Fisher™ LCP200 Local Control Panel

Contents

Figure 1. Fisher LCP200 Local Control Panel

X1536

Introduction

Scope of Manual

This instruction manual includes installation and maintenance information for the Fisher LCP200 local control panel (figure 1). This device is used with Fisher FIELDVUE™ instruments in Safety Instrumented Systems (SIS). Refer to instruction manual DVC6200 SIS Digital Valve Controllers for Safety Instrumented System (SIS) Solutions, D103557X012 or DVC6000 SIS Digital Valve Controllers for Safety Instrumented System (SIS) Solutions, D103230X012 for additional information.

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

Do not install, operate, or maintain an LCP200 local control panel without being fully trained and qualified in valve, actuator, and accessory installation, operation, and maintenance. **To avoid personal injury or property damage, it is important to carefully read, understand, and follow all of the contents of this manual, including all safety cautions and warnings.** If you have any questions about these instructions, contact your Emerson sales office.

Description

The LCP200 local control panel is used with the HART® communicating DVC6200 SIS digital valve controller. This panel is used to manually open and close a safety shutdown valve. The LCP200 can be configured to auto or manual reset after a trip. It also offers a smart auto reset configuration which requires a manual reset for locally initiated trips but auto reset for all other trips. Additionally, it includes a button for initiating a partial stroke test.

Specifications

Typical specifications for the LCP200 local control panel are shown in table 1.

Educational Services

Emerson Automation Solutions
Educational Services - Registration
Phone: +1-800-338-8158
e-mail: education@emerson.com
emerson.com/mytraining

Table 1. Specifications

Power Options

■ External: 12VDC to 26.4VDC @ 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

Pollution Degree IV, Overvoltage Category II per IEC 61010 clause 5.4.2d

Electrical Housing

IP66, Type 4X

Hazardous Area

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

Electromagnetic Interference (EMI)

Meets EN 61326-1:2013
Immunity—Industrial locations per Table 2 of EN 61326-1 Standard. Performance is shown in table 2 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

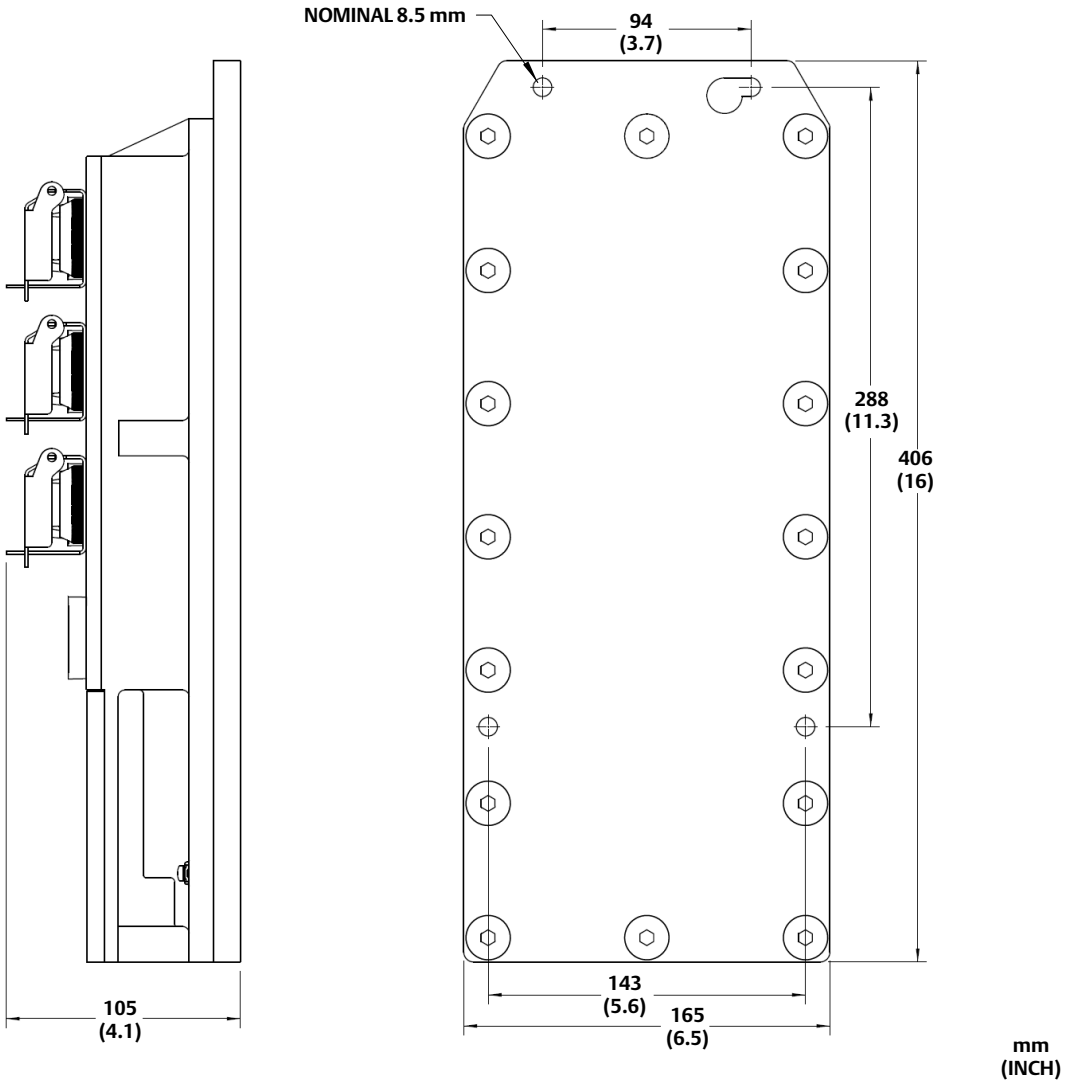
1. The pressure/temperature limits in this document and any other applicable code or standard should not be exceeded.
2. DVC6000 SIS: Cable length is limited by maximum cable capacitance of 240,000 pF, typically 765 meters (2510 feet).
3. DVC6200 SIS FW7 or later required for Auto detection of power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

Table 2. 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.

