



# Calamba Water District

Lakeview Subdivision, Halang, Calamba, Laguna  
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## VARIABLE FREQUENCY DRIVE SPECS.

- 1.1) 40Hp, 230V, 3-phase, 60Hz.
- 1.2) 50Hp, 440V, 3-phase, 60Hz.

- 1.1) 250 AT Main circuit breaker
- 1.2) 200 AT Main circuit breaker
- 2) With Direct on-line stop and start (By-pass)
- 3) BW control for liquid water level indicator
- 4) Selector switch for Auto and manual
- 5) Terminal connector from VFD and submersible cable
- 6) light indicator for running and stop
- 7) Start and running contactor
- 8) Lightning arrester

### MAINS SUPPLY (L1, L2, L3)

|                                      |                              |
|--------------------------------------|------------------------------|
| Supply Voltage                       | 1 or 3 x 200 -240 Volts ±10% |
|                                      | 1 or 3 x 380 -480 Volts ±10% |
| Supply Frequency                     | 50/60Hz                      |
| True power factor                    | ≥ 0.9                        |
| Switching on input supply L1, L2, L3 | 1 - 2 times/min.             |

### OUTPUT DATA (U,V, W)

|                     |                            |
|---------------------|----------------------------|
| Output Voltage      | 0 - 100% of supply voltage |
| Switching on output | Unlimited                  |
| Ramp times          | 1 -3600 sec.               |
| Close loop          | 1 - 132 Hz                 |

### DIGITAL INPUTS

|                             |                                     |
|-----------------------------|-------------------------------------|
| Programmable digital inputs | 6 ( can be use as digital outputs ) |
| Logic                       | PNP or NPN                          |
| Voltage level               | 0 - 24 V                            |
| Thermistor input            | 1                                   |

### ANALOG INPUT

|               |                           |
|---------------|---------------------------|
| Analog inputs | 2                         |
| Modes         | Voltage or current        |
| Voltage level | 0 - 10V ( Scaleable )     |
| Current level | 0/4 - 20 mA ( Scaleable ) |

### PULSE INPUT

|                                    |                                 |
|------------------------------------|---------------------------------|
| Programmable pulse input           | 2                               |
| Voltage level                      | 0 - 24 VDC (PNP positive logic) |
| Pulse input accuracy               | (0.1 - 110 kHz)                 |
| Utilize some of the digital inputs |                                 |

### ANALOG OUTPUT

|                                |             |
|--------------------------------|-------------|
| Programmable analog outputs    | 1           |
| Current range at analog output | 0/4 - 20 mA |
| Max. load (24 V)               | 130 mA      |

### RELAY OUTPUTS

|                               |   |
|-------------------------------|---|
| Programmable relay outputs    | 2 |
| (240VAC, 2 A and 400VAC, 2 A) |   |

### FIELD BUS COMMUNICATION

|   |               |
|---|---------------|
| Standard built in:<br>FC Protocol<br>Modbus RTU | Optional:     |
|   | PROFIBUS      |
|   | DeviceNet     |
|   | EtherNet/IP   |
|   | Modbus TCT IP |
|   | ProfiNet      |

### TEMPERATURE

|                     |             |
|---------------------|-------------|
| Ambient temperature | Up to 55° C |
|---------------------|-------------|

|           |              |
|-----------|--------------|
| ENCLOSURE | IP55 or IP66 |
|-----------|--------------|

### APPLICATION

- a) Real time clock with battery back-up
- b) General purpose **I/O** option:
  - 3 digital inputs, 2 digital outputs, 1 analog current output,
  - 2 analog voltage inputs.
- c) Relay option/cascade controller option:
  - 3 relay outputs
- d) External 24VDC supply option:
  - 24 VDC external supply can be connected to supply control and option cards.

e) Brake chopper option:

Connected to an external brake resistor, the brake chopper limits the load on the intermediate circuit in case the motor acts as generator

f) Analog sensor input option with up to 3 temperature sensor inputs

#### **POWER OPTION**

a) Advance harmonic filters: for application where reducing harmonic distortion is critical.

b) dU/dt filters for providing motor isolation protection.

c) Sine filters (LC filters): for noise less motor

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