Remote Control Software for Water Systems

The Tank and Well System maintains the water level in a storage tank by automatically sending commands that signal remote well or booster pumps to turn on and off. The system relies on standard Mission M800 series RTUs and a transducer to measure the tank level. There are no radio networks, computers or PLCs to maintain. It is low cost and easy to set up.

How It Works

The RTU at the water tank ❶ continuously transmits level information to a nearby cellular tower ❷. This RTU may be connected to other equipment such as chlorine monitors or other alarm inputs and can be solar powered. Status data packets are transmitted through a secure private network connection to Mission servers ❸. When the tank level is outside the user configurable level boundaries, a command is automatically sent to output relays on the same RTU or remote RTUs to energize pumps or valves and refill the tank ❼. The Tank and Well software is offered in two packages. The first supports up to three pumps, and the second supports up to five pumps.
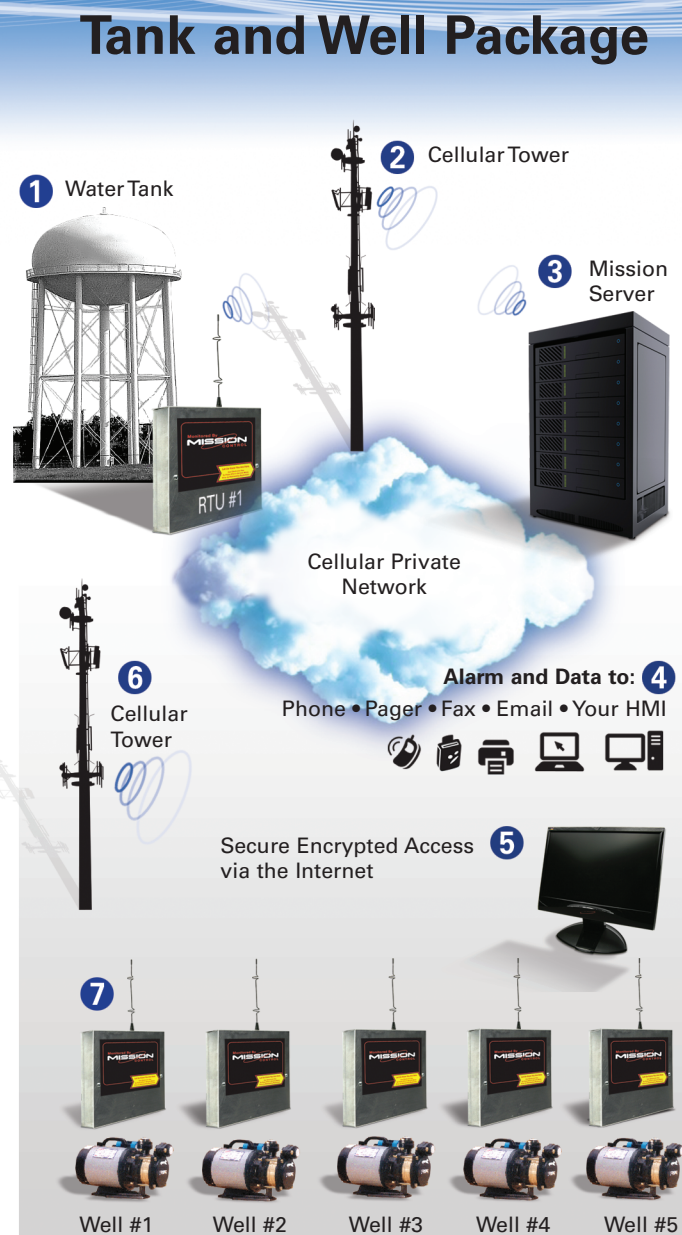
Real-time alarms notify operators of high pump starts, excessive pump runtimes, AC failure, low battery and more ❹. The web portal allows an operator with appropriate security credentials to adjust the pump on/off trigger levels and view current level readings ❺. Trending graphs and reports are accessible on desktops and web-enabled devices such as smartphones and tablets.

