Fisher™ LCP200 Local Control Panel

The LCP200 local control panel is used with the HART® communicating DVC6200 SIS digital valve controller. This panel is used to manually open, close or test a safety shutdown valve using three protected pushbuttons. The LCP200 also provides three lights to visually indicate if the valve is open, closed or locked in safety/ ready to reset.

Unless otherwise noted, the information in this document applies to both FIELDVUE DVC6200 SIS and DVC6000 SIS digital valve controllers. For simplicity, the DVC6200 SIS model name will be used throughout.

X1536

Features

Reliability

- **Rugged Enclosure**—The explosion-proof stainless steel enclosure is designed to withstand harsh industrial environments.

- **Proof Testing**—The open and close pushbuttons provide a means to manually perform a proof test to reduce the number of dangerous undetected failures.

- **Partial Valve Stroke Test**—The test pushbutton provides a means to manually perform an online partial stroke test to reduce the frequency of proof tests.

Safety

- **Reset Options**—The DVC6200 SIS can be configured to be locked in the safe state until a manual reset is performed or go to the normal position on reset of the loop. A third option is available that allows you to vary the reset behavior based on the trip initiator.

- **Lockable Pushbutton Covers**—Each pushbutton can be locked to prevent unauthorized access to the safety valve operation.

- **Safety Certification**—The LCP200 contribution to failure rates is documented in the DVC6200 SIS safety manual.

- **Safety Certified Relay Outputs**—The trip and reset push buttons provide a corresponding change in the state of the associated single pole double throw (SPDT) relay. The trip and reset relays can be used as input to initiate Trip or Reset action in the logic solver.

Ease of Use

- **Loop vs. External Power**—The LCP200 can be powered by the same loop as the DVC6200 SIS or independently powered by a 24 VDC source.

- **Simple Configuration**—The DVC6200 SIS guided setup automatically configures the LCP200 functions.

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Specifications

Power Options

■ External: 12 VDC to 26 VDC @ 50 mA maximum continuous current (100 mA maximum inrush)
■ Loop: 8-20 mA (LCP200 and DVC6200 SIS combined)

Continuous Power Consumption

External: 1.4 W max
Loop (Point-to-Point): 48 mW
Loop (Multi-Drop): 120 mW

Temperature Limits[1]

-40 to 65°C (-40 to 149°F)

Maximum distance between LCP200 and DVC6200 SIS digital valve controller

Cable length is limited by maximum cable capacitance of 340,000 pF[2]. Typical 1000 meters (3280 feet) with 18 AWG shielded Audio, Control and Instrumentation Cable

Contact Type and Ratings

Three single-pole double-throw (SPDT) relay switches

Each output is capable of 30 VDC with maximum current of 200 mA at room temperature

Contact Operation
Reset: Activated for 1.5 to 3 seconds when Reset button is pressed for 0.5 seconds or more
Trip: Activated for 1.5 to 3 seconds when Trip button is pressed for 0.5 seconds or more
Test: Activated when partial stroke test is in progress

Electrical Classification

FM (United States and Canada)—Explosion-proof & Intrinsically Safe for Gas and Dust

ATEX—Explosion-proof & Intrinsically Safe for Gas and Dust

IECEx—Explosion-proof & Intrinsically Safe for Gas and Dust

Electrical Housing

IP66

Electromagnetic Interference (EMI)

Meets EN 61326-1:2013
Immunity—Industrial locations per Table 2 of EN 61326-1 Standard. Performance is shown in table 1 below.
Emissions—Class A
ISM equipment rating: Group 1, Class A

Connections

Two Conduit entries: ■ 3/4 NPT or ■ M20

Wiring

14 to 26 AWG

Electrical Installation

Wire connections are polarity sensitive

Compatibility

DVC6200 SIS with Firmware revision 3 or later[3][4]
DVC6000 SIS with Firmware revision 7 or later

Installation Orientation

Conduit entry locations must be facing down

Dimensions

406 mm long by 165 mm wide by 105 mm deep
See figure 2

Adapter is available for replacing the LCP100

Construction Materials

Housing material: 316SST

Approximate Weight

16.8 kg (37 lbs)

Lights

Top (Green/Normal): Solid when the valve is at its normal operating position, and loop current is normal

Middle (Red/Trip): Solid when the valve is at its Trip Position and Middle (Trip) loop current is tripped

Bottom (Yellow/Ready-to-Reset): Solid when the valve is latched in the trip position, and loop current is normal

-continued-

Specifications (continued)

Pushbuttons

Protected with lockable covers

Top (Reset): After an emergency demand—commands the valve to its normal position only after loop current is restored (manual reset)

Middle (Trip): Commands the valve to the configured trip position

Bottom (Test): Commands the configured partial stroke test. Can be overridden by the Trip button, Reset button, or Emergency Demand

1. The pressure/temperature limits in this document and any other applicable code or standard should not be exceeded.
2. DVC6000 SIS: Cable length is limited by maximum cable capacitance of 240,000 pF, typically 765 meters (2510 feet).
3. DVC6200 SIS FW7 or later required for Auto detection of power source.
4. DVC6200 SIS FW7 or later is required for the test contact to change state.