Figure 2. Fisher LCP200 Local Control Panel Dimensions



Installation

⚠ WARNING

The enclosure contains non-metallic enclosure parts. To prevent the risk of electrostatic sparking, the non-metallic surface shall be cleaned with a damp cloth.

Note

Direct all wiring to the left side inside the LCP200 compartment, away from the buttons.

Hazardous Area Classifications and Special Instructions for "Safe Use" and Installation in Hazardous Locations

Refer to the following instruction manual supplements for approval information.

- FM (United States and Canada) Hazardous Area Approvals - LCP200 Local Control Panel (D104369X012)
- ATEX/IECEx Hazardous Area Approvals - LCP200 Local Control Panel (D104370X012)

All documents are available from your Emerson sales office or Fisher.com. Contact your Emerson sales office for all other approval/certification information.

Mounting

Refer to figure 2 for dimensional information. The LCP200 local control panel has mounting holes for on-site panel mounting of the device.

Note

A mounting kit is available to use when replacing an LCP100 with the LCP200. Contact your Emerson sales office for information on obtaining this kit. Refer to figure 3 for the LCP200 with the mounting bracket.

The LCP200 must be installed so that the wiring connections are on the bottom to prevent accumulation of moisture inside the box.

Figure 3. Fisher LCP200 with Mounting Bracket

Electrical Connections

⚠ WARNING

Select wiring and/or cable glands that are rated for the environment of use (such as hazardous location, ingress protection, and temperature). Failure to use properly rated wiring and/or cable glands can result in personal injury or property damage from fire or explosion.

Wiring connections must be in accordance with local, regional, and national codes for any given hazardous area approval. Failure to follow the local, regional, and national codes could result in personal injury or property damage from fire or explosion.

Refer to the appropriate wiring diagram, as defined in table 3, based on your installation requirements. Also refer to figure 5 for LCP200 terminal connections, label details and information, as well as DVC6200 SIS terminal box details. When connecting the wiring terminals tighten to a torque of 0.8 N • m (7 lbf • in) +/- 10%, using a 3 mm thin blade, flat head screwdriver.

Table 3. Wiring Configurations with DVC6200 SIS Digital Valve Controller

LCP200 Power Source	System Output	DVC6200 SIS Mode (Current or Voltage)	Refer to figure
LOOP	8-20 mA	Point-to-Point	6
	24 VDC	Multi-Drop	8
24 VDC External Power	4-20 mA	Point-to-Point	7
	24 VDC	Multi-Drop	9

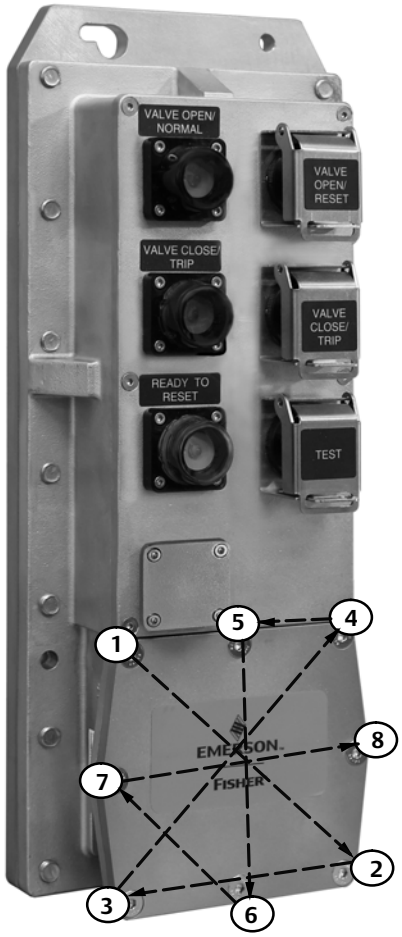
Note

For intrinsically safe applications, the LCP200 forms an intrinsically safe explosion protection system when used with intrinsically safe associated apparatus (a barrier) or with any other intrinsically safe devices.

The following requirements must be met: Uo ≤ Ui , Io ≤ Ii, Po ≤ Pi , Co ≥ Ci + Cc, Lo ≥ Li + Lc.

When installing the terminal cover, use a 4 mm hex key to tighten the screws evenly in a criss-cross pattern, such as the one indicated in figure 4, to a torque of 8.7 N • m (77 lbf • in) +/- 10%, to help ensure the cover is properly installed. Apply silicone lubricant to the terminal box O-ring (key 7, figure 10).

Figure 4. Proper Cover Installation



NOTE: TIGHTEN THE SCREWS IN A CRISS-CROSS PATTERN TO HELP ENSURE PROPER COVER INSTALLATION.

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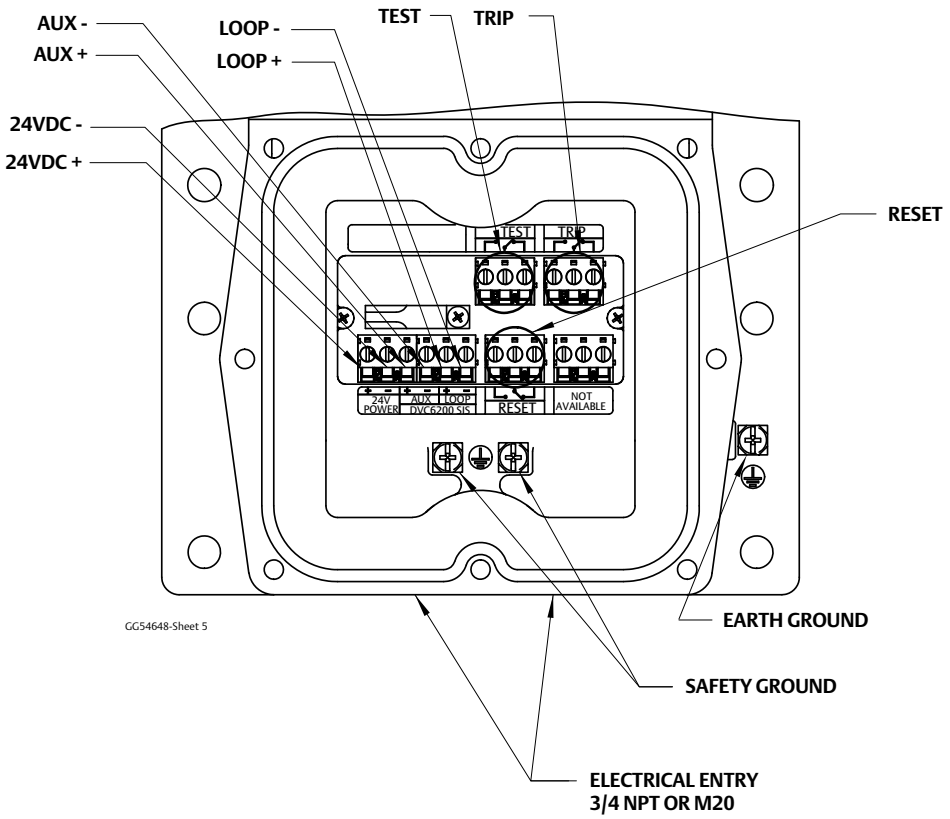
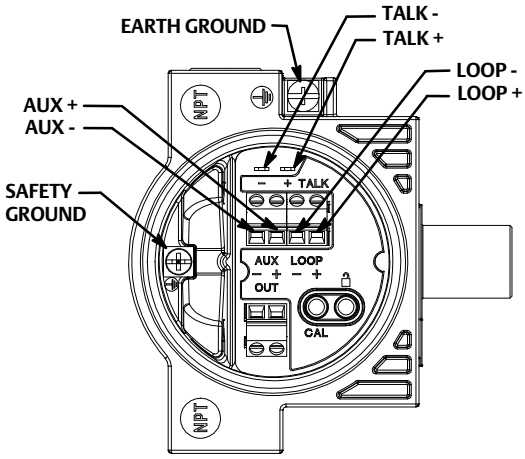
Figure 5. Interior Details of Fisher LCP200 and FIELDVUE DVC6200 SIS

