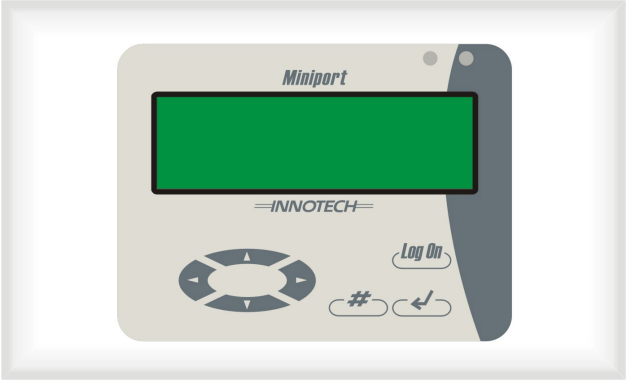
Models:
MP01 – Human Machine Interface for MAXIM Controllers

MAXIM Miniport RS485
Human Machine Interface Version

Overview
The MAXIM Miniport is a network device that allows a user to externally access the Human Machine Interface (HMI) of a MAXIM Series Controller installed on the network. The MAXIM Miniport can be used to locate and log on to any controller on the network using the Net Comms connection.

The MAXIM Miniport is designed for surface mounting and allows easy access to networked controllers that are located in remote or inaccessible areas.



Features
- Access up to 40 networked MAXIM Controllers at one time
- Search up to 40 controllers at one time, within a device address range of 1-99
- Access to up to 62 Sub Network devices per Sub System Gateway on Primary Network
- 4 line, 80 character backlit Liquid Crystal Display (LCD)
- 1 x RS485 serial communications port for Net Comms
- 1 x RS485 serial communications port for Global Comms
- Supports MAXIM Controllers that incorporate Net Comms
- Network Display Mode
- Network Searching Facilities
- Can detect and identify GENESIS Controllers on the Network
- User programmable baud rates
- User programmable sleep timeout
- Select button allows user to connect and disconnect from an individual MAXIM Controller
- Convenient reconnect function
- Flash ROM for in-system firmware upgrades
- Operates on 24 V AC or 24 V DC
- 9600, 57600, and 115200 baud comms rate

Applications
The MAXIM Miniport can be used in a variety of situations. Its main advantage is allowing easy access to a number of controllers from a single point. This enables the user to access a controller without requiring physical access to the chosen controller.

- A single point of access to a MAXIM Controller network
- Mounted on panel doors to give easy access to a group of MAXIM Controllers within the control panel
- Hand held Service Tool
- Wall mounted device
- Used as a monitoring device

Approvals
The Innotech MAXIM Miniport conforms to:
- EN61326:2013 for CE Marking and RCM Labelling
- Title 47 CFR, Part 15 Class A for FCC Marking
- UL & C-UL listed to UL916, File Number E242628

Specifications
Power Supply
- 24 V AC ± 10% @ 50/60Hz
- 24 V DC ± 20%
- Power Consumption: 1.5W Max

The operating voltage must meet the requirements of Safety Extra Low Voltage (SELV) to EN60730. The transformer used must be a Class 2 safety transformer that has the energy and voltage limiting characteristics as described in the National Electrical Code, ANSI/NFPA70. It must also be sized and fused in compliance with local safety regulations.

Temperature Ratings
- Storage: 0 to 50°C non-condensing
- Operating: 0 to 40°C non-condensing

Terminal Identification
Power Supply
1 – 24 V Supply
2 – 0 V Supply
3 – EARTH ⏚

Terminal 3 Note: This connection is to protect the communication circuitry, and must be connected to a good clean EARTH. It should NOT be connected to terminal 2.

Comms Connection
SHLD1 – Shield from incoming AND to outgoing comms
\+ – RS485 (+) signal
\- – RS485 (-) signal

Enclosure and Mounting
The MAXIM Miniport MP01 is housed in a HPM™ or Clipsal™ style switch plate enclosure, and is moulded from flame retardant plastics recognised by UL as UL 94-V0.

Colour : White
Dimensions (max): (W) 117mm x (H) 72mm x (D) 28mm

Cutout: (W) 75mm x (H) 53mm (At least 16mm depth required)
Mounting Screws: 84mm or 100mm centres

Wiring

- The cable used for RS485 Comms must be shielded single twisted pair, 120 ohms characteristic impedance, and 36 to 45pF per metre capacitance between conductors.
- The Comms cable must be connected in a bus topology, connecting devices from one end of the cable to the other end.

Refer to the Innotech Network Cabling Manual DS99.04 for more information.

Interface

The interface of the MAXIM Miniport has a similar physical layout as a MAXIM II Controller with the addition of the Select button.

Modes

When a user attempts to connect to the network via the MiniPort, it will not connect to the network if there is any network activity. Only one device can have control of the Net Comms network at any one time. The MiniPort will only connect to the network when there is no network activity from other HMIs or software.

