Multiplus Modbus Commands

Multiplus Series Modbus Command Structure

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NOTE

We have checked the contents of this manual for conformity with the hardware and software described. Nevertheless, because errors cannot be ruled out, we cannot accept any liability for complete conformity. The information in this manual has been checked regularly and any necessary corrections will be included in subsequent editions.

We always welcome suggestions for improvement.

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1 Overview

1.1 Introduction

Multiplus Series Instruments implement a subset of the Modbus Command Structure as described in this document. The document is only intended to provide an outline of the features available – for a full description of the Modbus protocol please check the relevant published documentation. Documentation may be available at http://www.modbus.org/docs/PI_MBUS_300.pdf or simply search the web for “Modicon Modbus Protocol Reference Guide”.

1.1.1 Modbus Message Framing

Multiplus series instruments use Modbus RTU character frames. These result in smaller messages giving a faster throughput for the same baud rate.

When RTU mode is used for character framing, the error checking field contains a 16–bit CRC value implemented as two 8–bit bytes.

1.1.2 Serial Communications Parameters

There are several operating parameters related to the serial communications link:

- Baud Rate: 4800, 9600, 19200 and 38400
  Parity: None
  Interface: RS485, RS422
  Slave ID: 1 thru 32

These parameters must be set from the front panel using the setup mode. Details are explained in the respective Quickstart manuals.

2 AI8 Specification

2.1 General

The implementation of the Modbus protocol in the AI8 allows you to:

- Set-up operating parameters (except digital communications)
- Read running data (Inputs, Outputs, Calculated Variables and Alarm Status)
- Reset/Accept Tripped Alarms

The digital communications parameters, including Slave ID, must be set via the front panel.

2.2 Setup Parameters

The output setup parameters are accessed via Modbus Holding Registers. You can change the values in these registers by using the appropriate Modbus commands and they will remain until the next reset. Send a ‘save’ command to save the changed values to EEPROM (these values will be used even after reset).

2.2.1 Save Command

Use the Preset single register function (06H) to write a value to the address 04 00H will force the unit to save the changes to EEPROM:

- 00 00H Saves the changes without resetting; or
- 00FFH Saves the changes and resets the Module.

2.2.2 Command Functions

Modbus Command Functions that can be used on the setup function registers are as follows:

- 03 (Hex): Read Holding Registers
- 06 (Hex): Preset Single Register
- 10 (Hex): Preset Multiple Registers

2.2.3 Input Setup

2.2.3.1 Input Holding Register Values

Certain register values are used to set operating parameters as shown below:

Input Register Values		
Parameter	**Register Value**	**Description**
Number of Samples	1 to 10	Integer value of setting
Type	00	Disabled
	01	Current (mA) Input
	02	Voltage (V) Input
Transfer Function	00	x½ (Square root function)
	01	Linear
	02	x1.5
	03	x2
	04	x2.5
	05	User Defined
Damping Factor	1 to 99	Integer value of setting
Input Low	-2000 to 2000 or -1000 to 1000	-20.00mA to 20.00mA or -10.00V to 10.00V
Input High		
Display Low	-99999 to 99999	Integer value without decimal point
Display High		
Decimal Places	0 to 5	Integer number of decimal places
Engineering units	0 to 200	Index to engineering unit table

2.2.3.2 Engineering Unit codes

Unit Type	Text	Code (Hex)
None		00
Electrical	mA	01
	A	02
	kA	03
	mV	04
	V	05
	kV	06
Energy/Power	kW	07
	MW	08
	Hp	09
	kJ	0A
	MJ	0B
	Btu	0C
Flow Rate	L/s	0D
	kL/s	0E
	ML/s	0F
	L/m	10
	kL/m	11
	ML/m	12
	L/h	13
	kL/h	14
	ML/h	15
Force/Pressure	Pa	16
	KPa	17
	MPa	18
	Psi	19
	N	1A
	lbf	1B
Length	mm	1C
	cm	1D
	m	1E
	in	1F
	ft	20

Unit Type	Text	Code (Hex)
Mass	g	21
	kg	22
	ton	23
	lb	24
Percentage	%	25
	%err	26
Physics	pH	27
	us/c	28
	ms/c	29
	po/s	2A
Temperature	ºC	2B
	ºF	2C
Speed/Rotation	rpm	2D
	m/s	2E
	km/h	2F
	ft/s	30
	mph	31
	Hz	32
Volume	cm3	33
	m3	34
	mL	35
	L	36
	kL	37
	ML	38
	gal	39
User Defined	U_1	3A
	U_2	3B
	U_3	3C
	U_4	3D

