Square D Sy/Max Protocol

Both Master and Slave operation in both point-to-point and multidrop modes.

Connector Configuration Parameters

RTS ON DelayX10ms

Enter a number from 0 to 255 (0 to 2.55 seconds) to delay sending a message after turning on Request To Send (RTS). Commonly used with modem communication to allow additional time for the modems to synchronize.

RTS OFF DelayX10ms

Enter a number from 0 to 255 (0 to 2.55 seconds) to keep RTS on after a message has been sent. Commonly used to keep a radio on for a short period of time at the end of a message.

Handshake Option

If Full Handshake is selected the Omnii-Comm will assert RTS and wait for CTS before sending a message. RTS will be turned off after the message has been sent. If Constant Carrier is selected the Omnii-Comm will assert RTS when it sends its first message and leave it asserted. It will wait for CTS before sending. If Ignore CTS is selected, RTS will be asserted before sending a message and removed at the end of the message. The CTS input will be ignored. If No Handshake is selected, RTS will be asserted when the Omnii-Comm sends its first message. RTS will not be turned off at the end of the message. The CTS input will be ignored. If Activity Monitor is selected, the Omnii-Comm will check the DCD input before sending a message. If DCD is ON, the Omnii-Comm will delay sending the message.

Silence Time X10ms

All Square D messages require a response. The time out period depends on the baud rate of the serial port. In point-to-point operation, the originator of the message starts sending a special "pad" character after a message has been sent. It will count the number of characters sent and timeout after a preset number of characters have been sent. This method requires that the communications link be full duplex. In multi-drop protocol, the connection may not be full duplex. The Silence Time X 10ms is used for timing responses.

ID# for Multi-Drop

In Multi-Drop protocol, the message addressing field includes an ID number. It is normally 0 but can be changed. When the Omnii-Comm is operating as a Slave, the ID number in the receive message must match this field or the message will be ignored. If operating as a Master, this number will be inserted in the outgoing message.

Option Bit Parameters

Master or Slave

The Omnii-Comm can operate as either a Square D Master or Slave. Check this box if the Omnii-Comm is a Square D Master. Clear the box if operating as a Slave.

Use Radio Key

If checked, Bit 0 in a register specified by the "Radio Key Address" on the Header configuration screen will be turned ON before a message is sent and turned OFF after the message has been completed.

Silence Timing Enable

Check this box to use Silence Timing as described above.

Multi-drop Protocol Enable

Check this box to enable Multi-Drop protocol. Clear it for Point-to-Point protocol

Error Check BCC/CRC

Check this box to use CRC error checking. Clear it for BCC error checking. Most multi-drop applications use CRC error checking. Most point-to-point applications use BCC.

Protocol Extension Table Parameters

The Protocol extension table is used to define additional parameters required for Square D Slave operation. It is not required for Master operation. Click on the box to enable the Protocol Extension Table. Click on the button to bring up the specific options as detailed below.

The Protocol Extension Table can be used to store up to 8 "special" registers when the Omnii-Comm is used as a Square D slave. Special registers are often used in Square D equipment to identify the device so the Master can tailor its operation. Enter a Register Number and Value for up to 8 registers in this table. These registers will overlay registers that might be defined in the data base. A register number of 0 will terminate the list.

Square D Sy/Max Protocol

Poll Table Read Parameters

Read Function

The type of Read operation. Choices are Non-Priority Read and Priority Read.

Route 1 to Route 8

Square D Route field. Up to 8 routes. Enter 255 to end routes if less than 8 required.

Starting Register

The first register to read

Bytes to Read

The total number of bytes expected for the Read operation.

Poll Table Write and Error Parameters

Write Function

The type of Write operation. The choices are Non-Priority and Priority Write.

Route 1 to Route 8

Square D Route field. Up to 8 routes. Enter 255 to end routes if less than 8 required.

Starting Register

The first register to be written.

Bytes to Write

The total number of bytes to Write.

Note: System Error Protocol Definitions are the same as Poll Table Write and Error Parameters

Square D Sy/Max Protocol

Database Extension Table Parameters

Index	Name	Size:Max Length
0	S 0-255	2:256
1	S 256-511	2:256
2	S 512-767	2:256
3	S 768-1023	2:256
4	S 1024-1279	2:256
5	S 1280-1535	2:256
6	S 1536-1791	2:256
7	S 1792-1823	2:32
8	S 1824-1855	2:32
9	S 1856-1887	2:32
10	S 1888-1951	2:64
11	S 1952-1983	2:32
12	S 1984- 2015	2:32
13	S 2016-2047	2:32
14	S2048-2079	2:32
15	S 2080-2111	2:32
16	S 2112-2143	2:32
17	S 2144-2175	2:32
18	S 2176-2207	2:32
19	S 2208-2239	2:32
20	S 2240-2495	2:256
21	S 2496-2751	2:256