

XBCOLMAN Driver Manual

Barber Colman model MAQ Temperature Controller Driver



CPKSoft Engineering Process Monitoring and Industrial Automation Software

Copyright 1990-2008, CPKSoft Engineering. All rights reserved.

Index

1.	Introduction	3
2.	Driver details	4
2.1.	Driver overview.....	4
2.2.	Supported devices.....	4
3.	Command list	5
3.1.	Read Temperature Control Setpoint Degrees.....	5
3.2.	Read Temperature Alarm 1 Setting Degrees.....	5
3.3.	Read Temperature Alarm 2 Setting Degrees.....	5
3.4.	Read PB 1 Setting Percent.....	6
3.5.	Read Integral Time Setting Seconds.....	6
3.6.	Read Derivative Time Setting Seconds.....	7
3.7.	Read Load Line Setting Percent.....	7
3.8.	Read Manual Output Setting Percent.....	7
3.9.	Read Output 1 Cycle Time Setting Seconds.....	8
3.10.	Read Output 2 Cycle Time Setting Seconds.....	8
3.11.	Read PB 2 Setting (Multiplier).....	8
3.12.	Read Output 1 Hysteresis Setting Degrees.....	9
3.13.	Read Output 2 Hysteresis Setting Degrees.....	9
3.14.	Read Output High Limit Degrees.....	10
3.15.	Read Output Low Limit Degrees.....	10
3.16.	Read PID/Manual Setting Unitless.....	10
3.17.	Read Setting Value Lock Unitless.....	11
3.18.	Read Remote/Local Temp. Ctrl. Setpoint Unitless.....	11
3.19.	Read Touchtune Setting Unitless.....	12
3.20.	Read Sensor Input Value Degrees.....	12
3.21.	Read Control Output Value Percent.....	12
3.22.	Read Alarm Output Status Unitless.....	13
3.23.	Write Temperature Control Setpoint Degrees.....	13
3.24.	Write Temperature Alarm 1 Setting Degrees.....	14
3.25.	Write Temperature Alarm 2 Setting Degrees.....	14
3.26.	Write PB 1 Setting Percent.....	15
3.27.	Write Integral Time Setting Seconds.....	15
3.28.	Write Derivative Time Setting Seconds.....	15
3.29.	Write Load Line Setting Percent.....	16
3.30.	Write Manual Output Setting Percent.....	16
3.31.	Write Output 1 Cycle Time Setting Seconds.....	17
3.32.	Write Output 2 Cycle Time Setting Seconds.....	17
3.33.	Write PB 2 Setting (Multiplier).....	17
3.34.	Write Output 1 Hysteresis Setting Degrees.....	18
3.35.	Write Output 2 Hysteresis Setting Degrees.....	18
3.36.	Write Output High Limit Degrees.....	18
3.37.	Write Output Low Limit Degrees.....	19
3.38.	Write PID/Manual Setting Unitless.....	19
3.39.	Write Setting Value Lock Unitless.....	20
3.40.	Write Remote/Local Temp. Ctrl. Setpoint Unitless.....	20
3.41.	Write Touchtune Setting Unitless.....	21
4.	Appendices	22
4.1.	Error messages.....	22
4.2.	Keywords list.....	22

1. Introduction

CPKSoft Engineering assumes no responsibility for any errors that may appear in this document. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

This driver is included with all unlimited licenses of TAS-HMITalk. It is not sold separately. It requires the TAS-HMITalk ActiveX to work, therefore it cannot be used as a stand-alone driver.

If you use this driver in your applications, you need to include the xbcolman.tlk in the set of files that you distribute. This file must be located in the same folder where the hmitalk.ocx file is registered in order to be found by the activex when the applications are executed.

The source-code for the xbcolman.tlk driver is available in plain-C language for additional USD 299 if you own a license of TAS-HMITalk 8.04 or higher.

Refer to the following link to visit the xbcolman driver page at CPKSoft Engineering website: <http://www.cpksoft.com/tabid/55/ProductID/16/PageIndex/1/Default.aspx>.

Visit this link if you want to see a complete list of drivers that are currently available for TAS-HMITak: <http://www.cpksoft.com/Drivers/tabid/55/Default.aspx>.

Also, refer to this link if you are interested in purchasing a license of the most recent version of TAS-HMITalk: <http://www.cpksoft.com/Products/tabid/54/Default.aspx>.

