

# Dynalco TEC9000 serial communication protocol

## 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.

## Option Bit Parameters

### Master or Slave

This box must be checked for TEC 9000 protocol operation

### 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. Dial Modem Check this box if Dial up Modem is connected to the port. Click on the "Edit Dial Up" button to set up the modem options.

## Protocol Extension Table Parameters

The Protocol extension table is used to define additional parameters required for TEC 9000 operation. Click on the box to enable the Protocol Extension Table. Click on the button to bring up the specific options as detailed below.

### Command Flags Data Type and Offset

The first two entries are used to define the Data Type and Starting Offset to be used for command flags. A command will be sent to the TEC9000 when the bit changes from OFF to ON. The TEC9000 protocol supports 8 commands.

Bit	Function
0	Get Parameter
1	Set Parameter
2	Def. Parameter List
3	Get Parameter List (to Parameter List)
4	Store to NV Mem
5	Recall from NV Mem
6	Recall Default
7	Change Password

### Command Data Data Type and Starting Offset

The next two words are used to specify the Data Type and Starting Offset that will be used for Command Data. Command Data must be set up before setting the Command Trigger. The TEC9000 protocol requires 34 command words.

Word	Function
0	node number
1	command parameter (channel, setpoint, value)
2	decimal places for floating point number
3	parameter list number
4-13	data type [1st for G,E] (\$F truncates)
14-33	G:value; L:(Parameter,#places)x10

### Reply Data Data Type and Starting Offset

The next two entries are used to specify the Data Type and Starting offset where reply data from a command will be written.

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## Poll Table Read Parameters

### Node Number

Enter the Node Number (1-30) of the unit to read from.

### Command

Enter the type of read, Get Parameter or Get List

### Param # (G only)

Enter the Parameter Number

### Data type (G only)

Select the Data Type. Choices are Not Used, Floating Point (32-bit), Binary (1,8 or 16-bit), Signed Integer (8, 16 or 32-bit), Unsigned Integer (8, 16 or 32-bit), Timers (MM SS T), Time (MM DD HH MM) or String (18-char)

### # dec pl if Float

Decimal Place if Floating Point

### List # (L CMD only)

List Number

### List types for L

Enter up to 10 "list type" numbers, 2 per hex byte, to define the items returned when reading a list. Types are nibble packed. End the list with a \$F if fewer than 10 types are being returned.

### CMD only. 2 types

List Types are: 0-Unsigned 8/16 bit integer or Boolean, 1-Floating Point, 2-16-bit Binary, 3-Timer, 4-Signed 16-bit Integer, 5-Signed Byte, 6-Unsigned 32-bit Integer, 7-Signed 32-bit Integer, 8-8-bit Binary, 9-Time Stamp (4 bytes), A-18-character ASCII String and F-Truncate List.

### # Bytes expected

Total number of bytes expected in Read

## Poll Table Write and Error Parameters

Direct Write COMMANDS are not supported. Send COMMANDS by setting CONTROL ENABLE bits in the DATA BASE.

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

## Database Extension Table Parameters

Index	Name	Size:Max Length
1	16-bit Rd Only	2:256
3	Data Avail. Bits	2:256
4	16-bit R/W	2:256
5	32-bit R/W	4:128
6	ASCII Strings	1:512