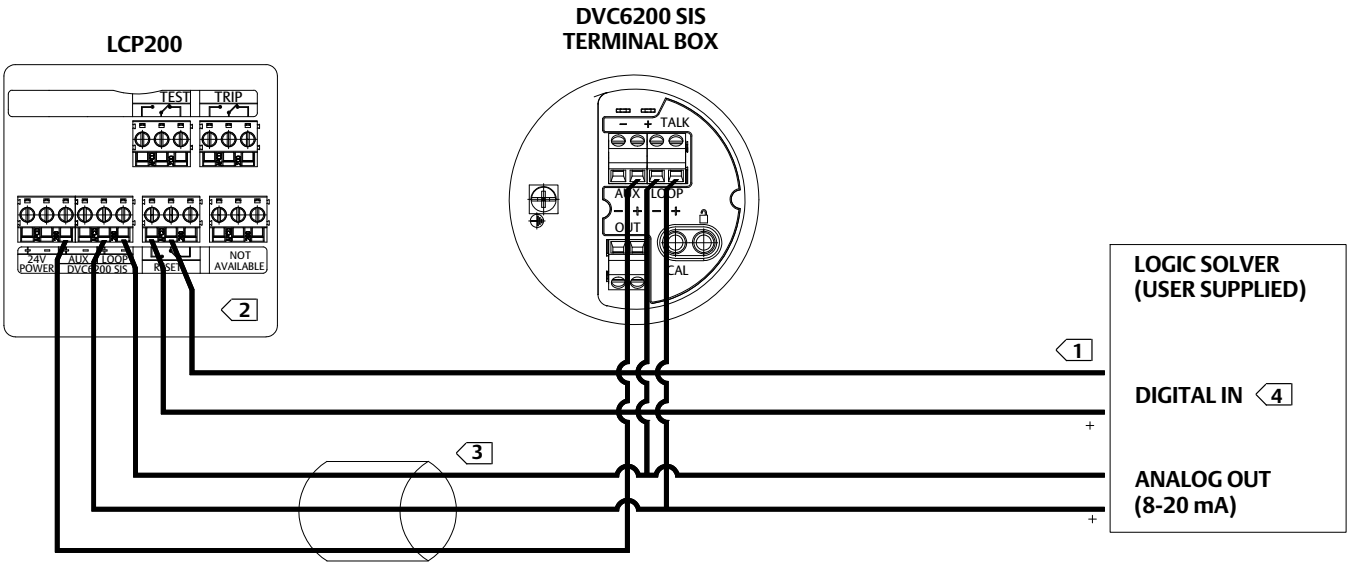


LCP200 INTERIOR



DVC6200 SIS TERMINAL BOX INTERIOR

Figure 6. Wiring Diagram 1, HART LOOP-Powered Configuration, Point-to-Point



NOTES:

1. OPTIONAL CABLING TO RESET, TRIP, AND TEST CONTACTS. SHOWN ABOVE IS CABLING TO RESET CONTACT.
2. CONNECT EITHER NO-C OR NC-C TERMINALS OF RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS RESET NO-C TERMINALS.
3. USE METAL CONDUIT FOR CABLING BETWEEN DVC6200 SIS AND LCP200 AS EMI SHIELD.
4. THE DIGITAL INPUT DOES NOT NEED TO BE CONNECTED FOR THE LCP200 TO OPERATE.