We welcome your comments about this document. You can reach us by e-mail at [contact @ cpksoft.com](mailto:contact@cpksoft.com).

2. Driver details

2.1. Driver overview

XBCOLMAN driver allows you to connect with BARBER COLMAN Temperature Controller Model MAE and MAQ.

2.2. Supported devices

This driver can communicate with these devices, but is not necessarily limited to this list:

BARBER COLMAN Temperature Controllers Model MAE
BARBER COLMAN Temperature Controllers Model MAQ

3. Command list

3.1. Read Temperature Control Setpoint Degrees

Description of this command:

Obtains the current value of Temperature Control Setpoint Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

83.

3.2. Read Temperature Alarm 1 Setting Degrees

Description of this command:

Obtains the current values of Temperature Alarm 1 Setting Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

65

3.3. Read Temperature Alarm 2 Setting Degrees

Description of this command:

Obtains the current value of Temperature Alarm 2 Setting Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

97

3.4. Read PB 1 Setting Percent

Description of this command:

Obtains the current value of PB 1 Setting Percent.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

80

3.5. Read Integral Time Setting Seconds

Description of this command:

Obtains the current value of Integral Time Setting Seconds.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

73

3.6. Read Derivative Time Setting Seconds

Description of this command:

Obtains the current value of Derivative Time Setting Seconds.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

68

3.7. Read Load Line Setting Percent

Description of this command:

Obtains the current value of Load Line Setting Percent.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

87

3.8. Read Manual Output Setting Percent

Description of this command:

Obtains the current value of Manual Output Setting Percent. Only for model MAQ.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

77

3.9. Read Output 1 Cycle Time Setting Seconds

Description of this command:

Obtains the current value of Output 1 Cycle Time Setting Seconds.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

67

3.10. Read Output 2 Cycle Time Setting Seconds

Description of this command:

Obtains the current value of Output 2 Cycle Time Setting Seconds.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

99

3.11. Read PB 2 Setting (Multiplier)

Description of this command:

Obtains the current value of PB 2 Setting.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

112

3.12. Read Output 1 Hysteresis Setting Degrees

Description of this command:

Obtains the current value of Output 1 Hysteresis Setting Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

70

3.13. Read Output 2 Hysteresis Setting Degrees

Description of this command:

Obtains the current value of Output 2 Hysteresis Setting Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

102

3.14. Read Output High Limit Degrees

Description of this command:

Obtains the current value of Output High Limit Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

85

3.15. Read Output Low Limit Degrees.

Description of this command:

Obtains the current value of Output Low Limit Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

76

3.16. Read PID/Manual Setting Unitless

Description of this command:

Obtains the current value of PID/Manual Setting Unitless.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

78

3.17. Read Setting Value Lock Unitless

Description of this command:

Obtains the current value of Setting Value Lock Unitless.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

75

Values that are returned:

- 00 = Unlocked
- 01 = Lock 1
- 02 = Lock 2

3.18. Read Remote/Local Temp. Ctrl. Setpoint Unitless

Description of this command:

Obtains the current state of Remote/Local Temp. Ctrl. Setpoint Unitless.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

82

Values that are returned:

- 00 = Local
- 01 = Remote

3.19. Read Touchtune Setting Unitless

Description of this command:

Obtains the current state of Touchtune Setting Unitless.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

89

Values that are returned:

- 00 = During Control
- 01 = During Touchtune

3.20. Read Sensor Input Value Degrees

Description of this command:

Obtains the current value of Sensor Input Value Degrees.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

84

3.21. Read Control Output Value Percent

Description of this command:

Obtains the current value of Control Output Value Percent.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

79

3.22. Read Alarm Output Status Unitless

Description of this command:

Obtains the current states of Alarm Output Status Unitless.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

1-3

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

81

Values that are sent:

Value in PointValue (0) = Sensor Burnout Alarm

Value in PointValue (1) = High Deviation Alarm Status

Value in PointValue (2) = Low Deviation Alarm Status

3.23. Write Temperature Control Setpoint Degrees

Description of this command:

Sets the Temperature Control Setpoint Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

83

Meaning of the DriverP2 parameter:

Indicates the lowest value allowed.

Meaning of the DriverP3 parameter:

Indicates the highest value allowed. If HMITalk1.DriverP2 >= HMITalk1.DriverP3 limits checking is disabled.

