Configuration Manual
4179B / 4511
Modbus RTU configuration of
4179B Universal trip amplifier
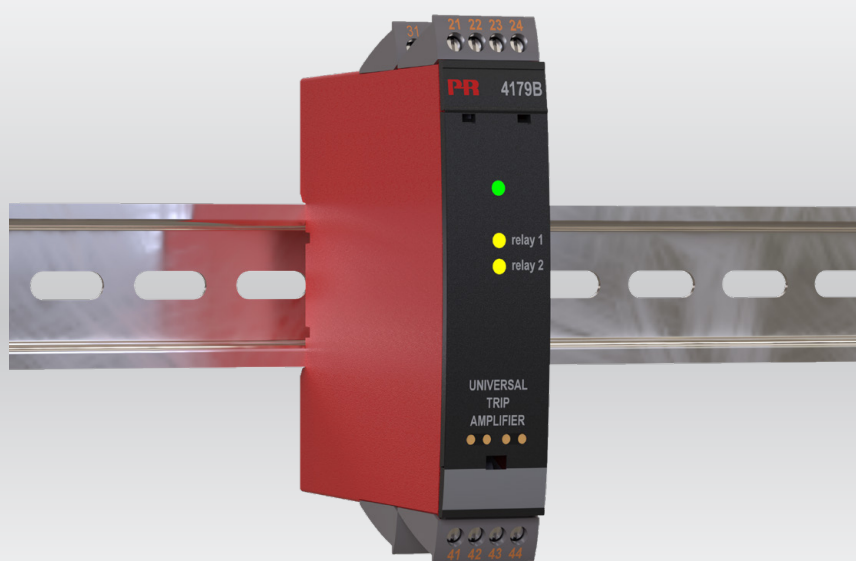
No. 4179BMCM100-UK
For 4511 devices from ser. no. 141590001

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6 Product Pillars
to meet your every need

Individually outstanding, unrivalled in combination

With our innovative, patented technologies, we make signal conditioning smarter and simpler. Our portfolio is composed of six product areas, where we offer a wide range of analog and digital devices covering over a thousand applications in industrial and factory automation. All our products comply with or surpass the highest industry standards, ensuring reliability in even the harshest of environments and have a 5-year warranty for greater peace of mind.

Temperature

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We deliver the safest signals by validating our products against the toughest safety standards. Through our commitment to innovation, we have made pioneering achievements in developing I.S. interfaces with SIL 2 Full Assessment that are both efficient and cost-effective. Our comprehensive range of analog and digital intrinsically safe isolation barriers offers multifunctional inputs and outputs, making PR an easy-to-implement site standard. Our backplanes further simplify large installations and provide seamless integration to standard DCS systems.

Communication

We provide inexpensive, easy-to-use, future-ready communication interfaces that can access your PR installed base of products. All the interfaces are detachable, have a built-in display for readout of process values and diagnostics, and can be configured via push-buttons. Product specific functionality includes communication via Modbus and Bluetooth and remote access using our PRocess Supervisor (PPS) application, available for iOS and Android.

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Our unique range of single devices covering multiple applications is easily deployable as your site standard. Having one variant that applies to a broad range of applications can reduce your installation time and training, and greatly simplify spare parts management at your facilities. Our devices are designed for long-term signal accuracy, low power consumption, immunity to electrical noise and simple programming.

Isolation

Our compact, fast, high-quality 6 mm isolators are based on microprocessor technology to provide exceptional performance and EMC-immunity for dedicated applications at a very low total cost of ownership. They can be stacked both vertically and horizontally with no air gap separation between units required.

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Our display range is characterized by its flexibility and stability. The devices meet nearly every demand for display readout of process signals and have universal input and power supply capabilities. They provide a real-time measurement of your process value no matter the industry and are engineered to provide a user-friendly and reliable relay of information, even in demanding environments.

Contents

Introduction

This configuration manual

contains the necessary informatioFn for configuring a PR 4179B device which is connected to a PR 4511 Modbus RTU enabler.

Modbus is a "master-slave" system,

where the "master" communicates with one or multiple "slaves".

