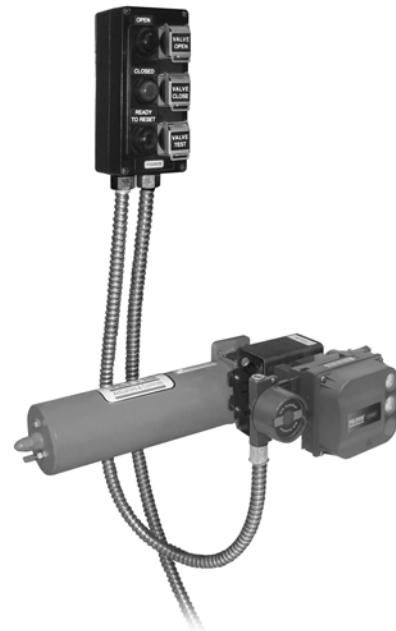


Fisher™ LCP100 Local Control Panel

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Figure 1. Fisher LCP100 Local Control Panel, with FIELDVUE DVC6200 SIS Digital Valve Controller and Bettis™ Actuator



X0248

Introduction

Scope of Manual

This instruction manual includes installation and maintenance information for the Fisher LCP100 local control panel (figure 1). This device is used with Fisher FIELDVUE™ instruments in Safety Instrumented Systems (SIS). Refer to the DVC6200 SIS Digital Valve Controllers for Safety Instrumented System (SIS) Solutions instruction manual ([D103557X012](#)) or the DVC6000 SIS Digital Valve Controllers for Safety Instrumented System (SIS) Solutions instruction manual ([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 LCP100 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 LCP100 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 LCP100 also provides a manual reset feature as well as a button for initiating a partial stroke test.

Specifications

Typical specifications for the LCP100 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

<p>Power Options (switch selectable)</p> <ul style="list-style-type: none"> ■ External: 24 VDC +/- 10% @ 50 mA maximum continuous current (100 mA maximum inrush) ■ Loop: 8-20 mA (LCP100 and DVC6200 SIS combined) <p>Power Consumption</p> <p>External: 1.32 W max continuous Loop (Point-to-Point): 0.042 W max continuous Loop (Multi-Drop): 0.126 W max continuous</p> <p>Temperature Limits⁽¹⁾</p> <p>-40 to 65°C (-40 to 149°F)</p> <p>Maximum distance between LCP100 and DVC6200 SIS digital valve controller</p> <p>Cable length is limited by maximum cable capacitance of 100,000 pF⁽²⁾. Typical 314 meters (1030 feet) with 18 AWG shielded Audio, Control and Instrumentation Cable.</p> <p>Electrical Classification</p> <p>CSA (C/US) AEx ia IIB T4 Ga⁽³⁾ – Zone 0, 1, 2 AEx e mb [ib] IIC T4 Gb – Zone 1, 2 AEx ic IIC T4 Gc – Zone 2 Class I Division 2 Groups ABCD T4</p> <p>ATEX Ex ia IIB T4 Ga⁽³⁾ – Zone 0, 1, 2 Ex e mb [ib] IIC T4 Gb – Zone 1, 2 Ex ic IIC T4 Gc – Zone 2</p> <p>IECEX Ex ia IIB T4 Ga⁽³⁾ – Zone 0, 1, 2 Ex e mb [ib] IIC T4 Gb – Zone 1, 2 Ex ic IIC T4 Gc – Zone 2 Ex tb IIIC T71°C Db – Zone 21, 22</p> <p>Other Classifications / Certifications</p> <p>CUTR— Customs Union Technical Regulations (Russia, Kazakhstan, Belarus, Armenia)</p> <p>ESMA— Emirates Authority for Standardization and Metrology - ECAS-Ex (UAE)</p>	<p>Electrical Housing</p> <p>IP66</p> <p>Electromagnetic Interference (EMI)</p> <p>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</p> <p>Connections</p> <p>Conduit: 3/4 NPT or M20</p> <p>Wiring</p> <p>14 to 26 AWG</p> <p>Torque Specifications</p> <p>Wiring terminals: 0.5 N•m (4.5 in•lbs)</p> <p>Electrical Installation</p> <p>Wire connections are polarity sensitive</p> <p>Compatibility</p> <p>DVC6200 SIS with Firmware revision 3 or later DVC6000 SIS with Firmware revision 7 or later</p> <p>Installation Orientation</p> <p>Wiring entrance must be facing down</p> <p>Dimensions</p> <p>253.1 mm (10 inches) long by 109.5 mm (4.3 inches) wide by 127.8 mm 5 inches) deep. See figure 2.</p> <p>Construction Materials</p> <p>Housing material: filled polyester</p> <p>Approximate Weight</p> <p>2.2 kg (4.9 lb)</p>
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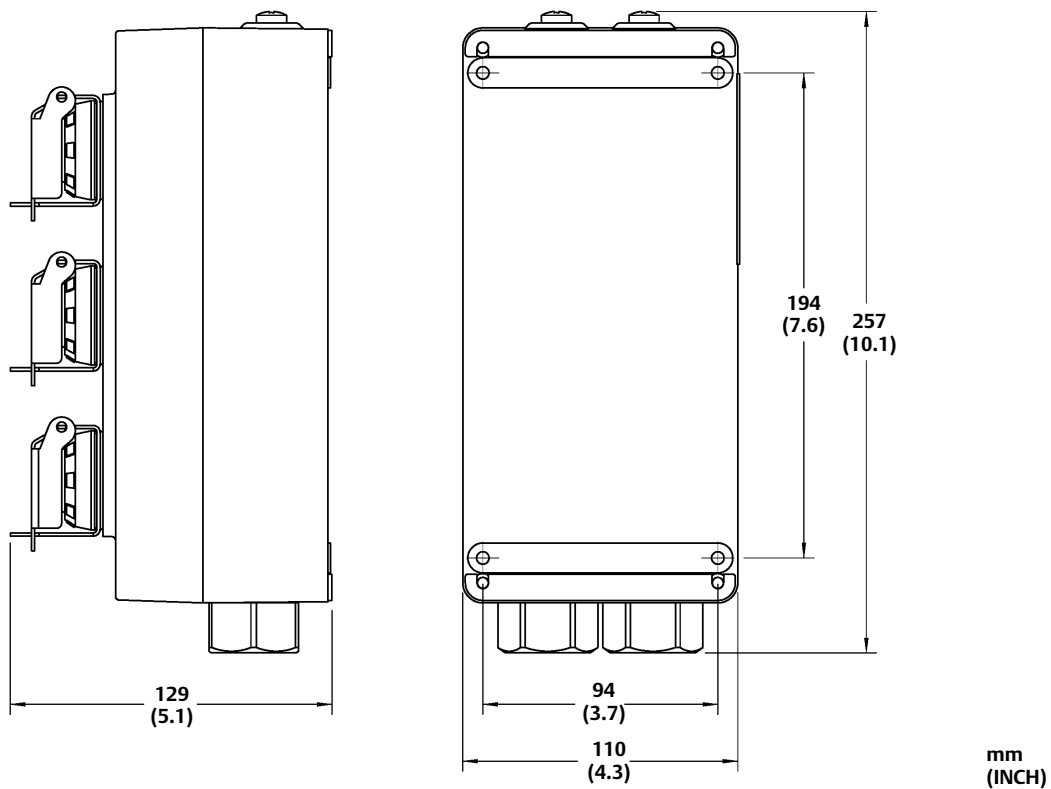
1. The pressure/temperature limits in this document and any applicable standard or code limitation should not be exceeded.
 2. DVC6000 SIS: Cable length is limited by maximum cable capacitance of 18000 pF.
 3. LOOP Powered only.

Table 2. Electromagnetic Immunity Performance Criteria

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
I/O signal/control	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 ± 2 kV, DC power lines)	A
	Conducted RF	IEC 61000-4-6	150 kHz to 80 MHz at 3 Vrms with 1 kHz AM at 80%	A

Specification limit = ±1% of span
 1. A = No degradation during testing, B = Temporary degradation during testing, but is self-recovering.

Figure 2. Fisher LCP100 Local Control Panel Dimensions



E1077-1

Installation

⚠ WARNING

Electrostatic charge hazard. Do not rub or clean the LCP100 with solvents if a flammable vapor is present. To do so could result in an explosion.

Note

Direct all wiring to the left side inside the LCP100 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.

- CSA (C/US) Hazardous Area Approvals - LCP100 Local Control Panel ([D104236X012](#))
- ATEX Hazardous Area Approvals - DVC2000 Digital Valve Controllers ([D104237X012](#))
- IECEx Hazardous Area Approvals - DVC2000 Digital Valve Controllers ([D104238X012](#))

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 LCP100 local control panel has four (4) mounting holes for on-site mounting of the device. The LCP100 must be installed so that the wiring connections are on the bottom to prevent accumulation of moisture inside the box.

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 protection method and installation requirements. Also refer to figure 4 for LCP100 switch setting, terminal connections, and label details and information, as well as DVC6200 SIS terminal box details.

Table 3. Wiring Configurations with DVC6200 SIS Digital Valve Controller

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)	Refer to figure
Ex e mb [ib] IIC Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point	5
			Multi-Drop	6
		LCP100 then DVC6200 SIS	Point-to-Point	7
			Multi-Drop	8
	24 VDC	DVC6200 SIS then LCP100	Point-to-Point	9
			Multi-Drop	10
Ex ic IIC Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point	11
			Multi-Drop	12
		LCP100 then DVC6200 SIS	Point-to-Point	13
			Multi-Drop	14
	24 VDC	DVC6200 SIS then LCP100	Point-to-Point	15
			Multi-Drop	16
Ex ia IIB Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point	17
			Multi-Drop	18
		LCP100 then DVC6200 SIS	Point-to-Point	19
			Multi-Drop	20

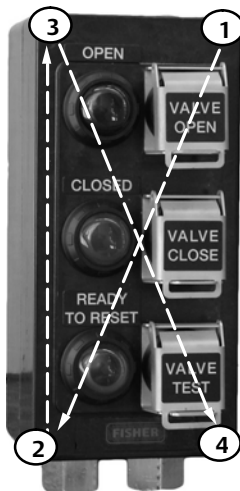
Note

For intrinsically safe applications, the LCP100 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: $U_o \leq U_i$, $I_o \leq I_i$, $P_o \leq P_i$, $C_o \geq C_i + C_c$, $L_o \geq L_i + L_c$.

When installing the cover, tighten the screws evenly in a criss-cross pattern such as the one indicated in figure 3, to a torque of 2.82 N • m (25 lbf • in), to help ensure the cover is properly installed.