Optimization and Money Saving Features

The software includes an optional pump alternator feature which cycles through each well pump connected to a Tank and Well system. It can also be set up to evenly distribute pump runtimes across all wells or alternate the lead pump to favor the well that has had the least water production in the last one to seven days.
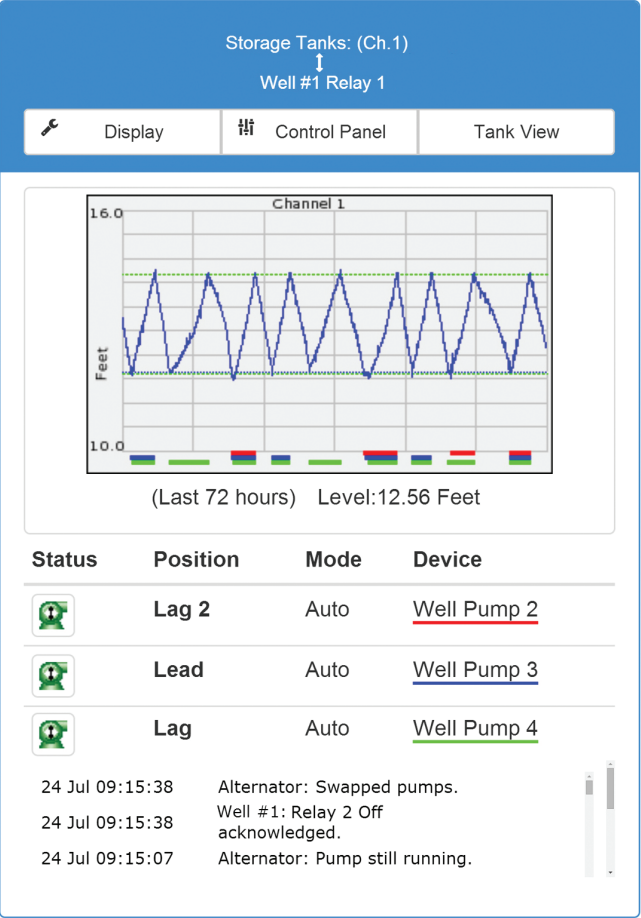
Maximum runtimes can be set for each pump, and the system will alternate to the next pump once the maximum runtime is reached. This reduces the risk of damaging the water table by over pumping.

The off-peak force fill feature saves you money by filling your tank when electricity rates are lower than peak hour rates.

❶ Water Tank
❷ Cellular Tower
❸ Mission Server

RTU #1

Cellular Private Network

❻ Cellular Tower

Alarm and Data to: ❹
Phone • Pager • Fax • Email • Your HMI

Secure Encrypted Access via the Internet ❺

❼

Well #1   Well #2   Well #3   Well #4   Well #5

Tank and Well ⊕ Dashboard

Storage Tanks: (Ch.1)
↕
Well #1 Relay 1

🔧 Display	🎛 Control Panel	Tank View

Channel 1

16.0

Feet

10.0

(Last 72 hours)   Level:12.56 Feet

Status	Position	Mode	Device
🖥	**Lag 2**	Auto	Well Pump 2
🖥	**Lead**	Auto	Well Pump 3
🖥	**Lag**	Auto	Well Pump 4

24 Jul 09:15:38	Alternator: Swapped pumps.
24 Jul 09:15:38	Well #1: Relay 2 Off acknowledged.
24 Jul 09:15:07	Alternator: Pump still running.

On the website the customer can:
- View current and historic tank level
- View real-time well call and run status

With administrator credentials the customer can:
- Enable and disable alternation
- Manually run or lock out individual wells
- Set well control points
- Set high and low alarm points

What You Will Need:

At the tank
- One M800, NEMA 4 typically (PN M802)
- One M800 Series Service Package for real-time alarms and streaming data (PN 58X)
- One Tank and Well Control Package (PN 587)
- One 4-20 mA or 0-5 V analog level sensor, various PSI ranges (PN 47X)
- One level sensor surge suppressor (PN 482)
- One antenna extension kit, various lengths, optional (PN 41X)

At each well
- One M800, NEMA 4 typically (PN M802)
- One M800 Series Service Package for real-time alarms and streaming data (PN 58X)
- Interposing relays (PN 479 or 480)
- One antenna extension kit, various lengths, optional (PN 41X)

Refer to the Model 800 data sheet and the accessories catalog for more information.

MISSION
COMMUNICATIONS

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