The master typically is a PLC (Programmable Logic Controller), DCS (Distributed Control System), HMI (Human Machine Interface), RTU (Remote Terminal Unit) or PC.

The three most common Modbus versions used are: MODBUS ASCII, MODBUS RTU and MODBUS/TCP.

In Modbus RTU, data is coded in binary, and requires only one communication byte per data byte. This is ideal for use over multi-drop RS485 networks, at speeds up to 115,200 bps.
The most common speeds are 9,600 bps and 19,200 bps.

Modbus RTU is the most widely used industrial protocol and is supported by the 4511.

Modbus RTU

To communicate with a slave device, the master sends a message containing:

      Device Address - Function Code - Data - Error Check

The Device Address is a number from 0 to 247.

Messages sent to address 0 (broadcast messages) will be accepted by all slaves, but numbers 1-247 are addresses of specific devices. With the exception of broadcast messages, a slave device always responds to a Modbus message so the master knows the message was received.

4511 Supported Modbus Function Codes

Command	Function code
Read Holding Registers*	03
Read Input Registers*	04
Write Single Register	06
Diagnostics	08
Write Multiple Registers	16

*Holding Registers and Input Registers contain identical data in PR 4511.

The Function Code defines the command that the slave device is to execute, such as read data, accept data, report status. Some function codes have sub-function codes.

The Data defines addresses in the device's memory map for read functions, contains data values to be written into the device's memory, or contains other information needed to carry out the function requested.

The Error Check is a 16-bit numeric value representing the Cyclic Redundancy Check (CRC).

Maximum number of registers which can be read or written at once

For a read command, the limit is 8 registers at a baud rate up to 38,400 bps,
16 registers @ 57,800 bps and 32 registers @ 115,200 bps.

For a write command, the limit is 123 registers at baud rates up to 115,200 bps.

4511 Modbus parameter settings

Automatic Baudrate Detection:	Can be configured YES or **NO**
Supported baudrates:	2400, 4800, 9600, **19.2k**, 38.4k, 57.6k, 115.2k bps
Parity Mode:	**Even**, Odd or None parity
Stop Bits:	**1** or 2 stop bits
Response delay:	0...1000 ms **(0 ms = default)**
Modbus slave addressing range:	1 - 247 **(247 = default address)**
Modbus Parameter Storage:	Saved in non-volatile memory in the 4511 device

(Factory Default Values are marked in **bold**)

Modbus RTU segment line termination

A 120 Ohm resistor should be installed on both ends of a RS485 Modbus RTU segment loop to prevent signal echoes from corrupting data on the line.

