.</p> <p>IMPORTANT: The name of the Valve Stats object in the controller must be this object's name with the suffix '_ValveStats'. For example, if your P_ValveHO object has the name 'ValveHO123', then its Valve Stats object must be named 'ValveHO123_ValveStats'</p>	Engineering configuration (Code E)	Cfg_HasStatsObj
Trip Valve: On I/O Fault	<p>Check to send the trip output to the valve if an I/O Fault is detected.</p> <p>Clear this checkbox to show only the I/O fault status/alarm and not trip the valve if an I/O fault is detected.</p>		Cfg_HasIOFaultAlm
Trip Valve: On Interlock Trip	The valve always trips on an interlock trip. This item cannot be unchecked. It is displayed as a reminder that the interlock trip functions always trip the valve.		Cfg_HasIntlkTripAlm
Continue Trip on Fail to Trip	<p>Check to keep sending the trip output to the valve on a trip, even if position feedback does not confirm the valve reached the trip position.</p> <p>Clear this checkbox to stop sending the trip output to the valve when the valve trip times out and the fail to trip status is set.</p>		Cfg_HasTripFailAlm
Feedback Delay for loopback test or when feedback not used (seconds)	Configure the amount of time the valve status shows 'tripping' before showing an opened or closed status when the valve is tripped and I/O are being simulated (Inp_Sim = 1).		Cfg_SimFdbkT

Diagnostics Tab

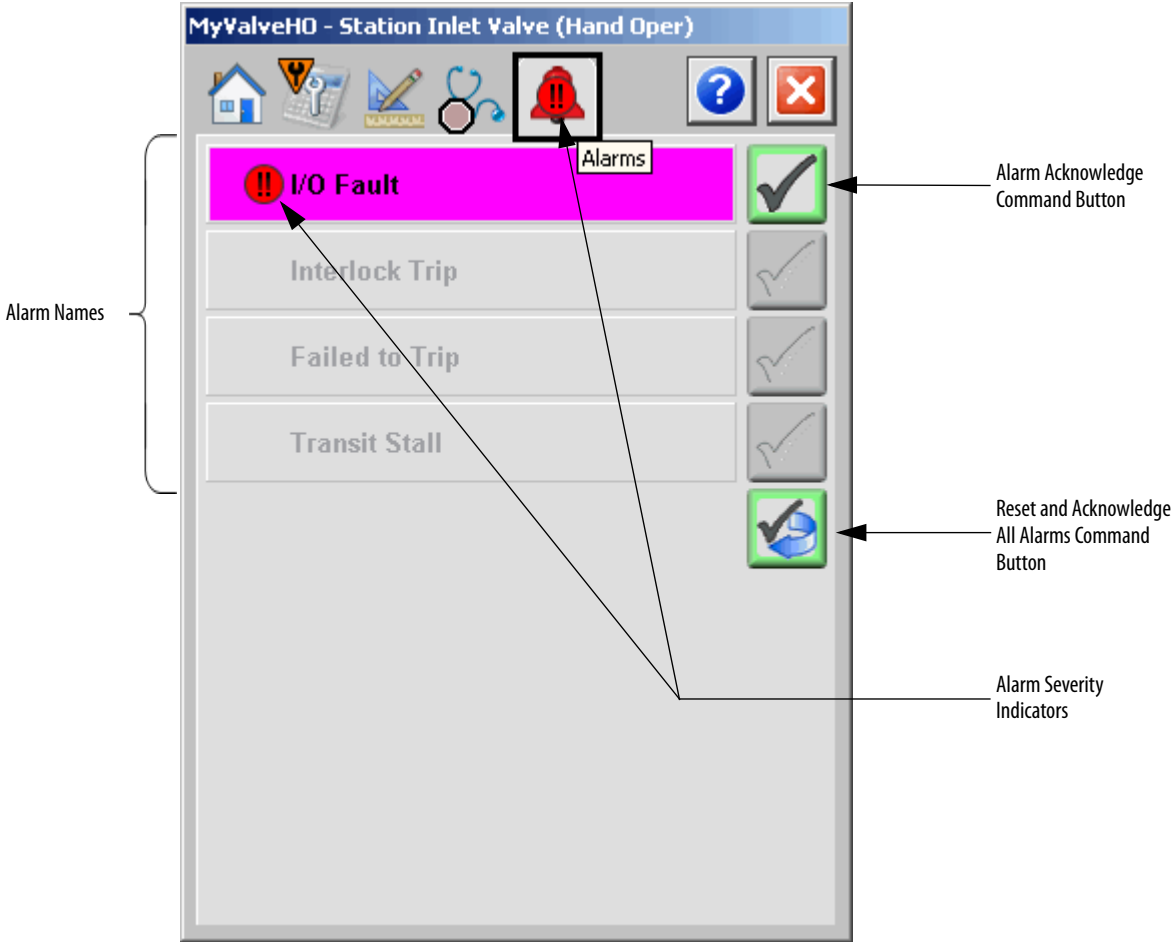
The Diagnostic tab provides indications that are helpful in diagnosing or preventing device problems, which can include specific reasons a device is 'Not Ready', device warnings and faults, warning and fault history, and predictive/preventive maintenance data.