Figure 3. Proper Cover Installation



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

Figure 4. Interior Details of Fisher LCP100 and FIELDVUE DVC6200 SIS

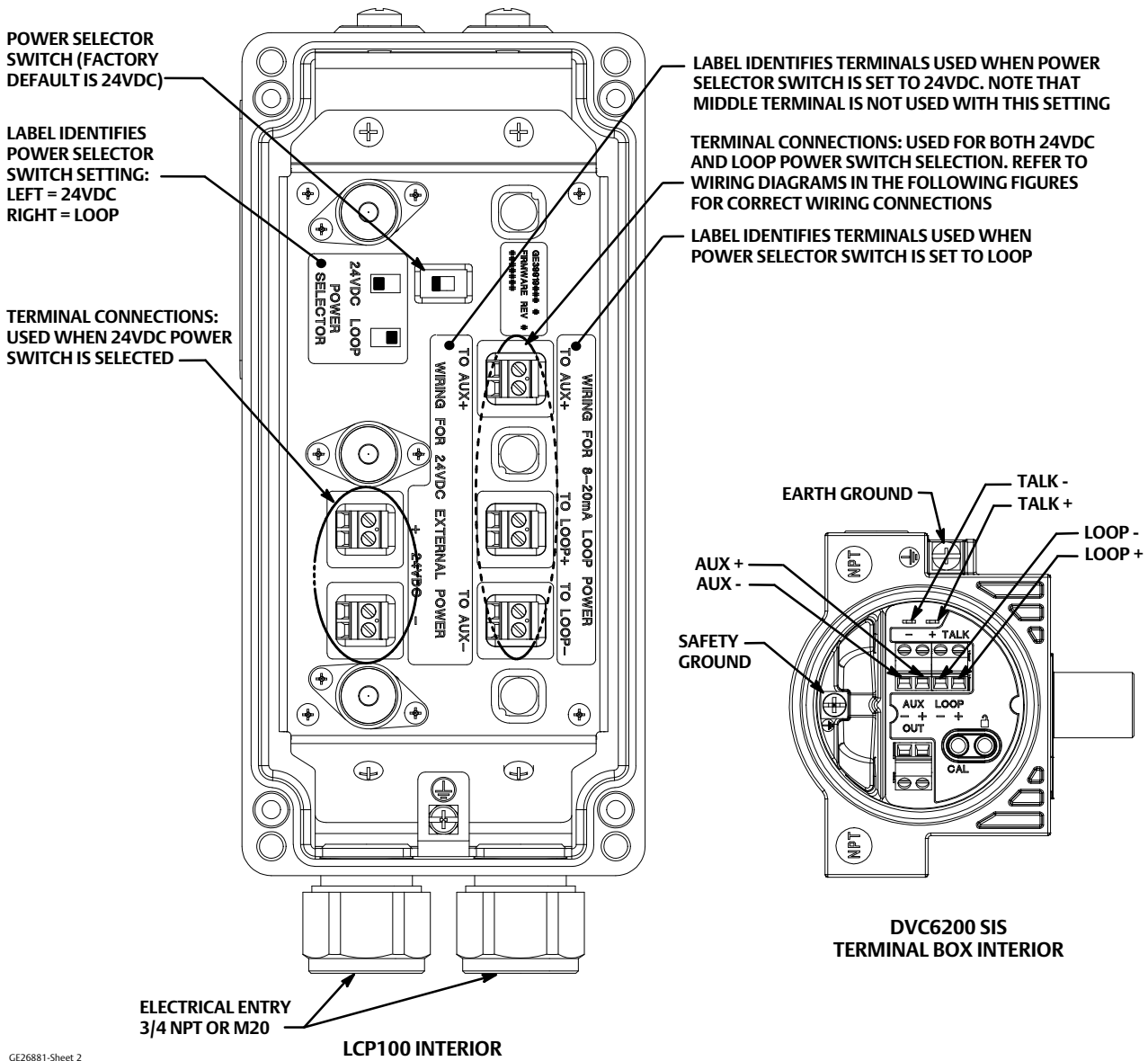
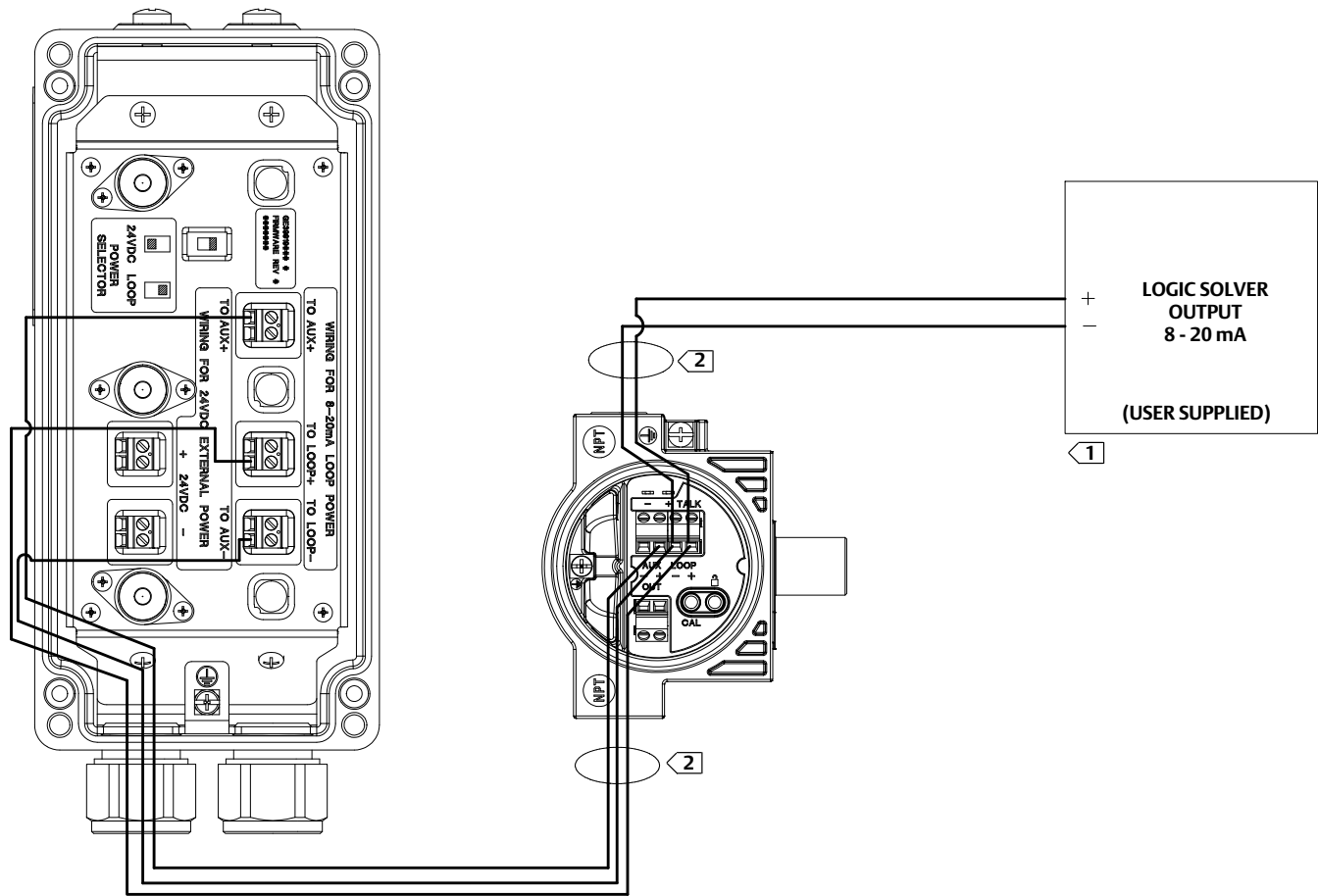


Figure 5. Ex e mb [ib] IIC or Ex tb IIC Wiring Diagram 1

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point



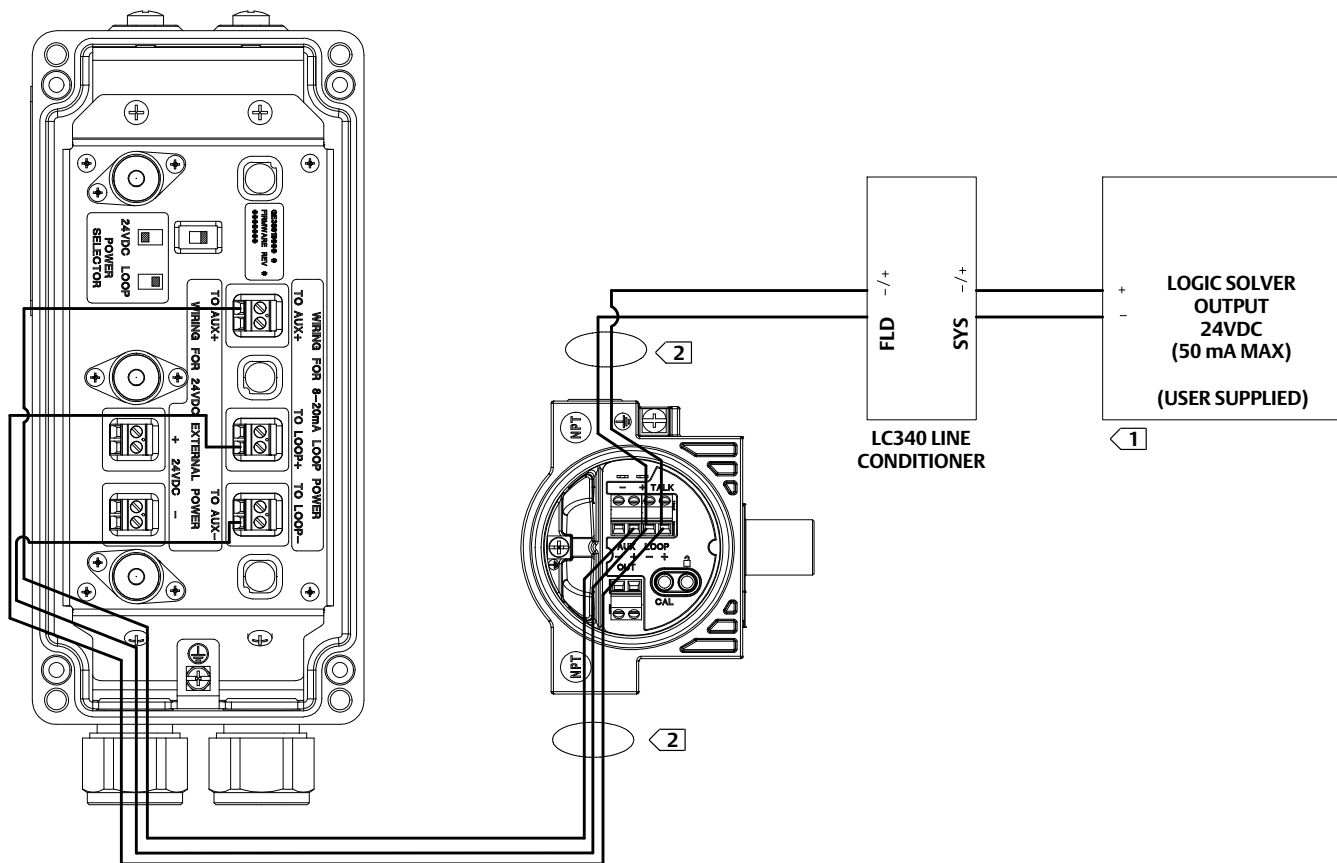
NOTES:

1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.

