



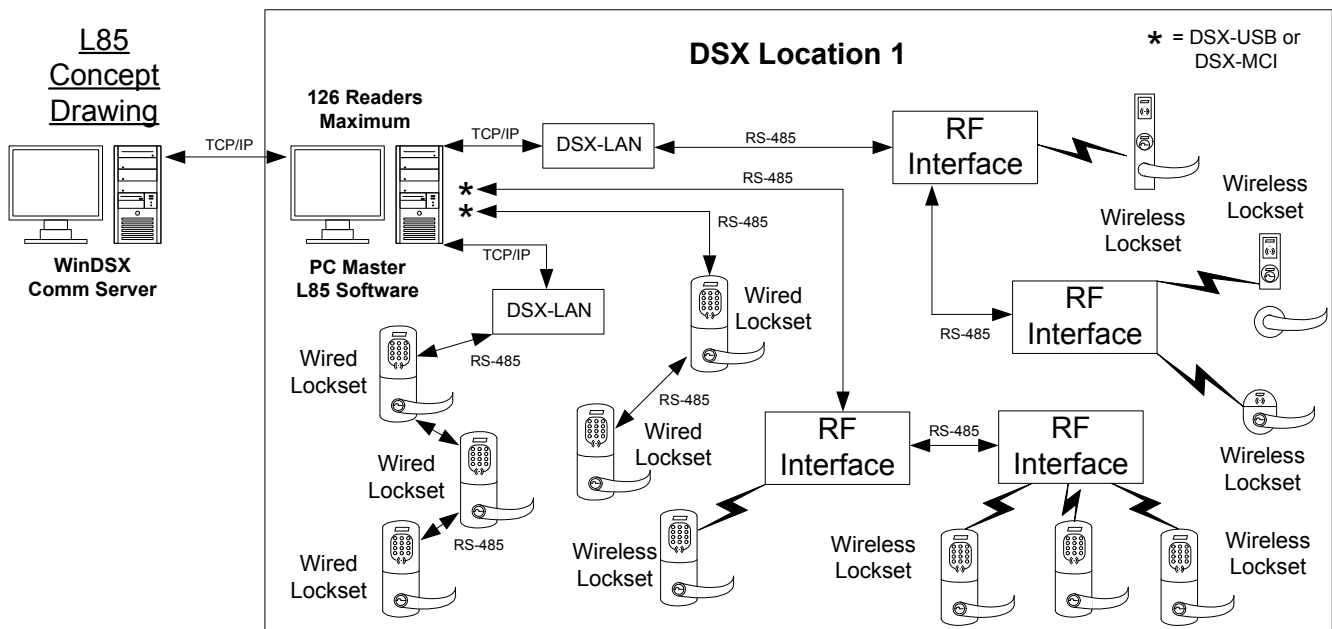
DSX Access Systems, Inc.

L85 Integrated Locksets

The L85 software provides a method to integrate wired and wireless locksets into a DSX Access Control System. The L85 software leverages its Virtual Hardware capabilities to accommodate non-controller based locks and readers. Hundreds or even thousands of these devices can be installed through multiple deployments of the L85 software. Non-controller based locksets are a powerful addition to the DSX Access Control System product line. The L85 software provides powerful flexibility with a fully integrated solution of both hardwired and wireless readers and locks.

Locksets with integrated readers are well suited for facilities that require supervision and online management of a high number of low security doors. Applications such as college dorms or any door where traditional hardware is almost impossible to install will realize a significant cost savings by utilizing the L85 software to manage integrated locksets.

The L85 software takes the place of Slave Controllers in a DSX system and communicates back to the Comm Server via a Master Controller or through the PC Master software. The L85 software can communicate with up to 126 locksets and translates the locksets to virtual devices, inputs, and outputs defined in the DSX program. There is little difference in the DSX program between the hardwired and wireless devices. Most features in DSX are also available to the non-controller based locksets connected through the L85 software.



L85 and Schlage Locksets - AD, LE, NDE Series

Wireless and Hardwired Locksets come in an array of chassis types, lever styles and finishes. They are complete with everything needed at the door with no or minimal wiring. Included is the electrified lock, credential reader, request to exit, door position switch, tamper guard, and battery monitor. Wireless units operate on 4 AA batteries. Some of these integrated locksets can be ordered with a magnetic swipe reader, proximity reader, smart card reader, or multi-technology reader. A keypad can be used by itself or added to some of these readers for Card + PIN / Card or PIN authentication or PIN only authentication. NDE and LE Locksets are also supported.

