

Energy &
Environment

Remote Pump Station Management Solution

Optimize overall pump station effectiveness

SRP-ERE001

Solution
Ready
Platform

- Centralized operation with unmanned remote sites
- Scalable architecture for plants of any size
- Analyzing and optimizing power station efficiency



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Enabling an Intelligent Planet

Introduction

Under the impetus of IoT technology, water supply facilities will be equipped with intelligent water networks. Water pump stations are the most important node in a water network. For example, booster pump stations can improve the water pressure in public water mains, and drainage pump stations can ensure normal drainage during floods. With the rising cost of living and need for larger water supplies, the supervision of water pump stations must rely on science and technology to shorten inspection cycles or achieve unmanned control. By installing a water network information system, relevant departments can view the operating status of their pump stations and monitor their efficiency to provide a basis for equipment maintenance in addition to significantly increasing management efficiency.



Any Format

Wireless remote management supports all communication formats (4G, 3G, Wi-Fi, GPRS)



No Data Loss

Local data buffering secures data integrity

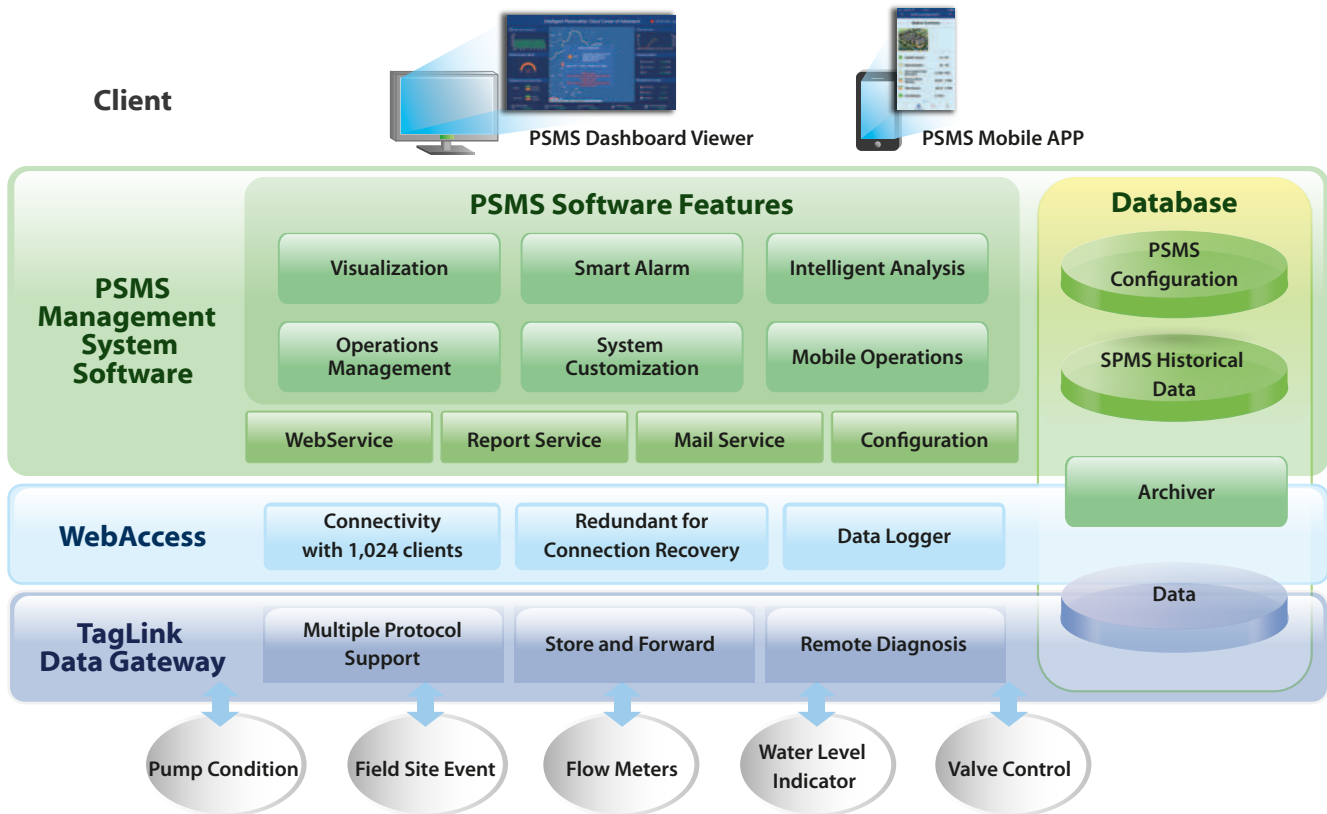


Line Secured

Secure access from multiple points in one station

Software Architecture and Key Design Features

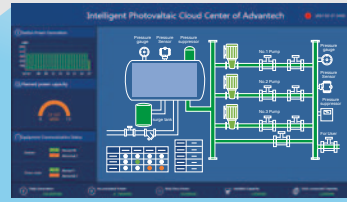
Pump Station Management System (PSMS)



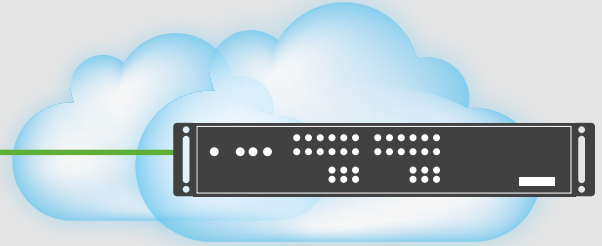
System Block Diagram

Central Station

WebAccess



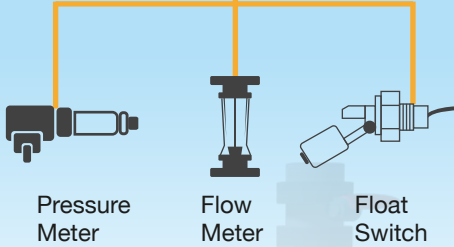
Interactive Dashboards developed by WebAccess



3G LTE



Wireless RTU
ADAM-3600

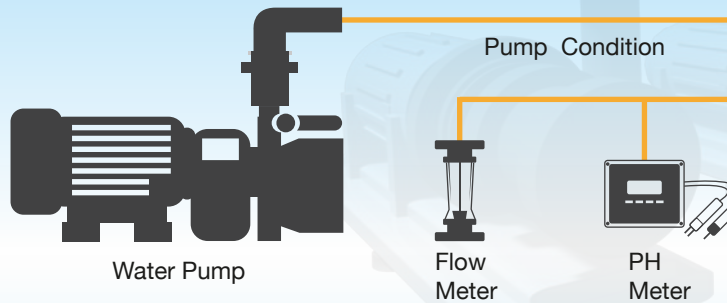
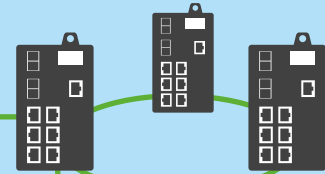