2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE.

Figure 6. Ex e mb [ib] IIC or Ex tb IIIC Wiring Diagram 2

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Multi-Drop

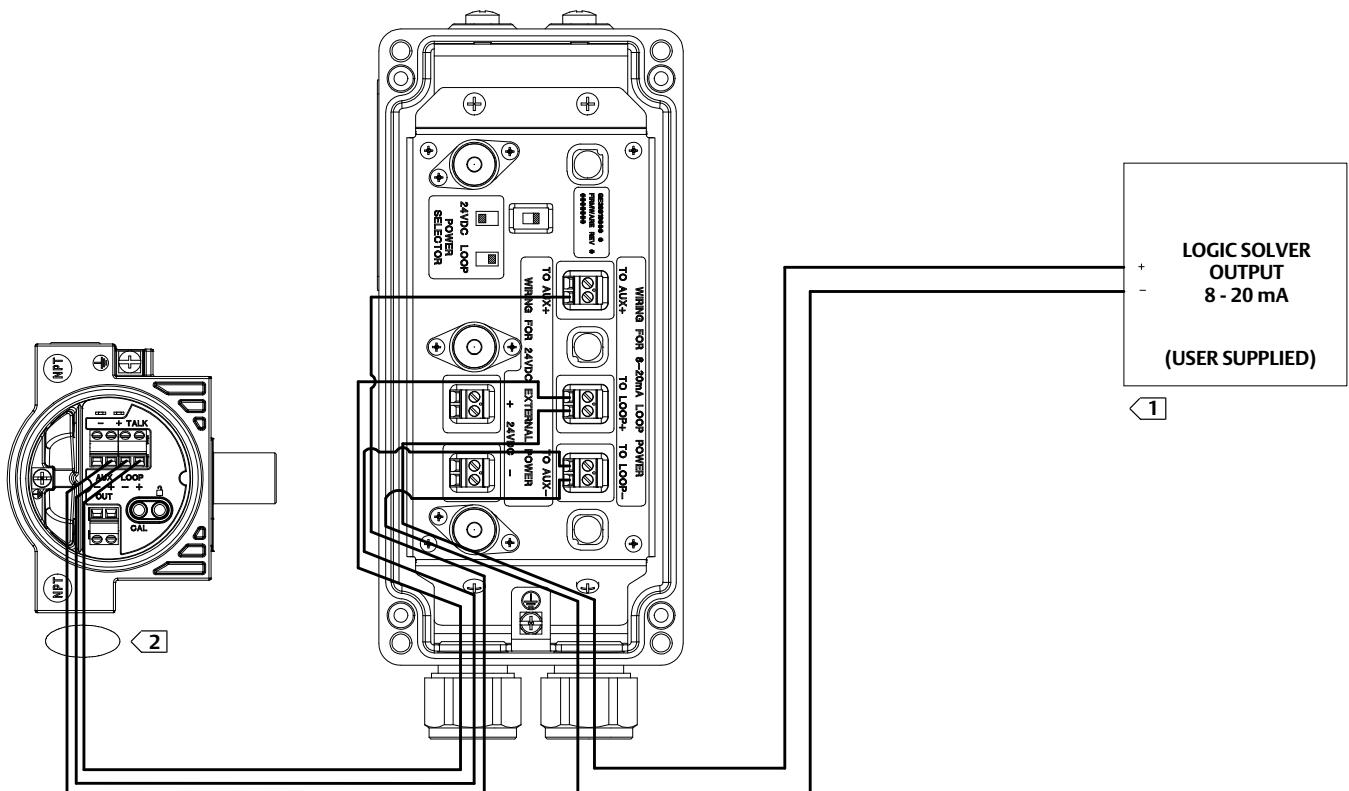


NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE.

Figure 7. Ex e mb [ib] IIC or Ex tb IIIC Wiring Diagram 3

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Point-to-Point



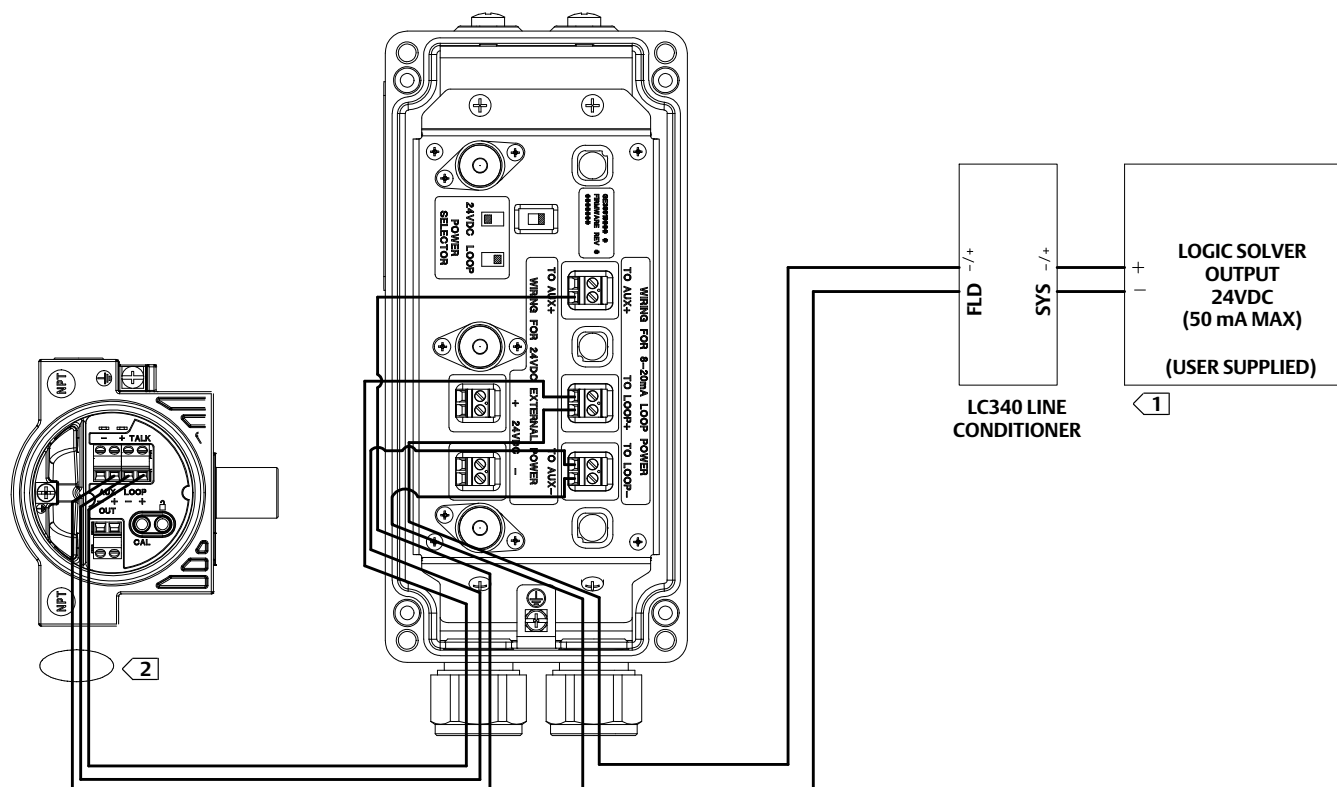
NOTES:

1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.

2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE

Figure 8. Ex e mb [ib] IIC or Ex tb IIIC Wiring Diagram 4

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Multi-Drop

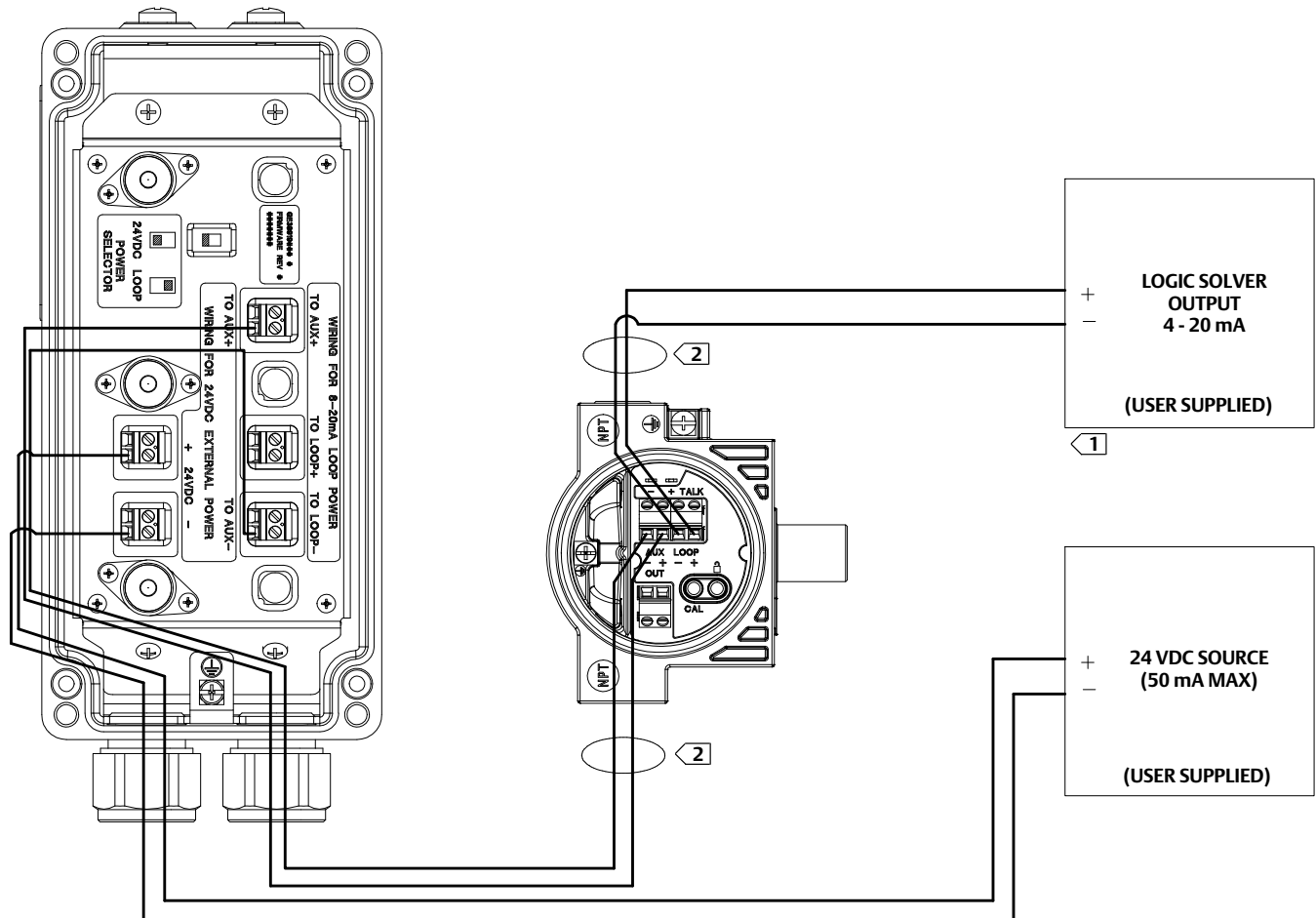


NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE.

