Power

Overview of Power
Products and Services

Utility Products to Simplify Your Most Complex Problems

NovaTech Automation produces precise and reliable power products for automation, metering, and recording. These Orion and Bitronics® products are well respected for their best-in-class flexibility, ease-of-use, and technical support.

New features are expanding the application of Orion and Bitronics products outside the substation. New applications include renewable energy integration, distribution grid monitoring, and pole top automation. More than ever, NovaTech Automation enables you to automate more, more easily.

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Orion Family Overview

The Orion Family of Substation Automation Platforms and I/O perform an expanding array of automation applications in the electric power system. A single Orion can replace multiple legacy boxes in the substation, reducing hardware, design, wiring, and panel costs. Orion I/O also minimizes the cost of replacing legacy D20/D200 and other I/O systems.
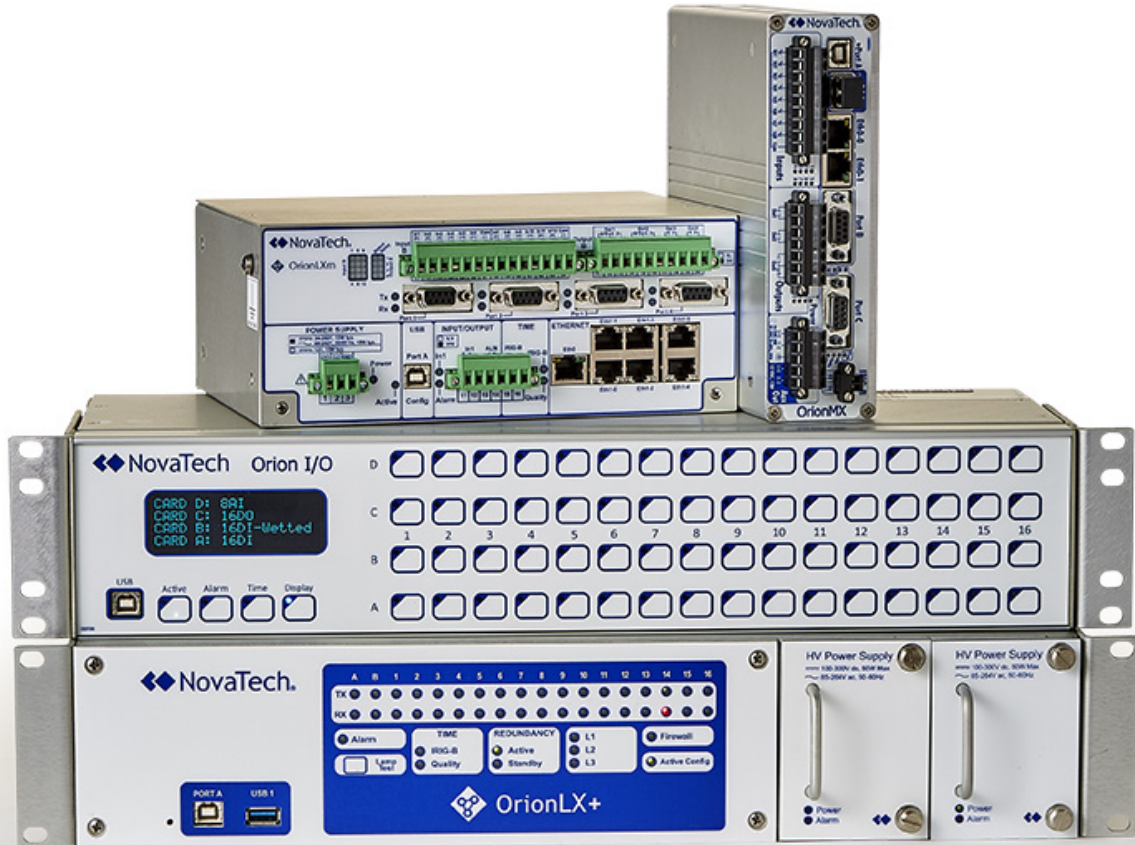
The OrionLX+, OrionLXm, OrionMX, and Orion I/O utilize design features from rugged protective relays, modular PLCs, powerful PCs, diagnostic test sets, and secure routers. The result is a rugged platform that can reliably take on a range of automation tasks.

"...a product that keeps the simple things virtually effortless and makes the hard things pretty easy too..."

**- Chris, Senior Substation Engineer
   at Midwest US IOU**

From Top: OrionLXm, OrionMX, Orion I/O, and OrionLX+

Rugged

Meets ANSI C37.90.1 2002 Fast Transient on I/O and power supplies and ANSI C37.90.2 1995 RFI, and corresponding IEC standards. Fiber optic communication is available for serial communication ports and Ethernet ports. Designed to operate from -40°C to 70°C without heaters, fans, or moving parts.

Flexible & Modular

Orion hardware and software are modular. Communication cards can be switched or added, plus software options and protocols can be added quickly and easily in the field. Toolsets for logic, HMI development, and points mapping provide the flexibility to meet the needs of multiple applications.

Standard IT Industry Tools

All Orions offer RADIUS and LDAP support, SNMP Manager and Agent, a SQL-compliant relational database, web technology, and standard tools for file transfer, diagnostics, and time management.

Utility Specific

Functions for breaker controls, counters, accumulators, local/remote, and momentary-change-detect are included, as well as support for both legacy utility protocols (Modbus, CDC, Conitel, etc.) and newer international standards (IEC 61850, IEC 60870-5-101/103/104, and DNP3).

Built-in Diagnostics

All Orions provide a built-in protocol analyzer to view all messages, plus extensive diagnostic LEDs, internal health monitoring, and time diagnostics. Commissioning tools include points blocking and forcing functions. Orion I/O includes an LED-based user interface for status and diagnostics.
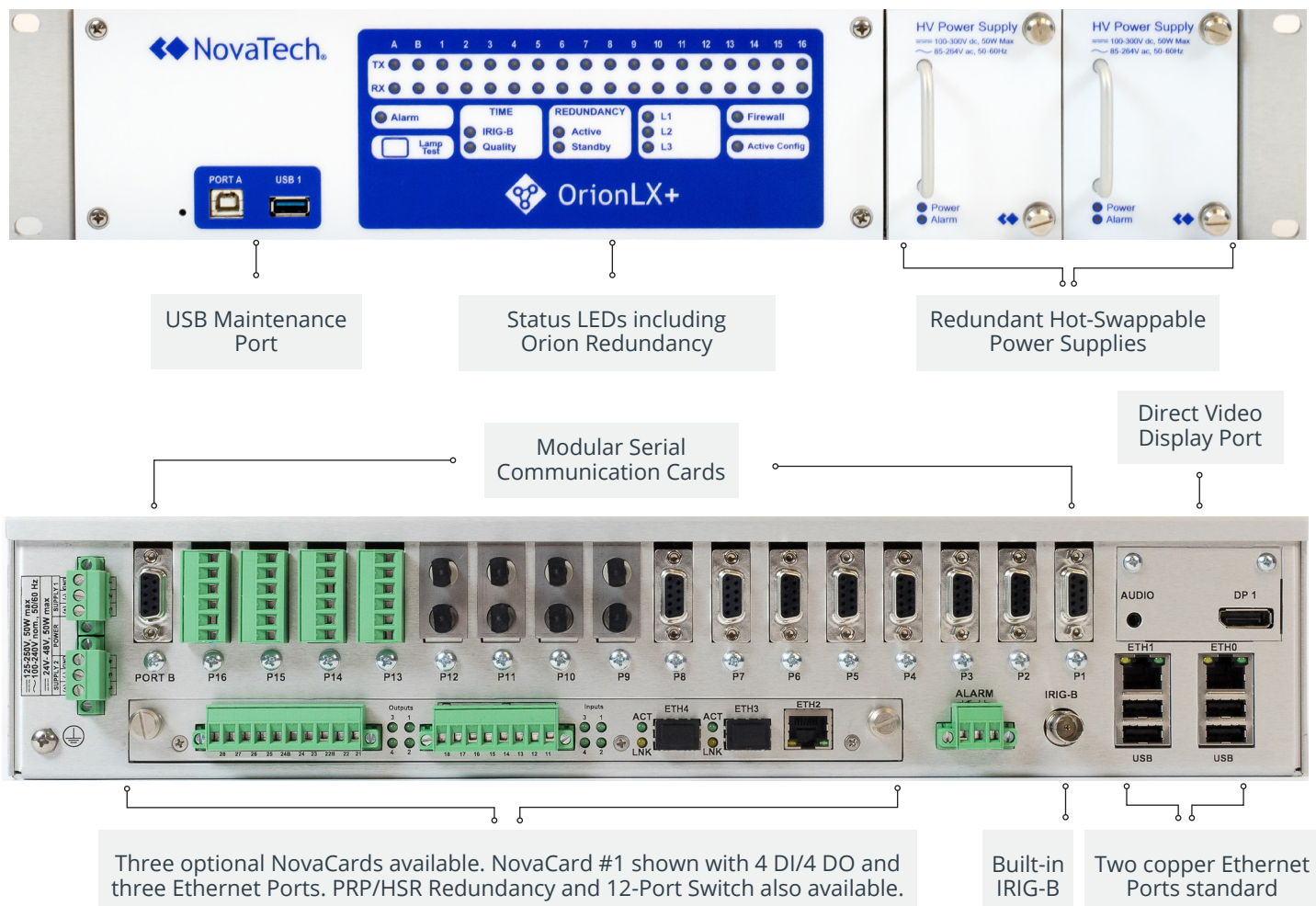
Built-in NERC CIP Security

