Secure **Remote Access**

Overview | ON-DEMAND SYSTEM MONITORING AND CONTROL

INDUSTRIAL SOLUTIONS
Always Innovating for a Better Future

WOODWARD

Secure Remote Access Program **(RAP)**

Woodward has the longest legacy of any controls supplier in the industrial equipment market and we continuously invest in bringing innovative solutions to real market needs. Our latest innovation is RAP—Remote Access Program—for engine and turbine OEMs who need on-demand monitoring, maintenance, and troubleshooting of their systems globally.

OVERVIEW

RAP uses a combination of secure hardware and software, plus a secure management system to safely and simply bring remote accessibility, monitoring, and servicing to Woodward systems. RAP's simple setup, ease of use and secure technology make it ideal for the petrochemical, oil and gas, and power generation industries that often need remote access to plants and turbomachinery around the world. This program allows remote communications with any Woodward device that has Ethernet or serial Modbus communications anywhere in the world.

By partnering with **Secomea** and its remote access security solutions and global communications infrastructure, RAP is the ultimate security program. With RAP, Woodward control and device users can confidently continue their usage of our standard service tool suite (RemoteView, AppManager, Control Assistant, ToolKit, etc.) for remote monitoring and servicing of Woodward products.

SOLUTION BENEFITS

Easy to install – simple configuration settings allow those with limited technical knowledge to network devices together as part of the Industrial Internet of Things

Shorter response times – immediate remote access and control of industrial networks to fix problems means more efficient and productive staff time and less network downtime

Reduce OEM system warranty and maintenance costs - Remote Access is a secure method of monitoring system performance, assisting site engineers with troubleshooting system issues, and providing the capability to push service pack updates when permitted by the site.

Secure – The Woodward/Secomea program was the first remote access solution in the world to be officially cyber secure certified. German security organization ProtectEM GmBH, performed Secomea's cyber security audit based on the following framework:

→ Auditing security to processes according to NIST SP800-115 & ISECOM OSSTMM
→ Security & Concept auditing based on BSI, ISA 99, and IEC 62443
→ Component security auditing by individual component security analysis and stress testing
→ System security auditing for end-to-end security protection

Solutions
Overview

Secure Remote Access | SIMPLE AND SECURE INTEGRATION

At the core of the Woodward's Remote Access Program is a secure cloud based GateManager service. Woodward's GateManager Service is an externally hosted Cloud infrastructure which is used to manage all policies, security, user accounts, licenses and connections.

APPLICATION

Depending on the application, users can utilize a SiteManager Module connected directly to a Woodward controller or a SiteManager interface program installed on a local system computer which is connected to a Woodward controller to enable engineers located remotely to securely monitor, maintain and troubleshoot site systems.

RAP provides a protected cloud system that can be configured with minimal IT knowledge or assistance. Permanent internet protocol (IP) addresses are not required, and there is no need to reconfigure corporate firewalls. Thus, the system enables secure access for remote programming and diagnostics with no disruptions to existing systems. RAP allows customers to remotely access their sites in order to monitor, troubleshoot and fix problems. This capability greatly reduces the need for travel and related travel expenses, and allows staff to work more efficiently by handling multiple systems simultaneously.documentation

BENEFITS AT A GLANCE

→ Secure remote access, diagnostics and PLC programming via a flexible hardware and software solution
→ Allow remote users to utilize Woodward's standard service tools, just as if they were onsite
→ Provide instant support to ensure machine uptime
→ Operate machines without physical access
→ Service global customers without the expense of travel
→ Connect to remote Woodward devices via a secure cloud
→ No IT knowledge required to setup system
→ No permanent IP addresses are required
→ Firewall friendly – no need to reconfigure company firewalls
→ Avoids the complexity of virtual private networks (VPNs)
→ GateManager can be hosted by Woodward, OEM or Channel Partner

COMPONENTS

Woodward's Secure Remote Access Program supports Ethernet communication through a three-component system, including a:

→ **SiteManager Module** – The SiteManager Module is secure industrial communications module that when installed locally and connected directly to the Woodward control/device via Ethernet communications provides a secure remote link to the Woodward control/device

→ **GateManager** – Woodward's GateManager service is an externally hosted cloud infrastructure which is used to manage all policies, security, user accounts, licenses and connections

→ **LinkManager** – LinkManager is a software license required by individuals that will be accessing and providing remote services or preforming monitoring functions

The network system is not only designed to be easy to install, but also provides firewall-friendly, state-of-the-art security features. An optional Starter Package, limited to one per company, includes:

→ **One SiteManager Module**
→ **One LinkManager software license for one year**
→ **GateManager Cloud Service with Basic Administration for one year**

