

# OrionLX+ Automation Platform

The OrionLX+ adds new power and flexibility for larger, more challenging applications, plus features to simplify usage and reduce costs of ownership.

As a member of the Orion family, the OrionLX+ shares the same operating system and configuration techniques of the other Orions: OrionLX CPX, OrionLXm, Orion I/O, and OrionMX. Configurations from other Orions can run in the OrionLX+, and the same serial communication cards can be used in both the OrionLX CPX and OrionLX+.

Capabilities include hot swappable power supplies, expanded networking options, higher "Direct Video" performance, expanded application support, and significantly more power.

## Hot Swappable Power Supplies

Single or redundant supplies can be ordered, each removable under power from the front of the OrionLX+. For higher reliability, both power supplies share the load, and are health monitored by internal Orion diagnostics.

## Expanded Networking Options

Four NovaCard Expansion Cards are available to support a wide range of network and I/O needs:

- NovaCard #0 (NC0): Adds one 10/100/1000BaseT Ethernet port and 4DI / 4DO:



- NovaCard #1 (NC1): Adds one 10/100/1000BaseT Ethernet port, two SFP ports, and 4DI / 4DO:



- NovaCard #2 (NC2): Adds 12 10/100/1000BaseT Ethernet ports:



- NovaCard #3 (NC3): Adds PRP/HSR ports for LAN A and LAN B (10/100/1000BaseT and SFP) plus one 10/100/1000BaseT Ethernet port and one SFP port. Also adds 4DI / 4DO:



## More Power

Six times more processing power than the OrionLX CPX translates into the ability to handle more points (up to 40,000), store more points, and operate with much lower CPU utilization in larger applications.



Front View of OrionLX+

## Other Hardware Features

- Keyboard and mouse ports
- Modular, field-replaceable serial port cards

## Serial Cards

- A:** RS-232 Standard w/IRIG-B
- B:** RS-422/485
- C:** ST-Fiber Optic
- D:** Bit Card (Bit-to-byte conversion)
- E:** RS-232 Isolated w/IRIG-B
- G:** RS-485 w/IRIG-B
- H:** V-Pin Fiber Optic w/IRIG-B

## IED Protocols

- ABB DPU
- Allen Bradley DF1
- Areva KITZ
- Areva Optimho
- Basler DFPR
- DNP3
- GE DLP
- GE Moisture Meter
- GridSense PAC
- IEC 60870 101/103/104
- IEC 61850
- Keithley Meter
- Modbus
- PG&E 2179
- RFL
- SEL® ASCII
- SEL® Fast Meter
- SEL® Fast Operate
- SEL® Fast SER
- SPA Bus
- TransData DTO
- Plus Client versions of SCADA protocols: CDC, Conitel, Harris, L&G 8979 and Tejas*