All Orions come standard with all security features built-in including protection from malware, remote authentication, secure protocols, strong passwords, and syslog logging.
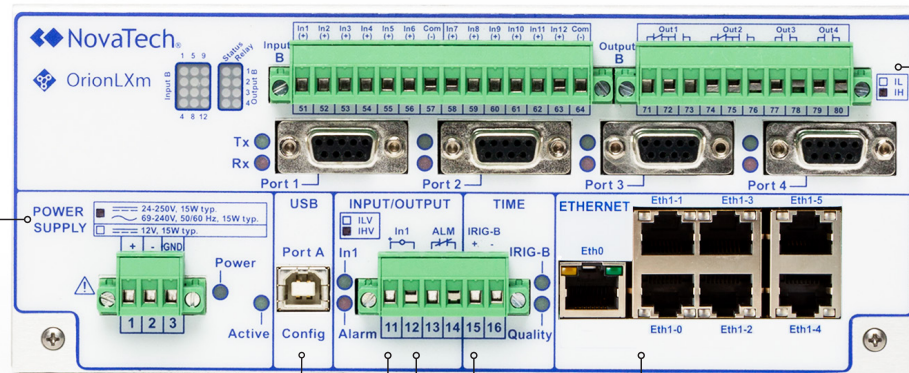
Hardware Features

The full-size Orion Automation Platform, the OrionLX+, is available in a 19" 2RU enclosure. The OrionLXm and OrionMX can be mounted universally in panels, on surfaces, on a DIN rail, or in a 19" rack with brackets. These smaller Orions offer all physical connections and indication LEDs on a single face, which simplifies mounting in smaller panels. A wide range of modular communications, display, and power supplies can be tailored for any application.

OrionLX+

USB Maintenance Port

Status LEDs including Orion Redundancy

Redundant Hot-Swappable Power Supplies

Direct Video Display Port

Modular Serial Communication Cards

Three optional NovaCards available. NovaCard #1 shown with 4 DI/4 DO and three Ethernet Ports. PRP/HSR Redundancy and 12-Port Switch also available.

Built-in IRIG-B

Two copper Ethernet Ports standard

OrionLXm

8.5" Wide
2RU High, 6" Deep

Wide-Range
Power Supply

Up to two option slots for:

- 4-Port RS-232/485 Cards, software selectable (shown)

- 4-Port ST Fiber Cards

- One Bit Synchronous Port and three RS-232/485 Cards

- 12 DI / 4 DO I/O Card (shown)

USB Maintenance Port

One DI

One Alarm Output

IRIG-B Modulated or Unmodulated

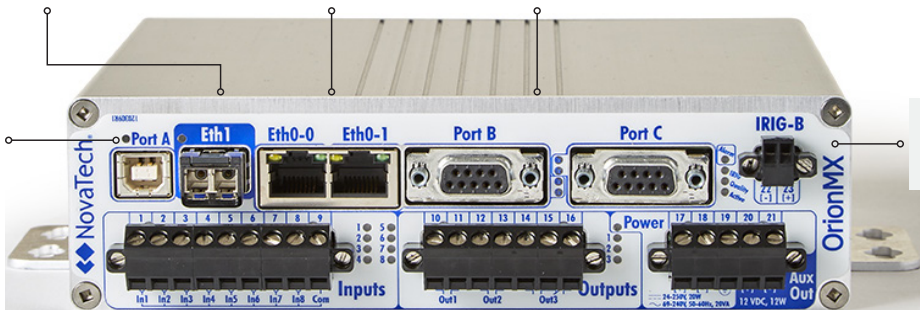Optional Ethernet Switch and Fiber Port

OrionMX

SFP Ethernet Port

RJ45 Ethernet Switch or two NICs

Two RS-232/485 Ports, software selectable

7" Wide, 2" High, 6" Deep. 2-card or 4-card expansion cases available

USB Maintenance Port

IRIG-B Modulated or Unmodulated

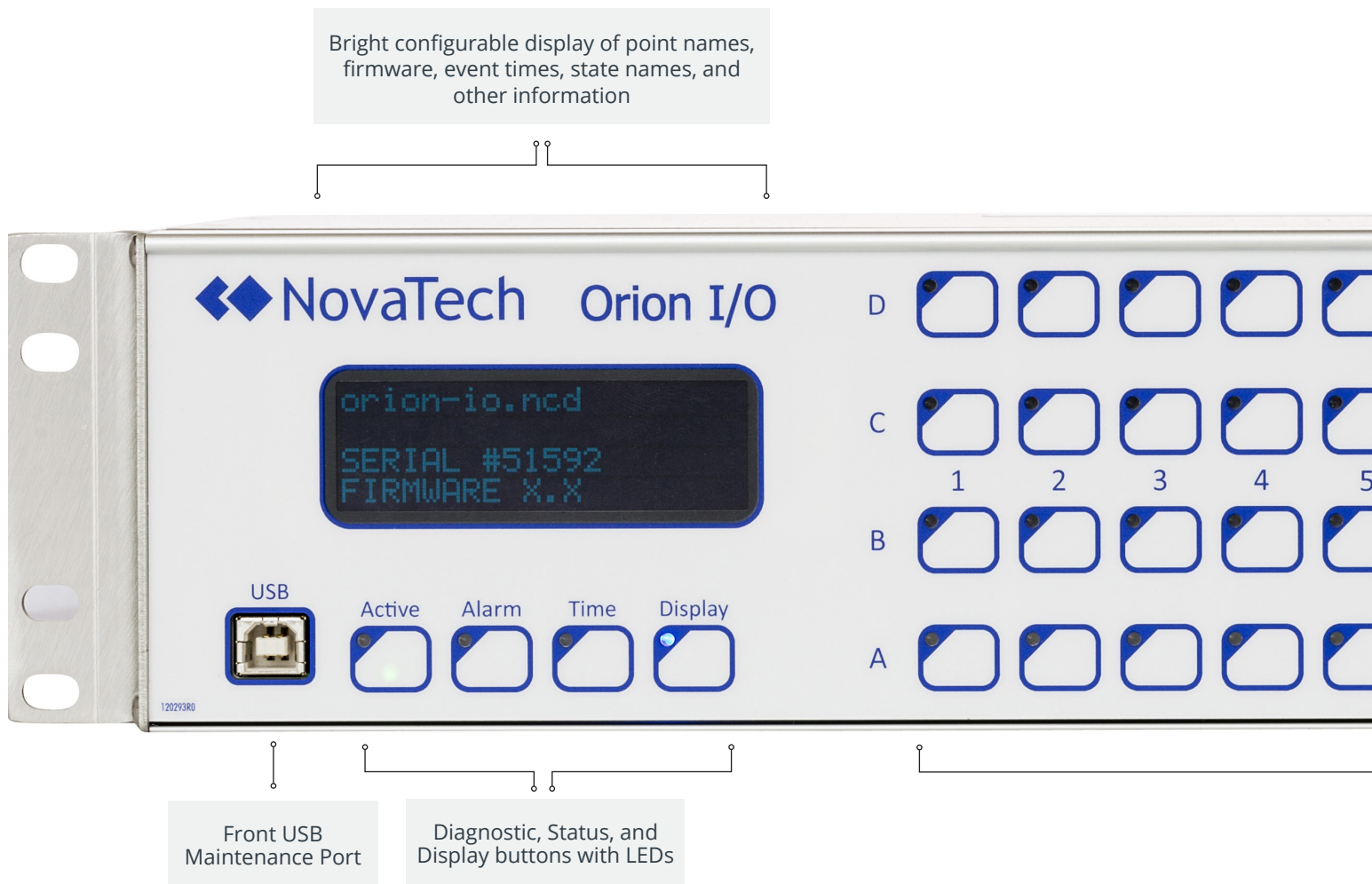Group of eight inputs. Range software selectable, 12-48V dc or 125V dc nominal

Three isolated outputs, two Form A, one Form C

Wide Range AC/DC and Low Voltage DC Power Supplies available

Power Out 12V @1A

Orion I/O

Orion I/O incorporates a unique capacitive touch front display interface with the same cybersecurity features, software options, and configuration as every other Orion. It has a rack-mountable or surface-mountable I/O assembly with four slots — A, B, C, and D — that can be filled with any combination of up to 64 Digital and 32 Analog I/O points in a 2RU format.