2.2.3.3 Input Holding Register Address Map

Input	Parameter	Addr.
All Inputs	Number of samples	00 00H
Input 1	Type/Enable	00 01H
	Input Function	00 02H
	Damping Factor	00 03H
	Input Low	00 04H
	Input High	00 05H
	Display Low	00 06H
	Display High	00 08H
	Decimal Point	00 0AH
	Engineering Unit	00 0BH
Input 2	Type/Enable	00 11H
	Input Function	00 12H
	Damping Factor	00 13H
	Input Low	00 14H
	Input High	00 15H
	Display Low	00 16H
	Display High	00 18H
	Decimal Point	00 1AH
	Engineering Unit	00 1BH
Input 3	Type/Enable	00 21H
	Input Function	00 22H
	Damping Factor	00 23H
	Input Low	00 24H
	Input High	00 25H
	Display Low	00 26H
	Display High	00 28H
	Decimal Point	00 2AH
	Engineering Unit	00 2BH
Input 4	Type/Enable	00 31H
	Input Function	00 32H
	Damping Factor	00 33H
	Input Low	00 34H
	Input High	00 35H
	Display Low	00 36H
	Display High	00 38H
	Decimal Point	00 3AH
	Engineering Unit	00 3BH

Input	Parameter	Addr.
Input 5	Type/Enable	00 41H
	Input Function	00 42H
	Damping Factor	00 43H
	Input Low	00 44H
	Input High	00 45H
	Display Low	00 46H
	Display High	00 48H
	Decimal Point	00 4AH
	Engineering Unit	00 4BH
Input 6	Type/Enable	00 51H
	Input Function	00 52H
	Damping Factor	00 53H
	Input Low	00 54H
	Input High	00 55H
	Display Low	00 56H
	Display High	00 58H
	Decimal Point	00 5AH
	Engineering Unit	00 5BH
Input 7	Type/Enable	00 61H
	Input Function	00 62H
	Damping Factor	00 63H
	Input Low	00 64H
	Input High	00 65H
	Display Low	00 66H
	Display High	00 68H
	Decimal Point	00 6AH
	Engineering Unit	00 6BH
Input 8	Type/Enable	00 71H
	Input Function	00 72H
	Damping Factor	00 73H
	Input Low	00 74H
	Input High	00 75H
	Display Low	00 76H
	Display High	00 78H
	Decimal Point	00 7AH
	Engineering Unit	00 7BH

2.2.4 Analogue Output Setup

2.2.4.1 Analogue Output Holding Register Values

Certain register values are used to set operating parameters as shown below:

Parameter	Register Value	Description	
Type/Enable	00	Disabled	
	01	Current (mA) Input	
	02	Voltage (V) Input	
Output acts on	00 : 07	Input 1 : Input 8	
	08	Average	
	09	Minimum	
	0A	Maximum	
	0B	Difference	
	0C	Formula 1	
	0D	Formula 2	
Display for Output Low	-99999 to 99999	Integer value without decimal point	
Display for Output High			
Output Range Low	0 to 2200 (08 98H) 0 to 1100 (04 4CH)	0 to 22.00mA or 0 to 11.00V	
Output Range High	0 to 2200 (08 98H) 0 to 1100 (04 4CH)	0 to 22.00mA or 0 to 11.00V	
Input Set (Inputs used when formulas are selected)	00 00 to 00 FF	Low Byte	Meaning
		Bit 0: 1 : Bit 7: 1	Input 1 Used : Input 8 Used
Measured Variables Set for difference function	00 00 to 80 80	Low Byte	Operand 2 (Set 1 bit only)
		Bit 0: 1 : Bit 7: 1	MV1 Used : MV8 Used
		High Byte	Operand 1 (Set 1 bit only)
		Bit 0: 1 : Bit 7: 1	MV1 Used : MV8 Used
Decimal Point and Units (used with formulas only)	00 00 to 05 C8	High Byte	Decimal Point (0 to 5)
		Low Byte	Eng. Unit (00 – C8)