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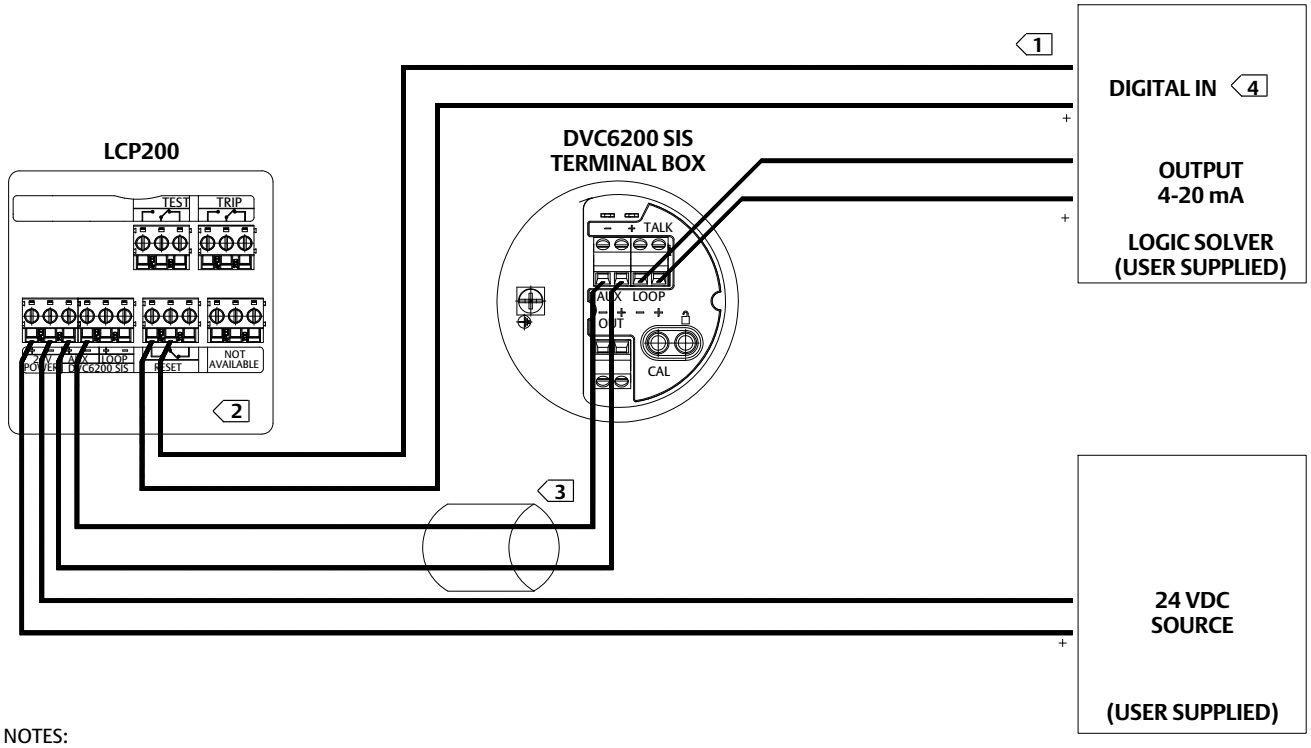
Figure 7. Wiring Diagram 2, 24 VDC External Power Configuration, Point-to-Point



NOTES:

1. OPTIONAL CABLING TO RESET, TRIP, AND TEST CONTACTS. SHOWN ABOVE IS CABLING TO RESET CONTACT.
2. CONNECT EITHER NO-C OR NC-C TERMINALS OF RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS RESET NO-C TERMINALS.
3. USE METAL CONDUIT FOR CABLING BETWEEN DVC6200 SIS AND LCP200 AS EMI SHIELD.
4. THE DIGITAL INPUT DOES NOT NEED TO BE CONNECTED FOR THE LCP200 TO OPERATE.

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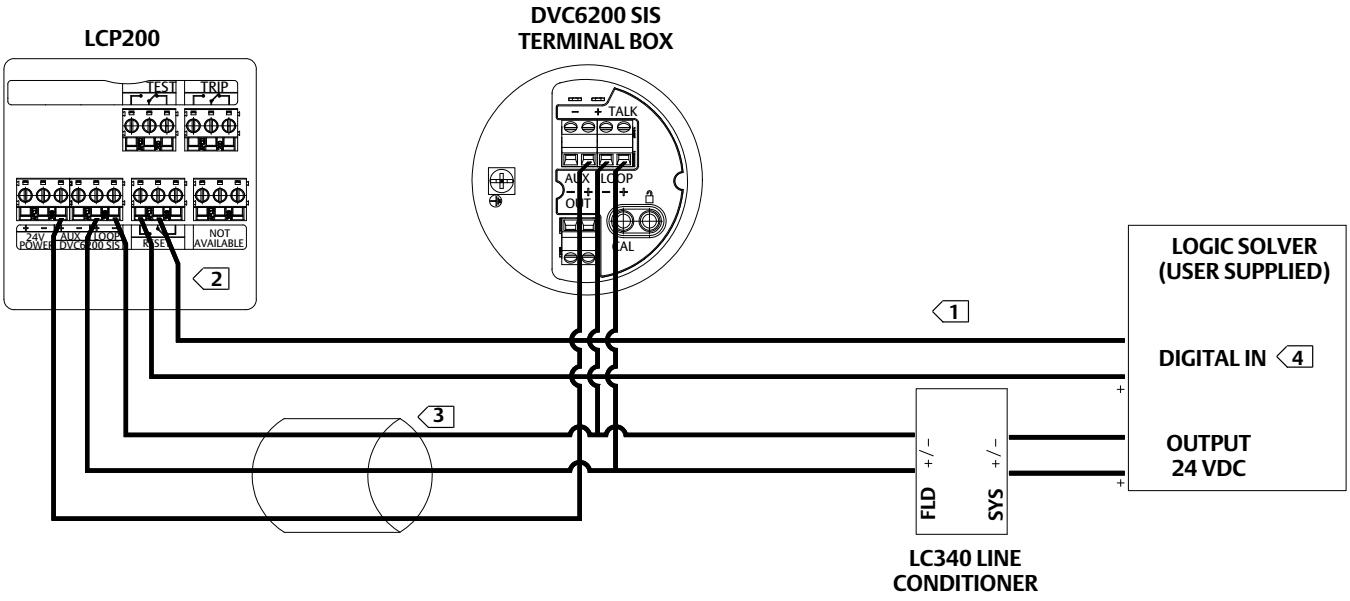
Figure 8. Wiring Diagram 3, HART LOOP-Powered Configuration, Multi-Drop



NOTES:

1. OPTIONAL CABLING TO RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS CABLING TO RESET CONTACT.
2. CONNECT EITHER NO-C OR NC-C TERMINALS OF RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS RESET NO-C TERMINALS.
3. USE METAL CONDUIT FOR CABLING BETWEEN DVC6200 SIS AND LCP200 AS EMI SHIELD.
4. THE DIGITAL INPUT DOES NOT NEED TO BE CONNECTED FOR THE LCP200 TO OPERATE.