This Starter Package includes everything you need to get started and test the solution. Once you are satisfied, you can upgrade your cloud service and number of licenses to reflect your corporate requirements.
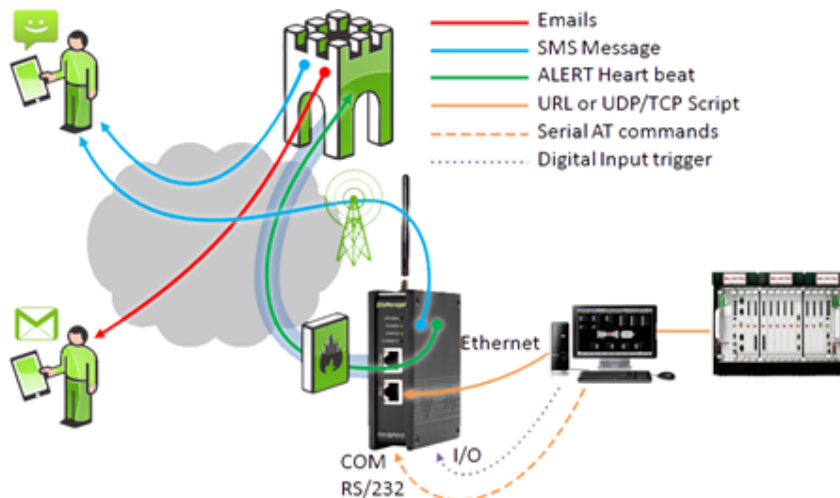
SiteManager™
Specifications

Electrical Characteristics

536 Mhz ARM Cortex A5 CPU

Input 12 - 24 V/DC, via screw terminal

Network Interfaces: 2 x 10/100 Mbit
Ethernet (UPLINK, DEV1,) – RJ45 connection

2 x USB 2.0 full speed (Host)

1 x RS232 DB9 Serial port with full flow control

Power consumption: max 5W excl. any optional USB devices
(Calculate with a total of 8W incl. USB devices)

2 x digital input ports

1 x output relay (max 0,5A), 1 x digital out - put open drain (max 0,2A)

Integrated quad band HSPA+ broadband modem supporting the frequencies: WCDM/UMTS: 850/900/1900/2100 MHz EDGE/GPRS: 850/900/1800/1900 MHz

3G/GPRS standard polarity female SMA connector

Regulations

CE, RCM Compliant

FCC 47 cfr part 15, CAN ICES-3 (A)/NMB-3(A)

UL Listed (file #E358541, ITE 4ZP8), IEC CB certified (DK-30193-A2-UL)

Physical Characterisitics

Operating temperature: -25° - +55C°, 5 to 95% RH

Dimensions, unpacked: 107(H) x 32(W) x 97(D) mm, 500 g

DIN mount bracket

Aluminium Chassis

2-years Warranty

Monitoring and Logging Features

System log with System Watchdog

Automatic event logging on GateManager™

Alert notifications generated by SiteManager or GateManager and sent as email or SMS locally or centralized from the GateManager

Bi-directional SMS Gateway support via Serial AT commands and UDP/TCP script commands

Unique built-in trouble shooting functionality for automatic discovery of networking conflicts and configuration issues

Networking Capabilities

536 Mhz ARM Cortex A5 CPU

Choice of Uplink (WAN) Internet access:
- Ethernet,
- WiFi (IEEE 802.11 b/g/n) via USB Adapter
- 3G/GPRS

Choice of Uplink IP-assignment mode: DHCP client, PPPoE client, manual/static

Telnet to Serial routing (rfc2217). Siemens MPI/PPI is supported via an adapter

DHCP server on Device LAN by Ethernet or as access point via external WiFi USB adapter

USB port for remote accessing USB enabled devices (directly or via USB hub)

Secomea LogTunnel support for easy setup of remote SCADA logging infrastructure

EasyTunnel™ support for enabling VPN via Secomea TrustGate

Support for remote access by any UDP / TCP based protocol

Configuration and Management

Appliance Launcher for easy initial contact and connection to GateManager™

Configuration and maintenance of SiteManager™ via browser (HTTPS/SSL - local or remote from GateManager™)

Includes a Setup Assistant Wizard for guided configuration via the Web GUI

Easy configuration with pre-defined configuration using a USB stick

Configuration backup management (via GateManager™) including scheduled backup and fast hardware replacement (cold backup)

Configuration export and import (XML)

Pre-defined Device Agents for easy setup of access to all PCs, web devices and all common PLCs and HMIs.

Unique device scanning feature for automatic detection of IP and USB devices and configuration with a single click.

Network Capabilities

4 LEDs for signalling Power, Status, 3G/GPRS status and LinkManager connection

Digital Input port for site operator control of remote access

Digital or Relay output for signalling active LinkManager connections, and GateManager connection status.

Configurable digital input port for custom Email/SMS alerts

Output port for custom toggling from the SiteManager GUI

ENABLING ELECTRICAL POWER SYSTEMS INTEGRATION

The shift to distributed generation is changing long-established concepts about how electricity should be produced, transmitted, and used.

Power flow through the grid is becoming more decentralized and bidirectional. Local measurement, fault detection, and remote control are now essential for stability and intelligent load management. A new approach is needed: one that encourages greater use of renewable sources and facilitates interconnection of distributed power generation using advanced monitoring, communication, and control. Woodward is recognized as a leader in the field of advanced power generation and distribution control products.

We continue to build on our legacy by creating cutting-edge control and protection devices, designed to work in complex systems to meet the needs of tomorrow's smart grids. Our global strategy is melding all aspects of power generation and distribution to enable electrical power systems integration.

WOODWARD

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