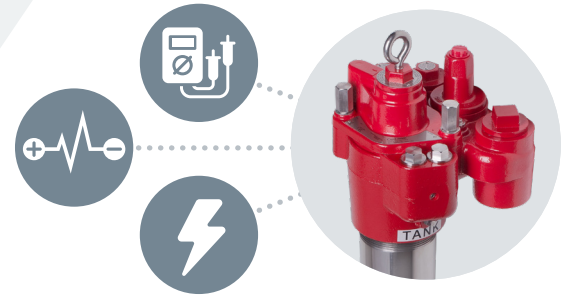


# Intelligent Pump Control

Diagnose and Troubleshoot STP Equipment through the TLS-450PLUS

## Provide Insight to Your Fueling Operations

Intelligent Pump Control (IPC) enables the TLS-450PLUS Automatic Tank Gauge (ATG) to connect with the IQ2 Smart Controller, delivering real-time Submersible Turbine Pump (STP) status, reports, statistics, and electrical parameter information. The real-time pump status feature displays current, voltage, power consumption, and flow helper mode, allowing for enhanced monitoring. IPC also supports remote control and troubleshooting to optimize your fueling operations.



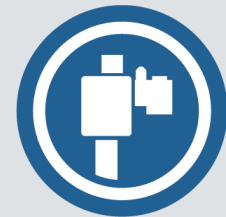
### TLS-450PLUS



### Red Jacket® Smart STP Controller



### Red Jacket STP



- **The TLS-450PLUS ATG** provides the most comprehensive site data for advanced fuel asset management, including real-time updates and alerts on dispense modes, manifolding, communication, and system faults.

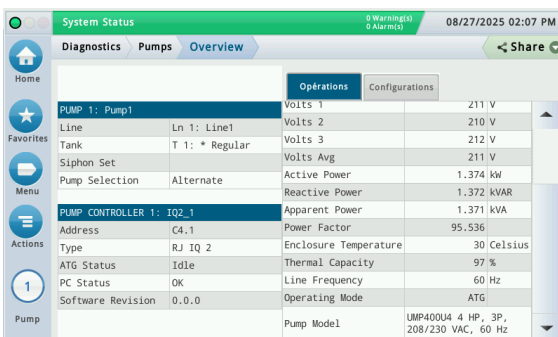
- **The Red Jacket Smart STP Controller** contains the intelligent circuitry that allows the communication path to flow between the ATG and STP, providing key data to support informed business decisions.

- **The Red Jacket Fixed Speed STP** optimizes the fueling process and provides real-time performance data. IPC Software with Red Jacket Diagnostics delivers the data needed for effective site operation management.

## ▶ REMOTE DIAGNOSTICS & CONTROL

IPC supports the following categories of diagnostics for each STP Controller:

- **Current Operational Status** – Provides real-time pump operational status warnings and alarms
- **Pump Electrical Parameter** – Indicates other vital STP electrical system data
- **Pump Statistics and Activity Log** – Tracks and records pump and motor parameters to support troubleshooting



System Status		0 Warning(s) 0 Alarm(s)		08/27/2025 02:07 PM	
Diagnostics		Pumps		Overview	
PUMP 1: Pump1		Volts 1	211 V		
Line	Ln 1: Line1	Volts 2	210 V		
Tank	T 1: * Regular	Volts 3	212 V		
Siphon Set		Volts Avg	211 V		
Pump Selection	Alternate	Active Power	1.374 kW		
		Reactive Power	1.372 kVAR		
		Apparent Power	1.371 kVA		
PUMP CONTROLLER 1: IQ2_1		Power Factor	95.536		
Address	C4_1	Enclosure Temperature	30 Celsius		
Type	RJ IQ 2	Thermal Capacity	97 %		
ATG Status	Idle	Line Frequency	60 Hz		
PC Status	OK	Operating Mode	ATG		
Software Revision	0.0.0	Pump Model	UMP400U4 4 HP, 3P, 208/230 VAC, 60 Hz		

## ▶ FUNCTIONALITY

- **Advanced Pump Control** – Utilizes TLS Dispense Modes
- **Line and Pump Priority** – Determines which pump or line to activate based on tank and pump feedback
- **Staging (Helper Mode)**
  - Primary – Secondary
  - Alternate
  - In-Tank Staging
  - Across Tank Staging
- **Flow Optimization**
  - Utilizes pump staging to optimize consistent delivery of product at the nozzle (Helper Mode)
  - Switch on the Fly – Provides continuous line pressure during staging from pump to pump
- **Operational Redundancy**
  - Utilizes TLS-based logic to understand when one pump needs the assistance of another pump
- **Automatic Events for Alarm and Email Notification**
  - Through the TLS-450PLUS ATG

## ▶ DISPENSE MODES

- **Sequential** – The Sequential dispense mode selects a tank based on tank numbers (lowest number tank used first). Fuel is pumped from the initial tank until a certain low product level is reached (e.g., “pump threshold %” of volume) before moving to the next tank.
- **Alternate by Height or by Volume** – The system will try to keep the products in the tanks level based on volume or height. Alternate by Volume is suggested when there are multiple sized tanks connected to the line.
- **Alternate by Pump** – Pump selection is based purely on pump sequence. In this mode, tank selection is ignored. Pumps are engaged in pump number order. For each new hook-signal, the next pump in sequence is engaged (e.g., P1, P2, P3 , P1...).
- **Priority** – Based on tank and flow rate information.



Controller Reports for the TLS-450PLUS ATG		
TLS-450PLUS Data Collection & Analysis	IQ2	IQ
<b>Intelligent Pump Control</b>	Real-time pump status, warning, alarms, and advanced electrical parameter measurements	Real-time pump status, warning, alarms, and basic electrical parameters
	Statistics	Statistics
	Event logs	Event logs
	Hourly pump usage report	Hourly pump usage report
	Power consumption report	N/A
	Frequency measurements report	N/A
	Enclosure temperature	N/A
Advanced Monitoring Features	IQ2	IQ
<b>Continuous &amp; Precise Electrical Monitoring</b>	Line-to-Line Voltage: Single- or Three-Phase	Line-to-Line Voltage: Single-Phase
	Current: Single- or Three-Phase	Current: Single-Phase
	Average Voltage	N/A
	Average Current	N/A
	Frequency	N/A
<b>Power Consumption Insights</b>	Active Power	N/A
	Reactive Power	N/A
	Apparent Power	N/A
	Power Factor	N/A
<b>Enhanced Reliability</b>	Enclosure Temperature	N/A
	Contactors Status	N/A
	Reboot from the Keyboard	N/A
Asset Protection	IQ2	IQ
<b>HP Ratings</b>	• 3/4    • 4	• 3/4
	• 1.5    • 5	• 1.5
	• 2	• 2
<b>Supported Phases</b>	• Single    • Three	• Single
<b>Alarm</b>	Dry Run	Dry Run
	High Current	Over Current
	Locked Rotor	N/A
	High Voltage	N/A
	Phase Loss	N/A
	Self-Test	N/A
	Network	N/A
	Digital Bypass	Manual Bypass
<b>Warning</b>	Low Voltage	Low Voltage
	Extended Run	Extended Run
	Open Circuit	N/A
	Over Temperature	N/A
	Setup Data	N/A
	Contactors Fault	N/A

**Note:** For a complete comparison between IQ2 and IQ specifications, including Operability and Installation & Serviceability, reference [The Red Jacket IQ2 Smart Controller & IQ Control Box Specifications Sheet \(576047-597\)](#).