Bright configurable display of point names, firmware, event times, state names, and other information

Front USB Maintenance Port

Diagnostic, Status, and Display buttons with LEDs

Four of any of the following cards:
16 DI, 16 DO, 16 DI Wetted, 16 DO Hi-Powered (HPO),
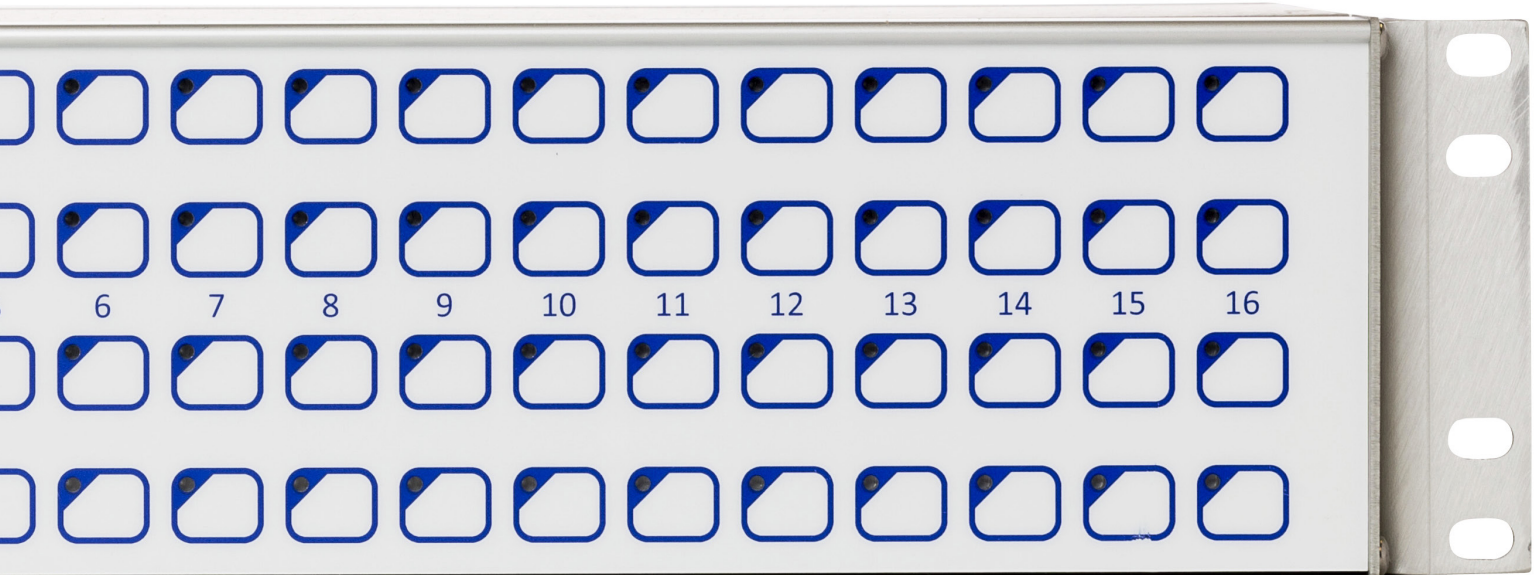8 DI/8 HPO Combination, 8 AI

Wide Range AC/DC and
Low Voltage DC Power
Supplies available

Optional Prewired Adapters for D20
and other legacy RTU retrofits

IRIG-B and
RS-232/485 Ports

Two Ethernet Ports standard,
3-Port Ethernet Switch optional.
SFP Port optional
PRP/HSR optional

Capacitive touch front interface
provides easy field access to all points status

Software Features

All Orions leverage a common code base, the same configuration software (NovaTech Configuration Director) and the following features across all models:

Cybersecurity

All Orions share the same security features. These include Linux OS, support for Integrity Measurement Architecture (IMA), a stateful firewall, secure protocols (HTTPS, SSH, SFTP), strong passwords and password rules, RADIUS and LDAP authentication, tiered access user groups, and syslog.

Common Firmware

All Orions share the same firmware version. Upgrades can be consistently accomplished in 10 minutes.

Extensive Protocol Library

50+ protocols, including IEC 61850, DNP3, IEC 60870-5-101/103/104, Modbus, SEL, and legacy protocols. SEL® Protocol enables engineering access, IRIG support and automatic retrieval of SEL® Event Reports. SNMP Manager monitors switches, routers, servers, and other network equipment.

Math and Logic Tools

A new calculator is available enabling users to easily create equations using common Excel-style operators and notation including * / ( ) + - ^ SQRT() ABS() and ROUND(). IEC 61131-3 and Lua are also available.

Cascaded Orions

Multiple Orion units can be "Cascaded" into a single Orion RTU, enabling them to be configured as a single system, with one configuration file.

Custom SVG Graphical Webpages

One-line-diagrams, control screen, and animated IED faceplates can be served out directly from the Orion. Choose from more than 117 pre-drawn images including Orion and Bitronics products, substation IEDs, substation symbols, buttons, and links, or make your own in minutes.

Tile Alarm Annunciator

A pre-engineered alarm tile webpage is available for replacing hard-wired annunciators. This annunciator provides full software configurability for rows, columns, and tile names.

Orion Redundancy

Orions can be configured as a hot-standby redundant pair to support applications as a SCADA RTU, substation HMI, Alarm Annunciator, SOE Recorder and substation controller. Both Orions run identical NCD configurations, logic and webpage configurations, and configurations are auto-replicated between the two.

Configuration Backup Manager

Provides a simple and automatic method to retrieve and back-up configuration files from the Orion as well as settings files from attached SEL® protective relays. The Configuration Backup Manager also provides a convenient MD5 checksum on the backed up files which can be used to determine if any of the backup files have been changed from previous backups. Backed-up files can also be used for system restoration.

Feature Comparison by Model

Feature	OrionLX+	OrionLXm	OrionMX	Orion I/O
Introduced	2019	2014	2020	2017
Size and Enclosure Style	19"W x 3.5"H x 13.5"D Connectors and LEDs on front and back	8.5"W x 3.5"H x 6"D Connectors and LEDs on front face only	7"W x 2"H x 6"D Connectors and LEDs on front face only	19"W x 3.5"H x 7"D Connectors and LEDs on front and back
Mounting	19" Rack	Surface, Panel, or DIN Rail	Surface, Panel, 19" rack, or DIN Rail	19" Rack
CPU and Clock Speed	Intel® Atom® Quad Core 1.9GHz	ARM® A8 1GHz	ARM® A9 800MHz	ARM® A9 800MHz
TPM	Yes	No	Yes	Yes
Flash Memory	8GB	4GB	2GB	2GB
WR Power Supply	125-250V dc /120-240V ac	24-250V dc /120-240V ac	24-250V dc /120-240V ac	48-250V dc /120-240V ac
LV Power Supply	24-48V dc	12V dc	12-24V dc	12-24V dc
Power Supply Redundancy	Yes, hot swappable	No	No	No
Ethernet Ports	2 copper ports *Optional NovaCards:* *NC#1: 1 copper and 2 SFP ports* *NC#2: 12-port copper switch* *NC#3: 1 pair of PRP/HSR ports, 1 copper port, 1 SFP port*	2 copper ports *1 copper port and a 6-port copper switch* *1 MM fiber port and a 6-port copper switch* *1 SM fiber port and a 6-port copper switch*	2 copper ports and 1 SFP port. The copper ports can be configured as a 2-port copper switch	2 copper ports *1 copper port and a 3-port copper switch* *1 copper port and 1 SFP port* *1 SFP port and a pair of copper PRP/HSR ports*
Serial Ports	*Up to 17 RS-232/ 485, ST Fiber, V-Pin, or Bit synchronous*	*Up to 8 RS-232/ 485*	2 RS-232/485 *Up to 18 RS-232/ 485*	2 RS-232/485
Direct Video Port	*1 Display Port on Multimedia Card*	None	None	None
Discrete I/O	*4 DI / 4 DO on NovaCards* *NC1: 4 DI / 4 DO* *NC3: 4 DI / 2 DO*	*Up to 24 DI / 8 DO*	8 DI / 3 DO *Up to 40 DI / 19 DO*	*Up to 64*
Analog I/O	None	None	None	Up to 32
SCADA Points	Up to 40,000	Up to 20,000	Up to 600; 10,000 optional	Up to 600

Options are italicized

Applications

The Orion family performs the functions of multiple single-purpose boxes in the electric utility substation, reducing cost and complexity. All Orions can connect to nearly any substation device in its native protocol, perform advanced math and logic, and securely present the source or calculated data to any number of clients in their own protocol. This enables the Orion Family to perform a continuously expanding number of applications in the utility substation.

The new Expansion Case options move the OrionMX into new applications

Alarm Annunciator

Data Archival Appliance

Fault Location, Isolation, and Service Restoration (FLISR)

Math & Logic Processor

NERC CIP Cybersecure Gateway

NERC CIP Password, Configuration and Remote Access Management

Pole Top Remote Terminal Unit (RTU)

Protective Relay Communication Processor

Remote Terminal Unit (RTU)

Renewables Integration Processor

Sequence Of Events Recorder

Shore Power

Substation Data Server

Substation Human Machine Interface (HMI)

Orion SCADA for Small Utilities

Visit Our Video Library!

For a growing library of short video tutorials on major NovaTech Automation product applications, including the Orion family, please visit

novatechautomation.com/resource-library

Bitronics Measurement and Recording Instrumentation

The Bitronics® tradition of quality craftsmanship stretches from the first hand-jeweled, coil-based instruments of the early 1900s to today's secure, web-enabled, multifunction Intelligent Electronic Devices (IEDs). Bitronics continues to stand for high quality, accuracy, and dependability in the most demanding applications.

We have your products. What we like about them is their consistency and accuracy."

