

GO2 - Single Phase, Duplex

Model: GO21D | Opaque Door, Beacon

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Introduction

Product Overview

The Go2 Duplex control panel is designed to operate two sewage pumps in demand dose applications. It supports both 120VAC and 230VAC pumps and features high reliability power relays for controlling the pumps as well as Hand-Off-Auto control for each pump. The control panel is housed in a Type 4X (indoor/outdoor) enclosure and includes an RG LED beacon for status indication.

The panel features four float inputs: stop level, lead level, lag level, and high level. The lead pump starts when the liquid level rises and activates the lead level switch, and runs until the stop switch is deactivated, ending the cycle. The second pump (the lag pump) will activate when the lag level switch is activated, and run until the stop switch is deactivated. The lead pump will alternate after every pumping cycle. If the liquid level reaches the high level float, a high level alarm will be triggered.

Product Highlights

Below is a list of highlighted features of the Go2 Duplex system. For further details on each feature, please see the rest of this document.

Power Inputs

- ▶ 120/230 VAC Board Power Input
- ▶ 120/230 VAC Pump Power Inputs

Sensor Inputs

- ▶ Four Float Inputs
 - ▶ Stop, Lead, Lag, and Alarm

User Inputs

- ▶ Test/Silence Switch
- ▶ Test/Config Switch (For Changing Field Settings)
- ▶ Hand-Off-Auto Control for Each Pump

Outputs

- ▶ Two High Reliability Pump Power Relays
- ▶ One Auxiliary Dry Contact Output

Indications

- ▶ Red/Green Beacon for System Normal, Pump Run, and Alarm Indication
- ▶ Indicator LEDs for Each Sensor Input
- ▶ Pump Run Indicator LEDs

Field Configurations

- ▶ Input Error Detection
- ▶ Automatic Alarm Reset
- ▶ Lag Alarm Enable
- ▶ High Float Redundant Start Enable
- ▶ Green System Normal Beacon Enable

Before Installation

Before proceeding with the installation or operation of the control panel read all instructions thoroughly, as well as comply with all Federal, State and Local Codes, Regulations and Practices. The control panel must be installed by qualified personnel familiar with all applicable local electrical and mechanical codes. Refer to the National Electrical Code (NFPA 70). Failure to properly install and test this product can result in personal injury or equipment malfunction. All conduit connected to the panel must be sealed with conduit sealant to prevent moisture or gases from entering the panel. NEMA 1 enclosures are for indoor use only while NEMA 4X panel enclosures may be used indoor or outdoor. Refer to panel model name plate on inside of door for enclosure rating. Note: If options are ordered that affect the number of floats, refer to the panel schematic for complete information.

Safety Guidelines



1. DO NOT USE WITH FLAMMABLE OR EXPLOSIVE FLUIDS SUCH AS GASOLINE, FUEL OIL, KEROSENE, ETC. DO NOT USE IN EXPLOSIVE ATMOSPHERES. CONTROL PANEL SHOULD ONLY BE USED IN WATER AND WASTEWATER APPLICATIONS THAT ARE NOT RATED AS A HAZARDOUS LOCATION.
2. DO NOT WORK ON THE CONTROL PANEL WITH LIVE VOLTAGE APPLIED TO THE CONTROL PANEL WITH WET HANDS OR WHEN STANDING ON A WET SURFACE.
3. DISCONNECT ALL ELECTRICAL SERVICE BEFORE WORKING ON OR HANDLING THE CONTROL PANEL
4. INCOMING VOLTAGE MUST MATCH THE CONTROL PANEL VOLTAGE. REFER TO THE PANEL SCHEMATIC FOR COMPLETE INFORMATION.

Description of Product Interface

The following sections will describe all of the interface points with the Go2, including all buttons, indicator outputs, and sensor inputs for the system.

Outside of the Panel

Each Go2 panel is equipped with a test/silence switch, an Red-Green (RG) indicator LED, and a buzzer. The test/silence switch is used to activate an indicator test routine to verify the beacon, buzzer, and LED indicators are all functioning properly. The Red-Green beacon will by default be illuminated green while the system is normal and monitoring, will blink green while a pump is running, and will blink red when there is an alarm. If both an alarm and a pump run event are happening simultaneously, the beacon will alternate between Red and Green. If there are no pumps enabled (both are set to OFF mode), the beacon will blink a yellow warning to the user.