4179B Configuration Parameter List

Category	Parameter Name	Modbus Address	Register Size	Read/Write	Type	Description	Values
GENERAL	DEVICE NUMBER	0	1	RO	UNSIGNED INTEGER	Defines the actual device type	4179 = 16761 (0x4179)
GENERAL	DEVICE VERSION	1	1	RO	UNSIGNED INTEGER	Product version	0
GENERAL	VARIANT	2	1	RO	UNSIGNED INTEGER	Device variant	4179=0 4179B=1
GENERAL	SERIAL NUMBER	3	2	RO	UNSIGNED INTEGER	Device serial number	Range: 0..999999999
GENERAL	PASSWORD	5	1	R/W	UNSIGNED INTEGER	Password for entering configuration menu	Range: 0..9999
INPUT	INPUT TYPE	6	1	R/W	UNSIGNED INTEGER	Selected input type.	Current = 0 Voltage = 1
INPUT	INPUT VOLTAGE RANGE	7	1	R/W	UNSIGNED INTEGER	Fixed input range for voltage measurements	Custom input range = 0 0...0.5 V RMS = 1 0...1 V RMS = 2 0...2.83 V RMS = 3 0...5 V RMS = 4 0...120 RMS = 5 0...230 V RMS = 6 0...300 V RMS = 7
INPUT	INPUT CURRENT RANGE	8	1	R/W	UNSIGNED INTEGER	Fixed input range for current measurements	Custom input range = 0 0...0.5 A RMS = 1 0...1 A RMS = 2 0...2.5 A RMS = 3 0...5 A RMS = 4
INPUT	INPUT CUST. VOLTAGE RANGE LOW	9	2	R/W	INTEGER	Low range for CUSTOM VOLTAGE INPUT RANGE in μV	Range: 0..300000000
INPUT	INPUT CUST. VOLTAGE RANGE HIGH	11	2	R/W	INTEGER	High range for CUSTOM VOLTAGE INPUT RANGE in μV	Range: 0..300000000
INPUT	INPUT CUST. CURRENT RANGE LOW	13	2	R/W	INTEGER	Low range for CUSTOM CURRENT INPUT RANGE in μA	Range: 0..5000000
INPUT	INPUT CUST. CURRENT RANGE HIGH	15	2	R/W	INTEGER	High range for CUSTOM CURRENT INPUT RANGE in μA	Range: 0..5000000
INPUT	ENABLE INPUT LIMIT LOW	17	1	R/W	UNSIGNED INTEGER	Enable lowh limit detection on input	NO = 0 YES = 1
INPUT	ENABLE INPUT LIMIT HIGH	18	1	R/W	UNSIGNED INTEGER	Enable high limit detection on input	NO = 0 YES = 1
INPUT	INPUT LIMIT LOW	19	2	R/W	INTEGER	Low limit for input	Range for voltage input: 0...<input range low> Range for current input: 0...<input range low> (upper limit for this value is equal to input range low)
INPUT	INPUT LIMIT HIGH	21	2	R/W	UNSIGNED INTEGER	High limit for input	Range for voltage input: <input range high>...300000000 Range for current input: <input range high>...5000000 (lower limit for this value is equal to input range high)
DISPLAY	DISPLAY UNIT	23	1	R/W	UNSIGNED INTEGER	Units shown as display units for input	Acc. to table 1
DISPLAY	DECIMAL POINT	24	1	R/W	UNSIGNED INTEGER	Decimal point place for display reading	XXXX = 0 X.XXX = 1 XX.XX = 2 XXX.X = 3
DISPLAY	DISPLAY LOW	25	1	R/W	INTEGER	Low display range for display reading of input	Range: -1999...9999
DISPLAY	DISPLAY HIGH	26	1	R/W	INTEGER	High display range for display reading of input	Range: -1999...9999
INPUT	CALIB RANGE LOW	35	2	R/W	FLOAT	Actual process value for low calibration point in input values	**Range for voltage input:** 0..300000000 (0...300 V) **Range for current input:** 0..5000000 (0...5 mA)
INPUT	CALIB RANGE HIGH	37	2	R/W	FLOAT	Actual process value for high calibration point in input values	As CALIB RANGE LOW
INPUT	CALIB POINT LOW	39	2	R/W	FLOAT	Measured process value for low calibration point in input values (can be read from PRIMARY RAW VALUE)	As CALIB RANGE LOW