- Robert, Senior Engineer
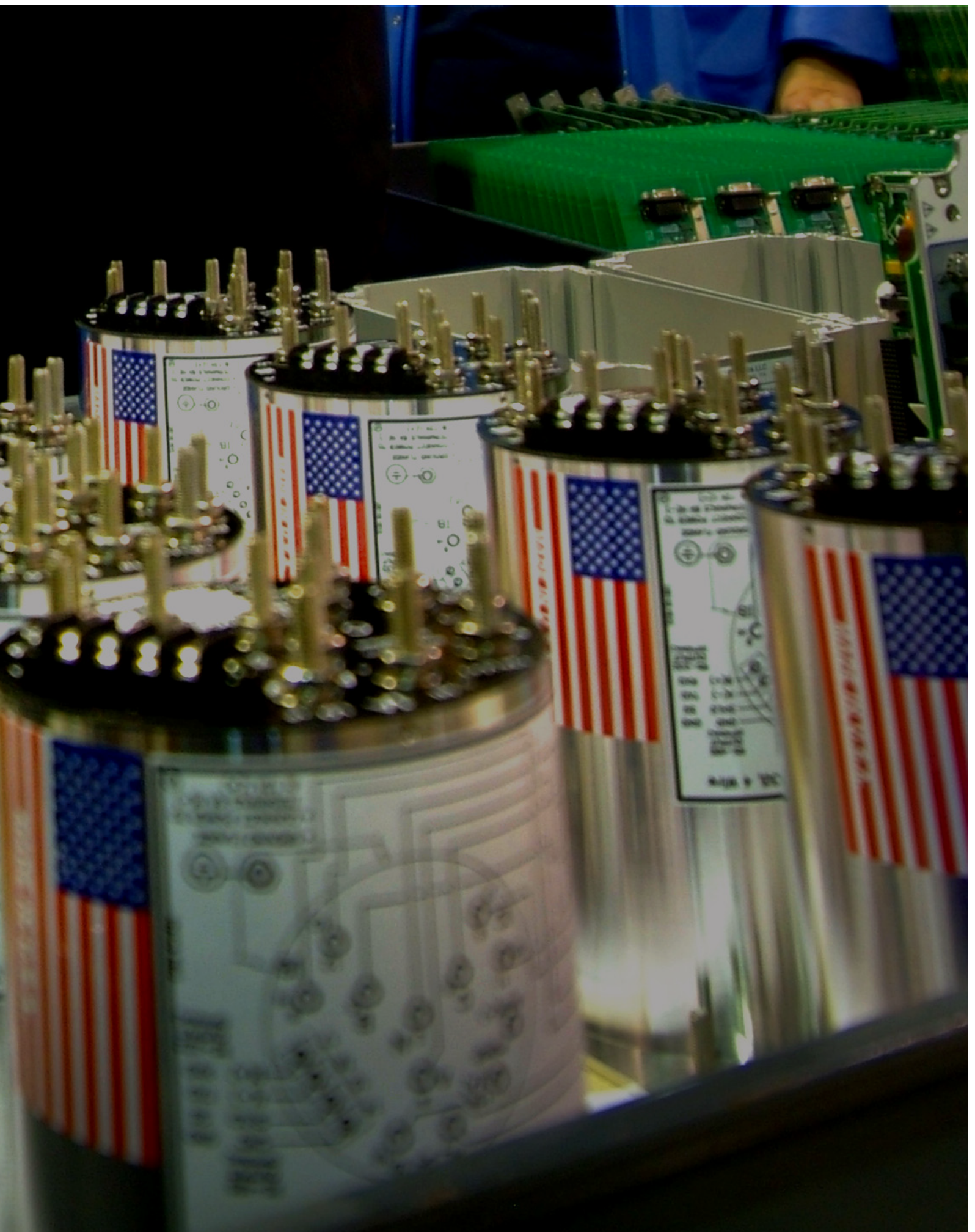
Panel Meters

With universal wiring, split-core Current Transformers (CTs), and web-based configuration, all Bitronics Panel Meters simplify configuration, integration, commissioning, and spares. Models offer a variety of bright 3-line/5-digit displays, flexible connections (Ethernet, RS-232, and RS-485), and protocol options (IEC 61850, EtherNet/IP, Modbus/DNP3 serial, and Modbus/DNP3 TCP).

The D650MX Universal Display is a Modbus/DNP3 TCP/IP and serial client panel meter that connects to substation IEDs. It is similar to the M650 without the CT and PT inputs and measurement capability but with the client protocols to poll other devices to display the measurement values in these devices.

Bitronics 50 and 60 Series panel meters and displays offer a variety of solutions for metering, SCADA communications, and local display.

Feature Comparison by Model

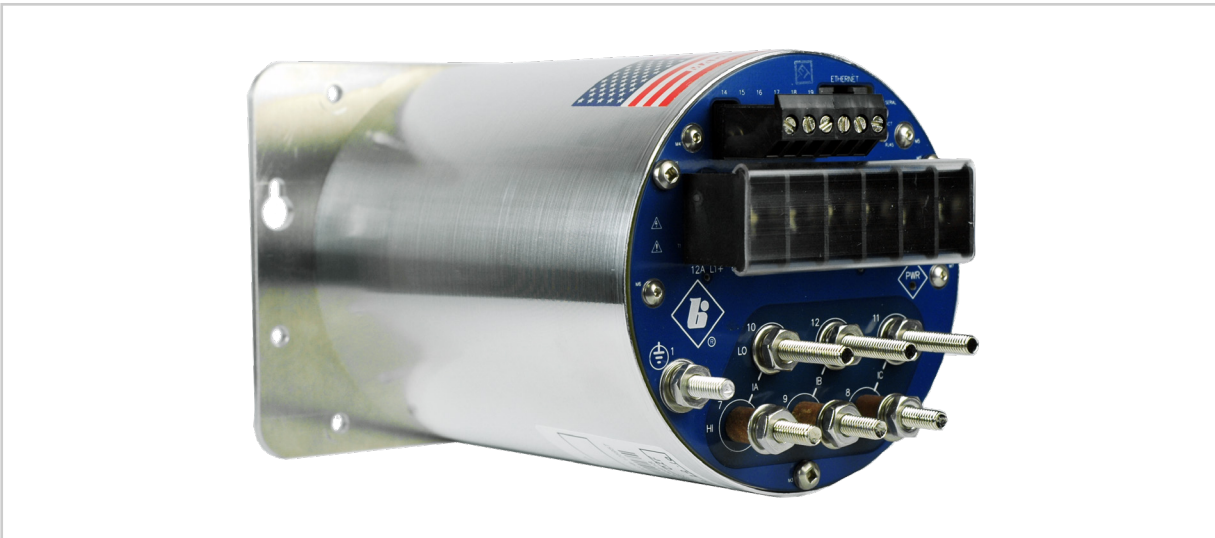| Feature	M350	M650	M660	M653	M663
Amps with Demand	x	x	x	x	x
Volts with Min/Max	x	x	x	x	x
Power, Energy, Transformer/Line Loss, THD, K-Factor		x	x	x	x
.001Hz Accuracy		x	x	x	x
0.2% Revenue Accuracy		x	x	x	x
100ms RMS Updates	x	x		x	
1ms RMS Updates			x		x
One 3-Line 5-Digit Display	x	x	x		
Three 3-Line 5-Digit Displays				x	x
Capacitive Touch Front Controls	x	x	x	x	x
1A or 5A, 120V ac	x	x	x	x	x
20A, 120V ac			o		o
5A Split-Core External CTs		o	o	o	o
48-250V dc / 55-240V ac Power Supply	x	x	x	x	x
8-40V dc Power Supply			x		x
Power Supply Monitoring		o	x	o	x
RS-232/485	o	o	o	o	o
Transducer Output	o	o		o	
KYZ Pulse Outputs			o		o
RJ45 Ethernet	x	x	x	x	x
Fiber Ethernet	o	o	o	o	o
DNP/Modbus over Ethernet	o	o	x	o	x
DNP/Modbus over Serial	o	o	o	o	o
EtherNet/IP			o		o
IEC 61850			o		o
Trend Recording			o		o

x = Standard   o = Optional

SCADA and Automation Transducers

The M651 and M661 SCADA Transducers offer the same universal wiring, measurements, accuracy, and communications options as the M650 and M660 panel meters without the touch front controls and display. The PowerPlex II is an automation transducer with two sets of 3-phase voltages and 1-cycle measurement update speeds for use in high-speed control, sync-check, and auto-synchronization applications.

The PowerPlex II is an ideal choice for generation synchronization and high-speed control applications.

The M651 and M661 digital transducers offer a lower-cost option for SCADA when local display is not needed.

Feature Comparison by Model

Feature	M651	M661	PowerPlex II
Amps with Demand	x	x	x
Volts with Min/Max	x	x	x
Power, Energy, Tranformer/Line Loss, Frequency, THD, K-Factor	x	x	x
.001Hz Accuracy	x	x	x
0.2% Revenue Accuracy	x	x	x
100ms RMS Updates	x		
1ms RMS Updates		x	x
1A or 5A, 120V ac	x	x	
1A or 5A, 600V ac			x
20A, 120V ac		o	
5A Split-Core External CTs	o	o	
48-250V dc / 55-240V ac Power Supply	x	x	x
8-40V dc Power Supply		o	o
Power Supply Monitoring	o	x	x
RS-232/485	o	o	o
Transducer Output	o		
KYZ Pulse Outputs		o	
RJ45 Ethernet	x	x	Dual (Switch)
Fiber Ethernet	o	o	
DNP/Modbus over Ethernet	o	x	x
DNP/Modbus over Serial	o	o	o
EtherNet/IP		o	o
Device Level Ring (DLR)			o
IEC 61850		o	o
Detached Display			o
Trend Recording		o	o

x = Standard   o = Optional

Disturbance Recorders

Bitronics 70 Series Event Recording IEDs provide 4ms RMS voltage and current measurements, meet all three PRC-002 Event Recording requirements (SOE Equipment, Fault Recording, and Dynamic Disturbance Recording), and provide IEC 61850 communications in a single unit. They use high-resolution event capture to analyze network faults, verify protective relay and other substation equipment performance, test the dynamic response of the network, and store long-term trends.

In applications where legacy electromechanical relays are installed, Bitronics 70 Series can be added to provide SCADA functions, distance-to-fault, sequence of events, and oscillography recording – while preserving existing investments in electromechanical relays.

