![Systems Integrated logo] **SYSTEMS INTEGRATED**

*Innovative and Enduring Systems
Based on Standards*

SITEVIEW® PAC

PROGRAMMABLE AUTOMATION CONTROLLER

THE FUTURE OF SCADA AVAILABLE TODAY!

SITEVIEW® PAC **Provides a Complete and Upgradeable Approach Unrivaled in the Industry**

SITEVIEW PAC is a complete system. All software and hardware is included to support all configuration and programming requirements. There are no additional software licenses to be purchased to develop ladder logic programs, develop HMI screens, create or examine a local database, or to connect the *SITEVIEW* PAC to a network.

SITEVIEW PAC is a completely self-contained system which has been designed to be remotely managed and programmed. Redundancy at all levels is a built-in feature that assures communication continuity from all the I/O points to the *SITEVIEW* processor.

SITEVIEW PAC provides a number of industry unique capabilities that are highlighted below:

- Development environment provided with every *SITEVIEW* node

- Configuration or firmware uploads to be scheduled

- Supports the ability to perform downloading while the unit is operational and will automatically insure that the download process does not impact the real time requirements of the PAC. This feature is significant in environments when the WAN bandwidth is limited (such as a T1).

- Provides a built in prioritization system to insure real time data is never blocked or delayed. This is accomplished by the *SITEVIEW* communications processor which has the ability to configure the Quality of Service (QOS) for each type of Ethernet packet and to throttle all non-real time data to insure real-time data is always available.

- Supports automatic communications throttling using a metering system which is automatically invoked or can be fine-tuned by the customer. *SITEVIEW* does not rely on infinite network bandwidth and performs a real-time analysis of communications queues to meter the non-real time data transmitted out of the *SITEVIEW* PAC to the master station. *SITEVIEW* PAC provides the user with significant advantages over using a router's QOS functionality since there are no retransmissions due to a router discarding packets to support higher priority routing.

- Expandable with the ability to provide redundancy. There is no additional software or hardware (other than a second *SITEVIEW* processor) to allow the complete system to be redundant.

- Provides local data storage that allows months of historical and SOE data to be stored locally.

- Integrated with an *ONSITE* master station; guarantees complete date integrity in the event of a multi-day network failure.

- Provides a complete cyber security implementation that allows *SITEVIEW* PAC to communicate to a single maser or configured to support both slave to master as well as peer to peer functionality.

- Designed to operate in hostile environments with no moving parts for any component within system.

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SITEVIEW PAC System Consists of Eight Integrated Components

SITEVIEW Processor

Consists of a 4 core, a 64bit microprocessor based system with a complement of high speed DRAM (up 16 GBytes) and Flash RAM (up to 2 Terabytes). The wall or rack mounted controller is fanless and fully environmentally hardened and will operate in an ambient temperature range from -40oC to +70oC. A complete complement of communications ports is provided including Gigabit Ethernet, 4 Mbps serial, and USB.

SITEVIEW Logic Processor

SITEVIEW logic processor is imbedded software to support real time logic control as well as providing real time redundancy. *SITEVIEW* logic also supports onboard historical data queuing to insure no historical data is lost as a result of communications failure.

SITEVIEW logic is a fully compliant IEC61131 PLC utilizing either *SITEVIEW* I/O or I/O provided by additional industry vendors.

SITEVIEW logic has the ability to emulate the native protocol of all major PLC vendors including AB, Siemens, Modicon, and GE. As *SITEVIEW* can also be utilized as a protocol converter since it is equipped with a complete suite of native communications protocols. *SITEVIEW* has the ability to emulate PLC vendors remote I/O or communicate directly with PLC vendors remote I/O.

SITEVIEW LOGIC PROCESSOR

SITEVIEW DATAVIEWS®

SITEVIEW DataViews provides SCADA visualization at remote locations. *SITEVIEW DATAVIEWS* allows the *SITEVIEW* server to support the ability to act as an *ONSITE* server to an *ONSITE* client which is connected to the *SITEVIEW* system network. This functionality allows *SITEVIEW* to act as an independent PAC, with the ability to provide graphic screens at a remote location that are the same as the ones used at the master station site (with or without communications to the master site), store any event data that occurs locally for later uploading to the *ONSITE* server historical database. *SITEVIEW* graphics can be generated locally using the *SITEVIEW* processor (no additional software is required to create any graphical screens. The screens can then be stored locally or uploaded to a centralized screen database.