Category	Parameter Name	Modbus Address	Register Size	Read/Write	Type	Description	Values
INPUT	CALIB POINT HIGH	41	2	R/W	FLOAT	Measured process value for high calibration point in input values (can be read from PRIMARY RAW VALUE)	As CALIB RANGE LOW
INPUT	USE CALIB	43	1	R/W	UNSIGNED INTEGER	Use the applied calibration values	NO = 0 YES = 1
DISPLAY	DISPLAY CONTRAST	44	1	R/W	UNSIGNED INTEGER	Contrast in the LCD display	Range: 0...9
DISPLAY	DISPLAY BACKLIGHT	45	1	R/W	UNSIGNED INTEGER	Backlight intensity on LCD	Range: 0...9
DISPLAY	TAG TEXT	46	3	R/W	ASCII CHAR	Tag of the device (6 characters)	Range: ASCII values from 32 to 90 (' ' to 'Z').
GENERAL	ENABLE PASSWORD	50	1	R/W	UNSIGNED INTEGER	Password protect entry to configuration menu via display	NO = 0 YES = 1
GENERAL	HELPTEXT LANGUAGE	51	1	R/W	UNSIGNED INTEGER	Language for the help texts shown in display	UK = 0 DK = 1 DE = 2 FR = 3 SE = 4 IT = 5 ES = 6
RELAY	RELAY UNIT	52	1	R/W	UNSIGNED INTEGER	Units for relay setpoint	Percent = 0 Display units = 1
RELAY	RELAY 1 FUNCTION	53	1	R/W	UNSIGNED INTEGER	Relay function (setpoint, window, error etc.)	OFF = 0 POWER = 1 ERROR = 2 SETPOINT = 3
RELAY	RELAY 1 CONTACT	54	1	R/W	UNSIGNED INTEGER	Contact function (Normally Closed / Normally Open)	NC = 0 NO = 1
RELAY	RELAY 1 ACTION DIRECTION	55	1	R/W	UNSIGNED INTEGER	Activation direction, or activity inside / outside of window, in window mode.	DECREASING / ACTIVE OUTSIDE WINDOW = 0 INCREASING / ACTIVE INSIDE WINDOW= 1
RELAY	RELAY 1 SETPOINT LOW	56	1	R/W	INTEGER	Setpoint or low window setpoint, in either display values or 1/10% (percent)	DISPLAY LOW...DISPLAY HIGH 0...1000 (0.0...100.0%)
RELAY	RELAY 1 SETPOINT HIGH	57	1	R/W	INTEGER	High window setpoint, in either display values or 1/10% (percent)	DISPLAY LOW...DISPLAY HIGH 0...1000 (0.0...100.0%)
RELAY	RELAY 1 HYSTERESIS	58	1	R/W	UNSIGNED INTEGER	Hysteresis in either display values or 1/10% (percent)	0...(display range) 0...1000 (0.0...100.0%)
RELAY	RELAY 1 ON DELAY	59	1	R/W	UNSIGNED INTEGER	Relay ON time delay	Range: 0...3600s
RELAY	RELAY 1 OFF DELAY	60	1	R/W	UNSIGNED INTEGER	Relay OFF time delay	Range: 0...3600s
RELAY	RELAY 1 LOW INPUT ERROR ACTION	61	1	R/W	UNSIGNED INTEGER	Action on input below configured input limit low	NONE = 0 OPEN = 1 CLOSE = 2 HOLD = 3
RELAY	RELAY 1 HIGH INPUT ERROR ACTION	62	1	R/W	UNSIGNED INTEGER	Action on at input beyond configured input limit high	NONE = 0 OPEN = 1 CLOSE = 2 HOLD = 3
RELAY	RELAY 2 FUNCTION	63	1	R/W	UNSIGNED INTEGER	Relay function (setpoint, window, error etc.)	OFF = 0 POWER = 1 ERROR = 2 SETPOINT = 3
RELAY	RELAY 2 CONTACT	64	1	R/W	UNSIGNED INTEGER	Contact function (Normally Closed / Normally Open)	NC = 0 NO = 1
RELAY	RELAY 2 ACTION DIRECTION	65	1	R/W	UNSIGNED INTEGER	Activation direction, or activity inside / outside of window, in window mode.	DECREASING / ACTIVE OUTSIDE WINDOW = 0 INCREASING / ACTIVE INSIDE WINDOW= 1
RELAY	RELAY 2 SETPOINT LOW	66	1	R/W	INTEGER	Setpoint or low window setpoint, in either display values or 1/10% (percent)	DISPLAY LOW...DISPLAY HIGH 0...1000 (0.0...100.0%)
RELAY	RELAY 2 SETPOINT HIGH	67	1	R/W	INTEGER	High window setpoint, in either display values or 1/10% (percent)	DISPLAY LOW...DISPLAY HIGH 0...1000 (0.0...100.0%)
RELAY	RELAY 2 HYSTERESIS	68	1	R/W	UNSIGNED INTEGER	Hysteresis in either display values or 1/10% (percent)	0...(display range) 0...1000 (0.0...100.0%)
RELAY	RELAY 2 ON DELAY	69	1	R/W	UNSIGNED INTEGER	Relay ON time delay	Range: 0...3600s