2.2.4.2 Analogue Output Holding Register Address Map

Output	Parameter	Addr.
Output 1	Type/Enable	01 00H
	Acts On	01 01H
	Input Low	01 02H
	Input High	01 04H
	Output Low	01 06H
	Output High	01 07H
	Input Set	01 08H
	Operands	01 09H
	Decimal Pt/Units	01 0AH

Output	Parameter	Addr.
Output 2	Type/Enable	01 10H
	Acts On	01 11H
	Input Low	01 12H
	Input High	01 14H
	Output Low	01 16H
	Output High	01 17H
	Input Set	01 18H
	Operands	01 19H
	Decimal Pt/Units	01 1AH

2.2.5 Alarm Setup

2.2.5.1 Alarm Register Values

Certain register values are used to set operating parameters as shown:

Alarm Output Register Values			
Parameter	**Register Value**	**Description**	
Type/Enable	00	Disabled	
	01	Low Type	
	02	High Type	
	03	Window Alarm	
Relay Coil Energisation	00	Normally De-energised	
	01	Normally Energised	
Acts on	00 : : 07	Input 1 : : Input 8	
	08	Average	
	09	Minimum	
	0A	Maximum	
	0B	Difference	
	0C	Formula 1	
	0D	Formula 2	
Set Point, Deadband, Warnband, Window	0 to 99999	In engineering units without decimal point	
Timer Delay	0 to 0400	Alarm Timer delay in seconds	
Input Set (Inputs used when formulas are selected)	00 00 to 00 FF	Low Byte	Meaning
		Bit 0: 1 : : Bit 7: 1	Input 1 Used : : Input 8 Used
Measured Variables Set for difference function	00 00 to 80 80	Low Byte	Operand 2 (Set 1 bit only)
		Bit 0: 1 : : Bit 7: 1	MV1 Used : : MV8 Used
		High Byte	Operand 1 (Set 1 bit only)
		Bit 0: 1 : : Bit 7: 1	MV1 Used : : MV8 Used
Decimal Point and Units (used when formulas are selected)	00 00 to 05 C8	High Byte	Decimal Point (0 to 5)
		Low Byte	Engineering Unit (00 – C8)

2.2.5.2 General Alarm Setup Register Values

General Alarm Setup Holding Register Values		
Parameter	**Register Value**	**Description**
Alarm Security	00	Set points are secured
	01	Set point security is disabled
Alarm Reset	00	Alarms reset automatically
	01	Manual Alarm Reset Required

2.2.5.3 Alarm Holding Register Address Map

Parameter	**Holding Register Address**			
	Alarm 1	**Alarm 2**	**Alarm 3**	**Alarm 4**
Type/Enable	02 00H	02 10H	02 20H	02 30H
Coil Energisation	02 01H	02 11H	02 21H	02 31H
Alarm Acts on	02 02H	02 12H	02 22H	02 32H
Set point	02 03H	02 13H	02 23H	02 33H
Deadband	02 05H	02 15H	02 25H	02 35H
Warnband	02 07H	02 17H	02 27H	02 37H
Delay	02 09H	02 19H	02 29H	02 39H
Window	02 0AH	02 1AH	02 2AH	02 3AH
Input Set	02 0CH	02 1CH	02 2CH	02 3CH
Operands	02 0DH	02 1DH	02 2DH	02 3DH
Decimal Point & units	02 0EH	02 1EH	02 2EH	02 3EH
Alarm Security	02 0FH			
Alarm Reset	02 1FH			

2.2.6 Display Setup

2.2.6.1 Display Setup Register values

Certain register values are used to set operating parameters as shown:

Display Setup Register Values		
Parameter	**Register Value**	**Description**
Display Type	00	Manual
	01	Input Only
	02	Automatic Scrolling
Display Scrolling Time	2 to 20	Time in seconds between changes

2.2.6.2 Display Holding Register Address Map

Parameter	Holding Register Address
Display Type	03 00H
Display Scrolling Time	03 01H

2.3 Instrument Running Values

2.3.1 General

The instrument running values are accessed via Modbus Input registers and tripped alarms can be acknowledged using the Force single coil function.

Using the Read Input Register Function is efficient as multiple values can be read in one block.

2.3.2 Command Functions

Modbus Command Functions that can be used to read the Instrument Running Values and acknowledge tripped alarms are as follows:

- 04 (Hex): Read Input Registers
- 05 (Hex): Force Single Coil

2.3.2.1 Input Measurement Address Map

Input Channel	1	2	3	4	5	6	7	8
Parameter	**Input Register Address**							
Measured Value	00 00	00 02	00 04	00 06	00 08	00 0A	00 0C	00 0E
Decimal Point & Engineering Units	00 10	00 11	00 12	00 13	00 14	00 15	00 16	00 17

The Measured Value is a long integer value which gives the measurement without decimal point or engineering units.