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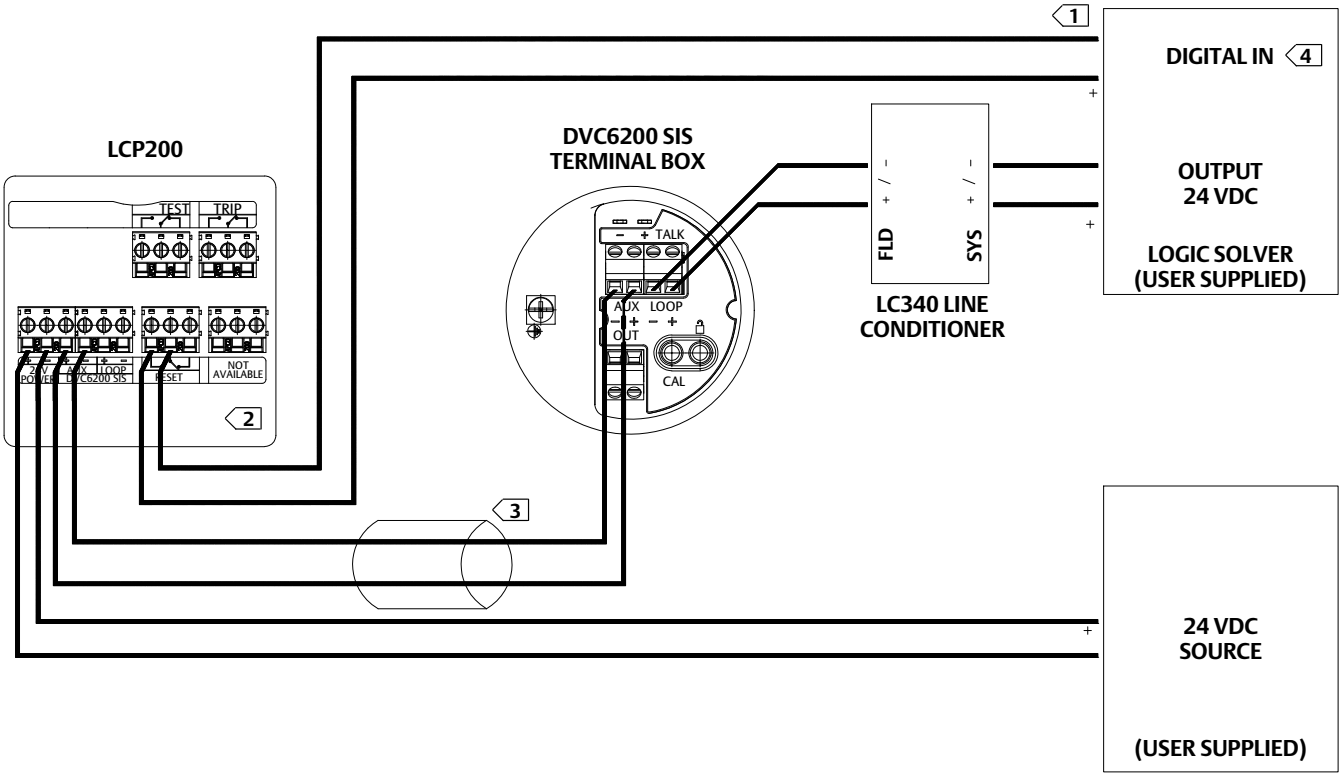
Figure 9. Wiring Diagram 4, 24 VDC External Power Configuration, Multi-Drop



NOTES:

1 OPTIONAL CABLING TO RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS CABLING TO RESET CONTACT.

2 CONNECT EITHER NO-C OR NC-C TERMINALS OF RESET, TRIP AND TEST CONTACTS. SHOWN ABOVE IS RESET NO-C TERMINALS.

3 USE METAL CONDUIT FOR CABLING BETWEEN DVC6200 SIS AND LCP200 AS EMI SHIELD.

4 THE DIGITAL INPUT DOES NOT NEED TO BE CONNECTED FOR THE LCP200 TO OPERATE.

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Setup

In order for the LCP200 to operate properly, it must be connected to a DVC6200 SIS with firmware revision 3 or later, or a DVC6000 SIS device with firmware revision 7 or later. Once the physical connections are made, use the following checklist to configure the LCP200. Refer to the DVC6200 SIS instruction manual (D103557X012) or the DVC6000 SIS instruction manual (D103230X012) if additional setup information is needed.

- Using an Emerson handheld communicator, such as the AMS Trex™ Device Communicator, select *Configure* > *Guided Setup* > *Device Setup* and follow the prompts to:

Enter Supply Pressure and Unit

Enter Actuator Make, Model, and Size

Enter Partial Stroke test Starting Point, Relay Type and Zero Power Condition [select the “instrument connected to local control panel (LCP200)” option]

- Use Device Setup to configure the digital valve controller with the LCP200.
- Continue to set up the digital valve controller according the normal set up procedure.
- Remember to place the instrument back in service before disconnecting.

Note

An alternative method to configure the LCP200 is through Manual Setup. Using the handheld communicator select *Configure* > *Manual Setup* > *Instrument* > *Terminal Box* > *Edit Auxiliary Terminal Action* > *SIS Local Control Panel*. When this setting is downloaded to the device, an information screen will pop up advising that some additional parameters will be configured. Select Yes.

Principle of Operation

The lights indicate the state of the valve as described in table 4. Contact operation is described in table 5.

Note

The primary safety function should be implemented by controlling the current (in point-to-point mode) or voltage (in multi-drop mode) from the logic solver. The Middle (Red/Trip) button is not intended to perform the primary safety function for the process.