The Diagnostics tab displays possible reasons the device is not ready.



Alarms Tab

The Alarms tab displays each configured alarm for the P_ValveHO instruction. The icon on the tab for the alarms page changes color based on the current active alarms. A blinking alarm icon indicates that one or more alarms must be acknowledged or the device must be reset.



Click an alarm name to open the P_Alarm faceplate for that alarm. From the P_Alarm faceplate, you can configure and perform additional operations on the alarm.



If an alarm is active, the panel behind the alarm changes color to match the severity of the alarm. The color of the bell icon at the top of the faceplate shows the severity of the highest active alarm, and the icon blinks if any alarm is unacknowledged or requires reset.

Table 15 - Alarm Severity Colors

Color	Definition
Magenta	Urgent
Red	High
Yellow	Medium
Blue	Low
White (bell icon)	Alarm has cleared but is unacknowledged
Background (Light Gray)	No alarm

The following table shows the functions on the Alarms tab.

Table 16 - Alarms Tab Description

Function	Action	Security
Alarm Name	Click an alarm name to open the associated P_Alarm faceplate.	None
	Click to acknowledge the alarm.	Acknowledge Alarms (Code F)
	Click to reset and acknowledge all alarms.	

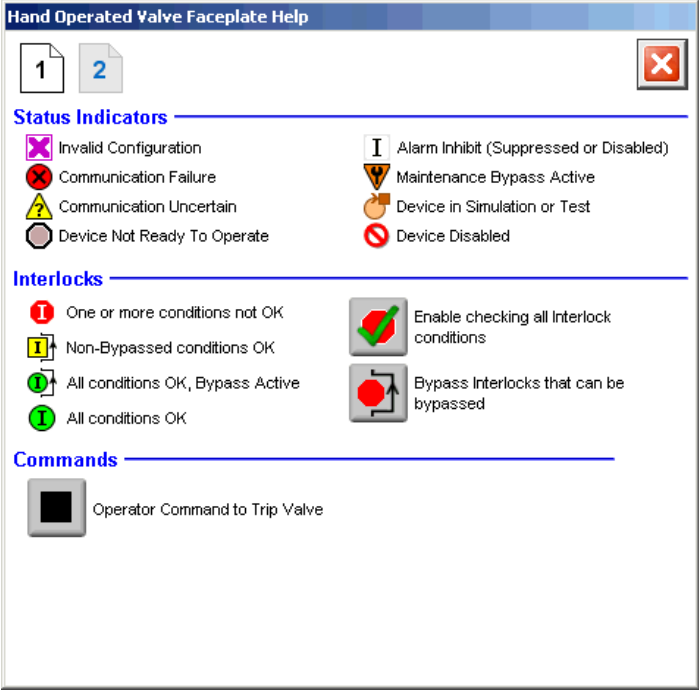
When the Reset and Acknowledge All Alarms button is enabled, the panel behind the alarm blinks, indicating the alarm requires acknowledgement or reset. The Alarm Acknowledge button is enabled if the alarm requires acknowledgment. Click the button with the check mark to acknowledge the alarm.

See Rockwell Automation Library of Process Objects: Common Alarm Block (P_Alarm) Reference Manual, publication [SYSLIB-RM002](#), for more information.

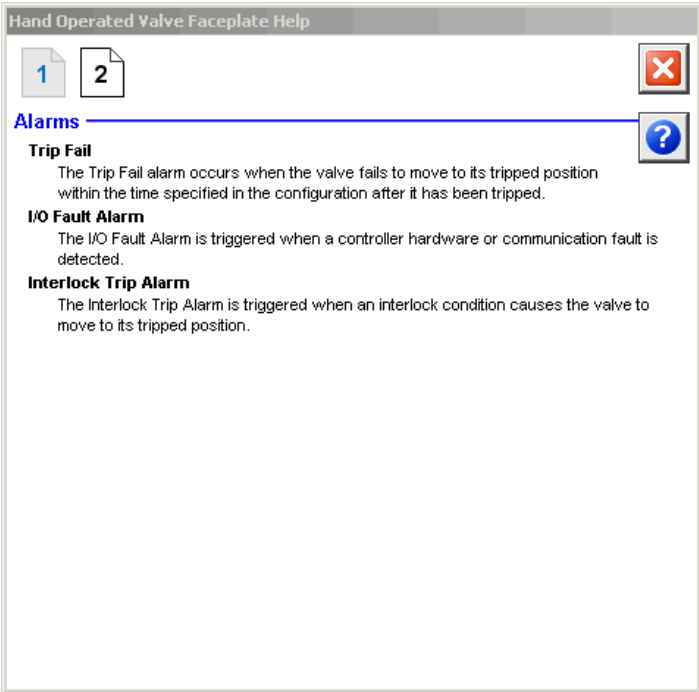
Hand-operated Valve Faceplate Help

The Faceplate Help is divided into two pages.

Faceplate Help Page 1



Faceplate Help Page 2



Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <https://rockwellautomation.custhelp.com/> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/services/online-phone>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/rockwellautomation/support/overview.page , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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