During periods of extended user inactivity, the Miniport has three standby modes. When the MiniPort receives no input from the user, it will enter one of three modes as described in detail below:

Sleep Mode – In Sleep Mode the MiniPort will disconnect from the Innotech network, allowing other HMIs or software to connect to the network. The MiniPort will enter sleep mode during periods of user inactivity, determined by the sleep delay parameter. The sleep delay parameter can be programmed from the Setup menu.

Master Mode – While in Master Mode, the Miniport remains connected to the Default MAXIM controller on the network during periods of user inactivity. The MiniPort will poll the Default MAXIM controller every 10 seconds, while also allowing other HMIs and software to connect to the network. During this period the MiniPort will display the current data from the Default MAXIM controller. When there is network activity the MiniPort will enter sleep mode and disconnect from the network. If network activity seizes, the MiniPort will again enter Master Mode and begin polling the Default MAXIM controller.

Slave Mode – In order for Slave Mode to work, there must be one MiniPort operating in Master Mode. When a MiniPort is operating in Slave Mode, it will fetch and display the information from the MiniPort that is operating in Master Mode. Therefore the information from the Default MAXIM controller will also be displayed on the MiniPort operating in Slave Mode. When there is network activity the MiniPort will enter sleep mode and disconnect from the network. If network activity seizes, the MiniPort will again enter Slave Mode and display the information from the MiniPort operating in Master Mode.

States

The Miniport can be in three states of operation. These states are described in detail below:

Sleep State – After a period of user inactivity, the MiniPort will go into the Sleep State while monitoring for network activity. It will come out of Sleep State only when a user presses the **Log On** button on the HMI.
Configure State – The MiniPort enters this state when a user presses the **#** button. From there a setup menu is displayed with four options: *Search, Setup, Devices, or Reconnect*. These are described in the next section.

Communicate State – The MiniPort is in this state when a user presses the **Log On** button and connects to a controller on the network. The **Log On** button can be pressed again to log off and disconnect the MiniPort from a controller.

Configure MiniPort

The MiniPort setup menu has four options: Search, Setup, Devices and Reconnect.

Search option allows the MiniPort to search for all devices on the network to which it is connected, and allows the user to log on to any of the devices found. The MiniPort will conduct the search based on the Start and Stop search parameters.

Setup option is used to configure the following MiniPort parameters: *Viewing Mode, Default Device, Sleep Delay, Comms Speed, Search Start Addr,* and *Search Stop Addr.*

Devices option will display all devices found by the MiniPort on the network. The number of devices found depends on the search conducted using the Start and Stop search parameters.

Reconnect option will log the user on to the device to which the MiniPort was last connected.

Setup Parameters

The following parameters can be configured on the MiniPort:

Viewing Mode: configures the mode of operation as previously described.

Default Device: this is the address of the designated MAXIM controller that will be polled by the MiniPort in Master Mode.

Sleep Delay: time in seconds that the MiniPort will wait during user inactivity before going into default mode. The Sleep Delay parameter can be configured from 30 to 300 seconds in 30 second increments. The default setting is 30 seconds.

Comms Speed: speed of the Net Comms network at which all devices are communicating. The MiniPort must be configured to the same Baud Rate as the network in order to communicate with other devices. This can be configured for 9600 or 57600 to communicate with devices on the primary network, or at 115200 for communicating directly with subnet devices.

Search Start Addr: this is the start address for the Miniport to begin its search for active devices on the network.

