

# OrionSX Automation Platform

Introducing the OrionSX, the latest model in the Orion family. The OrionSX brings a combination of power and small size into applications for serving out large amounts of data and serving out a distributed Orion Direct Video HMI. Just like all Orions, the OrionSX is equipped with OrionOS™ ensuring across-the-line compatibility in firmware, software, protocols, and configuration.

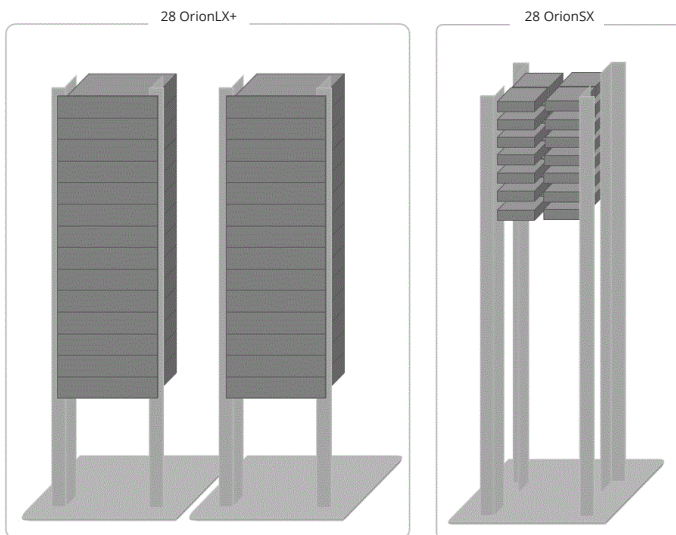
The OrionSX is an OrionLX+ in a smaller package. The CPU and memory are identical; the only difference is in the communication ports and I/O expandability. Eliminating serial expansion ports, Ethernet expansion ports, and I/O results in a package that is only one-quarter the volume. This means lower costs everywhere in your design.

Mounting flexibility is a key feature in the OrionSX. The universal mounting brackets offer mounting on horizontal lower surfaces, front vertical surfaces, top horizontal surfaces, or rear vertical surfaces. DIN rail and 19" rack mounting are also available.

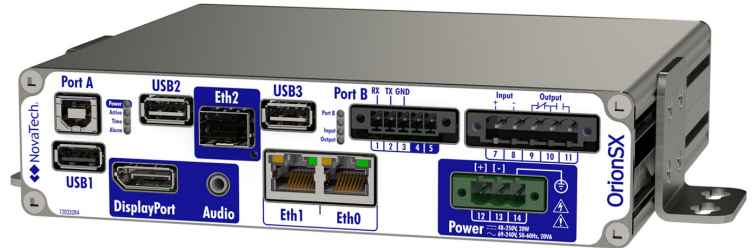
The OrionSX provides a compact solution for four utility automation applications:

## 1. Data acquisition front end in the utility enterprise.

With the same power and capacity of the OrionLX+ but with only a small fraction of the volume, the OrionSX is ideal as a data acquisition front end for EMS, DERMS, and ADMS. In only 14 RU, 28 OrionSX can access over one million points from field IEDs.

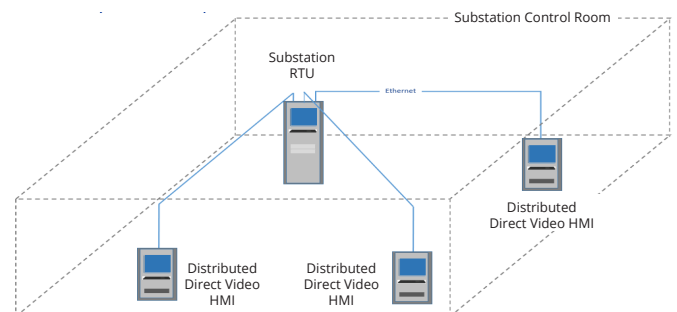


The OrionSX has the same power of the OrionLX+ but requires only about one-quarter the space.



## 2. Distributed Direct Video HMI in larger transmission substations.

When OrionSX are networked to the substation RTU, their browser can be pointed to the RTU and all of the pages become accessible. No need to plug a PC into a switch. A southwest user plans to put three or four OrionSX into their big substations so complete visualization and control are never more than a few steps away.

