MerMaid

**Hydraulic, Electrical and Efficiency Lift Station Analyzer**   **MLMMD**

MerMaid is the most advanced technology ever developed to give a detailed evaluation of the hydraulic, electrical and efficiency elements of wastewater pump stations. Also used by industries as an electric preventive maintenance and troubleshooting tool.

MerMaid was designed by a team headed by the same inventor that created over 20 years ago, the only other volumetric flow meter still on the market today. MerMaid has 20 years of constant improvement.

MerMaid uses most sophisticated and accurate flow algorithm, while most flow algorithms used in RTUs and Scada systems are based on preset pump capacities, pump curves, glorified pump run times or simplistic volumetric equation.

The Data Logger:

- In normal conditions, it takes less than 10 minutes to install.
- No setup required. It records by exception.
- Monitors 10 times per second and records changing inputs.
- For most lift stations, over one month of data is recorded in flash memory before it rolls over
- When AC is not available, it can operate 2 weeks on internal replaceable or rechargeable batteries.
- Readings can be viewed in real time.
- Data can be downloaded remotely or on site.
- It can record current on 3 phases for up to 3 motors, or for 2 motors plus voltage on 3 phases. It has a user defined analog input (4-20mA/0-5V), 1 pulse input (rain) and 3 digital inputs.
- It can close a relay based on abnormal readings.
- Every motor input can be used as standard analog inputs. Optional modules are required. Each of them is made for 4-20mA, 0-5VDC, 0-10VDC or 0-24VDC.
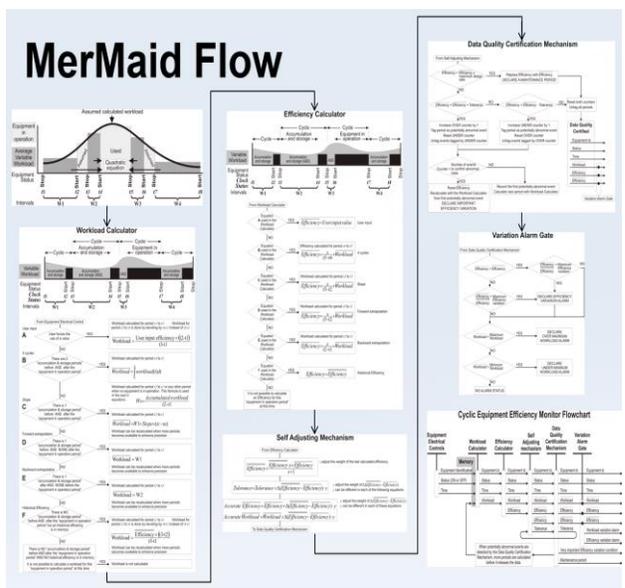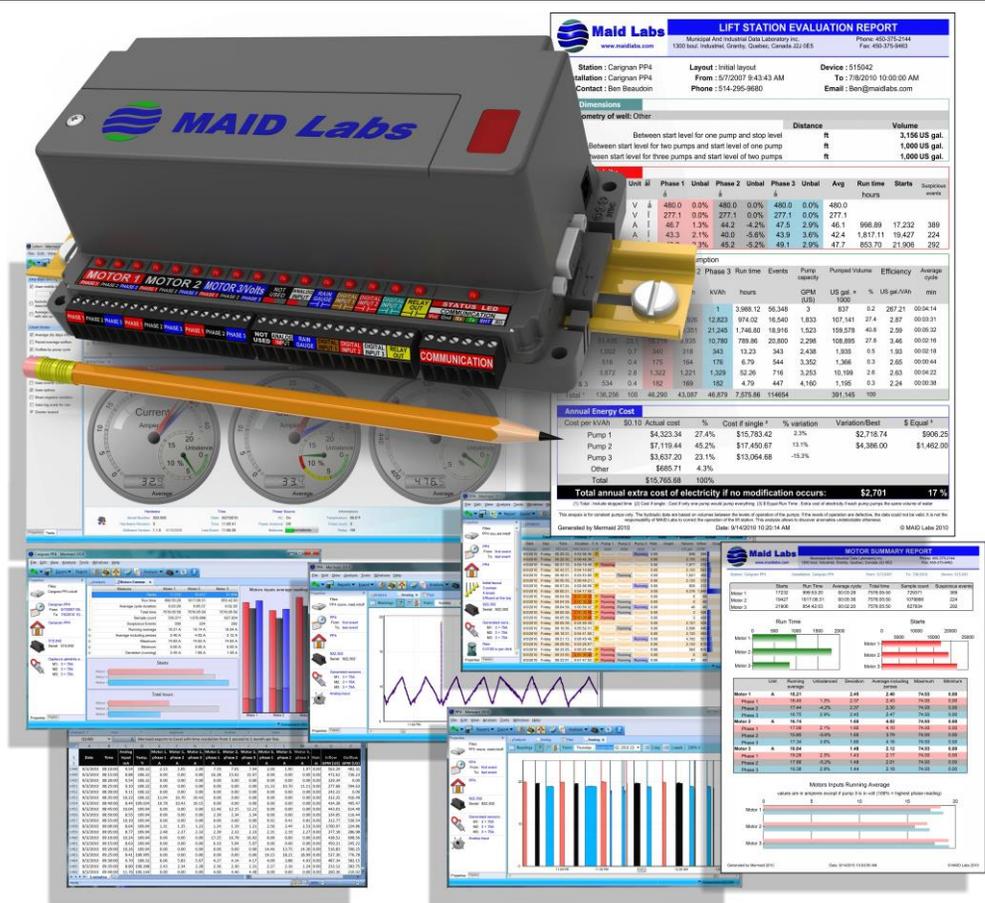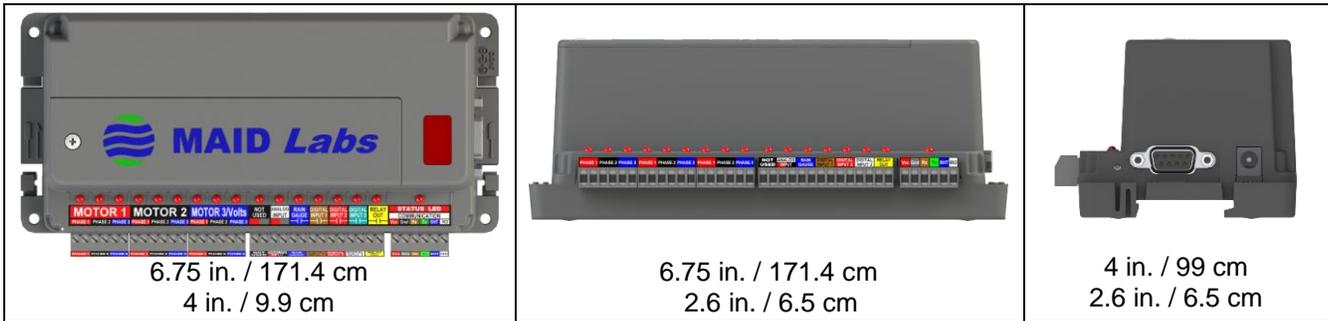
| 6.75 in. / 171.4 cm | 6.75 in. / 171.4 cm | 4 in. / 99 cm |
| 4 in. / 9.9 cm | 2.6 in. / 6.5 cm | 2.6 in. / 6.5 cm |

