

# MURPHYMATIC® Duplex-Pump Controller



## DPC20

- Complete Duplex Alternation Control
- For up to 7-1/2 HP @ 230 VAC 3-Phase or up to 15 HP @ 460 VAC 3-Phase
- Accepts Normally Open Level Switch Contacts
- LED's for: Pump Running, Float Failure, and Low/High Level Alarm.
- Built-in Hand-Off-Auto Selectors
- Weatherproof Enclosure with Dripshield and Padlock Hasp
- Provision for Optional Equipment Mounting

### Description

The MURPHYMATIC® DPC20 is a complete duplex-pump controller. It typically operates from the signals of up to five level-sensing float switches. The DPC20 will automatically alternate the lead and lag pumps at the end of each operating sequence. Pump sequencing is automatically triggered by the pump-stop switch. Each time the stop level switch opens, the DPC20 selects the lag pump as the leading pump for the next pumping operation.

The DPC20 includes low level, high level, and failure alarms. Two (2) red LED's are provided, one for level alarm and the other for float failure alarm.

The DPC20 duplex-pump controller can be used with pump systems up to and including 7-1/2 HP, 230 VAC, 3-phase; or up to and including 15 HP, 460 VAC, 3-phase.


### Applications

The MURPHYMATIC® DPC20 Duplex-Pump Controller can handle all duplex-pump applications such as wastewater or flood water processes.

### Standard Features

- Murphy S20 SELECTRONIC® Logic Controller™ for duplex-alternation pump control.
- Two Hand-Off-Auto selector switches.
- Four LED status indicators.
- Weatherproof enclosure.
- Combination 3-pole thermal magnetic circuit breaker with overload relay for each pump.
- Provision for by-passing the alternation circuit in the event of alternator failure. This will allow the system to remain float operated, less alternation, so that the S20 board can be repaired or replaced without disabling the pump(s).
- Shutdown connection for normally closed motor winding temperature sensors.
- Control circuit disconnect switch.
- Magnetic contactor for each pump.

### Optional Features

- Top Mount Level Alarm Light
- Top Mount Flashing Alarm Light
- Lightning Arrestor
- Elapsed Time Meters
- Phase Monitor
- NEMA 4 Rated Enclosure
- NEMA 4X Stainless Steel Enclosure
-  Underwriter Laboratories Listed\*

### Specifications

#### Customer Supplied Pump Sizes:

- Up to and including: 7-1/2 horse power @ 230 VAC, 3 phase; or
- Up to and including: 15 horse power @ 460 VAC, 3 phase; maximum (specify).

**Sensor Inputs:** 5 normally open level sensors.

**Enclosure:** 14 gauge steel.

**Enclosure Coating:** Grey ANSI 61 Enamel.

**Subpanel Coating:** White Enamel.

**Hand-Off-Auto Selectors:** Two (2) selector switches each with 3-positions for:

- Hand: *The controller will close the contact for the appropriate pump to start.*
- Off: *In the Off position the controller will not allow the pump(s) to start.*
- Auto: *Automatic Start/Stop sequence begins.*

**Pump Run LED's:** 2 green, board mounted LED's for pump #1 and pump #2 running.

**Level Alarm LED:** 1 red, board mounted LED for low/high level annunciation.

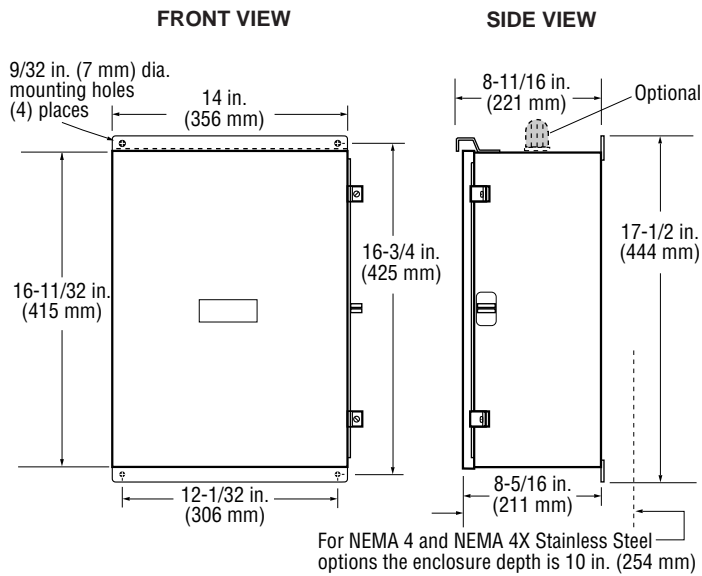
**Float Failure LED:** 1 red, board mounted LED for improper float sequence.