Common applications include:

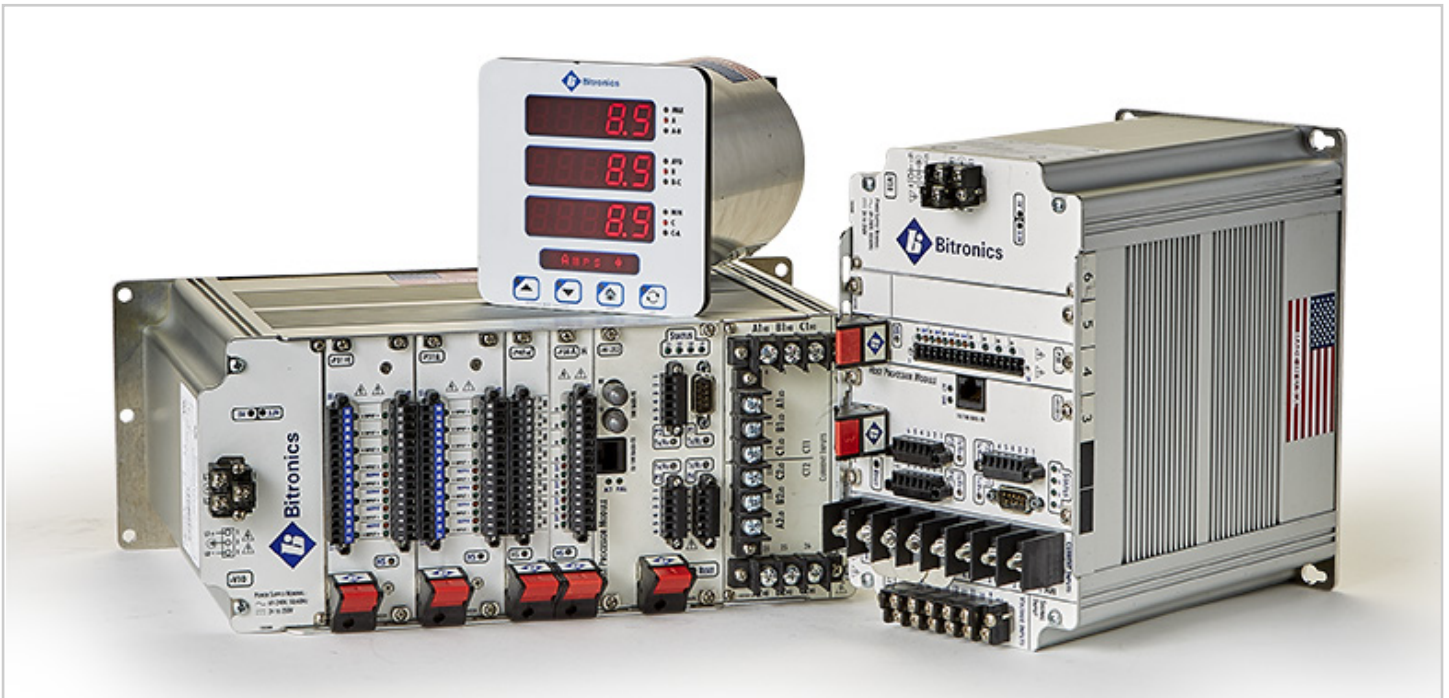Automate Electromechanical Relay Substations

Real-Time Sync

Power System Analysis

Disturbance Monitoring

Distributed Event Recording

From Top Left (counterclockwise): Bitronics D650 (optional display), Bitronics M872, and M871 Disturbance Recorder
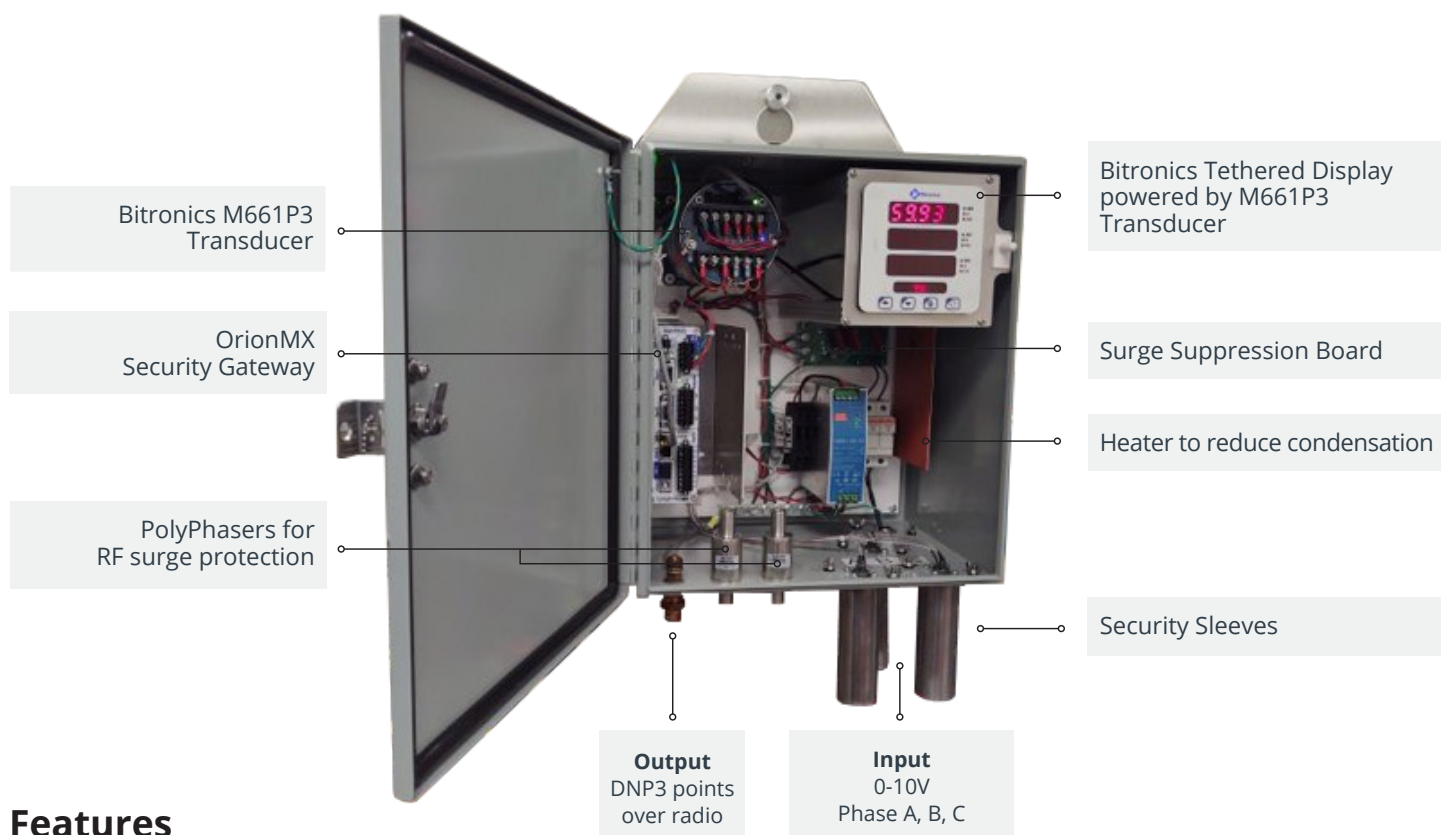
Feature Comparison by Model

Features	M871	M872
Volts and Amps	x	x
Power, Energy, Frequency, Demand, Harmonics, K-Factor, Flicker, Impedance & Symmetrical Components	x	x
Detached Displays	o	o
0.2% Revenue Class Accuracy	o	o
4ms RMS Updates	x	x
RJ45 Ethernet	o	o
Fiber Ethernet	o	o
Dual 3- Phase Current Inputs		x
Directly Monitored Neutral Current	x	
DNP/Modbus Over TCP	x	x
IEC 61580 with GOOSE over TCP	x	x
Trend Recording	x	x
Disturbance & Event Capture	x	x
Battery Voltage Inputs	x	
Distance-to-Fault	x	x
Digital/Analog I/O	o	o
Modular Component Flexibility	x	x
Split Core CTs	o	o
24-250V dc / 69-240V ac Power Supply	x	x

x = Standard   o = Optional

Distribution Grid Monitor (DGM)

Built around the Bitronics M661P3, the Distribution Grid Monitor (DGM) can be deployed on the distribution feeder to interface with Lindsey and other pole top sensors. The DGM provides essential real-time measurements that enable Distribution Management applications to better manage voltages and maintain high power quality. The DGM calculates better than 0.5% accurate voltages, currents, power, energy, and fault data from raw sensor measurements. A typical DGM system consists of the M661P3 transducer, a local PPXIITD detached display, a NEMA enclosure, and a shelf for utility supplied radio, all packaged as one offering with Lindsey GEN2 sensors and supporting cables.