There are three basic system architectures used to integrate the Schlage locksets into DSX;

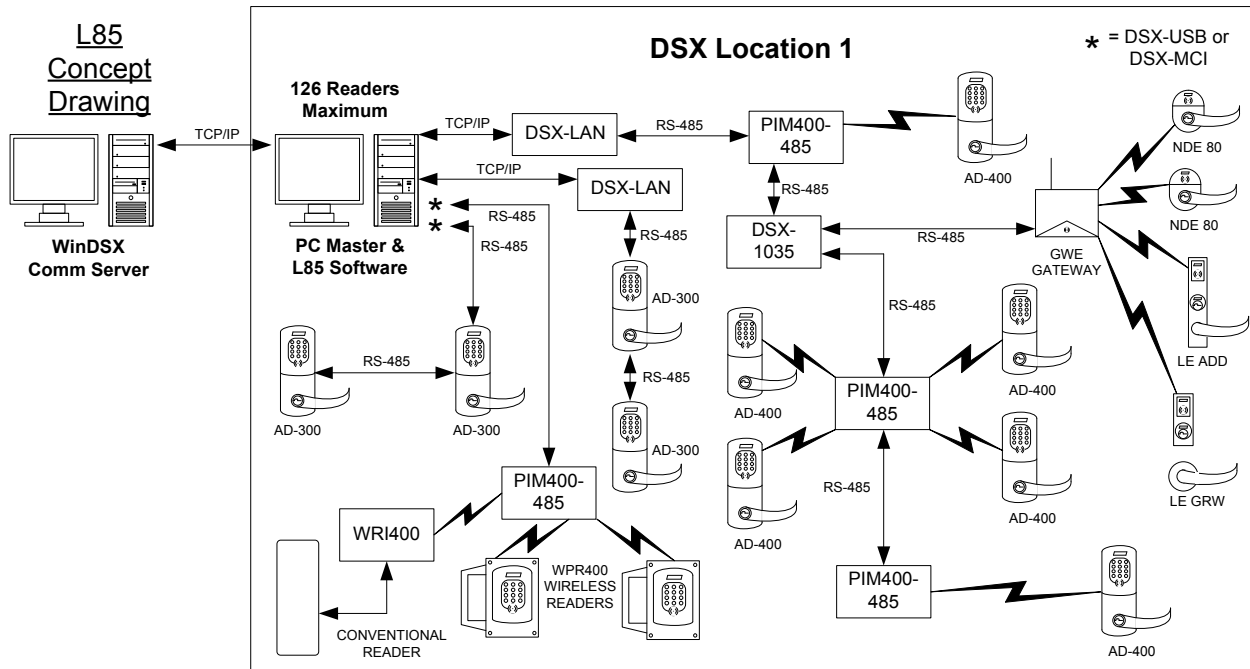
- 1) No DSX controllers, only PC Master and L85 software controlling Schlage Locksets
- 2) Mixture of DSX controllers and L85 software controlling Schlage Locksets
- 3) Schlage Locksets connected directly to DSX controllers.

Mixtures of the 3 architectures could be used simultaneously within the same system. Each Schlage Lockset translates to a DSX Device address within the DSX software. A single instance of the L85 software can accommodate 126 Locksets. Through multiple deployments of L85 software, thousands of these Locksets can be controlled by a single DSX System.

When the L85 software is used with the Schlage locksets, all access control decisions are made by the L85 software. The Schlage Locksets can operate in an offline cache mode if the communications with the L85 software is interrupted. During the cache mode each Locksets will grant access to the last 125 card holders that were granted access at that particular Lockset.

In the diagram below you will notice a Comm Server that communicates TCP/IP to a computer running PC Master and L85 software. PC Master performs the communication duties of a DSX-Master Controller and could communicate with DSX Slave Controllers as well as the L85 software. The L85 program operates as virtual DSX Slave Controllers and as an interface to the Schlage Locksets.