Table 1. Electromagnetic Immunity Performance for Fisher LCP200

Port	Phenomenon	Basic Standard	Test Level	Performance Criteria[1]
Enclosure	Electrostatic discharge (ESD)	IEC 61000-4-2	±4 kV contact ±8 kV air	A
	Radiated EM field	IEC 61000-4-3	80 to 1000 MHz @ 10V/m with 1 kHz AM at 80% 1400 to 2000 MHz @ 3V/m with 1 kHz AM at 80% 2000 to 2700 MHz @ 1V/m with 1 kHz AM at 80%	A
	Radiated Power Magnetic	IEC 61000-4-8	30 A/m	A
I/O signal/ control/power	Burst (fast transients)	IEC 61000-4-4	±1 kV, I/O lines ±2 kV, DC power lines	A
	Surge	IEC 61000-4-5	±1 kV, I/O lines (line-to-ground) ±2 kV, DC power line (line-to-ground) ±1 kV, DC power line (line-to-line)	B
	Conducted RF	IEC 61000-4-6	150 kHz to 80 MHz at 3 Vrms with 1 kHz AM at 80%	A
1. A = No degradation during testing. B = Temporary degradation during testing, but is self-recovering.				

Value

- **Visual Indication**—The LCP200 can be mounted remote from the valve in an easily accessible location to view the status and perform periodic testing.

- **Reduce I/O Count**—The LCP200 combines open/closed/ready-to-reset lights and open/close pushbuttons into a single field enclosure, thus eliminating 3 discrete output (DO) and 2 discrete input (DI) channels from the logic solver.

Mounting

The LCP200 has a mounting kit that adapts it to the LCP100 installation. See figure 1 for details.

Refer to figure 2 for dimensional information. The LCP200 local control panel has four mounting holes for on-site mounting of the device. The LCP200 must be installed so that the wiring connections are on the bottom to prevent accumulation of moisture inside the box.

Figure 1. LCP200 with Mounting Bracket

Figure 2. Dimensions
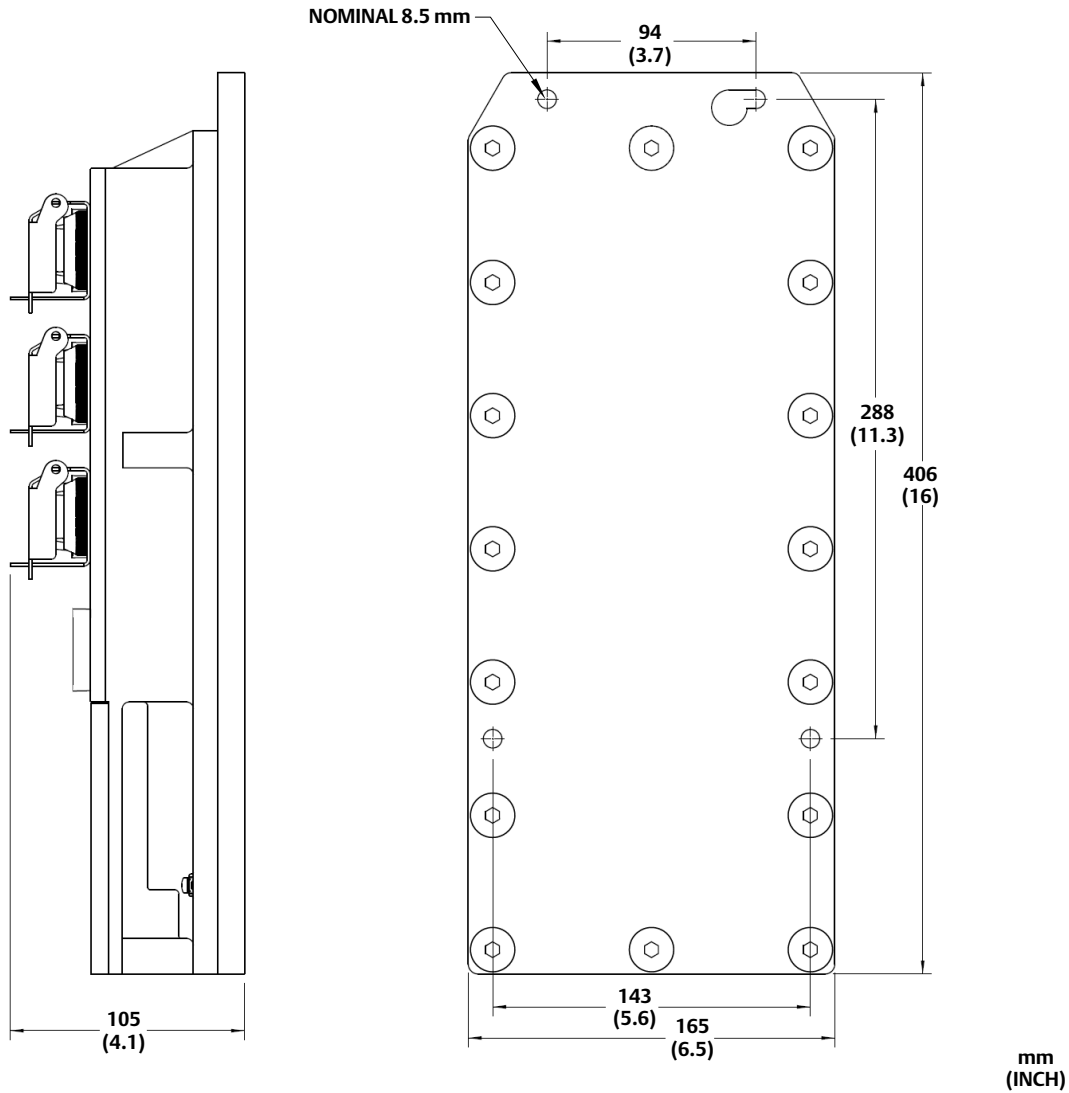
NOMINAL 8.5 mm

94
(3.7)

288
(11.3)

406
(16)

105
(4.1)

143
(5.6)

165
(6.5)

mm
(INCH)

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