Bitronics M661P3 Transducer

OrionMX Security Gateway

PolyPhasers for RF surge protection

Bitronics Tethered Display powered by M661P3 Transducer

Surge Suppression Board

Heater to reduce condensation

Security Sleeves

Output
DNP3 points over radio

Input
0-10V
Phase A, B, C

Features

Features	DGM
Volts with Min/Max	x
120V ac Normalization	x
Amps with Demand	x
Power, Energy, Frequency, THD	x
Peak Fault Current	x
Definite Time Over Current	x
DNP/Modbus Over TCP and Serial	x
RJ45 Ethernet	x
RS-232/485	x
One Digital Input for Door Alarm	x
One-Cycle RMS Updates	x
10V ac Input	x
80-150V ac Power Supply with 12V dc Output	x
Detached Display	o
Heater	o
60W Power Supply	o
Enhanced Security via OrionMX	o
Digital I/O via OrionMX	o
Power Surge Suppression	x
Tamper Sleeves	o
NEMA 4 Mild Steel or NEMA 4X SS Enclosure	x
Lindsey GEN2 Sensors	o

x = Standard   o = Optional

Power Automation
Solutions
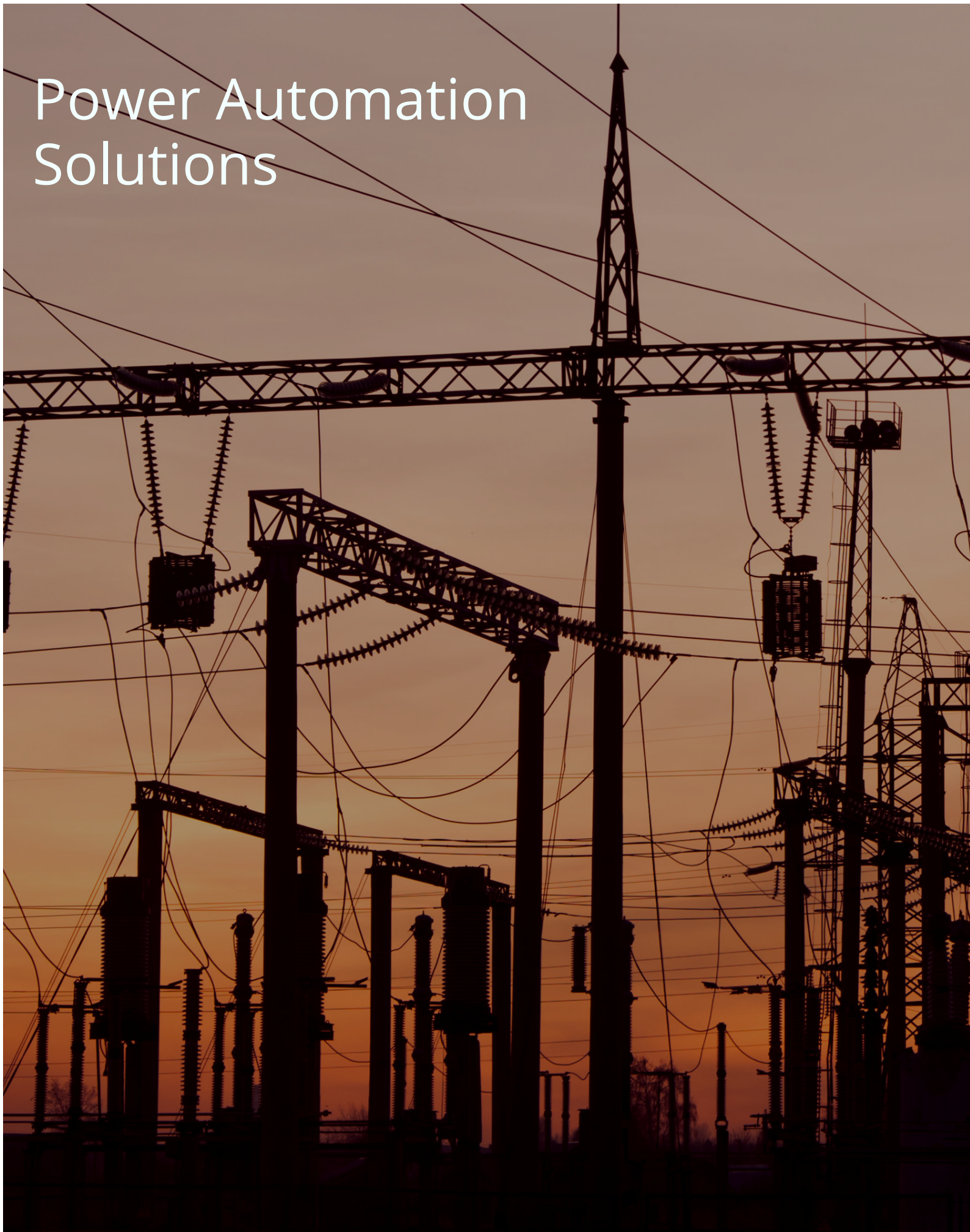
Utility Systems & Services

NovaTech Automation provides a complete range of value-added services including system and application engineering, graphics design, custom hardware fabrication and on-site installation, and commissioning. With extensive application expertise, NovaTech Automation Services group can handle the toughest automation challenges.

Graphics Development

Customized HMI graphics development for one-line diagrams and other HMI and SCADA screens using the open source Inkscape graphics package.

RTU Panel Design & Build

Customized design, fabrication, testing, and commissioning for substation RTUs and pole top RTUs.

Applications Engineering

Customized Orion and Bitronics design and configuration services to meet specific application requirements, including Math and Logic, DA Logic, Alarm Time Annunciation, and oscillographic recording.

Training & Conferences

On-site and classroom training on Orion and Bitronics products, as well as instructional webinars and regional technical symposia.
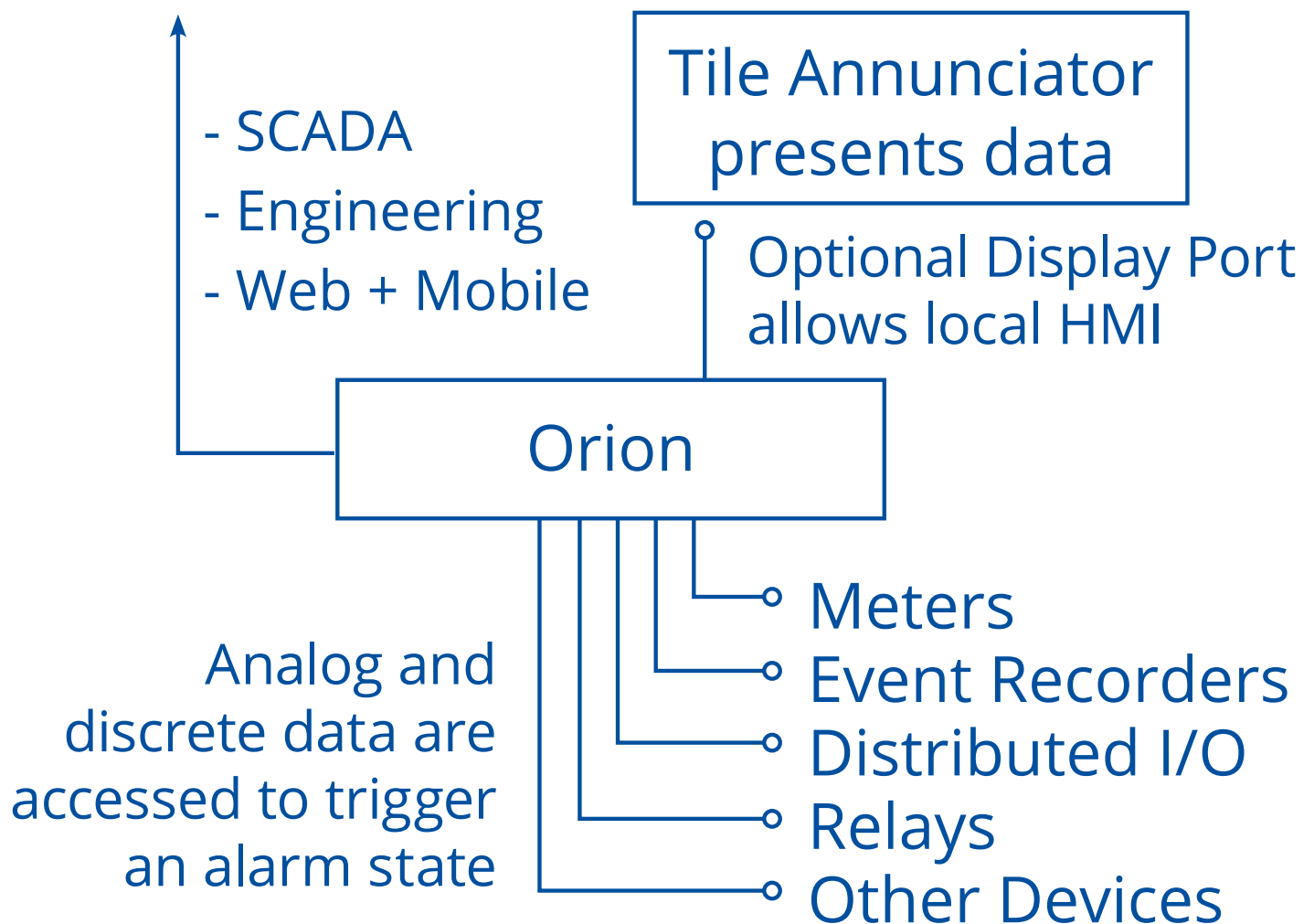
Application and System Engineering

NovaTech Automation products are designed to simplify design, deployment, and configuration for any given application, but we're more than happy to handle those tasks for you. Our systems engineers can design, configure, and test web-based SCADA systems, local touchscreen HMIs, complete turnkey automation systems, advanced math and logic programming, RTU configuration, integration with legacy PLC systems, D20 conversions, and more - you name it, we've very likely done it.

Visit Our Video Library!

