

Passion for Pumps



# INTELLICON

**3000 SERIES**

**Self-sensing Parallel Pump Controller (SPPC)**

[www.lubipumps.com](http://www.lubipumps.com)

# Self-sensing Parallel Pump Controller (SPPC)

## Introduction

The Intellicon 3000 series Self-sensing Parallel Pump Controller is a fully integrated variable speed controller that lets you monitor and control upto 4 self-sensing pumping units connected in parallel for Secondary Chilled Water Pumping.

The variable speed technology offers a huge opportunity in energy saving and so is a must for sustainable green energy modern buildings.

The Intellicon 3000 series Self-sensing Parallel Pump Controller is a pre-engineered solution for your HVAC Secondary Pumping Control System. It comes as a complete package of all hardware controls including high technology variable speed drives for each pump as well as dedicated application optimized software with flexibility to configure the HVAC system according to the site requirements to obtain the best efficiency.

The Intellicon 3000 series self-sensing parallel pump controller offers BMS connectivity using industry standard protocols like Modbus RTU / BacNet MS/TP, etc.

## Applications

HVAC Secondary Variable Pumping System



## Features & Benefits

- Variable speed energy saving optimized solution designed especially for HVAC Secondary Chilled Water Pumping Systems.
- Enhanced control capabilities and performance by optimized staging of pumps as per field demand.
- Factory loaded pump performance curve parameters into the controllers.
- Easy to re-configure duty point and system control curve parameters on site as per site requirements for better performance & lower energy consumption through operator interface touch screen color HMI.
- System always operates on system control curve to ensure the optimum energy saving at part load.
- Doesn't require field mounted differential pressure transmitter or flow-meter
- Measured sensorless flow & head accuracy with in  $\pm 5\%$  of actual.
- Password protection to prevent unauthorized access.
- Multiple fault memory for diagnosis.
- Standalone or BMS operation using industry standard protocols.
- Reliable solution for long term performance and monitoring accuracy.

## Technical Specification

Types of controllers : Intellicon 3002 for 2 pumps  
Intellicon 3003 for 3 pumps  
Intellicon 3004 for 4 pumps

Frequency	: 50 / 60 Hz
Motor Size	: 0 to 100 kw
Ambient Temp.	: 0° to 50° C
Electrical Range	: 380 ~ 415 V
Mounting	: Wall or Floor Mounting
Protocols	: Modbus RTU / BacNet MS / TP / Modbus TCP/IP

## Operator Interface

The Intellicon 3000 series controllers includes a 7" color touch screen HMI for all necessary user interface functions. Data stored within the controller will be protected during power supply interruptions.

Two level password security is standard on all controllers. Level-1 will enable the user to change field adjustable parameters while Level-2 will enable factory / commissioning person to adjust parameters which do not require adjustment in the field.

## Operation Logic

The Intellicon 3000 series Self-sensing Parallel Pump Controllers are programmed to operate pumps so that it logically determines the most efficient combination of operating pumps and pump speed based on the inputs received from the individual pump controls (Power, Speed, Head, Flow).

The Intellicon 3000 series SPPC responds to the system load by adjusting either the number of operating pump or the speed of number of operating pumps.

The Intellicon 3000 series SPPC shall continuously monitor the system requirements and ensure that the system operating point is maintained on the Quadratic system control curve to meet the system flow needs with optimized pumping energy usage, flow compensation at remote load & no flow conditions.

The Intellicon 3000 series SPPC is capable of sequencing the pumps based on a field adjustable interval of operating hours.

The Intellicon 3000 series SPPC has controls that can incorporate embedded logic to prevent hunting, pump flow surge, and motor overloading. The controller logic incorporates an adjustable PID control loop for optimum efficiency.

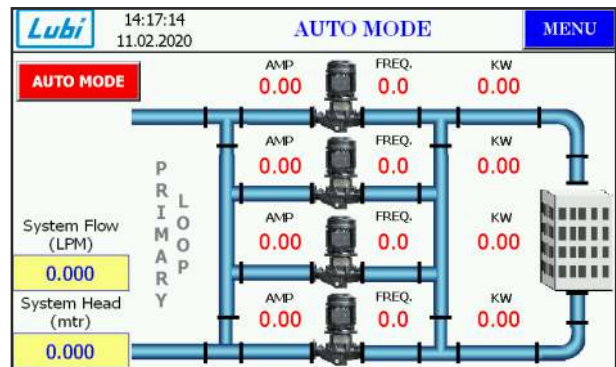
The Intellicon 3000 series SPPC shall have the system design flow, system design head and minimum head limit entered at the factory. They can be changed as per field requirement also. The default for the minimum head is 40% of the design head.

The Intellicon 3000 series SPPC provides a data-logging feature including alarms and events with date & time stamp.

# Intellicon 3000 SPPC Operator Interface Screens

- Individual Pump Control
  - Total flow of all pumps by Self-sensing
  - Total System Head by Self-sensing
  - Total power
  - Speed of Pumps
  - Alarms
  - Number of pumps running in real time
  - Lead Pump Identification
- Individual Pump status :
  - Actual Speed
  - Total run time in Hours
  - Fault indication
  - Run Status ( Run / Stop )
  - Mode (Lead / Standby / Duty)
- Individual Pump Control status :
  - Current (Amp)
  - Voltage (V)
  - Power (kw)
  - Head
  - Flow

		INDIVIDUAL PUMP CONTROL				MENU
		P-1 MANUAL	P-2 MANUAL	P-3 MANUAL	P-4 MANUAL	
Manual Speed (Hz)		0.0	0.0	0.0	0.0	
		P-1 AUTO	P-2 AUTO	P-3 AUTO	P-4 AUTO	
Freq. (Hz)		0.0	0.0	0.0	0.0	
AMP		0.00	0.00	0.00	0.00	
KW		0.00	0.00	0.00	0.00	
FLOW (LPM)		0.000	0.000	0.000	0.000	
Head (mtr)		0.000	0.000	0.000	0.000	



MAIN MENU		14:18:04
		11.02.2020
INDIVIDUAL PUMP CONTROL	AUTO MODE	
VFD CONFIGURATION	VFD READOUT PARAMETERS	
PUMP CONFIGURATION	OTHER SETTING	
BMS PROTOCOL CONFIGURATION	RUN HOUR & ALARM HISTORY	

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Product Improvement is a continuous process at 'LUBI'. The data given in this publication is therefore subject to revision.

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