## IRIG-B

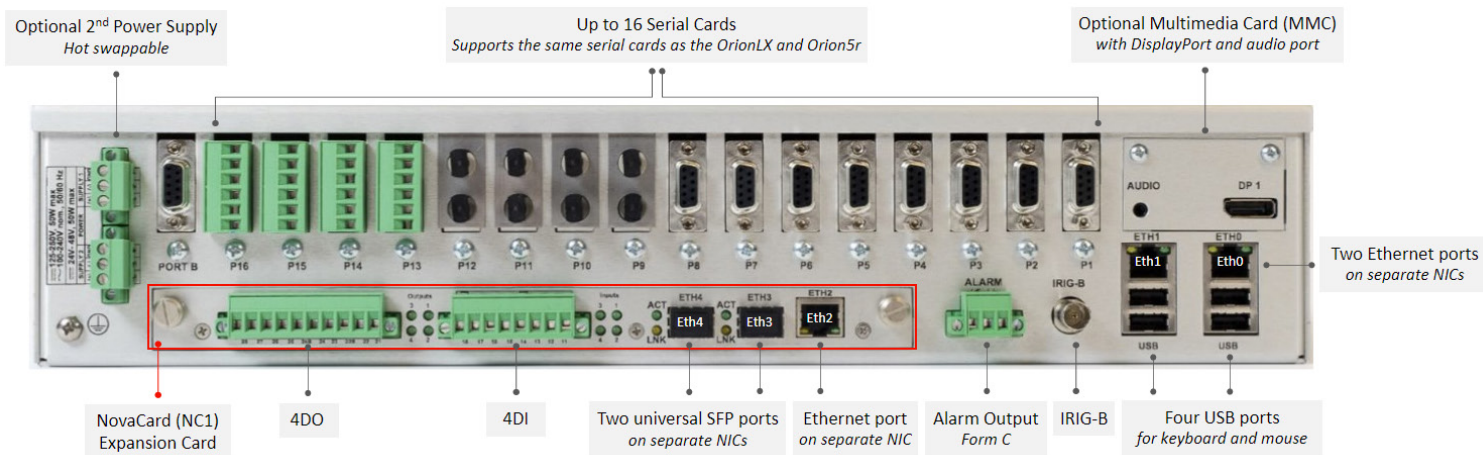
Standard Built-In

## SCADA Protocols

- Betac/Getac
- Conitel 300/2020
- CDC Type I and II
- DNP3
- Harris 5000
- IEC 60870 101/104
- L&G 8979
- Modbus
- REDAC 70H
- SES-92
- SPS
- TejasV

## IT and Enterprise Protocols

- FTP and sFTP
- HTTPS
- ICCP
- MultiSpeak
- NTP and SNTP
- PPP
- RADIUS
- LDAP
- SNMP
- telnet
- XML
- Plus suite of other security protocols*



## Specifications

### Environmental

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

### Physical

Standard case (2U)	19W x 3.5H x 13D (in)
Weight	9.5 lbs

### Connections

RS-232 w/IRIG-B	DB9 (female)
RS-422/485	Screw terminal
RS-485 w/IRIG-B	Screw terminal
Fiber Optic (serial)	ST multimode
Fiber Optic w/IRIG-B	V-Pin multimode
Bit Card	RJ11
Ethernet	RJ45 or SFP receptacle
IRIG-B	Coax
I/O Terminals	Phoenix type, #12-24AWG
Power Terminal	Phoenix type, #10-30AWG
Grounding	#10 stud

### IRIG-B

Input	Modulated or unmodulated
Output (on serial ports)	Unmodulated

### Processor and Memory

Intel® Atom® Quad Core	1.9GHz per core
DRAM	2GB

### Available SFP Transceivers

Media	Description
Fiber	Multimode SFP Transceiver, LC, 550m, 850nm, 1Gb/s
Fiber	Multimode SFP Transceiver, LC, 2km, 1300nm, 100Mb/s
Fiber	Single Mode SFP Transceiver, LC, 10km, 1310nm, 1Gb/s
Fiber	Single Mode SFP Transceiver, LC, 40km, 1310nm, 1Gb/s
Copper	RJ45 SFP Transceiver, 100m, 1Gb/s

### Performance/Capabilities

IED/SCADA Points	40,000; (typical)
Refresh Rate	< 2 sec; typical

### Data Archiving & Storage

Memory	8GB SSD
Database	PostgreSQL

### Digital Inputs on NC0 / NC1

Quantity	4 DI, independent, isolated
Input Range	12-48V dc / 120-250V dc Optically isolated 1ms time-stamped

### Digital Outputs on NC0 / NC1

Quantity	4 DO with 2 Form A, 2 Form C
Contact Ratings	10A MOV protected

### Digital Inputs on NC3

Quantity	4 DI, grouped
Input Range	12-48V dc / 120-250V dc Optically isolated 1ms time-stamped

### Digital Outputs on NC3

Quantity	2 DO with 1 Form A, 1 Form C
Contact Ratings	10A MOV protected

### Alarm Output

Type	Form C
Contact Ratings	10A MOV protected

### Power Supplies

Input Voltage	<i>HV Supply:</i> 125/250V dc nominal and 120/240V ac nominal +/- 20%
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*LV Supply:*  
24/48V dc nominal +/- 20%

### Power Required

*HV Supply:*  
DC: Typical 30W, max 50W  
AC: Typical 60W, max 75W

*LV Supply:*  
DC: Typical 30W, max 50W

### Warranty

10 Year Limited