**Shipping Weight:** 52 lbs. (23.6 kg).

**Shipping Dimensions:** 18 x 20 x 19 in. (457 x 508 x 483 mm).

\*UL 508 listing with NEMA 4 or NEMA 4X enclosure.  
**NOTE:** If external alarm light is added, the enclosure is "de-rated" to NEMA 1.

## Dimensions



## How to Order

To order the DPC20 specify each component as follows:

DPC20 - - - - -

**Motor Horse Power**  
From Table Below

**Voltage**  
230 = 230 VAC  
480 = 480 VAC

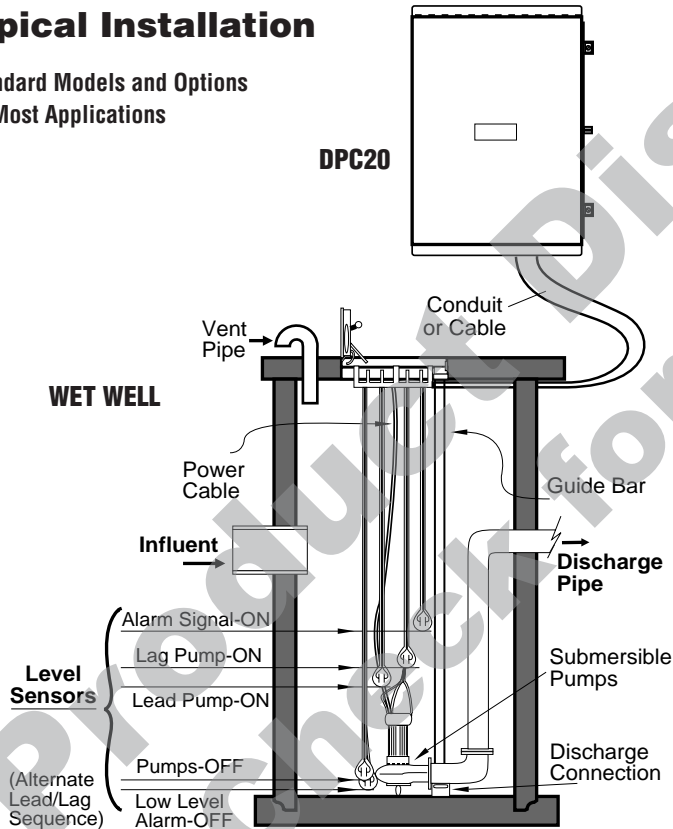
**Maximum Full Load**  
Amps From Table Below

### Options

- A = Top mounted level non-flashing alarm light
- B = Top mounted level flashing alarm light
- C = Phase monitor
- D = Lightning arrestor
- E = Elapsed time meter
- F = NEMA 4 rated enclosure.
- G = NEMA 4X rated stainless steel enclosure.
- H = Underwriters Laboratories Listed.

## Typical Installation

Standard Models and Options  
Fit Most Applications



### Standard Ranges Table

0.5 Hp @ 230 VAC, 3 phase, 1.6-2.5 FLA
1.0 Hp @ 230 VAC, 3 phase, 2.5-4.0 FLA
1.5 Hp @ 230 VAC, 3 phase, 4.0-6.3 FLA
3.0 Hp @ 230 VAC, 3 phase, 6.0-10.0 FLA or 9.0-14.0 FLA
5.0 Hp @ 230 VAC, 3 phase, 13.0-18.0 FLA
7.5 Hp @ 230 VAC, 3 phase, 17.0-23.0 FLA or 20.0-25.0 FLA
0.5 Hp @ 480 VAC, 3 phase, 0.63-1.0 FLA
0.75 Hp @ 480 VAC, 3 phase, 1.0-1.6 FLA
1.0 Hp @ 480 VAC, 3 phase, 1.6-2.5 FLA
2.0 Hp @ 480 VAC, 3 phase, 2.5-4.0 FLA
3.0 Hp @ 480 VAC, 3 phase, 4.0-6.3 FLA
5.0 Hp @ 480 VAC, 3 phase, 6.0-10.0 FLA
10.0 Hp @ 480 VAC, 3 phase, 9.0-14.0 FLA or 13.0-18.0 FLA
15.0 Hp @ 480 VAC, 3 phase, 17.0-23.0 FLA or 20.0-25.0 FLA

**NOTE:** If your motor horse power, voltage or full load amps are outside the standard ranges listed above, contact Murphy. Non-standard pricing may vary.

## Warranty

A two-year limited warranty on materials and workmanship is given with this Murphy product. Details are available on request and are packed with each unit.