

Nexus System Support Notes



Introduction

These guidelines may help to illustrate how a Morley Nexus/Visikey system is put together. Note that all of the systems assume that Nexus controllers are fully populated where applicable. However, because Nexus is a modular system, the combination of controllers and reader modules can be varied to suit the installation cabling requirements, for reduced cabling and installation costs.

System Overview

To quote a Morley system, you need only think of 4 elements, each indicated below. This makes Morley Nexus based systems very easy to quote and very easy to manage. See the part numbers below for the typical options available.

Controller

Enclosure

101007 – Nexus enclosure & processor board (1 per controller)

Dual reader modules

101008 – Nexus dual reader module c/w 4 inputs/4 relay outputs

101009 – Nexus dual reader module c/w 8 inputs/8 relay outputs

Each Nexus controller will accept up to 4 dual reader modules

Controller communications

102001 – RS485 module

102002 – RS232 module

Each controller will accept either an RS232 or RS485 comms module

Power supply

109002 – 1.5A controller power supply, for controller/reader power only

Software

103004 – Visikey single user software (1 per system)

Readers

105051 – Morley ProxPoint proximity reader

105001 - Morley MiniProx proximity reader

105002 - Morley ThinLine proximity reader

105003 - Morley ProxPro proximity reader

105004 - Morley ProxPro proximity reader with keypad

105026 - Morley MaxiProx proximity reader

105047 - Morley Vandal resistant proximity reader

105048 - Morley Panel mount proximity reader

Tokens

106001 - Morley Proxcard proximity token

106002 - Morley ISOProx proximity token

106005 - Morley Proxkey proximity keyfob token

Note that the above part numbers are not exhaustive and many optional parts such as smart readers and tokens have not been included. Morley systems are able to accept a wide variety of input devices and communicate on a number of platforms and if you need inputs not listed here you should contact Morley for further details

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System components overview

Nexus controllers

To review the construction of the control elements;

There are a maximum of three part numbers needed for the Nexus controller,

- The controller enclosure and processor module
- The dual reader module(s)
- The communications module.

Of these part numbers, the only variations available are;

- Controller and processor module
101007 - No variations
- Dual reader modules
101008 - Dual reader input module with 4 I/O
- 101009 - Dual reader input module with 8 I/O
- Communications module
102001 – RS485 comms module
- 102002 – RS232 comms module

101007 – Is the Nexus controller enclosure (the box), which comes complete with a detachable steel back plate and the controller processor module. The Nexus controller will accept up to 4 dual reader modules, but will accept fewer, leaving the remainder for future expansion.

101008 – This is a dual reader module (DRM); each DRM accepts two readers and also has 4 clean contact (volt free) inputs and 4 1A relay outputs (volt free). The dual reader modules 'plug-in' to the Nexus controller.

101009 – A dual reader module with 8 contact inputs and 8 1A relay outputs

RS485/232 Converters

The converter is located adjacent to the PC (Max 11M) and enables the Nexus RS485 network to be connected into a standard RS232 COM port on a computer. This means that we don't have to open up the computer to add an RS485 board, which could invalidate the computer's warranty.

104008 – The converter module comes complete with a housing and communication cable for the link between the RS232 output and the PC. This cable is 2M long and has a 9-pin 'D' type connector at the PC end, with free cores, each identified, at the other.

Note that the Nexus controller does not carry an on-board power supply. Morley offers its 109002 1.5A Power supply as a means of powering the controller and standard readers only. For other power requirements see the Nexus manual or contact Morley Electronics.

Visikey Software

Nexus uses Visikey software for PC's. The price quoted includes the software and a dongle, which is a security device to enable the software package.

Readers and Tokens

Nexus and Visikey are a very potent and powerful combination. Many reader types can be used with Nexus and the controller can operate different readers at the same time. For details of reader

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types, which can be used, please contact Morley. Tokens are dependent upon the reader technology used, but as a rule, there are clamshell cards, ISO cards and keyfobs in Proximity, Magstripe (Card only), Watermark (Card only) and Smart card Technology.

Typical system configurations

Communications options in Nexus systems

Nexus has a number of communications options including

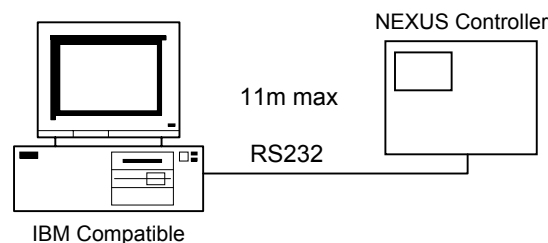
- local RS232 links
- RS485 networks
- Echelon LonWorks®
- LAN links
- Dial-up

Other options, which can be provided on a 'black box' basis, include microwave links between stations. Please contact Morley for further details or discussions of system requirements. For the purposes of this document, we will concentrate on RS232 & 485 network applications, however assistance on other comms applications is available on request.

RS232 networked systems

The system below uses a Nexus close to the PC. The defining limit is that the controller should be not more than 11M in cable length from the PC. The maximum number of Nexus controllers is 1 and therefore a maximum of an 8 readers system.

This is a system where you need only have an RS232 connection from the Nexus controller to the PC. In this case a converter is not required, but if the system is to be expanded with another controller, then a converter would be required.