Category	Parameter Name	Modbus Address	Register Size	Read/Write	Type	Description	Values	
RELAY	RELAY 2 OFF DELAY	70	1	R/W	UNSIGNED INTEGER	Relay OFF time delay	Range:	0…3600s
RELAY	RELAY 2 LOW INPUT ERROR ACTION	71	1	R/W	UNSIGNED INTEGER	Action on input below configured input limit low	NONE OPEN CLOSE HOLD	= 0 = 1 = 2 = 3
RELAY	RELAY 2 HIGH INPUT ERROR ACTION	72	1	R/W	UNSIGNED INTEGER	Action on at input beyond configured input limit high	NONE OPEN CLOSE HOLD	= 0 = 1 = 2 = 3
RELAY	RELAY POWER ON DELAY	73	1	R/W	UNSIGNED INTEGER	Power-on delay, before applying outputs (in s)	Range 0..9999	
RELAY	ENABLE FAST SET	74	1	R/W	UNSIGNED INTEGER	Enable fast set of relay setpoints from monitor menu	NO YES	= 0 = 1
RELAY	RELAY 1 LATCH ENABLE	75	1	R/W	UNSIGNED INTEGER	Activate latch functio for relay 1	NO YES	= 0 = 1
RELAU	RELAY 2 LATCH ENABLE	76	1	R/W	UNSIGNED INTEGER	Activate latch functio for relay relay 2	NO YES	= 0 = 1
GENERAL	CONFIGU-RATION COUNTER	101	1	RO	UNSIGNED INTEGER	This counter will count the number of times the configuration has been changed. The counter is reset on power-up	Range 0..65535	
GENERAL	CHECKSUM	102	1	RO	UNSIGNED INTEGER	CRC16 checksum of the configuration	Range 0..65535	

Table 1: Display units

0	°C	10	mils	20	in/s	30	t	40	kJ	50	kA	60	m³/h	70	A RMS
1	°F	11	yd	21	ips	31	kg	41	Wh	51	mA	61	l/s	71	[blank]
2	K	12	m³	22	ft/s	32	g	42	MWh	52	µA	62	l/min		
3	%	13	l	23	in/min	33	N	43	kWh	53	V	63	l/h		
4	m	14	s	24	ft/min	34	Pa	44	W	54	kV	64	gal/min		
5	cm	15	min	25	in/h	35	MPa	45	GW	55	mV	65	gal/h		
6	mm	16	m/s	26	ft/h	36	kPa	46	MW	56	Ω	66	t/h		
7	µm	17	mm/s	27	m/s²	37	hPa	47	kW	57	S	67	mol		
8	ft	18	m/min	28	rpm	38	bar	48	hp	58	µS	68	pH		
9	in	19	m/h	29	Hz	39	mbar	49	A	59	m3/min	69	V RMS		

