Mizu Logic Control Panels

Core



MizuLogic™

Operating Instructions, Installation & Maintenance Manual

EBARA

EBARA Pumps Americas Corporation

Mizu Logic Industrial Control Panel

Mizu Logic industrial control panels will control pumps in sewage, wastewater, and dewatering applications. All panels are UL Listed for the United States and come with a two-year warranty.

Simplex Model	Supply Voltage	FLA Range	Overload Module
CP-ML-CS12-370G5-PL	120/208/240VAC, Single Phase	(33.0-37.0)	-
CP-ML-CS12-320G3-PL	120/208/240VAC, Single Phase	(8.0-32.0)	LUCA32BL
CP-ML-CS12-320G2-Pl	120/208/240VAC, Single Phase	(8.0-32.0)	LUCA32BL
CP-ML-CS12-320S5-PL	120/208/240VAC, Single Phase	(8.0-32.0)	LUCA32BL
CP-ML-CS12-320S3-PL	120/208/240VAC, Single Phase	(8.0-32.0)	LUCA32BL
CP-ML-CS12-320S2-PL	120/208/240VAC, Single Phase	(8.0-32.0)	LUCA32BL
CP-ML-CS33-05ON3-PL	208/240/480VAC, Three Phase	(1.25-5.0)	LUCA05BL
CP-ML-CS33-12ON3-PL	208/240/480VAC, Three Phase	(3.0-12.0)	LUCA12BL
CP-ML-CS33-320N3-PL	208/240/480VAC, Three Phase	(8.0-32.0)	LUCA32BL
Duplex Model	**Supply Voltage**	**FLA Range**	**Overload Module**
CP-ML-CD12-370G5-PL	208/240VAC Single Phase Grinder	(33.0-37.0)	TBA*
CP-ML-CD12-320G3-PL	208/240VAC Single Phase Grinder	(8.0-32.0)	LUCC32BL
CP-ML-CD12-320G2-PL	208/240VAC Single Phase Grinder	(8.0-32.0)	LUCC32BL
CP-ML-CD12-320S5-PL	208/240VAC, Single Phase	(8.0-32.0)	LUCC32BL
CP-ML-CD12-320S3-PL	208/240VAC, Single Phase	(8.0-32.0)	LUCC32BL
CP-ML-CD12-320S2-PL	208/240VAC, Single Phase	(8.0-32.0)	LUCC32BL
CP-ML-CD33-050N3-PL	208/240/480VAC, Three Phase	(1.25-5.0)	LUCA05BL
CP-ML-CD33-120N3-PL	208/240/480VAC, Three Phase	(3.0-12.0)	LUCA12BL
CP-ML-CD33-320N3-PL	208/240/480VAC, Three Phase	(8.0-32.0)	LUCA32BL

** FLA range is based upon the selected overload module, which is user provided for this model.*
◊ With -GR adder, Supply Voltage is determined by generator receptacle rating.

Features:

- Simplex/Duplex panel designed to control pumps in sewage, wastewater, and dewatering applications using a PLC and floats
- Duplex panel provides pump rotation and high demand two pump operation
- Alarm visible features: Red beacon alarm light, alarm test, and silence buttons
- Alarm horn sounds at 85 decibels at 10'
- Pump protection: IEC rated starters, adjustable overload, seal fail, and over temperature
- PLC provides pump control logic
- Pump indicators: Hand-Off-Auto (HOA) switch for the pumps, green pump run indicators, red pump fault and seal fail alarm lights.
- Remote monitoring dry contacts: general alarm, and high level
- Communications:
  - BACnet MS/TP; BACnet/IP
  - Modbus RTU/TCP

Additional Panel Options:

AH	=	Anti Condensation Heater
CC	=	Cycle Counter w/ LCD Display & Reset
CO	=	Convenience Outlet (User to supply 120 VAC)
GR ◊	=	Generator Receptacle, Includes Transfer Switch
IS	=	Intrinsically Safe
LA	=	Lightening Secondary Surge Arrestor
MD	=	Main Disconnect
PM	=	Phase Monitor
PX	=	Pump Portal® Wireless Remote Communication (replaces dry contacts)
SFD	=	Standard Macromatics Seal Fail Relay
SS4	=	Upgraded Enclosure (304 Stainless Steel)
SS6	=	Upgraded Enclosure (316 Stainless Steel)

MizuLogic™

Enclosure Mounting: 4X RATED

Mounting Brackets - A mounting bracket and bolt back are provided with the enclosure. To assemble, open enclosure door and insert the 3/8"-16 x 3/4" bolts through the enclosure mounting hole and attach external mounting feet.