SITEVIEW Drivers.

SITEVIEW drivers are part of the logic processor function that allows *SITEVIEW* to communicate with smart devices. *SITEVIEW* features more than 30 drivers for communications. The following is a partial listing of the most popular communication protocols:AB Ethernet/IP, DF1

- Modbus (both slave and master)
- DNP 3.0 (slave, master, ASCII, RTU, Modbus over Ethernet)
- GE Genius, Fanuc SNP
- OPC (UA / DA client & server)
- Profi Net
- IEC61850
- IEC60870
- SNMP

SITEVIEW I/O

SITEVIEW I/O is smart I/O designed to provide the ability to collect and process high speed digital and analog data, distribute the I/O and not introduce cybersecurity issues using routable protocols like Ethernet.

SITEVIEW I/O are designed to be robust, interchangeable and in many cases form and fit to other vendors I/O. The design concept behind *SITEVIEW* I/O is to provide optically isolated data collection for all digital and analog inputs, and digital and analog outputs. The *SITEVIEW* I/O system is designed around the concept that field wiring can be isolated without removing any wires and all components of the *SITEVIEW* I/O are hot swappable.

FIELD TERMINATION INTERFACE BOARD WITH MODULES

The *SITEVIEW* I/O is a modular design with three major components: The I/O point, the field termination interface and the field collection processor. Each component of the system is designed to allow hot swap replacement of every active component in the system.

The *SITEVIEW* I/O system is designed to operate on DC (24 VDC) with the ability to support full redundancy at all levels.

I/O Point

ANALOG INPUT MODULE

At the lowest level the I/O is point oriented. Each point has a specific function. The function can be digital input, digital output, analog input or analog output. Each type of module is color coded and is designed to support field power or RTU power.

In order to provide the maximum amount of isolation, *SITEVIEW* I/O is designed to provide a minimum of 2,000 VDC isolation. This includes analog inputs and outputs, and digital inputs and outputs. Analog input resolution is 16 bit, and supports ± 1 or 10 volt, 0-20 or 4-20 milliamp inputs. Digital inputs support both AC and DC and range from 12 to 140 V AC or DC, with RTU wetting or field wetting. Additionally the digital inputs can be provided with or without noise filtering. For SOE applications the digital input module provides a switching time of less than 65 microseconds. All I/O modules are hot swappable.

Digital Output Relay Module (DORM)

For digital outputs, in addition to the optically isolated digital output modules, *SITEVIEW* I/O also provides two types of relay output boards. The relay output boards are specifically designed for power plant applications requiring either mechanical latching capability or high current / DC voltage capability. For the high current, high voltage DC capability a socket mounted KUEP series relay is provided. This relay supports 10 amps at 150 VDC.

The digital relay output board provides a pair of form C contacts for each point. Latching is accomplished using mechanical relays that latch when power is applied in one direction to the coil and unlatched when power is applied in the opposite direction to the same coil.

Each relay output board supports 8 relays. One field termination interface can support up to 3 relay

boards or 2 latched relay boards. All of the relays are socket mounted and are hot swappable.

The power source to drive the relays is provided separately to allow the relay board to be isolate. When the relay power is removed, even if the relay is commanded to operate the relay will not operate.
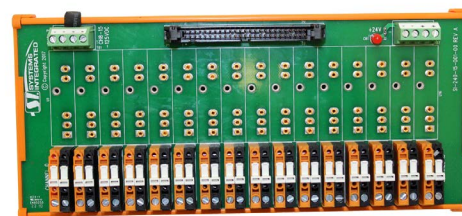
Field Termination Interface (FTI)

The field termination interface is a passive interface board that allows field wiring to be terminated and active I/O point devices are connected to the field termination board. The result is a field termination board that provides a place for the field terminations to occur, provides the isolation typically required in power plant (field wire isolation) and has the ability to directly accept field wiring (in the range of 12 to 22 gauge wire). Field termination interfaces come in 8, 16 and 32 channel configurations. The same FTI can be used for analog input, analog output, digital input, SOE digital input, and low current digital output (both solid state and relay output modules are available). All modules that connect to the board are hot swappable.