4179B Input Types and Ranges

Input type	Min. value	Max. value
mA	0 AAC RMS	5 AAC RMS
V	0 VAC RMS	300 VAC RMS

4179B Process Parameter List

Parameter Name	Register Address	Register Size	Read/Write	Type	Description	Values
INPUT VALUE	1000	2	RO	FLOAT	The measured, scaled and process calibrated input value (in µA or µV).	**Range for voltage input:** 0..360000000 **Range for current input:** 0..6000000
MEASURE STATUS	1002	1	RO	UNSIGNED INTEGER	The actual measurement status	INPUT UNDERRANGE: bit 0 = 1 INPUT OVERRANGE: bit 1 = 1 OUTPUT UNDERRANGE: bit 2 = 1 OUTPUT OVERRANGE: bit 3 = 1 LOW INPUT LIMIT ERROR DETECTED: bit 4 = 1 HIGH INPUT LIMIT ERROR DETECTED: bit 5 = 1 NOT USED: bit 6...7
RELATIVE INPUT	1003	2	RO	FLOAT	The relative input calculated from INPUT VALUE. 0.0...1.0 corresponds to the selected range (e.g. 0...230 VAC).	Range: 0.0...1.0 (e.g. 0.7898 = 78.98% = 181.654 VAC)
PRIMARY RAW VALUE	1007	2	RO	FLOAT	The measured input value (in µA or µV), NOT PROCESS CALIBRATED/SIMULATED.	**Range for voltage input:** 0...360000000 **Range for current input:** 0...6000000
ERROR STATUS	1009	1	RO	UNSIGNED INTEGER	The actual error status (Device errors).	ADC ERROR: bit 0 = 1 RAM ERROR: bit 1 = 1 CONFIG ERROR: bit 2 = 1 INT. FLASH ERROR: bit 3 = 1 EXT. FLASH ERROR: bit 4 = 1 OUTPUT ERROR: bit 5 = 1 SUPPLY ERROR: bit 6 = 1 ADC COMM. ERROR: bit 7 = 1 RELAY 1 ERROR: bit 8 = 1 RELAY 2 ERROR: bit 9 = 1 CONFIG WARNING: bit 10 = 1 VREF ERROR: bit 11 = 1 VDD ERROR: bit 12 = 1
RELAY STATE	1010	1	RO	UNSIGED INTEGER	CALCULATED RELAY STATUS	RELAY 1 IS ON: bit 0 = 1 RELAY 2 IS ON: bit 1 = 1 RELAY 1 WILL GO ON AFTER DELAY: bit 2 = 1 RELAY 2 WILL GO ON AFTER DELAY: bit 3 = 1 RELAY 1 IS LATCHED: bit 4 = 1 RELAY 2 IS LATCHED: bit 5 = 1 RELAY 1 CAN NOT RELEASE: bit 6 = 1 RELAY 2 CAN NOT RELEASE: bit 7 = 1

4179B Simulation Parameter List

Parameter Name	Register Address	Register Size	Read/Write	Type	Description	Values
SIMULATION CONTROL	2000	1	R/W	UNSIGNED INTEGER	Control register for simulation	Clear errors and reload config. bit 0 = 1 Simulate input bit 1 = 1 Simulate output bit 2 = 1 **Reserved MUST BE SET TO "0"** bit 2...3 **S**imulate relay 1 bit 4 = 1 Simulate relay 2 bit 5 = 1 **Reserved MUST BE SET TO "0"** bit 6...7
INPUT VALUE	2001	2	R/W	FLOAT	Simulated input value (in µA or µV)	**Range for voltage input:** 0..360000000 **Range for current input:** 0..6000000
SIMULATION TIMEOUT	2005	1	R/W	UNSIGNED INTEGER	If this value is greater than zero the counter decrements once every 5 ms. Upon reaching 0 SIMULATION CONTROL is cleared.	0...4000
RELAY 1 SIMULATION CONTROL	2006	1	R/W	UNSIGNED INTEGER	Control bits for relay simulation	SIMULATE RELAY OPEN bit 0 = 1 SIMULATE RELAY CLOSED bit 1 = 1 INVERT RELAY STATE bit 2 = 1 SIMULATE SETPOINT bit 3 = 1 RESET LATCH bit 4 = 1 Reserved MUST BE SET TO 0 bit 5...7
RELAY SIMULATION CONTROL	2007	1	R/W	UNSIGNED INTEGER	As RELAY 1 SIMULATION	As RELAY 1 SIMULATION
RELAY 1 SETPOINT	2008	1	R/W	INTEGER	Simulate setpoint, in either display values or 1/10% (percent) NOTE: If setpoint simulation causes the device to go to a special triggered action, such as initiating an error or latching a relay, this will remain active even after simulation has ended.	DISPLAY LOW .. DISPLAY HIGH
RELAY 2 SETPOINT	2009	1	R/W	INTEGER	As RELAY 1 SIMULATION	As RELAY 1 SIMULATION