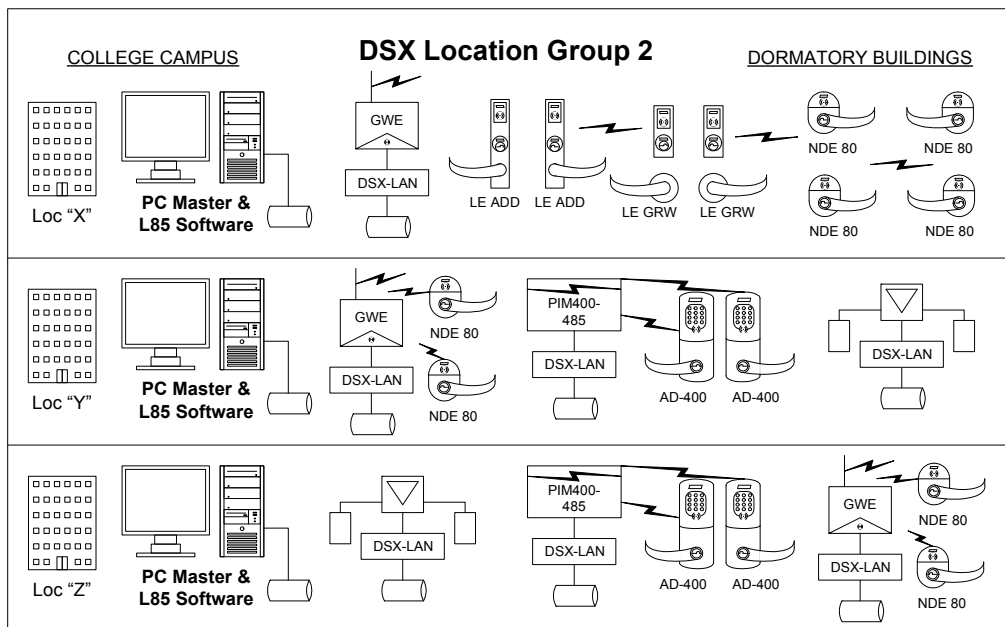
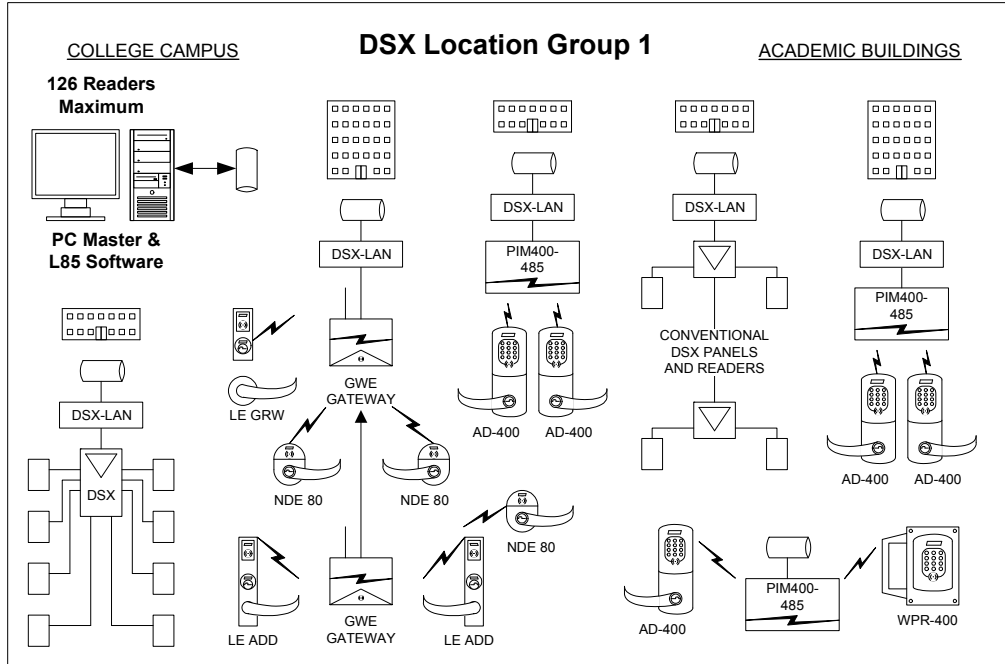
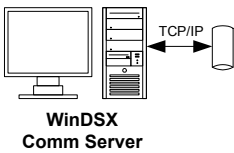
The L85 software can use DSX-LAN and DSX-USB Modules for communications to AD-300 Locksets, PIM400-485 Modules and Gateways. The Schlage PIM400-485 module provides the RF link to the AD-400 Locksets. The Gateway provides the RF link to the NDE and LE series of Locksets.