Table 4. Fisher LCP200 Light and Button Operation

WHAT THE LCP200 LIGHTS SHOW...		POSSIBLE CONDITIONS...	PRESS INDICATED BUTTON TO...		
			Top	Middle	Bottom
Top (Green/Normal)	Solid	The valve is in its normal operating state.	---	Trip	Run PST
	Fast Blink (1/2 second)	The valve is in the process of running a partial stroke test (PST).	Stop PST	Trip	Stop PST
		The valve is not at its normal operating position because the actuator pressure is low or the valve is stuck.	Acknowledge PST Failure	Trip	Run PST
		The valve is tripped but is stuck at the normal position.	---	---	---
	Slow Blink (1 second)	A partial stroke test has failed.	Acknowledge PST Failure	Trip	Run PST
Middle (Red/Trip)	Solid	The valve is tripped due to loss of actuator pressure (e.g., solenoid valve trip)	Acknowledge PST Failure	Trip	Run PST
		The valve is tripped due to a command from the logic solver or LCP200.	---	---	---
		The valve is stuck in the tripped state.	---	---	---
	Fast Blink (1/2 second)	The valve is at mid-travel after a trip. The valve may be moving or stuck in this position.	---	---	---
Bottom (Yellow/ Ready-to-Reset)	Solid	The valve may be reset to the normal operating state.	Reset to Normal State	---	---

Notes:
1. If the top, middle, and bottom lights are blinking in sequence, then the DVC6200 SIS is out of service. In point-to-point mode, the DVC6200 SIS will not respond to a trip from the logic solver.
2. Depending on the emergency shutdown valve configuration, the top button could be labeled “Valve Open” and the middle button could be labeled “Valve Close”; or vice versa. The bottom button will aways be labeled “Valve Test”.
3. Acknowledgment of a PST failure means that the LCP200 will return the blinking top light to a solid light. The PST alert will still be visible via HART communication with the DVC6200 SIS.
4. If the top and middle lights are both solid the valve is throttling in mid-travel.
5. The information contained in this table applies to DVC6000 SIS firmware 9 and later and DVC6200 SIS firmware 3 and later.

Table 5. Fisher LCP200 Contact Operation

Contact	Normal Operation	Bench Mode
Trip	Activated for 1.5 to 3 seconds when Trip button is pressed for 0.5 seconds or more.	Activated as long as Trip button is pressed.
Reset	Activated for 1.5 to 3 seconds when Reset button is pressed for 0.5 seconds or more.	Activated as long as Reset button is pressed.
Test	Activated when partial stroke test is in progress.	Activated as long as Test button is pressed.

1. Refer to the Maintenance section for Bench Mode details.

Operation Verification

Before connecting the LCP200 to the process, conduct the following tests on the LCP200 connected to the DVC6200 SIS.

Successful Partial Stroke Test

1. Verify that the Top (Green/Normal) light is on solid.
2. Press the Bottom (Test) pushbutton for more than 3 seconds (but less than 10 seconds).
3. Observe that the top light starts flashing when the valve starts moving.
4. Observe that the valve moves no more than the configured partial stroke test travel limit.
5. Observe that the valve returns to the normal operating position and the top light comes on solid.
6. If the relay contacts are being used, verify that the Test contact changes state when the PST is in progress. When the PST is complete verify that the contact returns to the pre-PST state.

Manually Aborted Partial Stroke Test

1. Verify that the Top (Green/Normal) light is on solid.
2. Press the Bottom (Test) pushbutton for more than 3 seconds (but less than 10 seconds).
3. Observe that the top light starts flashing when the valve starts moving.
4. Before the valve reaches the travel limit of the configured partial stroke test, press the Top (Reset) pushbutton or the bottom pushbutton.
5. Observe that the valve immediately returns to the normal operating position and the top light comes on solid and if the contact is being used, the Reset contact changes state for 1.5 to 3 seconds.
6. If the relay contacts are being used, verify that the Test contact changes state when the PST is in progress.

Emergency Demand through the Logic Solver

1. Reduce the current to the DVC6200 SIS to 4 mA (for de-energize to trip operation).

Note

For a loop powered installation, a minimum current of 8 mA is required at the trip state / “Safety Demand” for proper functioning of the pushbuttons and lights.

2. Observe that the valve moves to its Trip state.
3. Observe that the Middle (Red/Trip) light comes on solid and the Bottom (Yellow/Ready-to-Reset) light stays off.
4. Increase the current to the DVC6200 SIS to 20 mA (for de-energize to trip) and observe that the valve behaves as configured in the reset option i.e., Auto, Manual, or Smart Auto. If the configuration is for auto reset, skip steps 5 and 6.
5. Observe that the middle light stays on solid and the bottom light comes on solid (ready to reset).
6. Press the Top (Reset) pushbutton.
7. Observe that the middle and bottom lights go off, the valve moves to its normal operating position, and then the Top (Green/Normal) light comes on solid.
8. If the relay contacts are being used, verify that the Reset contact changes state for 1.5 to 3 seconds when the top pushbutton is pressed.

Emergency Demand and Reset through Local Control Panel

1. Press the Middle (Trip) pushbutton.
2. Observe that the valve moves to it Trip position.
3. Observe that the Middle (Red/Trip) light comes on solid and the Bottom (Yellow/Ready-to-Reset) light is on solid.
4. If the relay contacts are being used, verify that the Trip contact changes state for 1.5 to 3 seconds when the middle pushbutton is pressed.
5. Press the Top (Reset) pushbutton.
6. Observe that the middle light goes off, the valve moves to its normal operating position, and then the Top (Green/Normal) light comes on solid.
7. If the relay contacts are being used, verify that the Reset contact changes state for 1.5 to 3 seconds when the top pushbutton is pressed.

Maintenance

The LCP200 has six major components; the housing, lights, buttons, conduit connections, electronics, and contacts. If a light is not working it can be replaced as a module. If any of the buttons are not working then the front panel needs to be replaced. The conduit connections do not normally need replacement. The electronics module, which includes the relay contacts, can be replaced as an assembly.

The LCP200 enters a bench mode when it is powered and not connected to a digital valve controller, i.e. the auxiliary terminals are not connected to the DVC6200 SIS. In this mode, the light next to each button will be on solid when the button is pressed. The corresponding relay contact will change state as long as the respective button is pressed. This can be used to identify stuck buttons, faulty lights, or relay contacts.

Note

Parts kits for the following maintenance procedures are available on page 20.

Refer to figure 10 and 11 for key number locations.

Replacing the LED Assembly

The LED's can be replaced in the field without removing power.

NOTICE

Ensure the LED enclosure does not get contaminated with dust, moisture, or other contaminants during this procedure. Exposure to dust, moisture, or other contaminants can damage the electronics.

1. Unscrew the four socket cap screws (key 45) holding the LED module (key 32) in place using a 2.5 mm hex key and remove the LED module and the LED base O-ring (key 46). Also remove the four O-rings (key 47).
2. Replace with new O-rings and LED module. Apply silicone lubricant to the O-rings.
3. Replace the required lens cap on the LED module. Install the 4 socket cap screws and tighten to a torque of 0.77 N • m (6.8 lbf • in) +/- 10%.