4179B Fast Parameters

Parameter Name	Register Address	Register Size	Read/ Write	Type	Description	Values
DEVICE NUMBER	6000	1	RO	UNSIGNED INTEGER	Remaps register 0	SEE ORIGINAL REGISTER DESCRIPTION
DEVICE VERSION	6001	1	RO	UNSIGNED INTEGER	Remaps register 1	SEE ORIGINAL REGISTER DESCRIPTION
CONFIGURA-TION CHECKSUM	6003	1	RO	UNSIGNED INTEGER	Remaps register 100	SEE ORIGINAL REGISTER DESCRIPTION
CONFIGURA-TION COUNTER	6004	1	RO	UNSIGNED INTEGER	Remaps register 101	SEE ORIGINAL REGISTER DESCRIPTION
ERROR STATUS	6005	1	RO	UNSIGNED INTEGER	Remaps register 1009	SEE ORIGINAL REGISTER DESCRIPTION
MEASURE STATUS	6006	1	RO	UNSIGNED INTEGER	Remaps register 1002	SEE ORIGINAL REGISTER DESCRIPTION
INPUT VALUE	6007	1	RO	FLOAT	Remaps register 1000	SEE ORIGINAL REGISTER DESCRIPTION
INPUT TYPE	6011	1	RO	UNSIGNED INTEGER	Remaps register 6	SEE ORIGINAL REGISTER DESCRIPTION
DISPLAY LOW	6012	1	RO	INTEGER	Remaps register 25	SEE ORIGINAL REGISTER DESCRIPTION
DISPLAY HIGH	6013	1	RO	INTEGER	Remaps register 26	SEE ORIGINAL REGISTER DESCRIPTION
DISPLAY UNIT	6014	1	RO	INTEGER	Remaps register 23	SEE ORIGINAL REGISTER DESCRIPTION
DECIMAL POINT	6015	1	RO	UNSIGNED INTEGER	Remaps register 24	SEE ORIGINAL REGISTER DESCRIPTION
TAG TEXT	6017	3	RO	ASCII CHAR	Remaps register 46	SEE ORIGINAL REGISTER DESCRIPTION
RELATIVE INPUT	6020	2	RO	FLOAT	Remaps register 1003	SEE ORIGINAL REGISTER DESCRIPTION
RELAY STATE	6022	1	RO	UNSIGNED INTEGER	Remaps register 1010	SEE ORIGINAL REGISTER DESCRIPTION

4511 Modbus Configuration Parameter List

| Parameter Name	Register Address	Register Size	Read/ Write	Type	Description	Values	
ENABLE MODBUS	3000	1	R/W	INTEGER	Enable Modbus communication. If disabled, 4511 ignores all frames sent from the Modbus master and the only way to re-enable Modbus communication is by using the 4511 menu.	NO YES	= 0 = 1
BAUDRATE	3001	1	R/W	INTEGER	The baud value used for Modbus communication	2400 BAUD 4800 BAUD 9600 BAUD 19200 BAUD 38400 BAUD 57600 BAUD 115200 BAUD	= 0 = 1 = 2 = 3 = 4 = 5 = 6
ENABLE AUTOBAUD	3002	1	R/W	INTEGER	Enable automatic baudrate detection. If enabled, 4511 determines the baudrate automatically by listening to frames sent on the Modbus line.	NO YES	= 0 = 1
PARITY	3003	1	R/W	INTEGER	Configures parity check on Modbus frames	NONE EVEN PARITY ODD PARITY	= 0 = 1 = 2
STOP BITS	3004	1	R/W	INTEGER	Configures the number of stop bits in Modbus frames	ONE STOP BIT TWO STOP BITS	= 1 = 2
ADDRESS	3005	1	R/W	INTEGER	Configures the Modbus address of the 4511 (Address 0 is broadcast address)	Range: 1...247	
RESPONSE DELAY	3006	1	R/W	INTEGER	Configures minimum delay for Modbus response in ms	Range: 0...1000	

4511 Additional Parameter List

Parameter Name	Register Address	Register Size	Read/ Write	Type	Description	Values	
ROTATE DEVICE	3100	1	R/W	INTEGER	Enables the display and key buttons to be used normally when the host device is mounted upside down	NO YES	= 0 = 1

4511 Modbus Status Parameter List

Parameter Name	Register Address	Register Size	Read/ Write	Type	Description	Values	
AUTOBAUD STATUS	4000	1	RO	INTEGER	Actual state of automatic baudrate detection	2400 BAUD 4800 BAUD 9600 BAUD 19200 BAUD 38400 BAUD 57600 BAUD 115200 BAUD SEARCHING ERROR	= 0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8
IDENTIFY DEVICE	4001	1	R/W	INTEGER	Enables the device to flash the LCD background with approx. 4 Hz. **Value will automatically return to NO if not written within 10 seconds!**	NO YES	= 0 = 1
MAXIMUM READ REGISTERS	4002	1	RO	INTEGER	Maximum allowed number of registers that can be read in one command, with the given/detected baudrate	Range: 8...32	