3 door Nexus with PC < 11M from controller

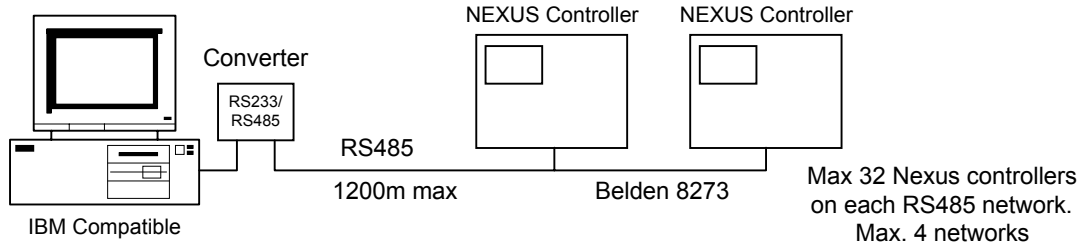
Part Number	Description	Qty
101007	Nexus controller enclosure c/w processor module	1
101008	Nexus dual reader module c/w 4 inputs and 4 o/p	2
102002	RS 232 Interface (Comms) module	1
109002	1.5A Power supply unit without battery	1
103004	Visikey single user software and dongle	1
+ Readers and tokens as required		

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RS485 networked systems

The system illustrations below are based on RS485 communications with an RS485 module in each Nexus controller and a converter between the first Nexus controller and the management PC. All the examples assume read-in only applications.



5 door Nexus with PC > 11M from controller

Part Number	Description	Qty
101007	Nexus controller enclosure c/w processor module	1
101008	Nexus dual reader module c/w 4 inputs and 4 o/p	3
102001	RS 485 Interface (Comms) module	1
109002	1.5A Power supply unit without battery.	1
104008	RS485/232 Converter and Housing c/w cables	1
103004	Visikey single user software and dongle	1
+ Readers and tokens as required		

13 door Nexus with PC > 11M from controller

Part Number	Description	Qty
101007	Nexus controller enclosure c/w processor module	2
101008	Nexus dual reader module c/w 4 inputs and 4 o/p	7
102001	RS 485 Interface (Comms) module	2
109002	1.5A Power supply unit without battery.	2
104008	RS485/232 Converter and Housing c/w cables	1
103004	Visikey single user software and dongle	1
+ Readers and tokens as required		

40 door Nexus with PC > 11M from controller

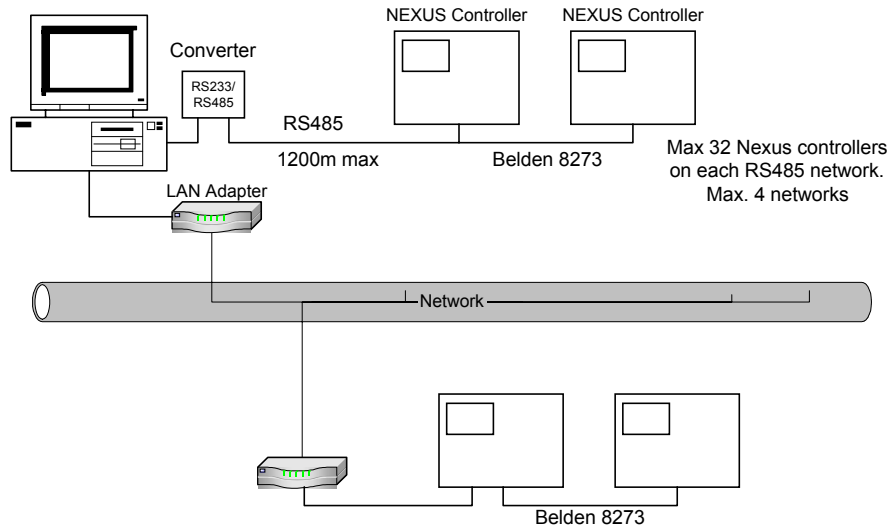
Part Number	Description	Qty
101007	Nexus controller enclosure c/w processor module	5
101008	Nexus dual reader module c/w 4 inputs and 4 o/p	20
102001	RS 485 Interface (Comms) module	5
109002	1.5A Power supply unit without battery.	5
104008	RS485/232 Converter and Housing c/w cables	1
103004	Visikey single user software and dongle	1
+ Readers and tokens as required		

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LAN Linked systems

Morley uses Lantronix LAN adapters to connect Nexus controllers via system networks. This is a proven, reliable and very cost effective means of achieving network connection and has been implemented successfully on a number of sites. The networks adapters must be connected at both the controller and the PC end for Nexus systems. Please contact Morley for further details of the network adaptation and application advice.



40 door Nexus system on two sites with LAN link

Part Number	Description	Qty
101007	Nexus controller enclosure c/w processor module	5
101008	Nexus dual reader module c/w 4 inputs and 4 o/p	20
102001	RS 485 Interface (Comms) module	5
109002	1.5A Power supply unit without battery.	5
104008	RS485/232 Converter and Housing c/w cables	1
103004	Visikey single user software and dongle	1
102022	LAN adapters between buildings	2
+ Readers and tokens as required		

Note that in the application above, the LAN adapters provide a link platform between the Nexus controllers and the management PC. Multiple Nexus controllers would be connected on an RS485 network in the remote building, and then connected to the main site via the LAN adapters at either end.

For any other Nexus applications, please contact Morley Electronics.

The drawing attached illustrates a 5-reader system with RS485 communications and power supply. For any further details or if you have queries about the putting together of a Morley Nexus system, do not hesitate to ring Morley for assistance.