Figure 9. Ex e mb [ib] IIC or Ex tb IIIC Wiring Diagram 5

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIIC	24VDC	DVC6200 SIS then LCP100	Point-to-Point



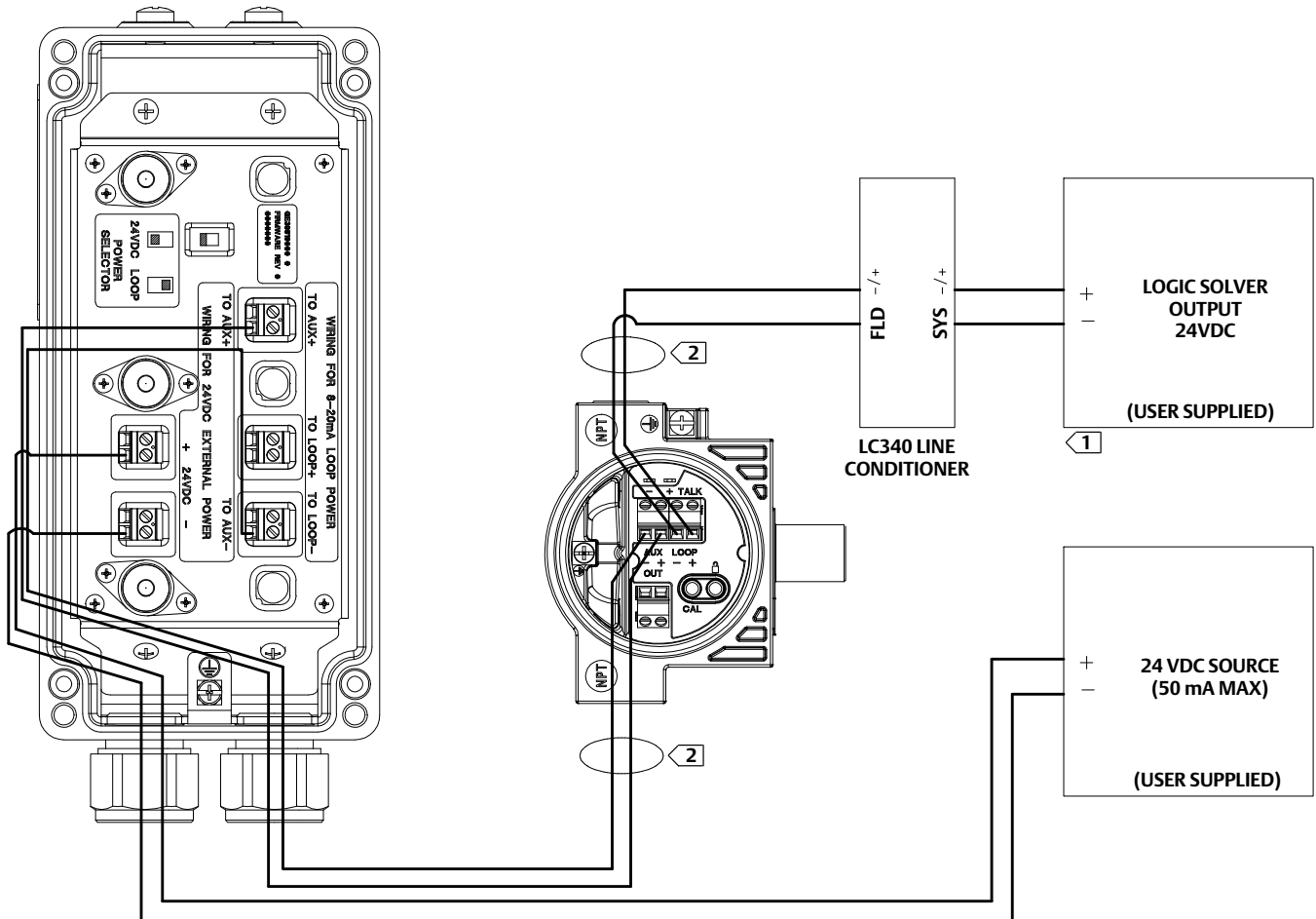
NOTES:

1 WHEN 24VDC POWER IS AVAILABLE FOR THE LCP100, IT IS NOT NECESSARY TO CONNECT THE LOOP + OF THE DIGITAL VALVE CONTROLLER TO THE LOOP + OF THE LCP100. DOING SO WILL CAUSE THE LCP100 TO UNNECESSARILY CONSUME 4 mA AT THE EXPENSE OF THE DIGITAL VALVE CONTROLLER

2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE.

Figure 10. Ex e mb [ib] IIC or Ex tb IIIC Wiring Diagram 6

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex e mb [ib] IIC Ex tb IIIC	24VDC	DVC6200 SIS then LCP100	Multi-Drop



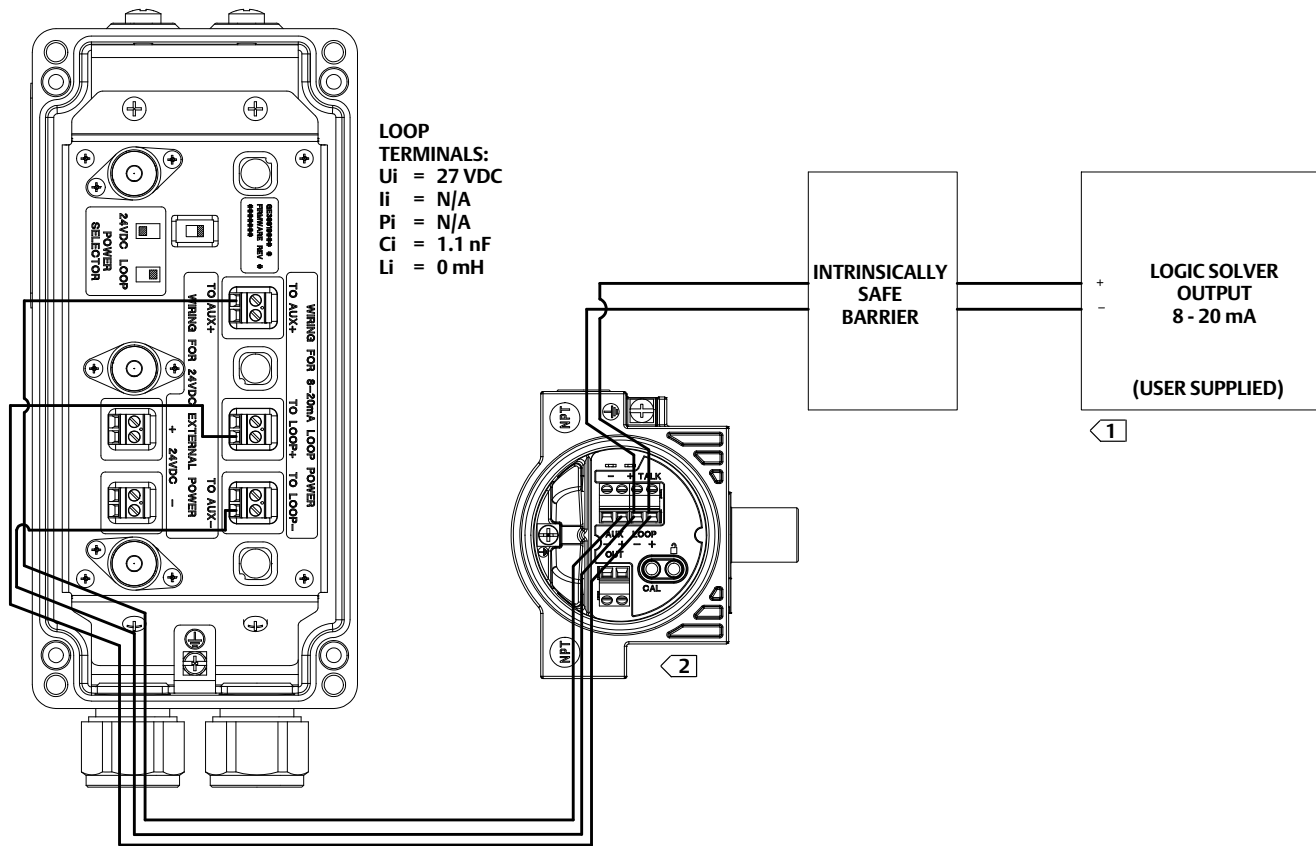
NOTES:

1 WHEN 24VDC POWER IS AVAILABLE FOR THE LCP100, IT IS NOT NECESSARY TO CONNECT THE LOOP + OF THE DIGITAL VALVE CONTROLLER TO THE LOOP + OF THE LCP100. DOING SO WILL CAUSE THE LCP100 TO UNNECESSARILY CONSUME 4 mA AT THE EXPENSE OF THE DIGITAL VALVE CONTROLLER

2 FOR FLAMEPROOF/EXPLOSION-PROOF APPROVED DIGITAL VALVE CONTROLLERS, INSTALL CONDUIT SEALS OR FLAMEPROOF CABLE GLANDS AS REQUIRED TO MAINTAIN THE FLAMEPROOF/EXPLOSION-PROOF INTEGRITY OF THE DEVICE.