3.24. Write Temperature Alarm 1 Setting Degrees

Description of this command:

Sets the Temperature Alarm 1 Setting Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

65

Meaning of the DriverP2 parameter:

Indicates the lowest value allowed.

Meaning of the DriverP3 parameter:

Indicates the highest value allowed. If HMITalk1.DriverP2 >= HMITalk1.DriverP3 limits checking is disabled.

3.25. Write Temperature Alarm 2 Setting Degrees

Description of this command:

Sets the Temperature Alarm 2 Setting Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

97

Meaning of the DriverP2 parameter:

Indicates the lowest value allowed.

Meaning of the DriverP3 parameter:

Indicates the highest value allowed. If HMITalk1.DriverP2 \geq HMITalk1.DriverP3 limits checking is disabled.

3.26. Write PB 1 Setting Percent

Description of this command:

Sets the PB 1 Setting Percent current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

80

3.27. Write Integral Time Setting Seconds.

Description of this command:

Sets the Integral Time Setting Seconds current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

73

3.28. Write Derivative Time Setting Seconds

Description of this command:

Sets the Derivative Time Setting Seconds current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

68

3.29. Write Load Line Setting Percent

Description of this command:

Sets the Load Line Setting Percent current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

87

3.30. Write Manual Output Setting Percent

Description of this command:

Sets the Manual Output Setting Percent current value. Only for model MAQ.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

77

3.31. Write Output 1 Cycle Time Setting Seconds

Description of this command:

Sets the Output 1 Cycle Time Setting Seconds current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

67

3.32. Write Output 2 Cycle Time Setting Seconds

Description of this command:

Sets the Output 2 Cycle Time Setting Seconds current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

99

3.33. Write PB 2 Setting (Multiplier).

Description of this command:

Sets the PB 2 Setting current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

112

3.34. Write Output 1 Hysteresis Setting Degrees

Description of this command:

Sets the Output 1 Hysteresis Setting Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

70

3.35. Write Output 2 Hysteresis Setting Degrees

Description of this command:

Sets the Output 2 Hysteresis Setting Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

102

3.36. Write Output High Limit Degrees

Description of this command:

Sets the Output High Limit Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

85

Meaning of the DriverP2 parameter:

Indicates the lowest value allowed.

Meaning of the DriverP3 parameter:

Indicates the highest value allowed. If HMITalk1.DriverP2 >= HMITalk1.DriverP3 limits checking is disabled.

3.37. Write Output Low Limit Degrees

Description of this command:

Sets the Output Low Limit Degrees current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

76

Meaning of the DriverP2 parameter:

Indicates the lowest value allowed.

Meaning of the DriverP3 parameter:

Indicates the highest value allowed. If HMITalk1.DriverP2 >= HMITalk1.DriverP3 limits checking is disabled.

3.38. Write PID/Manual Setting Unitless

Description of this command:

Sets the PID/Manual Setting Unitless mode operation.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

78

Values that are sent:

- 0 = PID mode.
- 1 = Manual mode.

3.39. Write Setting Value Lock Unitless.

Description of this command:

Sets the Setting Value Lock Unitless current value.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

75

Values that are sent:

- 0 = Unlocked
- 1 = Lock 1
- 2 = Lock 2

3.40. Write Remote/Local Temp. Ctrl. Setpoint Unitless

Description of this command:

Sets the Remote/Local Temp. Ctrl. Setpoint Unitless current state.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

82

Values that are sent:

- 0 = Local
- 1 = Remote

3.41. Write Touchtune Setting Unitless

Description of this command:

Sets the Touchtune Setting Unitless current state.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-31).

Meaning of the DriverP1 parameter:

89

Values that are sent:

- 0 = Cancel Touchtune
- 1 = Perform Touchtune

4. Appendices

4.1. Error messages

The following list shows all the possible error messages that can be returned by the protocol driver during a failed communication in the 'DriverStatus' property.

This list does not include some error messages that can be returned by the activex component while attempting to establish a connection.

- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [1433] PROTOCOL (Format): Validation error in device response
- [2147] CONFIG (NumValues): Only one value can be read or written
- [2206] CONFIG (NumValues): Too many values (max=3)
- [3007] CONFIG (P0): Invalid device address
- [3508] CONFIG (P1): Invalid command

4.2. Keywords list

The following list shows a set of words directly related to this driver.

"BARBER, COLMAN, Controller, Controllers, MAE, MAQ, Model, Temperature".