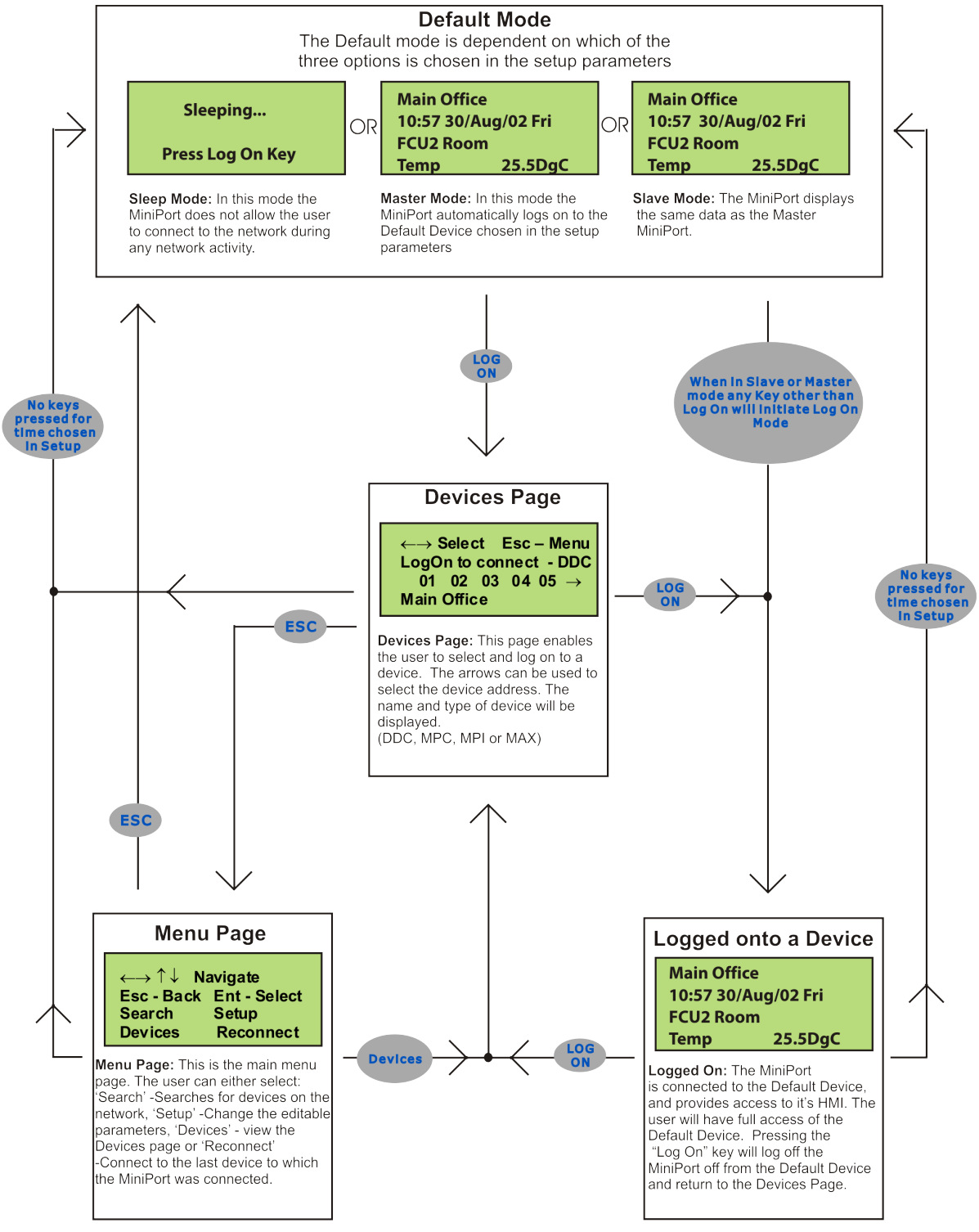
Search Stop Addr: this is the stop address for the Miniport to terminate its search for active devices on the network.

Status LEDs

The two LEDs at the top right of the MiniPort indicate the following:

Red LED: Data transmit

Green LED: Data receive

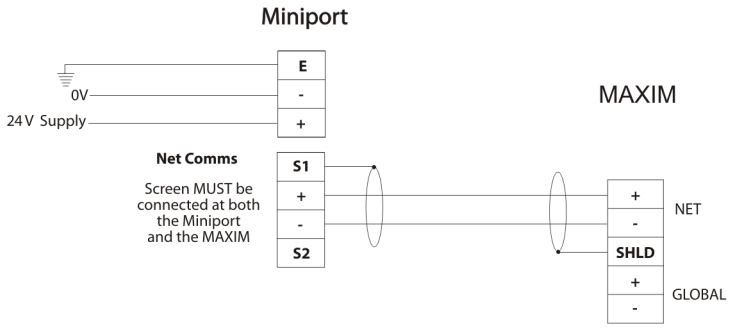


FCC Class A Notice

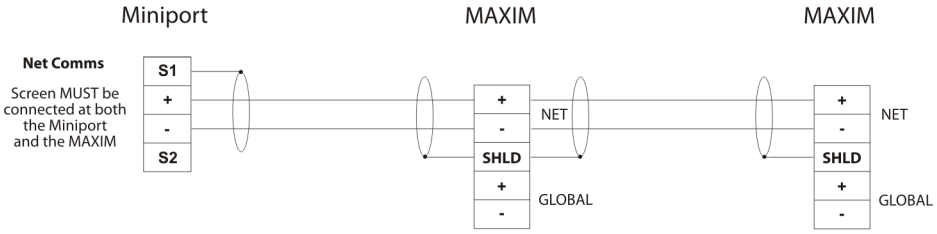
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note – This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Modifications to this device, may void the authority granted to the user by the FCC to operate this equipment.

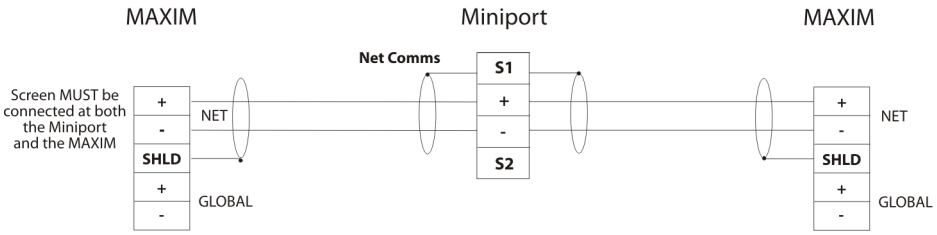
Standard Connection



End Comms Connection



Mid Comms Connection



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