Small Pump Station

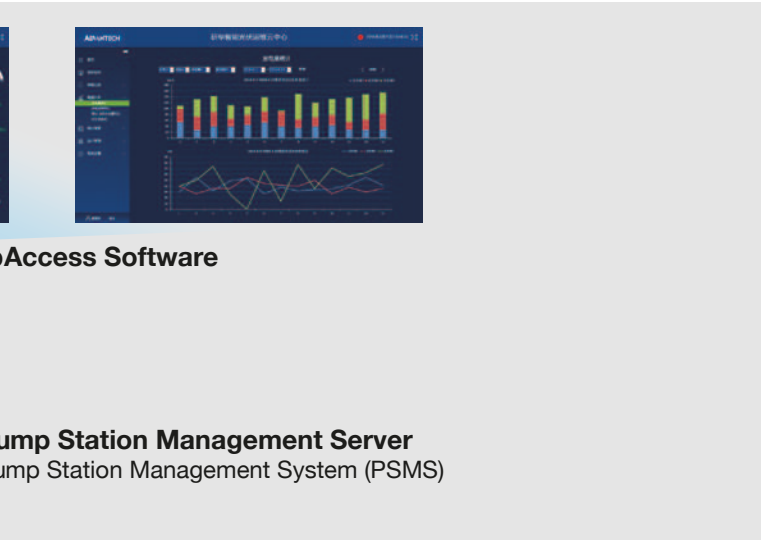
LTE



4G Router
SL30410110-SWH

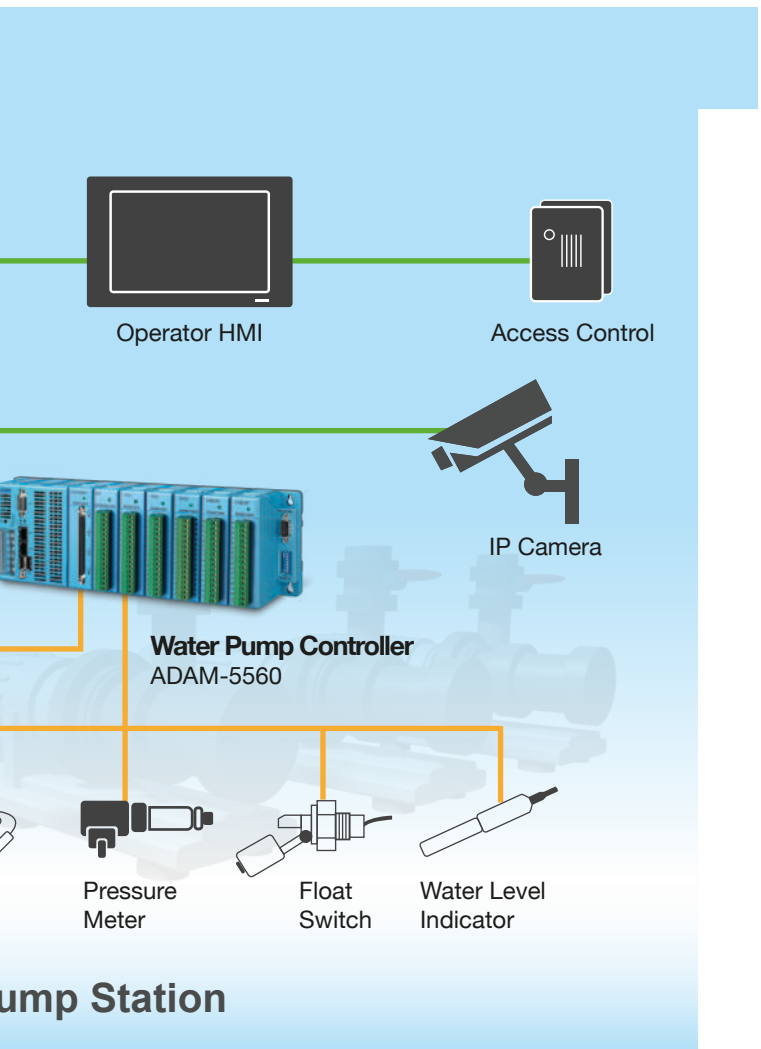


Large / Medium Pump Station



Access Software

Pump Station Management Server
Pump Station Management System (PSMS)



Pump Station

Solution-Ready Platform Package



ADAM-5560

The Micro PAC is useful for up to 224 I/O point applications. It features control-specific features such as a watchdog timer, battery backup RAM, and deterministic I/O.



ADAM-3600

The intelligent RTU has multiple wireless function capability, multiple I/O selection, a wide temperature range, and supports flexible communication protocols for water applications.



SL30410110-SWH

Low-cost SmartStart LTE Cat.1 and Cat. 4 cellular routers and gateways connect Ethernet, RS-232, and I/O devices to cellular networks.



WebAccess / SCADA

Advantech's browser-based HMI/SCADA software WebAccess is a 100% web-based SCADA software solution that also serves as an IIoT platform by providing open interfaces for developing IoT applications aimed at various vertical markets.



TagLink Technology

TagLink is a new embedded technology for intelligent edge devices (e.g., RTUs and gateways), providing an effective means for monitoring key assets from anywhere at any time.

Application Scenario

How Remote Management Optimizes Pump Station Effectiveness



From the Edge to the Cloud

All-in-One, Well-Integrated Solution

Remote monitoring usually requires considerable effort from system integrators and time for testing and integrating different devices with different brands.

This solution-ready platform is suitable for the remote monitoring and control of pump stations of varying size.