Replacing the LED Assembly with an LED Light Cover

The LED's can be replaced in the field without removing power.

NOTICE

Ensure the LED enclosure does not get contaminated with dust, moisture, or other contaminants during this procedure. Exposure to dust, moisture, or other contaminants can damage the electronics.

Note

Install the the LED Blanking kit on a flat surface to ensure that the socket cap screws (key 45) can be securely installed.

1. Unscrew the four socket cap screws (key 45) holding the LED module (key 32) in place using a 2.5 mm hex key and remove the LED module and the LED base O-ring (key 46). Also remove the four O-rings (key 47). The LED module and O-rings can be retained for later use if required.
2. Install the new LED base O-ring (key 46) and LED light cover (key 33). Apply silicone lubricant to the O-ring.
3. Install the four socket cap screws and tighten to a torque of 0.77 N • m (6.8 lbf • in) +/- 10%.

Replacing the Front Panel Assembly

⚠ WARNING

Disconnect power and remove the LCP200 from service before replacing the front panel assembly. Personal injury or property damage may result if power is not disconnected.

NOTICE

Ensure the front panel assembly is not exposed to dust, moisture, or other contaminants during this procedure. Exposure to dust, moisture, or other contaminants can damage the electronics.

1. Disconnect the LCP200 from the digital valve controller and remove power to the LCP200. Move to a safe environment, such as a maintenance shop or service area.
2. Unscrew the six flat head socket screws (key 14) holding the front panel assembly cover in place using a 2.5 mm hex key and remove the cover.
3. Remove front panel assembly, including panel O-ring (key 44).
4. Replace with new panel O-ring and front panel assembly. Apply silicone lubricant to the O-ring.
5. Install the six flat head socket screws and tighten to a torque of 2.2 N • m (19.5 lbf • in) +/- 10%.

Before reconnecting to the digital valve controller and placing in service, put the LCP200 into bench mode and verify the light next to each button is on solid when the button is pressed and the corresponding relay contact changes state for as long as the button is pressed.

Instrument Troubleshooting

If difficulties are experienced with the LCP200 control panel, refer to table 6.

Table 6. Instrument Troubleshooting

Symptom	Possible Cause	Action
1. Lights are not lit.	1. LCP200 is not properly connected to the digital valve controller aux. terminal.	1. Ensure that the LCP200 is connected correctly to the digital valve controller aux. terminal, as described in the Installation section of this manual.
2. LCP200 is properly connected to the digital valve controller aux. terminal, but the lights are not lit.	2. Power is not connected to the correct terminals.	2. Ensure that the loop/24V power is landed at the appropriate terminals.
3. The power wires are landed correctly but the lights are not lit.	3. Loop Power option is selected, but there is not enough current.	3. The Loop Power Option requires 8 mA current to operate. Ensure that there is sufficient current.
4. The LCP200 and the digital valve controller are properly connected, and there is sufficient current but the lights are not lit.	4. The LED may be damaged.	4. Replace LED. If possible take the LCP200 to bench mode and verify that the LED does not light up when the corresponding button is pressed.
5. Lights are blinking.	5. Valve is not at it's normal stop.	5. Check for proper calibration. Re-run calibration if necessary.
6. Proper calibration but lights are blinking.	6. Hi Hi / Lo Lo alerts settings not correctly set.	6. Ensure that the Hi Hi / Lo Lo Alert settings are 99 and 1% respectively. For large rotary valve, adjust settings to 98 and 2% and observe.
7. Button is pressed but expected action does not occur.	7.Time requirements may not be met.	7. Ensure time requirements for the button press is met. If the problem persists take the LCP200 into bench mode and press the the respective button and verify that the relay contact changes state when the button is pressed. Verify that the corresponding light is on solid.

Parts Ordering

When corresponding with your Emerson sales office about this equipment, mention the serial number found on the nameplate of the unit.

⚠ WARNING

Use only genuine Fisher replacement parts. Components that are not supplied by Emerson should not, under any circumstances, be used in any Fisher instrument. Use of components not supplied by Emerson may void your warranty and hazardous area approval, might adversely affect the performance of the instrument, and could cause personal injury and property damage.

Parts Kits

Kit	Description	Part Number
1	LED Assemblies Kit (see figure 11) Includes LED module, qty. 1 (key 32); Lens cap, qty. 3, green, red, yellow (key 34, 35, 36); LED base O-ring, qty. 2 (key 46); Socket cap screw, qty. 4 (key 45); O-ring, qty. 4 (key 47)	GG54645X012

Note
The LED Assemblies Kit replaces one LED.

2	LED Blanking Kit (see figure 11) Includes LED base O-ring, qty. 3 (key 46); Socket cap screw, qty. 12 (key 45); LED light cover, qty. 3, (key 33)	GG54849X012
3	Soft Parts Kit (see figure 10) Includes LED base O-ring, qty. 8 (key 46); Terminal O-ring, qty. 1 (key 7); Panel O-ring, qty. 1 (key 44)	GG54647X012

Kit	Description	Part Number
4	Front Panel Assembly Kits (see figure 11)	

Note
The Front Panel Assembly Kits contain LEDs and included buttons pre-assembled on the front panel assembly (key 30). It also includes the panel O-ring (key 44).

All Buttons included — GG54649X012
Includes Flat head socket screw, qty. 6 (key 14); Front panel assembly, qty. 1 (key 30); Pushbutton O-ring, qty. 3 (key 40); Pushbutton, qty. 3 (key 38); Shroud, qty. 3 (key 39)