For SOE and digital inputs, the FTI can be configured to provide the wetting voltage.

FIELD TERMINATION INTERFACE BOARD


DIGITAL OUTPUT RELAY MODULE

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Field Data Collection Processors (FDCP)

The field data collection processor is used to perform specific functions for a specific set of points. There is one FDCP for each FTI. The FDCP is programmable to support a variety of functions such as analog filtering, digital noise filtering, SOE processing, counter and BCD input capability, and select and operate output functionality. Once activated these programmable functions offload the *SITEVIEW* logic processor from performing these activities.
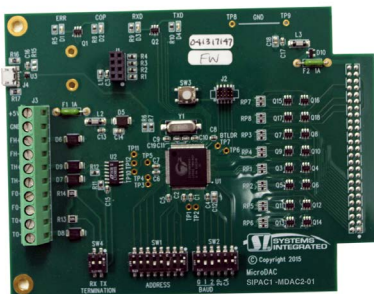

FIELD DATA COLLECTION PROCESSOR

SITEVIEW FDCPs support analog and digital inputs mixed on the same FTI and is configurable (on a per point basis) thus allowing both analog and digital input modules to be mixed on the same FTI if required. The FDCP also allows any digital input to become a counter providing a 32 counter that can be remotely reset. The FDCP is designed to support up to 32 inputs per unit.

The FDCPs communicate to the *SITEVIEW* by a serial communications interface that can operate at communications speeds from 9,600bps to 4 Mbps. The serial communications infrastructure supports store and forward as well as multidrop configurations, and is designed to operate in an extremely electrically noisy environment. FDCPs are specifically designed to provide high speed communications to the *SITEVIEW* node and insures that the serial communications used is non-routable. When configured in the multidrop configuration, the FDCP is hot swappable.

For SOE applications the SOE FDCP is used as it accepts the IRIG-B clock input, continuously scans the digital inputs for a change in state, and upon detection of a change of state, records the event time for later retrieval by the *SITEVIEW* logic processor. Up to 32,000 SOE events can be queued on the FDCP. The scan time for evaluating all of the points supported by one SOE FDCP, including debouncing the point and
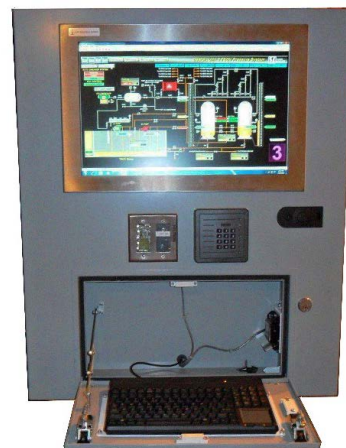
SITEVIEW PAC

time stamping the point, is under 100 microseconds. The overall SOE resolution of the SOE FDCP is under ± 1 millisecond.

The FDCP has a variety of mounting options, including connecting directly to the FTI, interconnecting to the FTI using an interface cable. The FDCP is designed to be either panel mounted or can be rack mounted in a card cage with field cable connections being provided on the back of the card cage.

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Ordering is Easy. Call Today!

For Systems Integrated, please call: **800/966-1174**
For *DATAVIEWS*, please call: **800/798-6072**

SITEVIEW LOGIC PROCESSOR

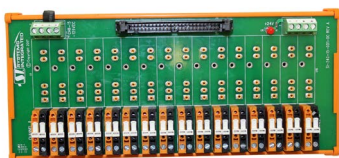Agnienti nvellatur aliquo omnis doluptam quos aria id quuntiu ndescidit et fugitatio occatio.

DIGITAL OUTPUT RELAY MODULE

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FIELD TERMINATION INTERFACE BOARD

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ANALOG INPUT MODULE

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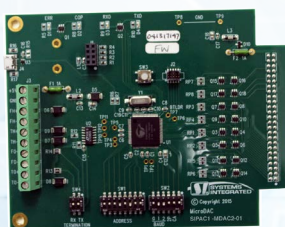
FIELD DATA COLLECTION PROCESSOR

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FIELD TERMINATION INTERFACE BOARD WITH MODULES

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