L85 and Schlage Locksets - Typical Campus Deployment

Below is a comprehensive drawing of a Campus System using DSX Intelligent Controllers and a variety of Integrated Locksets. The drawing depicts 2 Location Groups splitting card holders into Campus (Academics) and Dorms. Some students may have just Campus Access and others may have Campus and Dorms. Using the DSX API to add a student into both Location Groups is as easy as adding it into one. Students would be given an Academic Access Level for entry into their classes. Students that reside in Dorms would also be given an access level that is specific to their residence under their dormitory entry. These two separate Location Group databases can reside in the same system or could be two different systems.

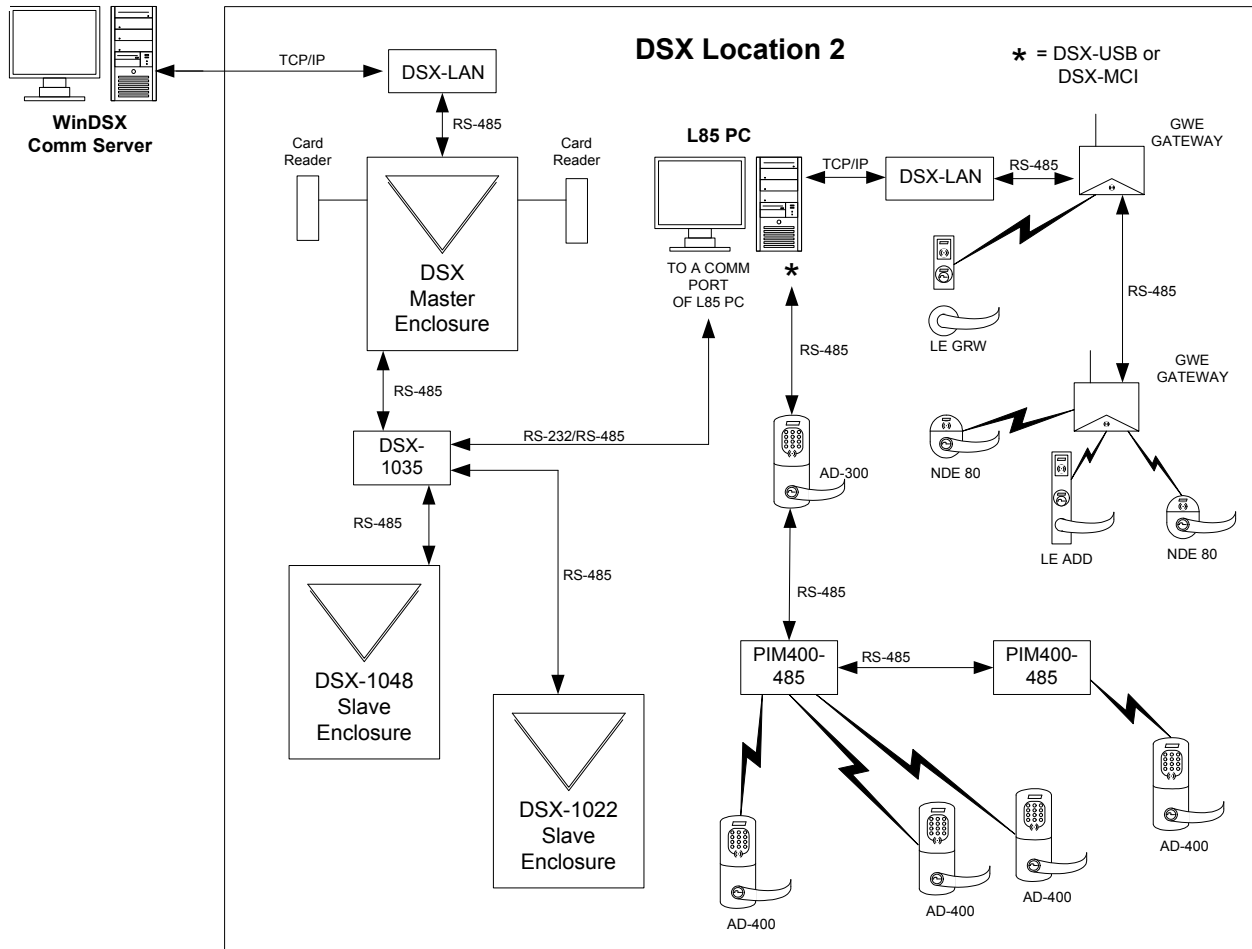
L85 Concept Drawing



L85 and Schlage Locksets - AD, LE, and NDE Series

The second system architecture is shown in the diagram below. It shows the Comm Server communicating TCP/IP to the Location Master Controller. The Master Controller's RS-485 out is connected to DSX Slave controllers and to a serial/USB port on a PC running the L85 software. The L85 software then communicates to the wired and wireless PIMs and Locksets. The main difference in the two architectures is that the first diagram uses PC Master for communications and the second diagram uses a Master Controller. Both require the L85 software. The DSX-1035 Quadruplexor, shown in the diagram below, may or may not be required to connect the L85 computer to the Slave Controller's RS-485 communication network depending on your system layout.

The L85 computer can utilize multiple LAN, serial or USB ports to connect to the NDE Gateway, AD-300 and PIM400-485 units. These units communicate on an RS-485 4-wire bus. The RS-485 bus should be no more than 4000 feet in total distance starting at the L85 computer. There is no limit to the number of ports allowed. DSX provides an array of adapters and communication devices that can be used at the L85 computer to provide the required number of RS-485 communication lines for the PIMs and Locksets.