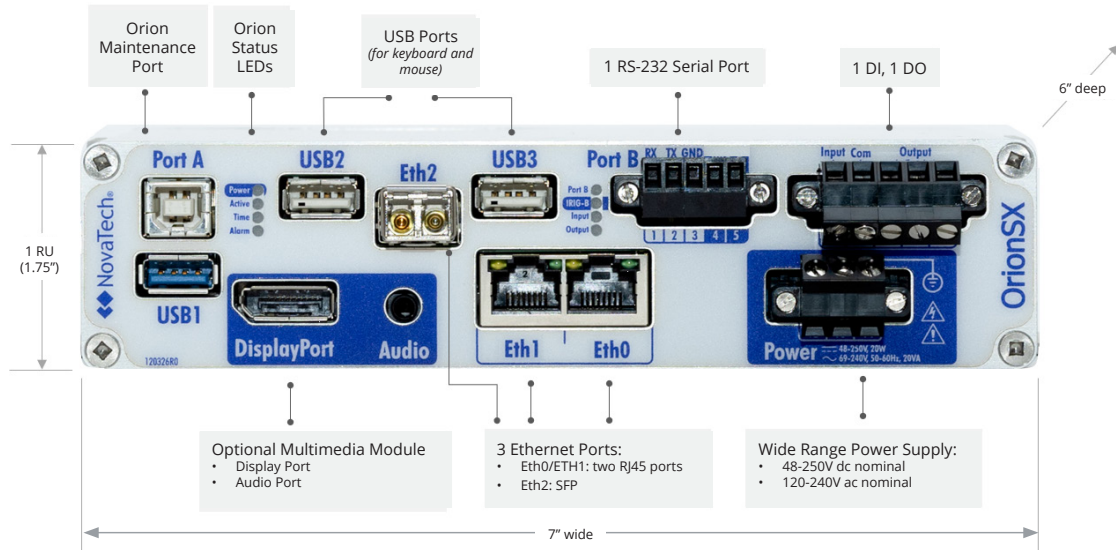


The OrionSX can be distributed throughout larger control rooms, replicating the Orion Direct Video HMI in multiple locations.

## 3. More compact Orion SCADA Master, further reducing the cost of Orion SCADA.

4. Smaller transmission substation RTU, where serial communication and PRP/HSR Ethernet networking are not required. Two redundant OrionSX can be mounted side-by-side in one rack, saving space and reducing cost.

## Dimensions and Features



## Specifications

### Environmental

Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
Operating Humidity	5 to 95% non-condensing

### Performance/Capabilities

IED/SCADA Points	40,000
DNP3 Connections to IEDs	256
Refresh Rate	2 sec (typical)

### Processor

CPU	Intel Atom 1.9GHz Quad Core
RAM	2GB

### Data Archiving & Storage

Memory	8GB
Database	PostgreSQL

### Standard Protocols

Server/Slave	DNP3, IEC 60870-101/104
Client/Master	DNP3, IEC 60870-101/104

### IT Protocols

FTP / SFTP, HTTP / HTTPS, Radius, LDAP, NTP / SNTP Agent, PPP, SNMP, SSH, SSL / TLS, syslog, and telnet

### Optional Protocols

IEC 61850, Modbus, SEL®, ICCP, L&G 8979, SES, SPS, SPA, SNMP Manager, and other legacy protocols

### Software Options

Orion Redundancy, Alarm Tile Annunciation, Data Archive, Email, IEC 61131-3, Lua Logic, Points Blocking, Cascaded Orions

### Time Synchronization

NTP Client and Server, PTP (Precision Time Protocol, IEEE 1588)

### Physical Connections

Ethernet Ports	2ea RJ45 10/100/1000 copper 1ea SFP transceiver slot
Serial Port	1ea RS-232 (RX, TX, and GND)
Direct Video Option	1ea DisplayPort, 1ea audio port
Keyboard, Mouse, Touchscreen	3ea USB type A ports
Maintenance Port	1ea USB type B port
Discrete Input	1ea, voltage software selectable
Discrete Output	1ea, Form C, rated for trip duty

### Power Supply and Draw

Input Voltage	48-250V dc / 120-240V ac, +/- 20%, 50-60Hz
Draw	15 Watts (typical) 25 Watts (max)

### Size

7"W x 6"D x 1.75"H

### Mounting Options

Universal mounting ears  
19" rack and DIN rail options

### Available SFP Transceivers

Model	Connector	Mode	Distance	Wavelength	Speed
SFP-MM01	LC	Multimode	550m	850nm	1Gbps
SFP-MM02	LC	Multimode	2km	1310nm	100Mbps
SFP-SM01	LC	Single mode	10km	1310nm	1Gbps
SFP-SM04	LC	Single mode	40km	1310nm	1Gbps
SFP-RJ01	RJ45	Copper	100m	N/A	1Gbps