

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.

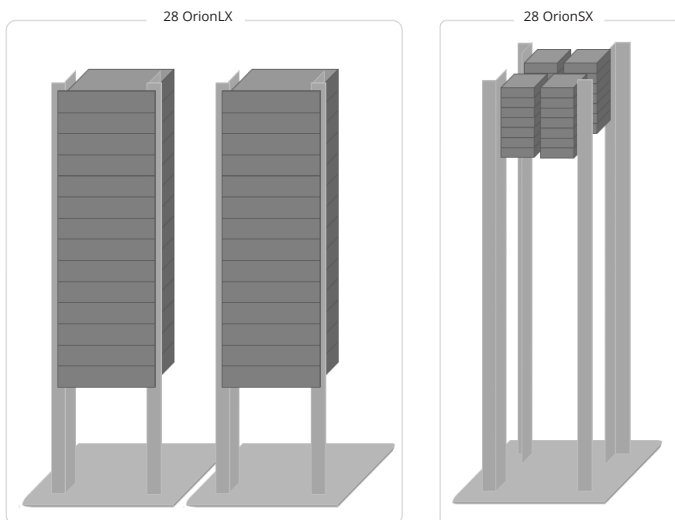
The OrionSX is an OrionLX+ in a smaller package. The CPU and memory are identical; the only difference is in communication port and I/O expandability. Eliminating serial expansion ports, Ethernet expansion ports and I/O results in a package that is only one-eighth the volume. This means lower costs everywhere 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 seven RU, 28 OrionSX can access over one million points from field IEDs.

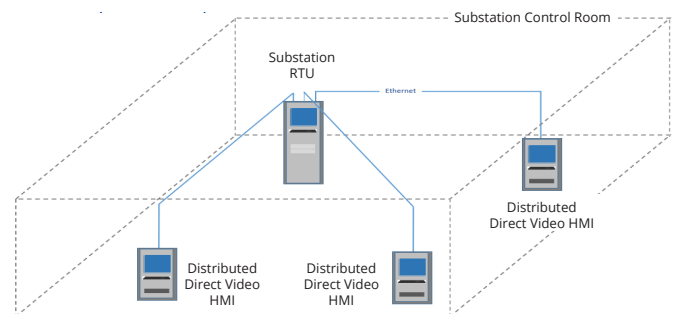


The OrionSX has the same power of the OrionLX+ but requires only about one-eighth the space.



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.

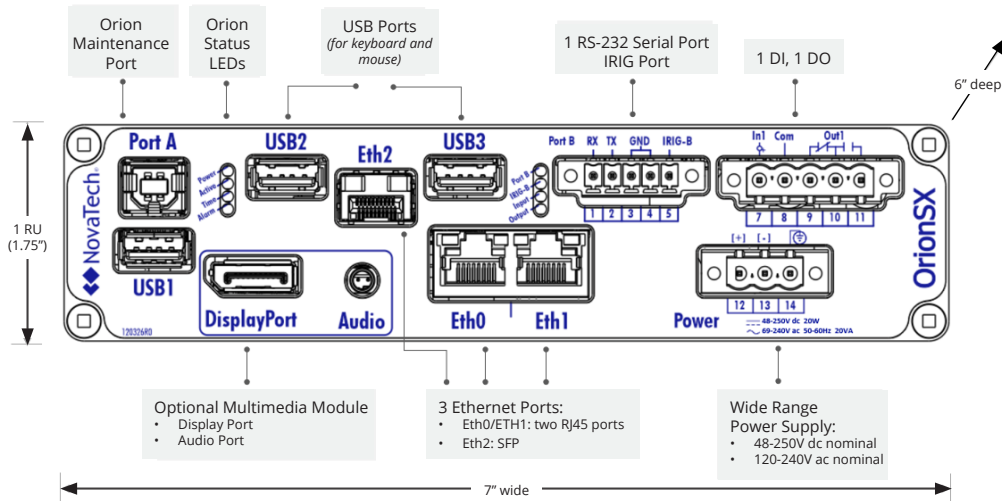


The OrionSX can be distributed throughout larger control rooms, replicating the Orion Direct Video HMI in multiple locations.

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 IED	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, SNMP Manager, SPA, 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

IRIG-B Mod/Unmod, Time Zone, UTC/Local (Input only), NTP Client and Server, PTP (Precision Time Protocol or IEEE 1588)

Optional Cards

Physical Connections

Ethernet Ports	2ea RJ45 10/100/1000 copper 1ea SFP transceiver slot
Serial Ports	1ea RS-232 (RX, TX, and GND)
IRIG-B	Twisted pair
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

	Connector	Distance	Media	Speed	Wavelength
SFP-MM01	LC	550m	multimode fiber	1Gb/s	850nm
SFP-MM02	LC	2km	multimode fiber	100Mb/s	1310nm
SFP-SM01	LC	10km	single mode fiber	1Gb/s	1310nm
SFP-SM04	LC	40km	single mode fiber	1Gb/s	1310nm
SFP-RJ01	RJ45	100m	copper	1Gb/s	N/A