To find the decimal point and engineering units you must read the decimal point register for the channel. The High Byte of the decimal point register gives the decimal point position. The Low Byte of the decimal point register gives the index of the engineering units used (see table above).

2.3.2.2 Analogue Output Value Address Map

Output Channel	1	2
Parameter	**Input Register Address**	
Output Value	01 00	01 01
Output Measured Variable	01 02	01 04

The Output Measured Variable register gives

- Current value of the measurement which the output acts on
- -200 000 for under-range
- 200 000 for over-range
- 300 000 if the output is disabled

2.3.2.3 Alarm Channel Status Address Map

Alarm Channel	1	2	3	4
Parameter	**Input Register Address**			
Alarm Status	02 00	02 01	02 02	02 03
Alarm measured Variable	02 04	02 06	02 08	02 0A

The Alarm status register contains:

- 00 00 for inactive alarms
- 00 01 for signal in warn band
- 00 02 for Alarm tripped but not accepted
- 00 03 for Alarm tripped and accepted

The Alarm Measured Variable register gives

- Current value of the measurement which the Alarm acts on
- -200 000 for under-range
- 200 000 for over-range
- 300 000 if the alarm is disabled

2.3.2.4 Accepting Tripped Alarms

To accept a tripped an alarm, use the Force single coil function and write the value 00 FF to the relevant address.

Alarm Channel	1	2	3	4
Function	**Force single coil at Address**			
Accept Alarm	02 00	02 01	02 02	02 03

3 RI4 Specification

3.1 General

The implementation of the Modbus protocol in the RI4 allows you to:

- Set-up operating parameters (except digital communications)
- Read running data (Inputs, Outputs and Alarm Status)
- Reset/Accept Tripped Alarms

The digital communications parameters, including Slave ID, must be set via the front panel.

3.2 Setup Parameters

The output setup parameters are accessed via Modbus Holding Registers. You can change the values in these registers by using the appropriate Modbus commands and they will remain until the next reset. Send a ‘save’ command to save the changed values to EEPROM (these values will be used even after reset).

3.2.1 Save Command

Use the Preset single register function (06H) to write a value to the address 03 2AH will force the unit to save the changes to EEPROM:

- 00 00H Saves the changes without resetting; or
- 00FFH Saves the changes and resets the Module.

3.2.2 Command Functions

Modbus Command Functions that can be used on the setup function registers are as follows:

- 03 (Hex): Read Holding Registers
- 06 (Hex): Preset Single Register
- 10 (Hex): Preset Multiple Registers

3.2.3 Input Setup

3.2.3.1 Input Holding Register Values

Certain register values are used to set operating parameters as shown below:

Input Register Values		
Parameter	**Value**	**Description**
Temperature Units	00 00	°C
	00 FF	°F
Number of Samples	01 to 0A	Integer value of setting
Input Channel Enable/Disable	00 00	Disabled
	00 FF	Enabled
Damping Factor	1 to 99	Integer value of setting
Input RTD Type	00 00	Pt100
	00 01	Ni120
	00 02	Cu10@0°C
	00 03	Cu10@25°C
Input Range	00 00	Cu10: -100°C to 260°C
	00 01	Pt100: -220°C to +220°C
	00 02	Pt100: -220°C to +850°C
	00 03	Ni120: -80°C to +320°C

3.2.3.2 Input Holding Register Address Map

Input	Parameter	Addr.
All Inputs	Number of samples	00 64H
All Inputs	Units (°C/°F)	00 63H
Input 1	Enable/Disable	00 C7H
	Damping Factor	00 C8H
	Input RTD Type	00 C9H
	Input Range	00 CAH
Input 2	Enable/Disable	00 D7H
	Damping Factor	00 D8H
	Input RTD Type	00 D9H
	Input Range	00 DAH

Input	Parameter	Addr.
Input 3	Enable/Disable	00 E7H
	Damping Factor	00 E8H
	Input RTD Type	00 E9H
	Input Range	00 EAH
Input 4	Enable/Disable	00 F7H
	Damping Factor	00 F8H
	Input RTD Type	00 F9H
	Input Range	00 FAH