Figure 11. Ex ic IIC or Ex tb IIIC Wiring Diagram 1

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point



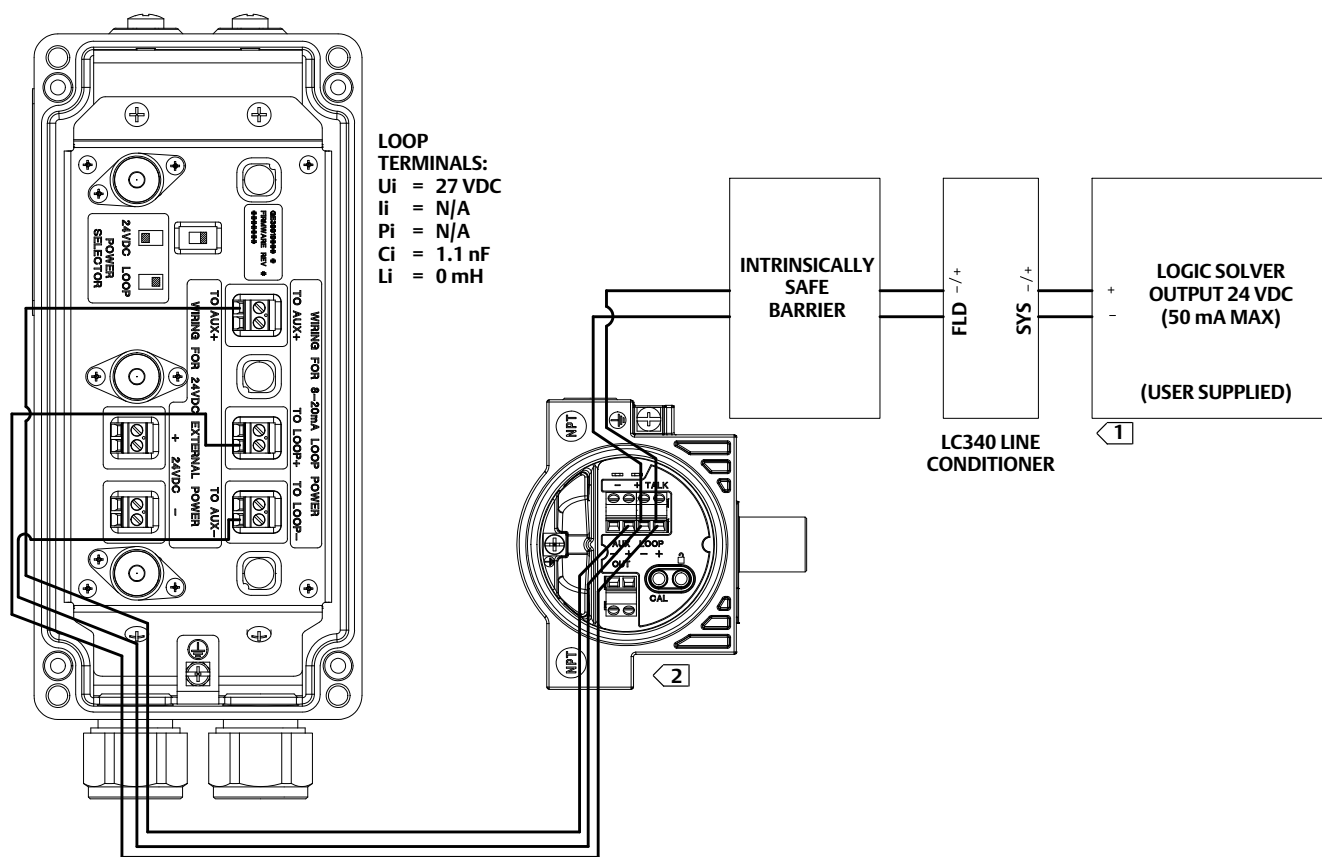
NOTES:

1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.

2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 12. Ex ic IIC or Ex tb IIIC Wiring Diagram 2

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Multi-Drop

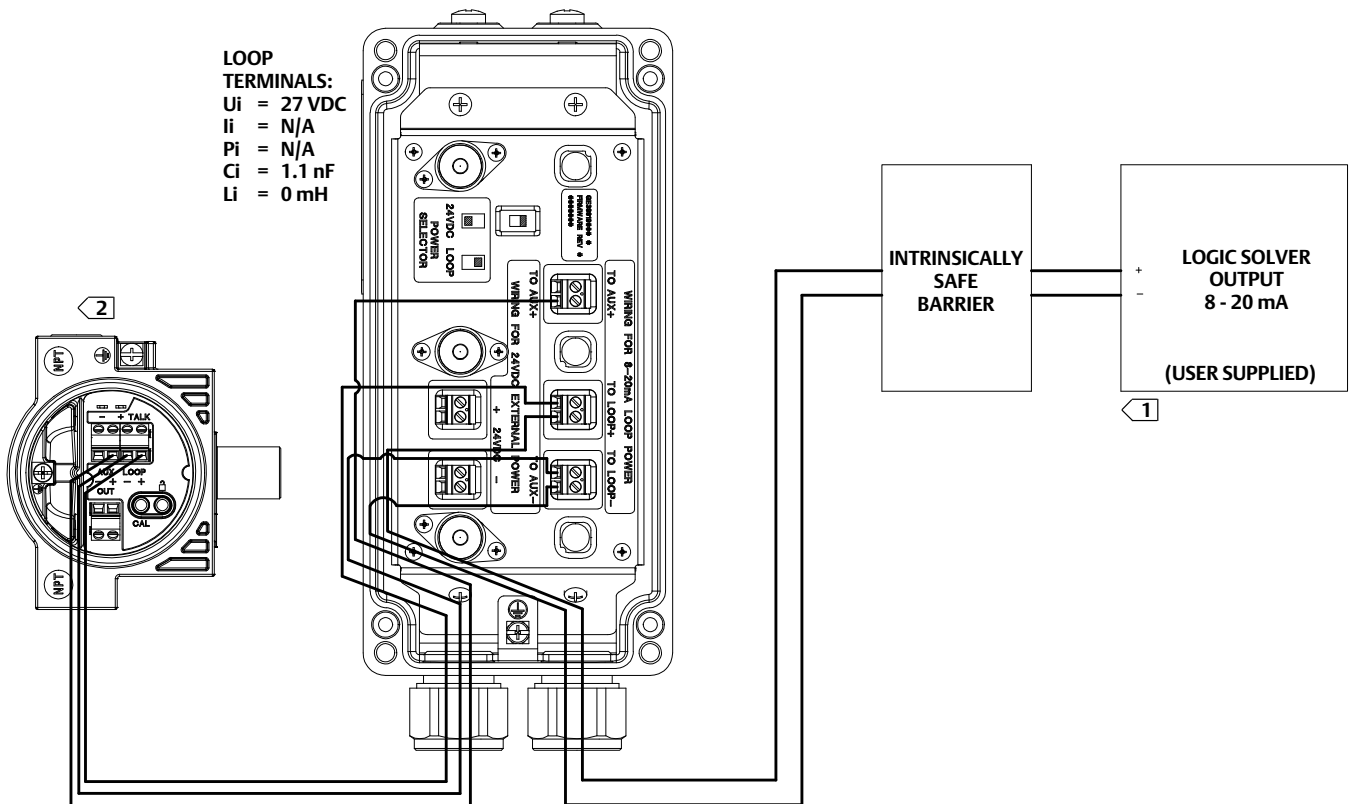


NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 13. Ex ic IIC or Ex tb IIIC Wiring Diagram 3

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Point-to-Point

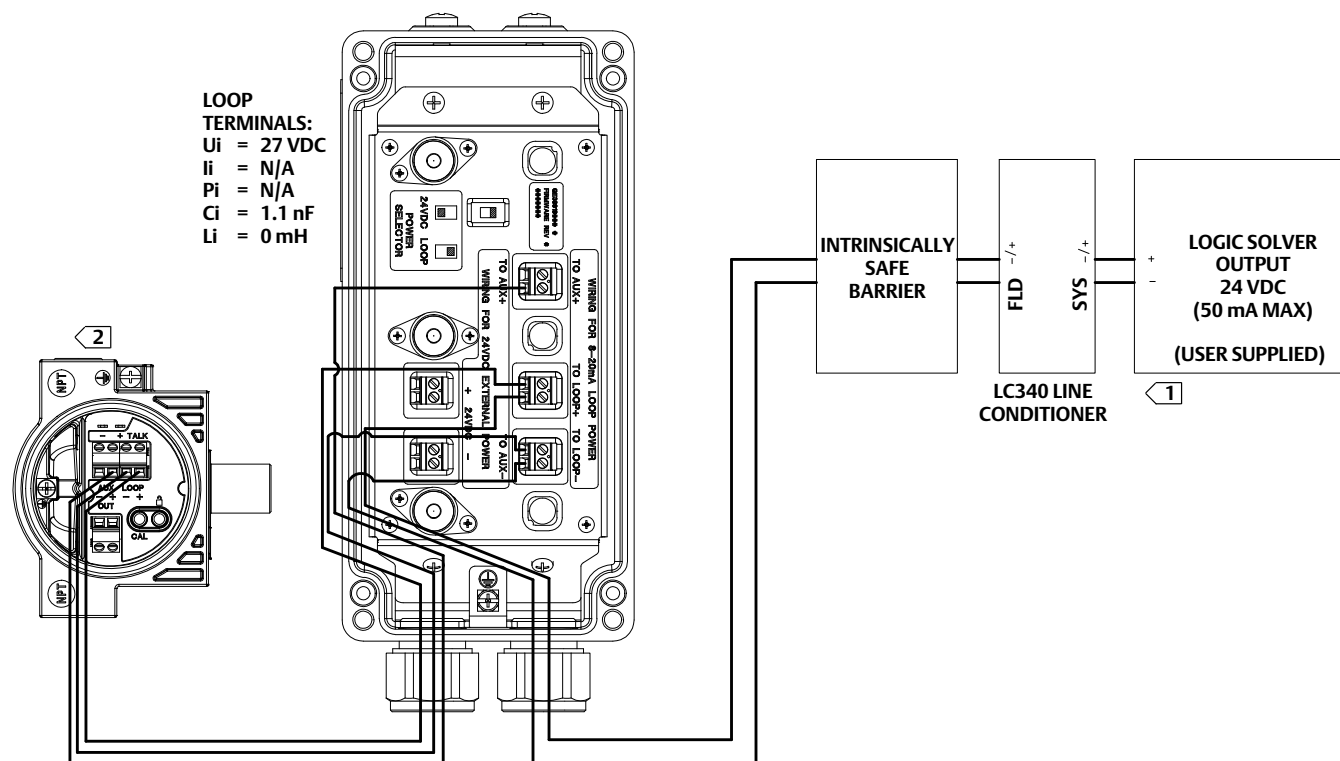


NOTES:

- 1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 14. Ex ic IIC or Ex tb IIIC Wiring Diagram 4