For a growing library of short video tutorials on major NovaTech Automation product applications, including the Orion family, please visit
novatechautomation.com/resource-library

- SCADA
- Engineering
- Web + Mobile

Tile Annunciator
presents data

Optional Display Port
allows local HMI

Orion

Analog and
discrete data are
accessed to trigger
an alarm state

Meters
Event Recorders
Distributed I/O
Relays
Other Devices

NovaTech Automation Systems can engineer an Alarm Management System as shown above

Orion SCADA

We leverage the open standards, security, and flexibility of our WEBserver HMI software to provide license-free SCADA functionality at a fraction of the cost of PC-based SCADA. For users with basic SCADA requirements for system visualization, alarm management, remote breaker control, and data archiving and trending, NovaTech Automation can provide a SCADA system requiring only browser access from user PCs. In these systems, a local or remote OrionLX+ serves out standard and customized webpages. This browser-only design eliminates software maintenance and load issues on user PCs. NovaTech Automation engineers can also design and commission a secure communication link between the host OrionLX+ SCADA system and Orion-based substation RTUs.

Installing our web-based SCADA was very easy for us despite the fact that we are a small IT team. Even without a dedicated SCADA team, we can easily maintain the product. It does not require a big department.

**- Vic, VP of IT at Midwest US Electric Utility Coop**

Error alert email

NovaTech®
Lenexa Substation

5000KVA
34.5/12.47/7.2 KV

ΦA
Online

Load Volt(Pri)
79758

Load Amps(Pri)
102

Load Volt(Sec)
7578

Load Amps(Sec)
1084

Tap position
0

Raise Lower

ΦB
Online

Load Volt(Pri)
79719

Load Amps(Pri)
95

Load Volt(Sec)
7565

Load Amps(Sec)
1010

Tap position
0

Raise Lower

ΦC
Online

Load Volt(Pri)
79828

Load Amps(Pri)
111

Load Volt(Sec)
7621

Load Amps(Sec)
1166

Tap position
0

Raise Lower

Bitronics Meter

3P KWatt	3P PF
0.79	0.79
3P KVa	3P KVar
24876.98	5331.36

ZOOM

Feeder01 Online

	Amps	MW	MVar	Breaker
				Closed
ΦA:	363	2.173	0.578	
ΦB:	346	2.066	0.550	
ΦC:	423	2.547	0.677	

ZOOM

Feeder02 Online

	Amps	MW	MVar	Breaker
				Closed
ΦA:	334	2.000	0.532	
ΦB:	385	2.301	0.612	
ΦC:	290	1.746	0.464	

ZOOM

Feeder03 Online

	Amps	MW	MVar	Breaker
				Closed
ΦA:	387	2.317	0.616	
ΦB:	279	1.667	0.443	
ΦC:	453	2.727	0.725	

This is a demonstration screen for a real world substation displaying a single HV line coming in and splitting to three LV feeder breakers. The transformer's separate phases can be controlled individually. Each feeder breaker and phase of the transformer has its analogs displayed on the page. In this overview green means open/tripped and red means closed.

RTU Panels and Cabinets

Orion RTU panels are custom-designed to meet specific customer requirements, and typically include Orion-based automation, third-party IEDs, HMI, communication gear, power supply, terminal strips, and optional battery monitor. NovaTech Automation will take full responsibility for configuration of all equipment and testing prior to shipment.
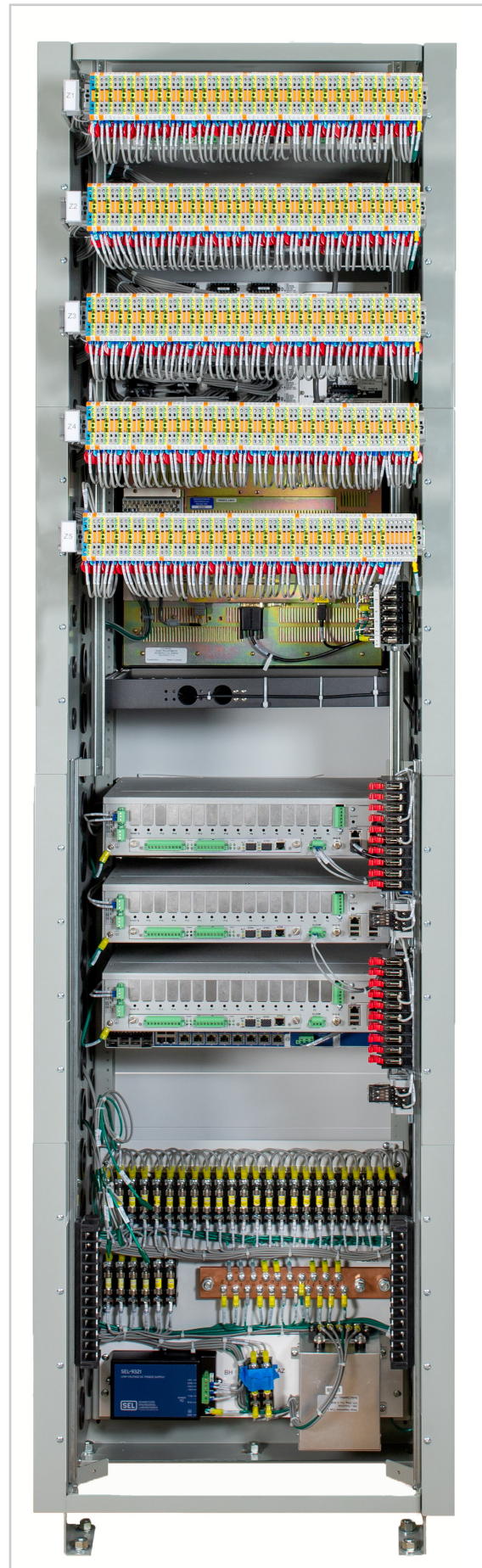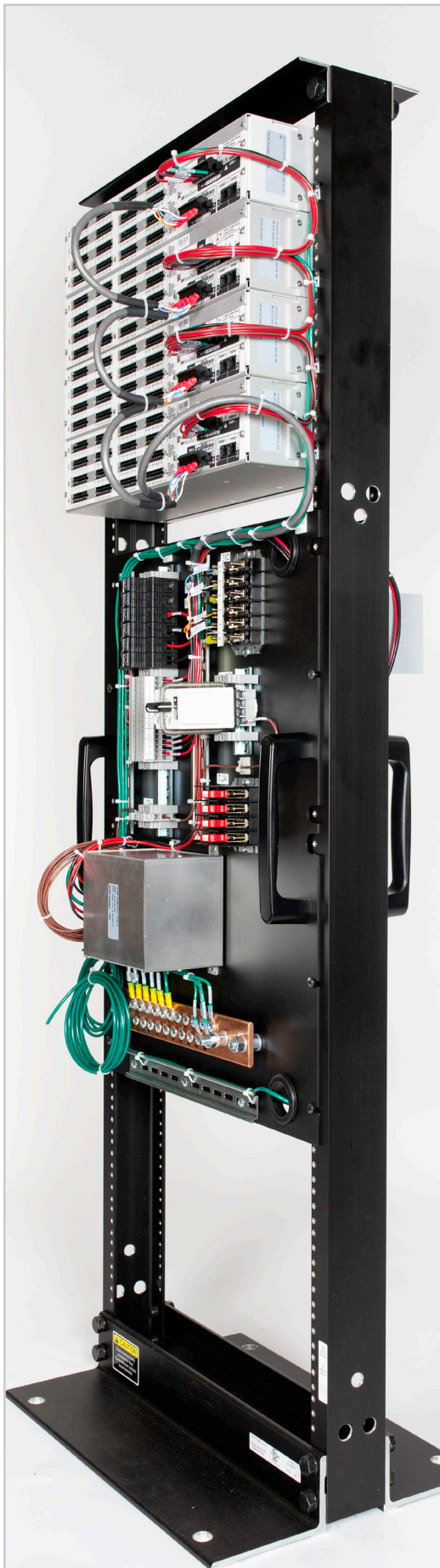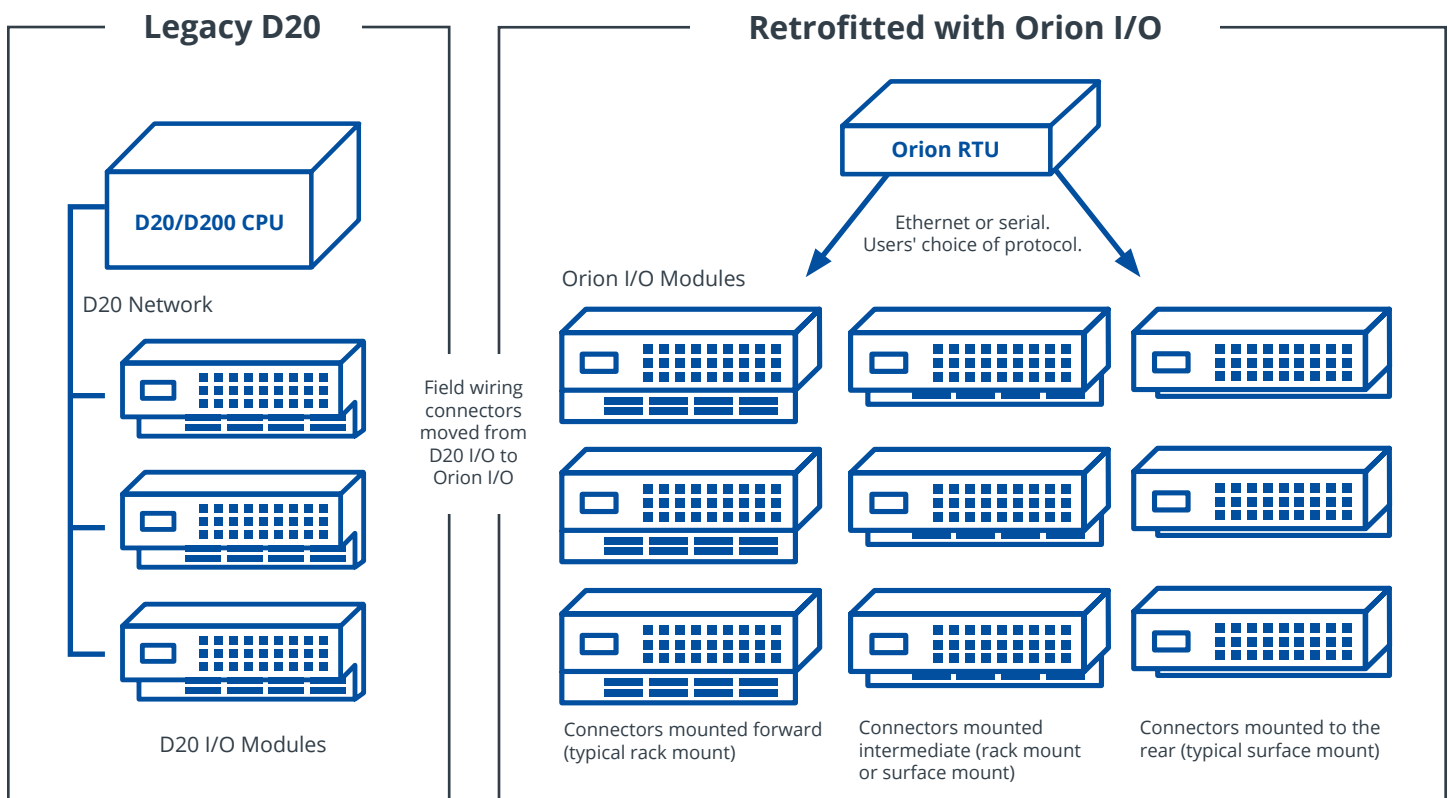
Legacy RTU Upgrades