3.2.4 Analogue Output Setup

3.2.4.1 Analogue Output Holding Register Values

Certain register values are used to set operating parameters as shown below:

Analogue Output Holding Register Values		
Parameter	**Register Value**	**Description**
Type/Enable	00	Disabled
	01	Current (mA) Input
	02	Voltage (V) Input
Output acts on	00	Input 1
	01	Input 2
	02	Input 3
	03	Input 4
	04	Average
	05	Minimum
	06	Maximum
	07	Difference
Display for Output Low	-99999 to 99999	Integer value without decimal point
Display for Output High		
Output Range Low	0 to 2200 (08 98H) 0 to 1100 (04 4CH)	0 to 22.00mA or 0 to 11.00V
Output Range High		
Difference Operand	00	Input 1
	01	Input 2
	02	Input 3
	03	Input 4
Include Input Channel in “Ave, Min, Max”	00 00	Exclude Channel
	00 FF	Include Channel

3.2.4.2 Analogue Output Holding Register Address Map

Parameter	Address	
	Output One	Output Two
Output Type (Current/Voltage/Disabled)	01 2C	01 3C
Output Acts On	01 2D	01 3D
Input Low	01 2E	01 3E
Input High	01 2F	01 3F
Output Low	01 30	01 40
Output High	01 31	01 41
Difference Operand 1	01 32	01 42
Difference Operand 2	01 33	01 43
Include Input 1 in Ave., Max. or Min.	01 34	01 44
Include Input 2 in Ave., Max. or Min.	01 35	01 45
Include Input 3 in Ave., Max. or Min.	01 36	01 46
Include Input 4 in Ave., Max. or Min.	01 37	01 47

3.2.5 Alarm Setup

3.2.5.1 Alarm Register Values

Certain register values are used to set operating parameters as shown:

Alarm Output Register Values		
Parameter	**Register Value**	**Description**
Type/Enable	00	Disabled
	01	Low Type
	02	High Type
	03	Window Alarm
	04	Open Circuit
Relay Coil Energisation	00 00	Normally De-energised
	00 FF	Normally Energised
Acts on	00	Input 1
	01	Input 2
	02	Input 3
	03	Input 4
	04	Average
	05	Minimum
	06	Maximum
	07	Difference
Set Point, Deadband, Warnband, Window	0 to 99999	In engineering units without decimal point
Timer Delay	0 to 10 68	Alarm Timer delay in seconds
Difference Operand	00	Input 1
	01	Input 2
	02	Input 3
	03	Input 4
Include Input Channel in “Ave, Min, Max”	00 00	Exclude Channel
	00 FF	Include Channel

3.2.5.2 General Alarm Setup Register Values

General Alarm Setup Holding Register Values		
Parameter	**Register Value**	**Description**
Alarm Security	00 00	Set point security is disabled
	00 FF	Set points are secured
Alarm Reset	00 00	Alarms reset automatically
	00 FF	Operator Reset Required

3.2.5.3 Alarm Holding Register Address Map

Parameter	**Holding Register Address**			
	Alarm 1	**Alarm 2**	**Alarm 3**	**Alarm 4**
Warnband	01 8F	01 9F	01 AF	01 BF
Coil Energisation	01 90	01 A0	01 B0	01 C0
Type/Enable	01 91	01 A1	01 B1	01 C1
Alarm Acts on	01 92	01 A2	01 B2	01 C2
Set point	01 93	01 A3	01 B3	01 C3
Deadband	01 94	01 A4	01 B4	01 C4
Window	01 95	01 A5	01 B5	01 C5
Delay	01 96	01 A6	01 B6	01 C6
Difference Operand 1	01 97	01 A7	01 B7	01 C7
Difference Operand 2	01 98	01 A8	01 B8	01 C8
Include Input 1 in Ave., Max. or Min.	01 99	01 A9	01 B9	01 C9
Include Input 2 in Ave., Max. or Min.	01 9A	01 AA	01 BA	01 CA
Include Input 3 in Ave., Max. or Min.	01 9B	01 AB	01 BB	01 CB
Include Input 4 in Ave., Max. or Min.	01 9C	01 AC	01 BC	01 CC
Alarm Security	01 F3			
Alarm Reset	01 F4			

3.3 Instrument Running Values

3.3.1 General

The instrument running values are accessed via Modbus Input registers and tripped alarms can be acknowledged using the Force single coil function.