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Multi-Drop

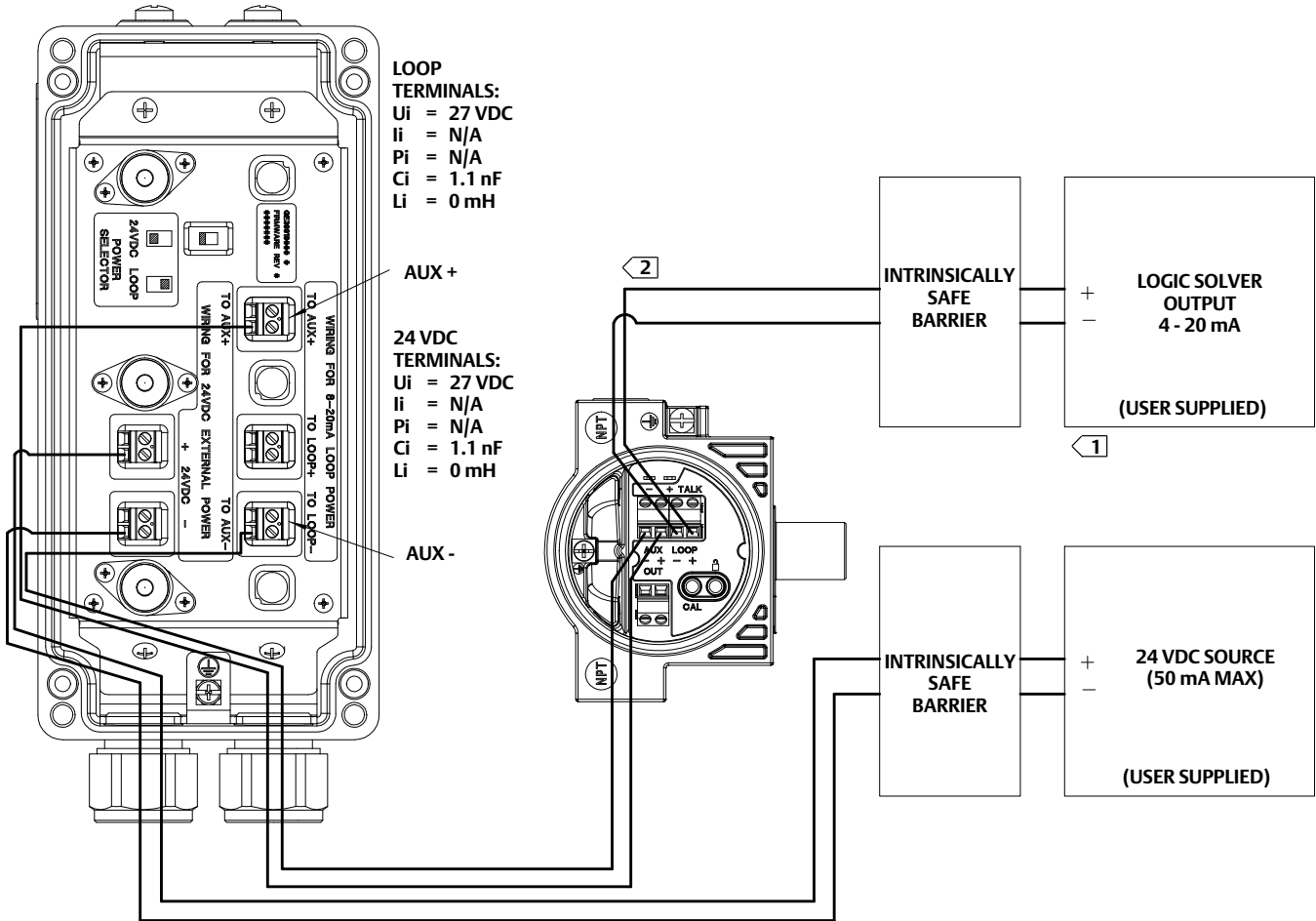


NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 15. Ex ic IIC or Ex tb IIIC Wiring Diagram 5

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	24VDC	DVC6200 SIS then LCP100	Point-to-Point



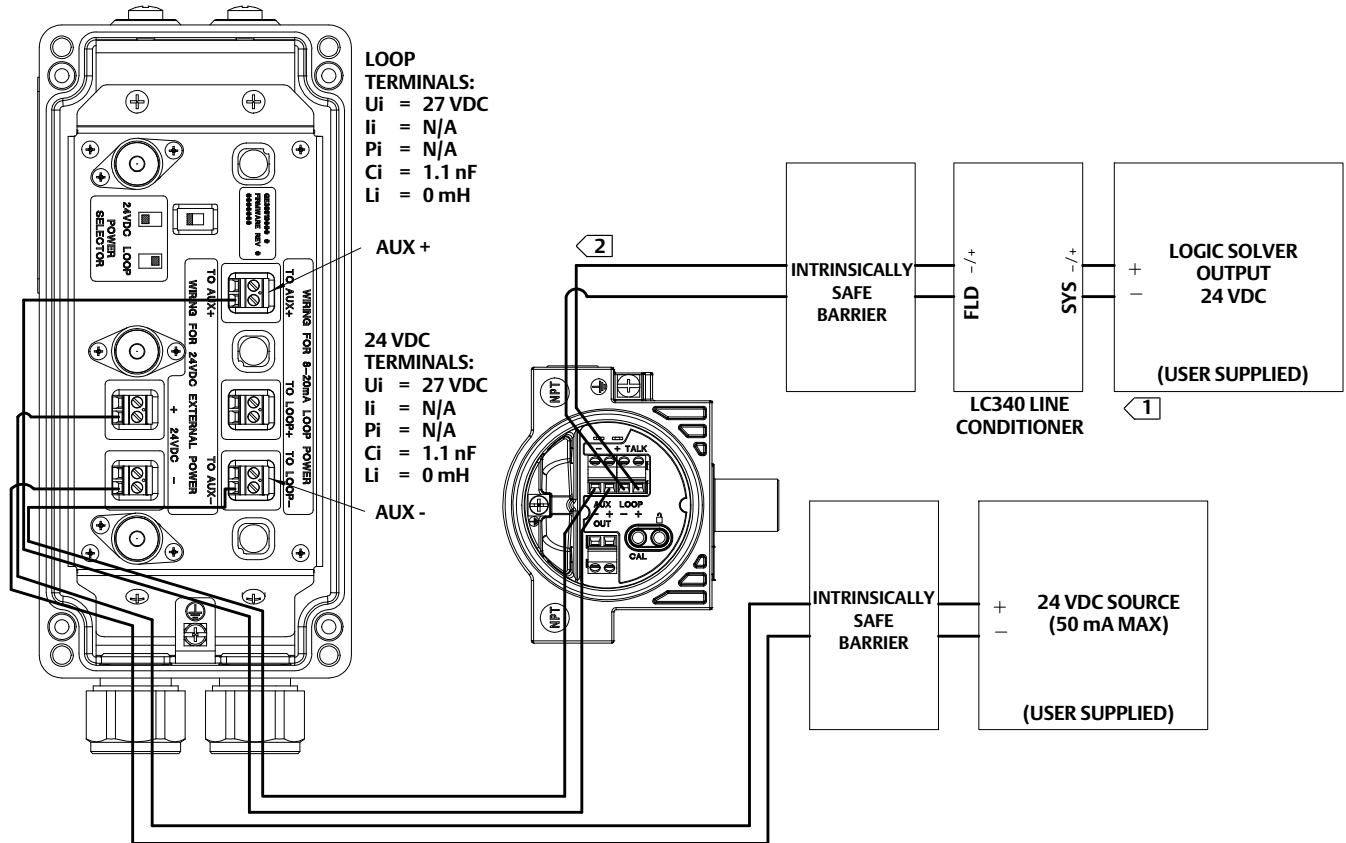
NOTES:

1 WHEN 24 VDC POWER IS AVAILABLE FOR THE LCP100, IT IS NOT NECESSARY TO CONNECT THE LOOP + OF THE DIGITAL VALVE CONTROLLER TO THE LOOP + OF THE LCP100. DOING SO WILL CAUSE THE LCP100 TO UNNECESSARILY CONSUME 4 mA AT THE EXPENSE OF THE DIGITAL VALVE CONTROLLER.

2 REFER TO THE DVC6200 SERIES QUICK START GUIDE (D103556X012) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 16. Ex ic IIC or Ex tb IIIC Wiring Diagram 6

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ic IIC Ex tb IIIC	24VDC	DVC6200 SIS then LCP100	Multi-Drop



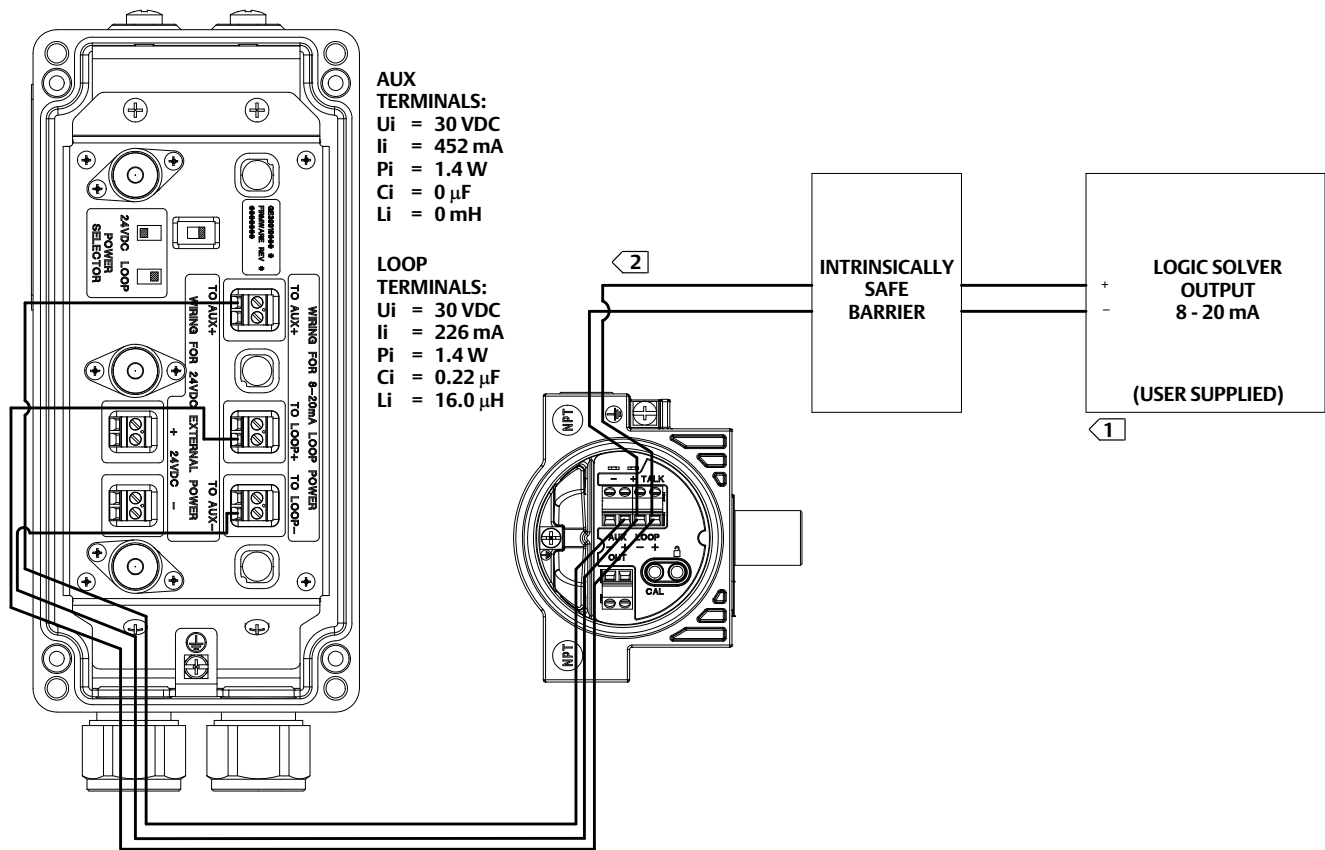
NOTES:

1 WHEN 24 VDC POWER IS AVAILABLE FOR THE LCP100, IT IS NOT NECESSARY TO CONNECT THE LOOP + OF THE DIGITAL VALVE CONTROLLER TO THE LOOP + OF THE LCP100. DOING SO WILL CAUSE THE LCP100 TO UNNECESSARILY CONSUME 4 mA AT THE EXPENSE OF THE DIGITAL VALVE CONTROLLER.

