OrionLX™ Automation Platform

The OrionLX Substation Automation Platform is designed with a Linux operating system, more powerful processors for an expanded range of substation automation applications, and comprehensive Cyber-Security functions for meeting NERC CIP requirements.

Configuration of the OrionLX - including the points read from IEDs, the points presented to SCADA, Math and Logic, and special functions for Sequence of Events, Alarm Annunciation and Distribution Automation - is accomplished using NovaTech Configuration Director (NCD), the same license-free tool used to configure other Orion models. NCD eliminates nearly all register entry and typing by providing pre-configured pick lists for dozens of utility protocols and over 250 utility IEDs.

Key Features

Hot Active-Standby Redundancy

Two identical OrionLXs can be applied as a redundant pair to simplify operations and to improve system MTBF. Ideal for RTU applications with integrated HMI, OrionLX Redundancy replicates operator HMI actions bi-directionally and manages SCADA connections to minimize duplicated events and missed events. Firmware upgrades, webpage changes and Orion configuration changes can all be accommodated without interruption of SCADA visibility or loss of HMI operations.

Direct VGA Video

A rugged VGA Touchscreen Monitor is available for the OrionLX™. With the OrionLX and the Direct Video option, the substation HMI PC can be replaced with a secure VGA terminal, either Touchscreen or with USB mouse/keyboard, eliminating HMI-related security concerns.

IEC 61131-3

The OrionLX can be ordered with the five IEC 61131-3 programming languages. Orion IEC 61131-3 is fully integrated in the Orion NCD (NovaTech Configuration Director) configuration software.

IEC 61850 Client and Server

The OrionLX is available with IEC 61850. With 61850, Orion "IED pick lists" become IED "CID" files. Points are simply dragged and dropped from an expanding tree structure listing all available IED points. Selected 61850 IED points can be presented to any supported Slave protocol such as IEC 60870-5-101 or DNP3.

Other Software Features

- Support for up to 256 attached IEDs
- "Cascaded Orion" Software to simplify integration of multiple Orions
- Automatic retrieval of SEL® Full Length Event Reports
- Email option for Alarms and SEL® Event Records
- Automatic backup of OrionLX configurations and SEL® configurations
- Password Management for OrionLX passwords and SEL® passwords

OrionLX Front and Rear View

Hardware Features

- Video, keyboard and mouse ports
- Redundant Power Supply option with Diagnostics
- Parallel Redundancy Protocol (PRP)
- Modular, field-replaceable serial port cards

Communications

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

Ethernet

10/100BaseT (standard)
Second Ethernet port:
10/100BaseT or
100BaseFX Multimode

Modem

Internal Dial-Up

IRIG-B

Standard Built-In

SCADA Protocols

Betac/Getac
Conitel - 300/20x0
CDC - Type I and II
DNP3 – Serial and IP
Harris 5000
IEC 60870 Serial and TCP
L&G 8979
Modbus – Serial and TCP
REDAC 70H
SES-92
SPS
TejasV

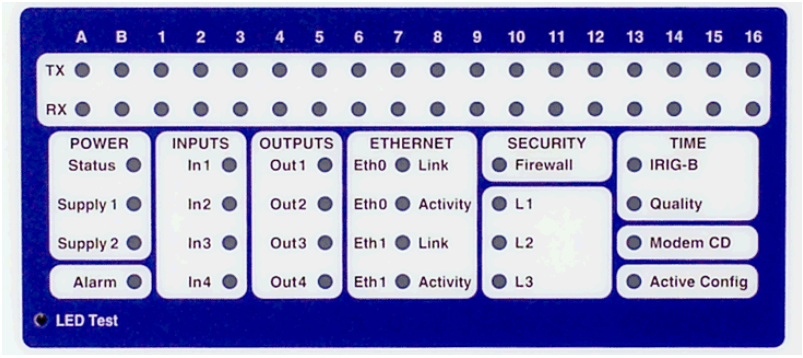
IED Protocols

ABB DPU
Allen Bradley DF1
Areva KITZ
Areva Optimho
Basler DFPR
DNP3 Serial and IP
GE DLP
GE Moisture Meter
GridSense PAC
IEC 870-5-103
Keithley Meter
Modbus Serial and TCP
PG&E 2179
RFL
SEL® ASCII
SEL® Fast Meter
SEL® Fast Operate
SEL® Fast SER
SPA Bus
TransData DTO

Other Protocols

FTP and sFTP
HTTP
HTTPS
NTP
PPP
SNMP
SNTP
telnet
XML
Plus suite of other Security protocols

NovaTech®



Front View of OrionLX Showing Expanded Diagnostic LEDs

Specifications

Environmental

Fast Transient	C37.90.1 (2002)
RFI	C37.90.2 (1995)
Electrostatic Discharge	C37.90.3 (2001)
Operating Temperature	-40°C to +70°C
Operating Humidity	5 to 95% non-condensing plus other IEEE 1613

Indication LEDs

Power Supply #1	Ethernet Link and Activity
Power Supply #2	Security (Firewall)
Alarm	IRIG-B Present and Quality
Built-In Inputs	Modem Carrier Detect
Built-In Outputs	Active Configuration
RX/TX on 18 serial ports	

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	ST Multimode
Fiber Optic w/IRIG-B	V-Pin Multimode
Bit Card	RJ11 (Female)
Ethernet	RJ45 (Female) or ST Fiber
Modem	RJ11 (Female)
I/O Terminals	Phoenix type, #12-24AWG
Power Terminal	Phoenix type, #10-30AWG #10 stud

IRIG-B

Input	Modulated or Unmodulated
Output (on serial ports)	Unmodulated

Processor

Standard CPU	533MHz
HP CPU	1.3GHz

Performance/Capabilities

IED/SCADA Points	20,000; typical
Refresh Rate	< 2 sec; typical

Communications

Serial	1200bps -115kbps
Ethernet	
Built-In Standard	10/100BaseT
Optional Second Port	10/100BaseT or 100BaseFX
Protocols	Bit or byte
Upgrades	Via file transfer

Data Archiving & Storage

Standard Memory	64MB
Expanded Memory Option	4GB
Database	PostgreSQL

Internal Modem

Type	Dial-up; v.34
Speed	33.6kbps

Digital Inputs

Quantity	4 Std (Expandable)
Input Range	12-24V dc 48 - 125V dc Optically Isolated 1ms time-stamped

Digital Outputs

Quantity	4 Std (Expandable)
Contact Ratings	10A MOV Protected

Alarm Output

Type	Form A (default)
Contact Ratings	10A MOV Protected

Power Supplies

Input Voltage	• 12V dc (+/- 20%) • 24V dc (+/- 20%) • 48 -125V dc / 120V ac (+/- 20%) • 125V dc / 120V ac / 240V ac (+/- 20%)

Power Required

30 Watts (max)

Warranty

10 Year Limited

NovaTech®

novatechweb.com

WORLDWIDE HASSLE-FREE 10 TEN YEAR WARRANTY