Tens of thousands of legacy RTU are reaching the end of their service life and need to be replaced. NovaTech Automation offers standard and custom retrofit solutions for most of the common legacy RTUs: D20/D200, Telvent, Landis & Gyr, ACS, and Systems Northwest. Many of our retrofit solutions do not require lifting of field wiring.
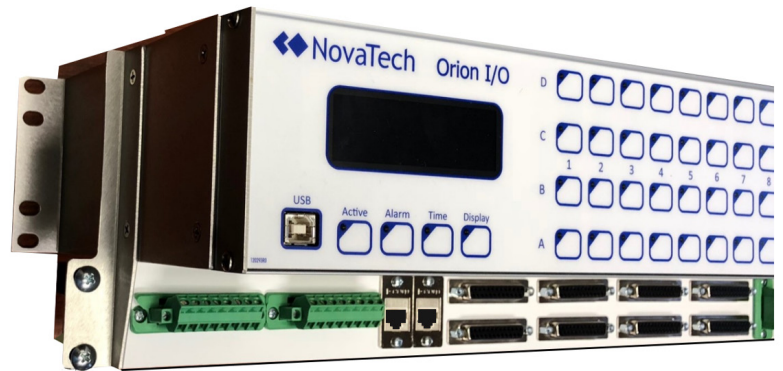
D20 retrofit module

Two retrofit solutions are offered: one for the D20/D200 using an expanded Orion I/O assembly to replace D20/D200 modules (diagrammed below), and one for the other legacy RTUs using "Adapter Boards."

Legacy D20

D20/D200 CPU

D20 Network

D20 I/O Modules

Field wiring connectors moved from D20 I/O to Orion I/O

Retrofitted with Orion I/O

Orion RTU

Ethernet or serial. Users' choice of protocol.

Orion I/O Modules

Connectors mounted forward (typical rack mount)

Connectors mounted intermediate (rack mount or surface mount)

Connectors mounted to the rear (typical surface mount)

Adapter Board Solution

Examples of Telvent and Landis and Gyr retrofits, using Adapter Boards, are pictured below.
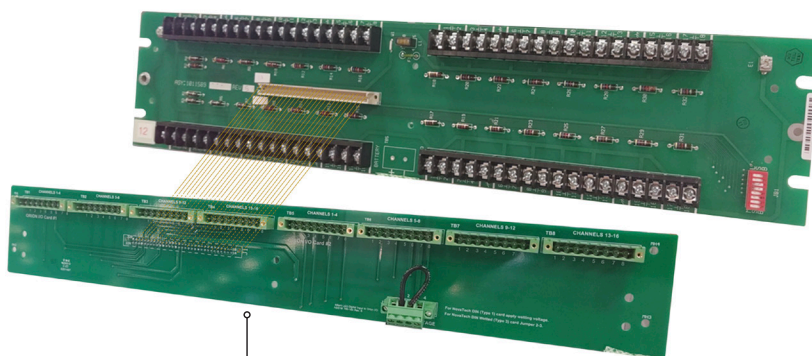
Retrofit solution for Outputs
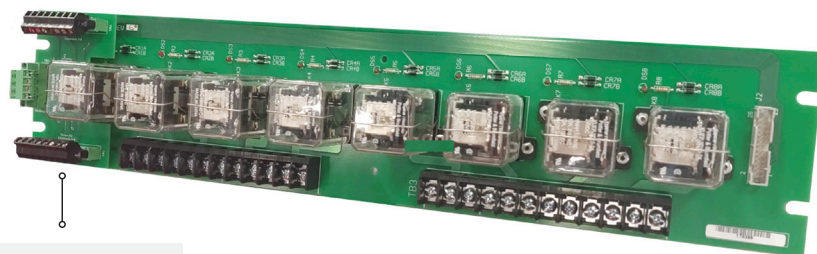
Telegyr 5700 Output Module and Input Module installed on a substation panel
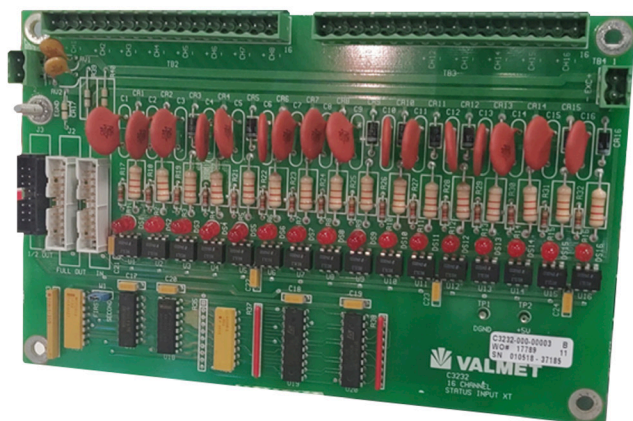
NovaTech Adapter Board
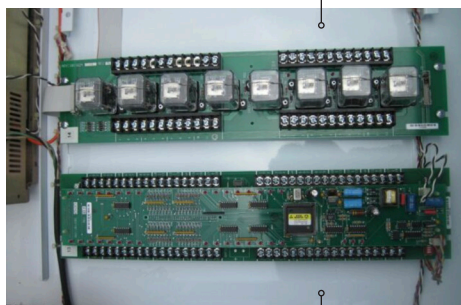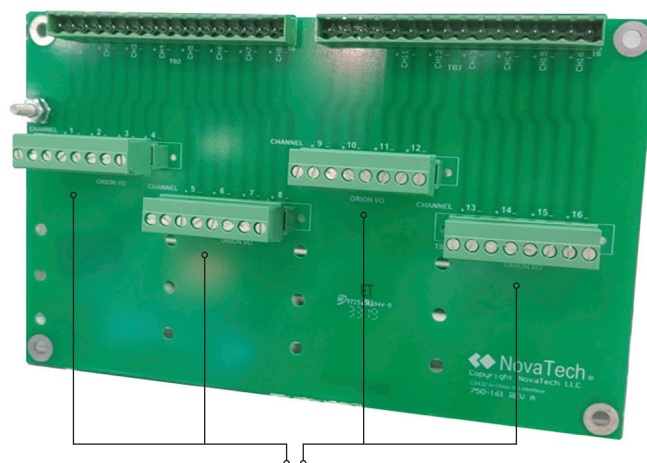
Retrofit solution for Inputs

NovaTech Adapter Board

Legacy Telvent Input Card

NovaTech Adapter Board

Wire harnesses to Orion I/O Input Card

We'll Handle It!

NovaTech Automation field teams can quickly and efficiently handle everything from site preparation and disposal of old RTUs (in compliance to local regulations for monitors, lead solder, batteries, etc.) to installation, commissioning, and checkout. We can wire IEDs and other substation apparatus, perform communications and point-to-point checkout, update documentation, and create and update configurations for PLCs, modems, radios, and switches - all in a matter of days, not weeks. Recent project highlights include the six stats listed below.

38 Event Recorders in 3 Days

8 RTUs Built & Installed in 8 Weeks

Decommission, Install, & Commission in 3 Days

Installed & Connected 50 Fiber Connections in 1 Substation in 1 Day

42 I/O Cables, 430 wires Crimped, and 860 Terminations in 1 Day

90" RTU Cabinet through a 91" Door Frame

For More Information

Please visit our website at **novatechautomation.com** for more information about our products and services. For more detailed application and product information, please visit our Power Community Support Site: **power.novatechautomation.com**.

"...You guys provided the best support of any company I have ever dealt with..."

**- Dennis, Senior Substation Engineer
   at Southern US IOU**

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