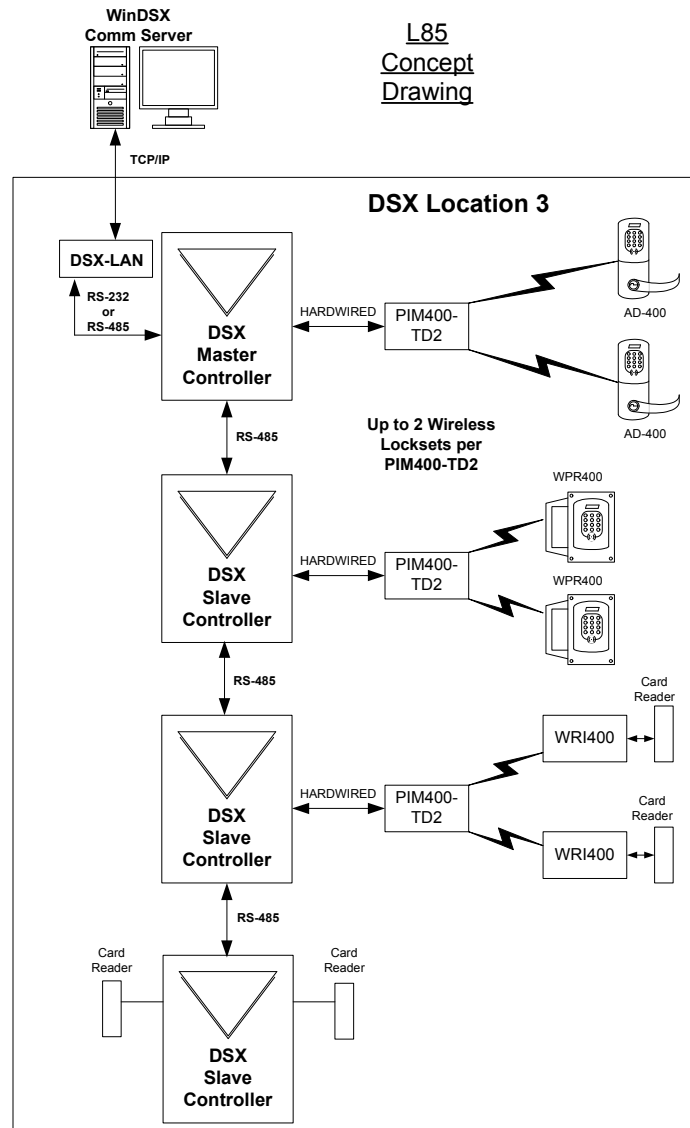
L85 and Schlage Locksets - PIM400-TD2

The third system architecture does not use the L85 software at all. Instead it uses DSX Controllers outfitted with PIM400-TD2s. The PIM400-TD2 provides a hardwire interface to the DSX controller and a wireless interface to the AD-400 Lockset. The PIM400-TD2 hardwires to the Controller and supervises two wireless Locksets. This is great for applications whose scope does not warrant the deployment of the L85 software. The Controller makes all of the decisions and the PIM400-TD2 supervises and communicates with the two AD-400 wireless Locksets.

In this diagram the Comm Server communicates over the LAN to the Master Controller by way of a DSX-LAN module. This diagram shows three of the Controllers using PIM400-TD2s to interface to the AD-400 Wireless Locksets, the WPR400 wireless readers and to the WRI400 wireless reader interface. It also depicts one Controller as having traditional wired card readers.

DSX Controllers, readers, and locks can be mixed in any of these different applications with L85 Integrated Locksets.

Any of these system architectures can be used simultaneously within the same DSX System.



L85 and Schlage Locksets

Components:

DSX – Access Control Software (PACS)

PIM400-485 – Communicates with L85 over RS-485 or LAN. Uses RF to communicate with up to 16 AD Wireless Locksets.

PIM400-TD2 – Controller dependant interface for 2 Wireless Locksets.

Gateway – Communicates with L85 over RS-485 or LAN. Uses RF to communicate with up to 10 NDE Wireless Locksets.

RS-485 – Form of hardwired communications using two twisted pair cable.

AD-300 – Wired Lockset communicates over an RS-485 connection to L85. Only operates with L85.

AD-400 – Wireless Lockset communicates to PIM400-485s and PIM400-TD2s

LE, NDE - Wireless Locksets that communicate with Gateway

Comm Server – The DSX Communications server that is responsible for all communications to and from any DSX Location.

L85 Software – The program that provides the integration to the Schlage Locksets.