2 REFER TO THE DVC6200 SERIES QUICK START GUIDE (D103556X012) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 17. Ex ia IIB or Ex tb IIIC Wiring Diagram 1

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ia IIB Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Point-to-Point

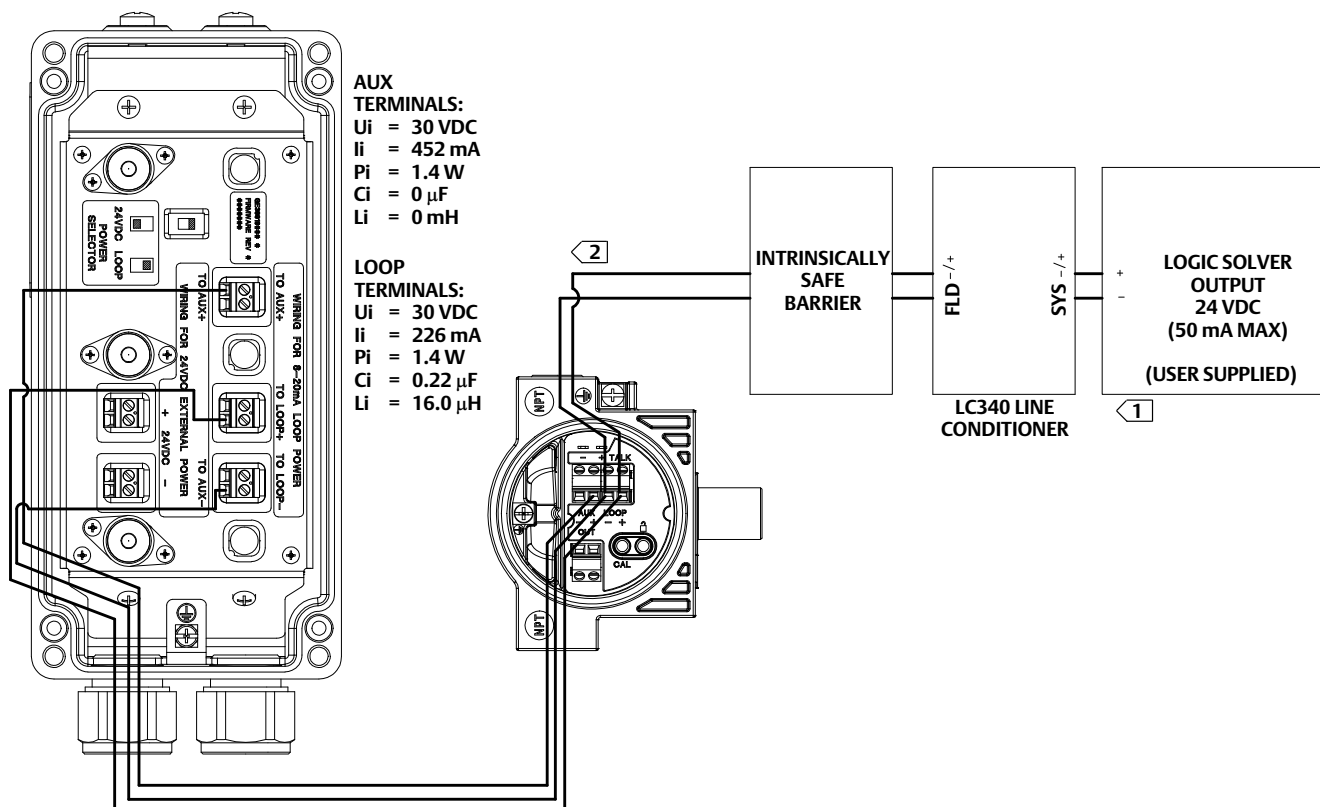


NOTES:

- 1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 18. Ex ia IIB or Ex tb IIIC Wiring Diagram 2

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ia IIB Ex tb IIIC	LOOP	DVC6200 SIS then LCP100	Multi-Drop

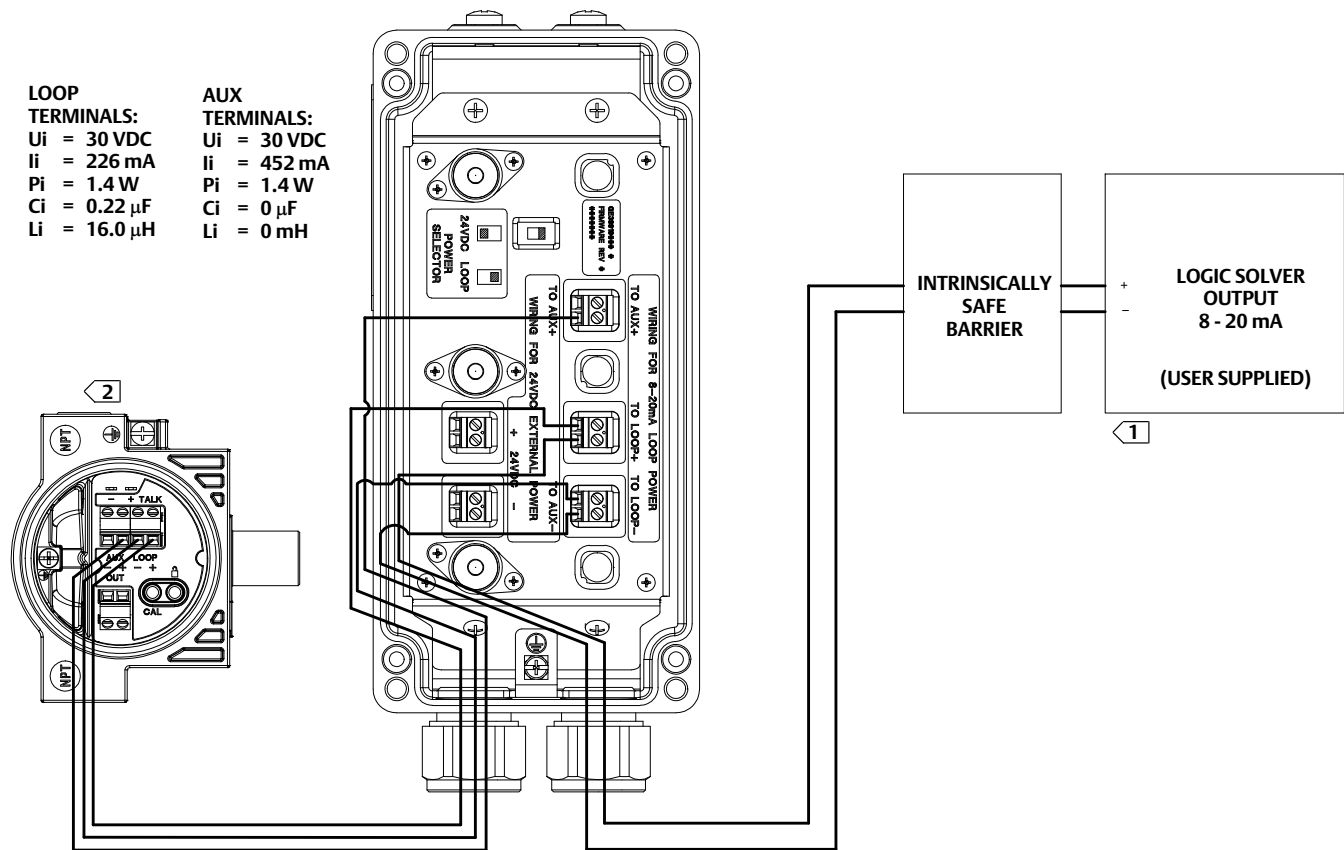


NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 19. Ex ia IIB or Ex tb IIIC Wiring Diagram 3

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ia IIB Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Point-to-Point

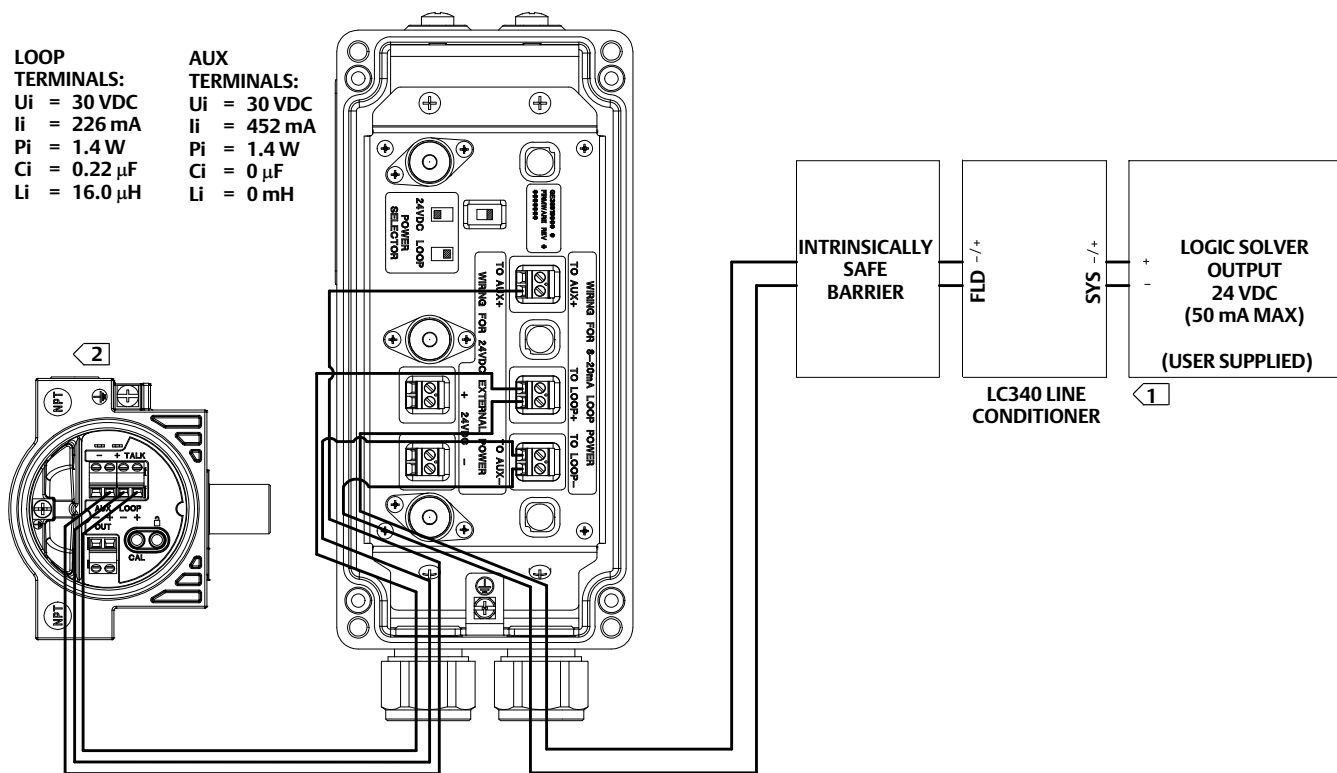


NOTES:

- 1 THE LOGIC SOLVER MINIMUM OUTPUT MUST BE 8 mA. THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE (D103556X012) FOR SCHEMATICS AND ENTITY PARAMETERS.