4511 Modbus Front Programming Parameter Menu
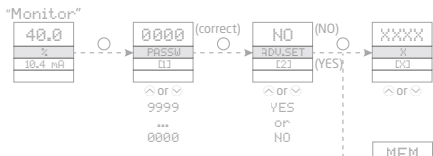
Scrolling HELP TEXTS:

[1]   Set correct password
[2]   Enter advanced setup menu
[3]   Perform memory operations
        Enter display setup
        Perform process calibration
        Enter simulation setup
        Enter password setup
        Enter language setup
        Enter rail setup (System 9000)
        Enter Modbus setup
[4]   Check automatic baudrate detection status
        Enable Modbus communication
        Disable Modbus communication
[5]   Reset Modbus to default
[6]   Select Modbus slave address
[7]   Select parity for Modbus
[8]   Select number of stop bits
[9]   Select response delay in ms
[10]   Enable automatic baudrate detection
[11]   Searching for Modbus baudrate
        Modbus baudrate detected
        Modbus baudrate not detected
[12]   Select baudrate in bps
[13]   Rotate device upside down?

* 1) Only if automatic
baudrate detection
is enabled

Please note:
If no keys are activated for 1 minute, the 4511 display will return to the "Monitor" view without saving.
The display will aslo return to "Monitor" upon successful Modbus write command!

The grayed-out menus and texts are only shown for guidance and are not a part of the 4511 specific submenu.
The Modbus submenu is located in the Advanced Setting menu structure of any host device using the 4511.
The actual placement is defined for each particular device.
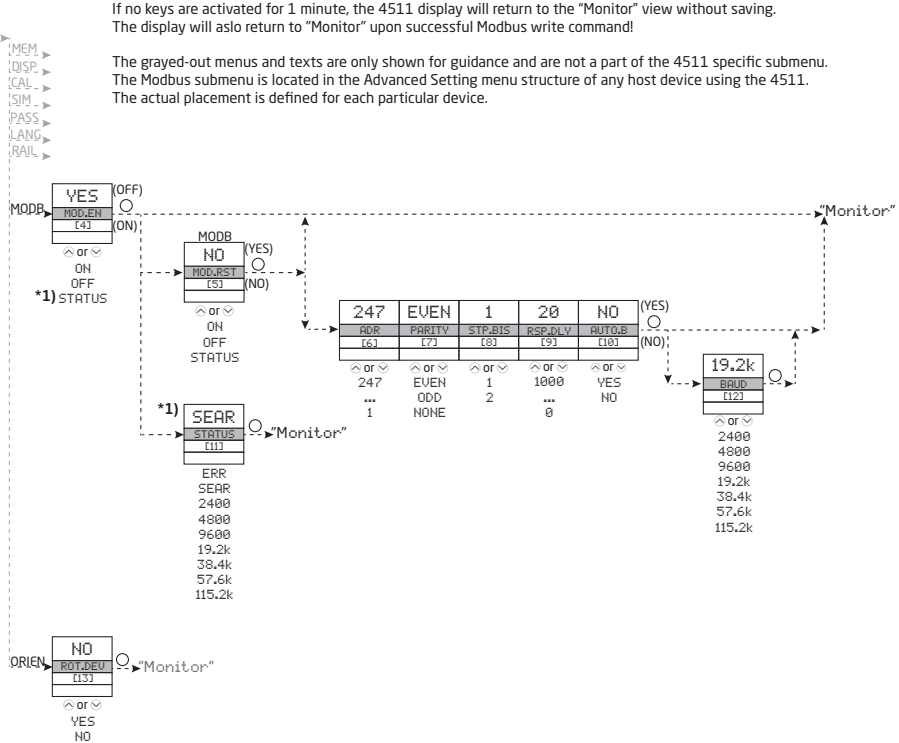
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