PC Master – Acts as a virtual Master controller that bridges communication between the DSX Comm Server and the L85 software and/or any DSX Controllers.

DSX-1035 Quadraplexor – RS-485 Star Communications interface. Accepts RS-485 in and provides 4 - RS-485 outputs for Controller to Controller Communications. It also has an RS-232 output that could be connected to a Serial Port of the L85 computer.

DSX-USB – USB to RS-485/232 converter. Will provide a 4-wire RS-485 communications output from a USB port on the L85 computer.

DSX-LAN – Ethernet to RS-485 converter can be used to provide a 4-wire RS-485 output from a LAN connection.

Schlage Lockset Facts:

- Expected battery life is up to 2 years based on 100 operations per day, 10 minute heart beat, 10 second wakeup. 1 operation = card read, unlock door, open door, close door, re-lock door, request to exit active, open door, request exit inactive, and close door.
- 126 Locksets per Location.
- Up to 2 PIMS and 32 AD Wireless Locksets per port. Unlimited Ports. LAN/USB
- Up to 10 Hardwired Locksets per port. Unlimited Ports. LAN/USB
- Up to 3 Gateways and 30 NDE and LE Locksets per Port. Unlimited Port. LAN/USB
- All Addresses must be unique for every Lockset and PIM. AD-300 Wired Locksets require both a PIM and Lockset Address and are considered to be a device.
- PIM400-485s can support 1 – 16 AD Locksets. Actual Number is governed by RF coverage. In other words you may have fewer than 16 on a PIM due to environmental and RF communication constraints.
- Gateways can support 1 – 10 LE/NDE Locksets. Actual Number is governed by RF coverage. In other words you may have fewer than 10 on a Gateway due to environmental and RF communication constraints.
- RS-485 – 4-Wire RS-485. Be sure PIMS/Gateways are configured correctly. Two twisted pairs up to 4000 feet between the L85 software and last device on port. DSX-1035s can be used for star wiring and added distance.
- Reader / Keypad wireless Locksets can be configured via DSX for Card, PIN, or Card + PIN.
- Do Not Use Cat5 cable except for TCP/IP communications.