Figure 20. Ex ia IIB or Ex tb IIIC Wiring Diagram 4

LCP100 Protection Method	LCP100 Power Source	Wiring Order from Logic Solver	DVC6200 SIS Mode (Current or Voltage)
Ex ia IIB Ex tb IIIC	LOOP	LCP100 then DVC6200 SIS	Multi-Drop



NOTES:

- 1 THE LCP100 WHEN POWERED BY THE LOOP CONSUMES APPROXIMATELY 4 mA.
- 2 REFER TO THE DVC6200 SERIES QUICK START GUIDE ([D103556X012](#)) FOR SCHEMATICS AND ENTITY PARAMETERS.

Pre-Setup Testing

Before connecting the LCP100 to the process, conduct the following tests on the LCP100 connected to the DVC6200 SIS.

Successful Partial Stroke Test

1. Press the Valve Test (bottom) pushbutton for more than 3 seconds (but less than 10 seconds).
2. Observe that the green light starts flashing when the valve starts moving.
3. Observe that the valve moves no more than the configured partial stroke test travel limit.
4. Observe that the valve returns to the normal operating position and the green light comes on solid.

Manually Aborted Partial Stroke Test

1. Press the Valve Test (bottom) pushbutton for more than 3 seconds (but less than 10 seconds).
2. Observe that the green light starts flashing when the valve starts moving.
3. Before the valve reaches the travel limit of the configured partial stroke test, press the Valve Test pushbutton, or the pushbutton next to the green light.
4. Observe that the valve immediately returns to the normal operating position and the green light comes on solid.

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 fail safe state.
3. Observe that the red light comes on solid and the yellow light stays off.
4. Press the pushbutton next to the green light and observe that the valve does not move.
5. Increase the current to the DVC6200 SIS to 20 mA (for de-energize to trip) and observe that the valve remains in its fail safe state.
6. Observe that the red light stays on solid and the yellow light comes on solid (ready to reset).
7. Press the pushbutton next to the green light.
8. Observe that the red light goes off, the valve moves to its normal operating position, and then the green light comes on solid.

Emergency Demand through Local Control Panel

1. Press the pushbutton next to the red light.
2. Observe that the valve moves to its fail safe position.
3. Observe that the red light comes on solid and the yellow light comes on solid (ready to reset).
4. Press the pushbutton next to the green light.
5. Observe that the red light goes off, the valve moves to its normal operating position, and then the green light comes on solid.

Setup

In order for the LCP100 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 LCP100. 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 (LCP100)” option]

- Follow the prompts to complete Device Setup. The following parameters will be automatically set under Travel Alerts:
 - Hi Hi / Lo Lo Enable - Yes
 - Lo Lo Point (%) - 1
 - Hi Hi Point (%) - 99
 - Deadband (%) - 0.5
 - DVC Power Up - Manual Reset
- 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 LCP100 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.

Table 4. Fisher LCP100 Light and Button Operation

WHAT THE LCP100 LIGHTS SHOW...		POSSIBLE CONDITIONS...	PRESS INDICATED BUTTON TO...		
			Top	Middle	Bottom
Green	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	
Red	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 LCP100.	---	---	---
		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.	---	---	---	
Yellow	Solid	The valve may be reset to the normal operating state.	Reset to Normal State	---	---

NOTES

1. If the green, red, and yellow 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 always be labeled "Valve Test".
3. Acknowledgment of a PST failure means that the LCP100 will return the blinking green light to solid green. The PST alert will still be visible via HART communication with the DVC6200 SIS.
4. If the red and green lights are both solid the valve is throttling in mid-travel.
5. The information contained in this table applies to firmware 9 and later.

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 red button is not intended to perform the primary safety function for the process.

Maintenance

WARNING

Electrostatic charge hazard. Do not rub or clean the LCP100 with solvents if a flammable vapor is present. To do so could result in an explosion.

The LCP100 has four major components; the housing, lights, conduit connections, and electronics. If a light is not working it can be replaced with the appropriate color. The conduit connections do not normally need replacement. If there is any fault with the electronics module it is recommended that you replace the whole unit.

Instrument Troubleshooting

If difficulties are experienced with the LCP100 control panel, refer to table 5.

Table 5. Instrument Troubleshooting

Symptom	Possible Cause	Action
1. Lights are not lit.	1. LCP100 is not properly connected to the digital valve controller aux. terminal.	1. Ensure that the LCP100 is connected correctly to the digital valve controller aux. terminal, as described in the Installation section of this manual.
2. LCP100 is properly connected to the digital valve controller aux. terminal, but the lights are not lit.	2. Power switch is not set correctly.	2. Ensure that the power switch is set correctly. If Loop Power is used, ensure that the switch position is set to Loop Power, and NOT 24 VDC, and vice versa.
3. The power switch is set 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 LCP100 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.
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.

Parts Ordering

When corresponding with your [Emerson sales office](#) about this equipment reference 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

Description	Part Number
LED Assemblies Kit (see figure 22) Includes LED's (qty. 3); Yellow, Red, and Green (keys 11*, 12*, and 13*) and fasteners (qty. 6) (key 8)	GE25751X012
Enclosure Labels Kit Includes labels (qty. 6); OPEN, CLOSED, VALVE OPEN, VALVE CLOSE, READY TO RESET, and VALVE TEST	GE25750X012
Switch Cover Kit Includes switch actuator shroud cover (qty. 3) and Enclosure Labels (qty. 6); OPEN, CLOSED, VALVE OPEN, VALVE CLOSE, READY TO RESET, and VALVE TEST	GE23730X022

Parts

Note

Contact your Emerson sales office for Part Ordering information.

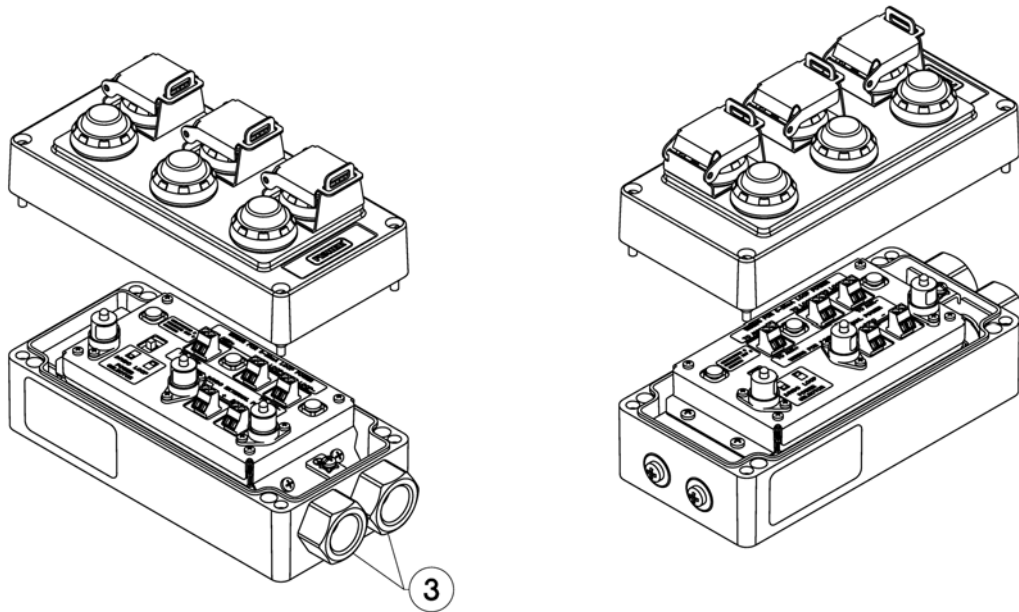
Key Description

See figure 21

3	3/4 NPT Conduit (2 req'd) M20 Conduit (2 req'd)
---	--

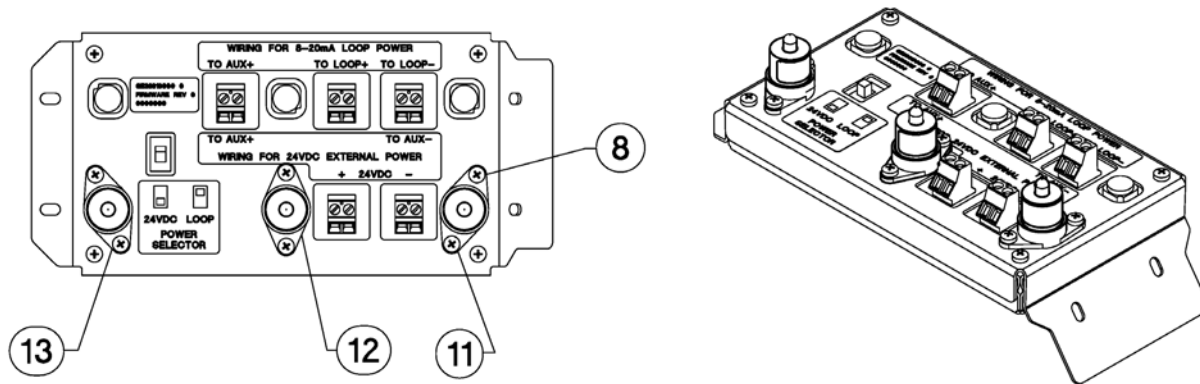
*Recommended spare parts

Figure 21. Fisher LCP100 Assembly



GE37243-C

Figure 22. Electronics Module



GE37243-C

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