Inside of the Panel

HOA Switches

Each pump on the Go2 has its own Hand-Off-Auto (HOA) selector switch. When set all the way up, the pump will enter hand mode and the power relay output from the Go2 will activate. When in the middle, the pump will be in OFF mode and will not activate during pump starting events. When set all the way down, the pump will be in auto mode and will be used as the lead or lag pump as appropriate. Note that if both pumps are set to OFF, the RG beacon will blink yellow to warn the user that the system will be unable to activate any pumps.

Test/Config Button

The Test/Config button is used to activate the indicator test routine, to clear active alarms, and to modify the system settings. See the "How To Clear an Alarm" section for details on alarm clearing and the "How to View and Change Settings" section for details on configuring the device.

Indicator LEDs

The Go2 features indicator LEDs for each sensor input as well as indicator LEDs for each pump. The F1 through F4 LEDs indicate the state of each float input. The Pump 1 Run and Pump 2 Run LEDs indicate whether or not their respective pumps are running.

Auxiliary Dry Contact

The Go2 features a single auxiliary dry contact alarm output with both normally open and normally closed connections. This dry contact output will activate during any alarm condition. Additionally, the contact will be active when the product loses power, allowing for power loss detection and alarming when connected to building automation systems.

Sensor Connections

Float Sensors

The F1 through F4 inputs are designed for standard signal level gold contact floats. They are powered by an isolated 3.3 Volt low power and touch safe power source generated by the Go2 circuit board.

How To Clear an Alarm

If automatic alarm reset is disabled, the user must manually clear all alarm events. To do this, activate and hold the Test/Silence switch on the side of the panel **or** the Test/Config button on the product chassis for 5 seconds. This will reset all active alarms. Note that if the alarm immediately re-activates and the buzzer activates again, this means that the alarm condition is still present and the system cannot clear the alarm. If this happens, check for the source of the alarm.

Settings

The Go2 panel has several settings that the user can use to customize the panel for the application. This section will describe how to change the settings and provide a list of the available settings.

How to View and Change Settings

Press and hold the test/configure pushbutton on the Go2 chassis to begin the setting viewing and changing routine. The system will immediately begin a test blinking pattern of all indicator outputs. After holding for 5 seconds, the setting viewing and changing routine will begin. The routine is as follows:

- 1. LED Test Pattern;** Press and hold the Test/Config button.
 - ▶ The LED indicator outputs, buzzer, and beacon will all begin blinking in a test pattern.
- 2. View Settings;** Hold the Test/Config button for 5 seconds.
 - ▶ The test blinking pattern will stop and the indicator LEDs will display the current system settings.
 - ▶ If an indicator LED is ON, that means the setting is enabled. Otherwise, the setting is disabled.
 - ▶ See the "Available Settings" section for a summary of the configs and which LED they are indicated by.
- 3. Toggle Settings;** Hold the Test/Config button for another 5 seconds to change a setting.
 - ▶ A fast blinking pattern will begin to move through the indicator LEDs from left to right and then up to the green beacon.
 - ▶ This fast blinking pattern indicates which setting is currently selected.
 - ▶ To toggle a setting, release the Test/Config button while the desired Setting Indicator LED is blinking.
 - ▶ After releasing the Test/Config button, a medium blinking pattern will confirm which setting was toggled, after which the system will display the new system settings followed by a burst of fast blinks before the system returns to normal operation..

4. **Exit Without Saving;** To exit without changing any settings, keep holding the Test/Config button until the fast blinking pattern moves through all of the indicator LEDs and the system returns to the test blinking pattern. The Test/Config button can now be released without changing any settings.

Available Settings

Name	Indicator LED	Factory Default	Description
Input Error Detection	F1 LED	Enabled	Enables input sequence error detection. If the floats activate out of sequence (e.g., the lag float activates before the start float) the system will alarm.
Automatic Alarm Reset	F2 LED	Enabled	Enables automatic alarm resetting. If enabled, the system will automatically stop alarming once the alarm condition is resolved. If disabled, the user must manually clear each alarm by holding the test/silence switch.
Lag Alarm Enable	F3 LED	Enabled	Enables a high level alarm on the lag float.
High Float Redundant Start Enable	F4 LED	Enabled	Enables redundant lag pump starting on the high alarm float.
Green System Normal Beacon Enable	Green Beacon	Enabled	If enabled, the beacon will be illuminated green when the system is normal. If disabled, the green beacon will only activate when one of the pumps are running.