The most popular accessories:

When used at different sites this case is the best way to protect and transport the MerMaid KIT.

Current sensor selection is based on the current required by each phase of the motor. Only one per pump is required for flow calculation, but 3 allows to do electrical analysis as well. This is why the kit of 3 is the most popular.

For single and duplex pump stations, the voltage transducer allows to analyze the quality of the electricity received by the pumps and the control components.

Using an onsite tipping bucket rain gauge is the easiest and fastest way to do inflow and infiltration studies.

A USB to serial cable is the way to communicate with the MerMaid datalogger during the installation and for download, if not using a cellular modem.

Cellular modem model and USB cable may be different than seen on the picture

Name/Item No.	MerMaid / MLMMD
Product type	Lift Station data logger for hydraulic, electric and efficiency monitoring.
Types of data recorded (always time stamped)	Current for each phase for 3 motors. Voltage for each phase if current is done on 2 motors or less. Analog input. Rain, 3 digital inputs, temperature and battery voltage.
Flow accuracy	Flow calculated using the MerMaid software has an accuracy above 98% for most lift stations.
Alarms Relay. The relay can be triggered based on the type of event monitored, which are:	High current, No communication, Low frequency, Unbalanced phases, High frequency, Temperature, Low batteries, Analog input settings.
Reading speed	10 kHz
Analog input accuracy	± 0.1 %.
Internal temperature sensor	Yes
Memory (Mo)	4 Mb

Memory (records)	500,000
External power	3.3 VDC 1 AMP
Operation time on batteries	14 days
Type of batteries	2 types C alkaline batteries or rechargeable
Integrated battery charger	YES
Download	RS232 (optional USB-RS232 cable and Cellular modem)
Communication Interface	RS232
Installation	Can be clipped on a DIN Rail
Dimension (inches)	6.75 x 4 x 2.6
Dimensions (cm)	171.4 x 9.9 x 6.5
Weight including 2 type C batteries	1 lb/0.45 kg
Accessories (power supply is included)	Current and Voltage sensors, rain gauge, communication cable, cellular modem.