

DNP 3.0 Compatibility

DNP 3.0

DNP 3.0 is a well-developed protocol standard that C3-ilex has adopted throughout its product line along with many other industry leaders. It offers multiple application layers that allow it to be used as a Master and RTU protocol. In the IED world, DNP 3.0 is becoming widely accepted in most electronic devices like reclosures, regulators, relays and meters.

The interoperability of the DNP 3 design allows different suppliers the ability to connect separate devices like pole mounted reclosures and capacitor controls on the same communications channel with the SCADA RTU. This offers a dramatic cost savings to the utility industry allowing for a single real-time communication and control system.

The DNP 3 protocol defines a large number of point types that can be interpreted in different ways by different suppliers. To alleviate this problem, DNP 3 defines three “subsets” of the point types. The smallest subset (level 1) is designed to be used between a master station or data concentrator and a small IED. The next (level 2) is designed to be used between a master station or data concentrator and a large IED or RTU. The largest subset (level 3) is designed to be used between a master and a medium sized IED, RTU or data concentrator. C3-ilex supports DNP level 3 in its products.

C3-ilex supports DNP 3 in addition to its traditional C3-ilex protocols and other protocols. It is implemented on the EOScada Master Station and the 9300/9310 family of Remote Terminal Units (RTU's). Since DNP 3 is a rich protocol, it is generally less efficient than C3-ilex protocol and may require additional bandwidth in your communication. For example, C3-ilex protocol is more than twice as efficient as DNP 3.

C3-ilex DNP 3.0 Features

- **Guaranteed compatibility with any DNP 3.0 certified device**
- Operates as a Master, RTU or IED protocol.
- Allows a single communications system to interface with multiple manufactures devices.
- Large data point capacity.
- Well-defined documentation & protocol description.
- Can support LAN communication with TCP/IP.
- Strong industry support

Data Concentrator

The modern 9300 RTU design comes with faster processors and large memory capacities and can act as Data Concentrators. The 9300 interfaces to multiple IEDs possibly using several different protocols. The IEDs data is translated into one common virtual RTU database and is transported back to the master in a secure message environment. Along with IED data the RTU can support conventional local I/O.

Multiple Communications Channels

Communicating to the SCADA Master in some configurations may require multiple communication channels. The 9300 has one standard communication channel combined on the CPU card and the ability to expand to three additional communication channels by plugging in a second card. Each communication channel can support an independent protocol.