Using the Read Input Register Function is efficient as multiple values can be read in one block.

3.3.2 Command Functions

Modbus Command Functions that can be used to read the Instrument Running Values and acknowledge tripped alarms are as follows:

- 04 (Hex): Read Input Registers
- 05 (Hex): Force Single Coil

3.3.2.1 Measured Temperature

Input Channel	**1**	**2**	**3**	**4**
Parameter	**Input Register Address**			
Measured Temperature	02 57	02 58	02 59	02 5A

The Measured Value is a long integer value which gives the measured temperature without decimal point. There are several codes indicating fault conditions.

Measured Temperature Input Register Values		
Parameter	**Register Value**	**Description**
Measured Temperature	80 00	Input is disabled
	7F FF	A Open circuit
	7F FE	B Open circuit
	7F FD	A & B Open circuit
	7F FC	Over-range input
	D8 F1	Short-circuit Input
	Other Value	Current temperature in °C or °F

3.3.2.2 Analogue Output Value Address Map

Output Channel	1	2
Parameter	**Input Register Address**	
Output Status	00 C7	00 C8
Output Measured Temperature	00 C9	00 CA
Output Value (V or mA)	00 CB	00 CC

The Output Measured Variable register uses the same values as used for the input measured variable above.

The Analogue Output Status

Analogue Output Status Flags			
Byte	**Bit**	**Values**	**Description**
First	0-7	00	Output is Disabled
		01	Voltage Output
		02	Current Output
Last	0-3	0	Acts on Input 1
		1	Acts on Input 2
		2	Acts on Input 3
		3	Acts on Input 4
		4	Acts on Average
		5	Acts on Minimum
		6	Acts on Maximum
		7	Acts on Difference
		8	Open Circuit Alarm
		9	Disabled
	4	-	Input 1 in Set (Ave, Min, Max only)
	5	-	Input 2 in Set (Ave, Min, Max only)
	6	-	Input 3 in Set (Ave, Min, Max only)
	7	-	Input 4 in Set (Ave, Min, Max only)
	4-5	1-4	Operand 1 (Difference Only)
	6-7	1-4	Operand 2 (Difference Only)

3.3.2.3 Alarm Channel Status Address Map

Alarm Channel	1	2	3	4
Parameter	**Input Register Address**			
Alarm Status	00 63	00 64	00 65	00 66
Alarm Measured Variable	00 67	00 68	00 69	00 6A

The Alarm status register flags the alarm status and the operation of the alarm. The diagram below shows the interpretation of the two byte value.

Alarm Status Flags			
Byte	**Bit**	**Values**	**Description**
First	0-3	0	Acts on Input 1
		1	Acts on Input 2
		2	Acts on Input 3
		3	Acts on Input 4
		4	Acts on Average
		5	Acts on Minimum
		6	Acts on Maximum
		7	Acts on Difference
		8	Open Circuit Alarm
		9	Disabled
	4	-	Input 1 in Set (Ave, Min, Max only)
	5	-	Input 2 in Set (Ave, Min, Max only)
	6	-	Input 3 in Set (Ave, Min, Max only)
	7	-	Input 4 in Set (Ave, Min, Max only)
	4-5	1-4	Operand 1 (Difference Only)
	6-7	1-4	Operand 2 (Difference Only)
Last	0-7	00	Alarm Clear
		40	Signal in Warning Band
		80	Alarm Set
		FF	Alarm Accepted

The measured variable takes the same values as the Measured Temperature above.

3.3.2.4 Accepting Tripped Alarms

To accept a tripped an alarm, use the Force single coil function and write the value 00 FF to the relevant address.

Alarm Channel	1	2	3	4
Function	**Force single coil at Address**			
Accept Alarm	02 BB	02 BC	02 BD	02 BE

References

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Version:	Version 1.01 August 2007
Software-Version	1.00 to 1.09
Typ:	Multiplus Modbus Commands
Typ kurz	Multiplus Series Modbus Command Structure
Colour:	
Gerät:	Protocol Implementation Description
User	
Password:	
IP-Address	192.168.1.110
WebSite:	www.mannseries.com
Modbus Link:	http://www.modbus.org/docs/PI_MBUS_300.pdf
Warenzeichen1:	
Warenzeichen2:	Weidmüller® is a registered trademark of Weidmüller Interface GmbH & Co. KG