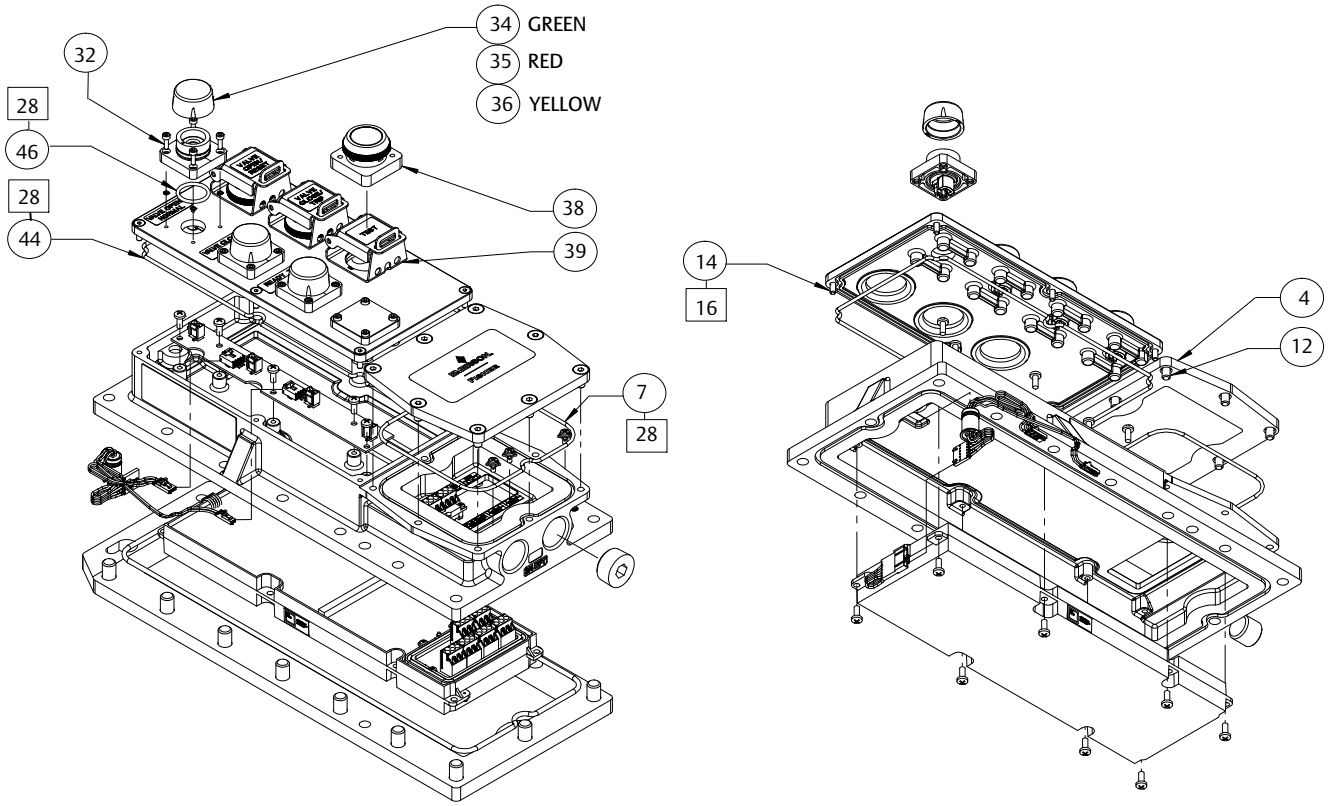
Reset & Trip Buttons included — GG54650X012
Reset & Test Buttons included — GG54651X012
Test & Trip Buttons included — GG54652X012

Kits include Flat head socket screw, qty. 6 (key 14); Front panel assembly, qty. 1(key 30); Pushbutton O-ring, qty. 3 (key 40); Pushbutton, qty. 2 (key 38); Shroud, qty. 2 (Key 39); Blank pushbutton, qty. 1 (key 12, 304, 305)

Reset Button included — GG54653X012
Trip Button included — GG54654X012
Test Button included — GG54655X012

Kits include Flat head socket screw, qty. 6 (key 14); Front panel assembly, qty. 1 (key 30); Pushbutton O-ring, qty 3 (key 40); Pushbutton, qty. 1 (key 38); Shroud, qty. 1 (key 39); Blank pushbutton, qty. 2 (key 12, 304, 305)

Figure 10. Fisher LCP200 Assembly



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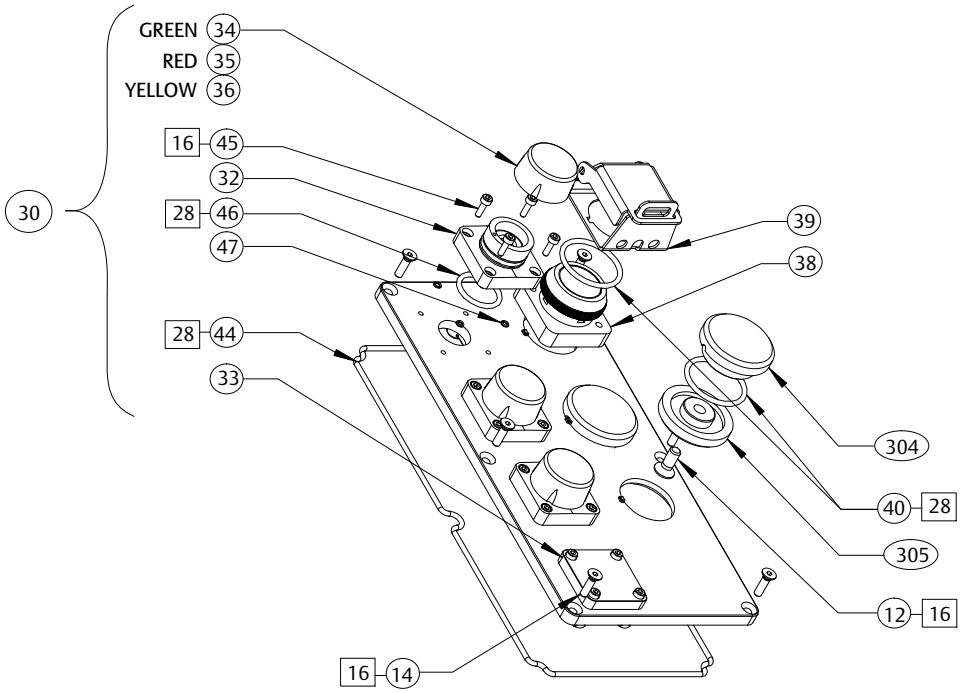
GG54648-2

Figure 11. Front Panel Assembly



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Emerson Automation Solutions
Marshalltown, Iowa 50158 USA
Sorocaba, 18087 Brazil
Cernay, 68700 France
Dubai, United Arab Emirates
Singapore 128461 Singapore

www.Fisher.com

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