Supports Multiple Wireless Solutions

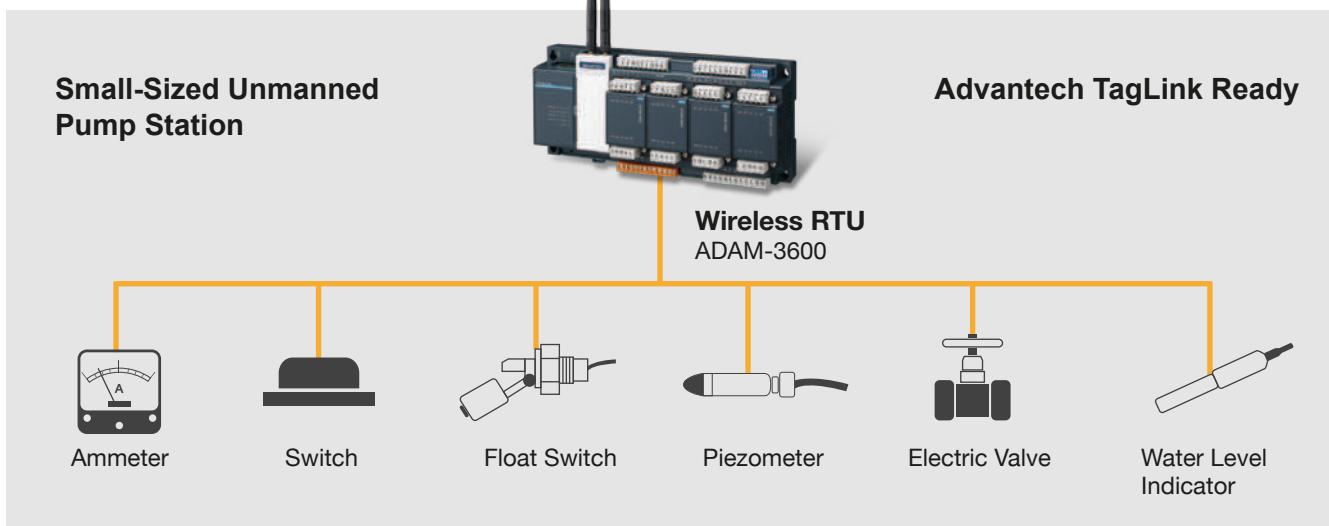
Different field sites or projects may require different types of wireless connection. The open system architecture allows for 2G/3G/LTE/Wi-Fi solutions with minimal system changes.

Enhanced Cyber Security

Remote pump stations typically use a public network for data communication. Consequently, data may be at risk of attack or hacking. Advantech TagLink can build up a secure communication tunnel with a central station. This ensures both data integrity and security.



GPRS 3G LTE



Ordering Configuration Table

SRP-ERE001 Optimize Overall Pump Station Effectiveness

Package Offering

Application Software: WebAccess/SCADA	Pump Station Controller: ADAM-5560KW x1 7-Slot Microcontroller with Intel® Atom™ CPU 2xLAN, 2xUSB 2.0, 4xRS-485, VGA
Pump Station Remote Terminal Unit (RTU): ADAM-3600 x1 4-Slot Expansion Wireless Intelligent RTU With 8AI / 8DI / 4DO Advantech TagLink Embedded -40 to 70 °C Operation Temperature	Intelligent 4G LTE Router & Gateway: SL30410110-SWH 1xEthernet, 1xRS-232, 2xSIM Card Holder

Expansion offerings

Platform

ECU-4784

Robust Rack-Mount Embedded IPC

Qty: _____

TPC-1551T

15" TFT LED LCD Intel® Atom™ Thin Client Terminal

Qty: _____

I/O Modules

WISE-4012

4-ch Universal Input and 2-ch Digital Output IoT Wireless I/O Module

Qty: _____

WISE-4050

4-ch Digital Input and 4-ch Digital Output IoT Wireless I/O Module

Qty: _____

Contact Information

Name:

Title:

Phone:

Email:

ADVANTECH

Advantech Headquarters

No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei, Taiwan 11491

Tel: +886-2-2792-7818 Fax: +886-2-2794-7301

www.advantech.com

US/Canada: 1-888-576-9668
 Europe: 00800-2426-8080/8081
 China: 800-810-0345/8389
 Taiwan: 800-777-111
 Japan: 0800-500-1055
 Korea: 080-363-9494/9495

Singapore: +65-6442-1000
 Malaysia: 1800-88-1809
 Australia: 1300-308-531
 Thailand: 66-2-248-3140
 Indonesia: +62-21-7511939
 Mexico: 1-800-467-2415

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