Covers/Doors - Covers/doors have a gasket pre-assembled to seal against the base.

Note: The control panel should not be mounted in a location that may be subject to submersion.

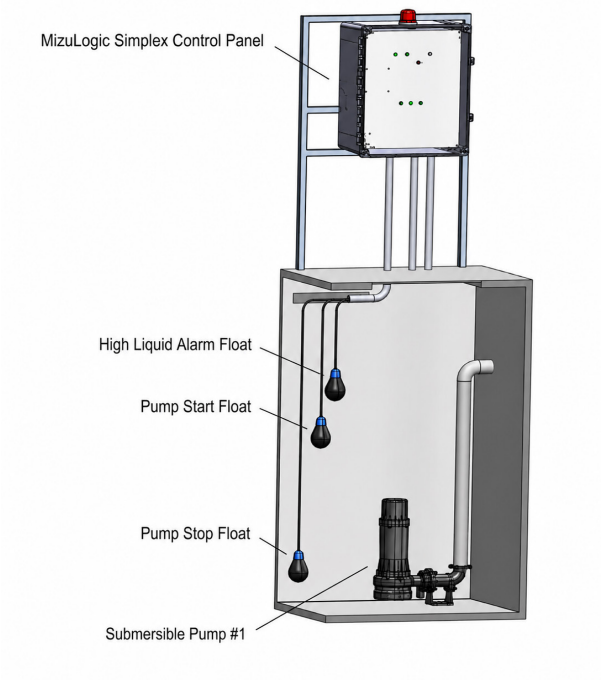
Panel Installation:

1. **Caution:** To maintain the type rating, make all wiring connections with seal tight cable grips or conduit connections.
2. **Run control (floats) and power (pump and service) conductors in separate conduits.** Make field connections as per enclosed schematic.
3. Branch circuit protection to be provided by installer.
4. Panel circuit breakers are shipped in the closed position.
5. Ensure floats are properly mounted at the correct levels. **Note:** Floats will have free range of motion without touching each other or other equipment.
6. Connect service conductors to proper location.

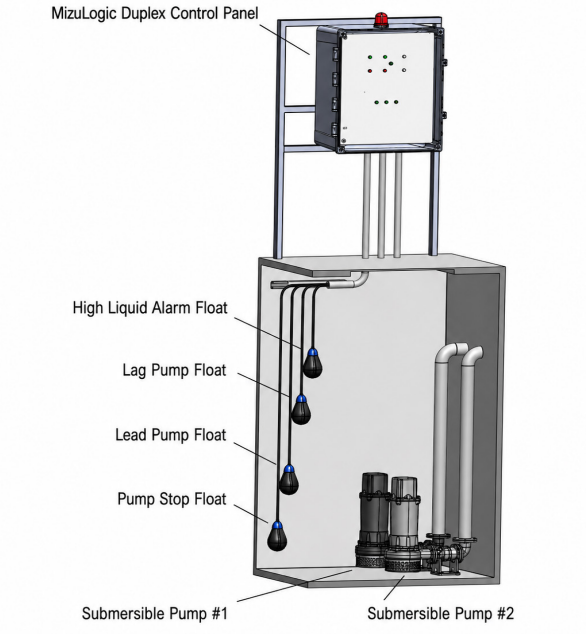
Duplex Float Scheme
High Liquid Alarm Float
Lag Pump Float
Lead Pump Float
Pump Stop Float

Simplex Float Scheme
High Liquid Alarm Float
Lead Pump Float
Pump Stop Float

Typical Installation of MizuLogic Simplex Control Panel



Typical Installation of MizuLogic Duplex Control Panel



MizuLogic™

Sequence of Operations:

Float Based Operation:

1. When the 'Stop' and 'Lead' floats are lifted, pump #1 will energize. Pump #1 will remain operational until the 'Stop' float falls.
2. In a duplex application, the next time the 'Stop' and 'Lead' floats are lifted, the automatic pump alternation circuit will energize pump #2. Pump #2 will remain operational until the 'Stop' float falls.
3. In a duplex application, if the level continues to rise after the first pump has been energized, the 'Lag' float will lift. When the 'Lag' float has lifted, the second pump will turn on. Both pumps will remain operational until the 'Stop' float falls.
4. If the level continues to rise, the 'High' float will be lifted, and the panel will alarm.

The following are operation details for each pump:

- Place the HOA switch into the Hand position to manually operate the pump.
- Place the HOA switch into the Auto position to allow for automatic pump operation.

The following are operation details during a float sequencing error during duplex operation:

- The Float Malfunction Alarm will activate if any float is lifted out of order.
- If the 'Lead' float is lifted and the stop float is down, the lead pump will turn on until the 'Lead' float drops.
- If the 'Lag' float is lifted and the stop float is down, both pumps will turn on until the lag float drops.
- If both the 'Lead' and 'Lag' floats are lifted, but the stop float is down, both pumps will remain on until the 'Lead' float drops.
- If the 'High Level' float is lifted and set to override, both pumps will turn on.

In the event of a pump motor overload or thermal condition, the following will occur:

- The alarm beacon will activate.
- The alarm buzzer will activate.
- General Alarm Dry Contact will close.

If configured as 'Fault':

- The pump will stop running.
- The pump fault light will illuminate.
- In a duplex application, the next available pump will start running.

(If Applicable:)

In the event of a pump motor seal fail condition, the following will occur:

- The alarm beacon will activate.
- The alarm buzzer will activate.
- General Alarm Dry Contact will close.
- The pump seal fail light will illuminate.

If configured as 'Fault':

- The pump will stop running.
- In a duplex application, the next available pump will start running.

In the event of the 'High' float being lifted, the following shall occur:

- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- High Level Alarm Dry Contact will close.
- General Alarm Dry Contact will close.

During an alarm test function, the following shall occur:

- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- General Alarm Dry Contact will close.

When a pump starts running (in either Hand or Auto mode), the following will occur:

- The pump run light will activate.
- Elapsed timer meter will begin to increment.

Start Up:

1. Place pump HOA selector switch in Hand to verify manual pump operation.
2. Place HOA selector switches in Auto to verify automatic operation.
3. To test the alarm circuit, press and hold the test button located on the panel. Verify the audible alarm sounds and the red beacon lights. Silence buzzer by pressing on the silence button located on the panel.



MizuLogic™

Notes:

Troubleshooting:

Caution: before checking electrical connections within the control or attempting to replace any components, turn off all branch circuits supplying power to the main control panel.

Alarm Circuit:

- To test the alarm light and buzzer, press the test button on the panel. If either the light or buzzer do not indicate, replace the light bulb or buzzer with the same type.

Operation:

- Check floats for entanglement, full range of motion. Replace damaged floats.
- Inspect the condition of the pumps and wiring.

Warranty:

See Water, Inc. warrants that products of its manufacture are free from defects in material and workmanship for a period of 2 years from the date of purchase. This date will be determined by the date on the invoice and the serial number on the product.

Replacement of the product is at the discretion of See Water, Inc. This warranty is valid when the product is installed in compliance with the manufacturer's installation instructions. The manufacturer's obligation under this warranty will be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided that the product is returned to See Water Inc.'s factory, postage prepaid with proof of original purchase included.

The manufacturer of this warranty will not be liable under this warranty if the product has not been properly installed; any alterations/additions/changes to the product will result in a void warranty. Failure to properly install and test this product can result in personal injury or equipment malfunction.

See Water, Inc. will not be liable for any loss, damage or expenses from installation or use of its products.

www.seewaterinc.com
951.487.8073 · 888.733.9283 · info@seewaterinc.com
22220 Opportunity Way, Suite 101 · Riverside, CA 92518