

Extension Modules with Digital Input, Relay or Transistor Output

 SMR1P1-03-00-20-00_1 SMR1P1-03-00-02-00_1	General Specifications : * 8 Digital Input (NPN / PNP) * According to module type; 8 Relay Output (NO) / 8 Digital Output (Active High) * Modbus RTU communication protocol with RS485 * USB – Device (For device configuration) * Modular connection (up to 16 modules including itself) * Led indicators: - Power Supply, USB, RS-485 - Active Digital Input led indicators - Active Output led indicators
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Technical Specifications

Module Type	SMR1P1-03-00-20-00	SMR1P1-03-00-02-00
Supply Voltage	24 VDC (±%20)(19,2 VDC - 28,8 VDC)	
Power Consumption	2W	1.5W
Communication	RS-485 Modbus RTU	
USB Device	Mini USB, USB 2.0	
Digital Inputs		
Number of Inputs	8	
Type	NPN / PNP	
Nominal Input Voltage	24 VDC	
Active Level	Low Level < 7 VDC, High Level > 10 VDC	
Input Resistance	> 5,9 kΩ	
Maximum Current	6 mA	
Response Time	20 μsn	
Detection Speed	Filter option between 1-500 msec	
Relay Outputs		
Number Of Relay	8 x NO	-
Relay Current	1,5 A @ 250VAC (single relay) 6 A @ 250VAC (total COM current)	
Relay Groups	C1 – Q0, Q1, Q2, Q3 C2 – Q4, Q5, Q6, Q7	
Response Time	0 => 1 ~10 msec, 1 => 0 ~5 msec	
Digital Outputs		
Number of Outputs	-	8 x Active high
Output Current	0,3 A (one output), 2,4 A (total COM current)	
Transistor Power	External 24VDC supply must be connected	
Response Time	~170 μsn	
Protection	Short circuit protection	
Led Indicators		
Power	Always ON if the power input is in working limits, flashes 0.1s when undervoltage detected Flashes 0.5s if the communication between Master and Slave module didn't start Flashes 1s if the communication between Master and Slave module broken Flashes 0.2s ON / 2s OFF if the device in Software Boot Mode	
USB	Always ON if the USB cable plugged, flashes during data transfer	
RS485	Flashes during Modbus data transfer	
Digital Input	ON when input active, OFF otherwise	
Relay / Transistor Output	ON when output active, OFF otherwise	

Operation / Storage Environment	
Operation Temp.	-10°...+60° C
Storage Temp.	-20°...+70° C
Isolation	* There is no isolation between Power, RS485 and USB * 1000 VAC between Power Input and Digital Inputs * 1000 VAC between Power Input and Digital Outputs * 2000 VAC between Power Input and Relay Outputs

Modbus Parameters Addresses

Address	R/W	Parameter Name	Definition	Default
Modbus Parameters				
40001	R/W	ID	Modbus ID can be set between 1 – 255	1
40002	R/W	Baud Rate (kbps)	0- 1200 3- 9600 6- 57600 1- 2400 4- 19200 7- 115200 2- 4800 5- 38400	6
40003	R/W	Stop Bit	0- 1 Bit 1- 2 Bit	0
40004	R/W	Parity	0- None 1- Even 2- Odd	0
Device Parameters				
40005	R	Reserved	In case of Master Mode, shows number of connected Slave Modules	-
40006	R	Type/Bus Order	b15-b8 : module types according to code : SMR1P1-03-00-20-00_1 = 0xA0 SMR1P1-03-00-02-00_1 = 0xA1 b7-b0 : module bus order : 0- Master module N- N'th Slave module in the bus (max. 15) 17- Single module (No other device on bus)	-
40007	R	Version	HW and SW versions displayed on a bitwise basis b15-b12 : Hardware Version b11-b6 : Software Major Version b5-b0 : Software Minor Version	-
40008	R/W	Error Status ²	Error status displayed on a bitwise basis b0 : Low Power Supply Voltage Level b1 : Analog Input could not read b2 : RS485 communication timeout error ¹ b8 : Error in slave module number ¹ b9 : Error in slave module type ¹ b10 : Error in communication between slave modules ¹ b15-b12 : The number of the Slave module in which the error was detected <i>Note-1 : Error bits are only valid for Master Module.</i> <i>Note-2 : In case of communication timeout error arises in Master Module, communication between slave modules interrupted. By writing 3083 to the relevant address, the error bit cleared and the communication started again.</i>	-
40009	R/W	Timeout Duration	Defined for Master Module. Range : (0 – 60sec)	3
Digital Input Parameters				
40011	R	Digital Inputs	Digital Inputs Status in bitwise notation. b7-b0 : I7 - I0 (0 : OFF, 1 : ON)	-
40012	R/W	I0 Filter Time	Value Range : (1 – 500ms)	50
40013		I1 Filter Time		
40014		I2 Filter Time		
40015		I3 Filter Time		
40016		I4 Filter Time		
40017		I5 Filter Time		
40018		I6 Filter Time		

40019		I7 Filter Time		
Digital Output Parameters				
40020	R/W	Digital Outputs	Digital Output Status in bitwise notation b7-b0 : Q3 - Q0 (0 : OFF, 1 : ON)	0

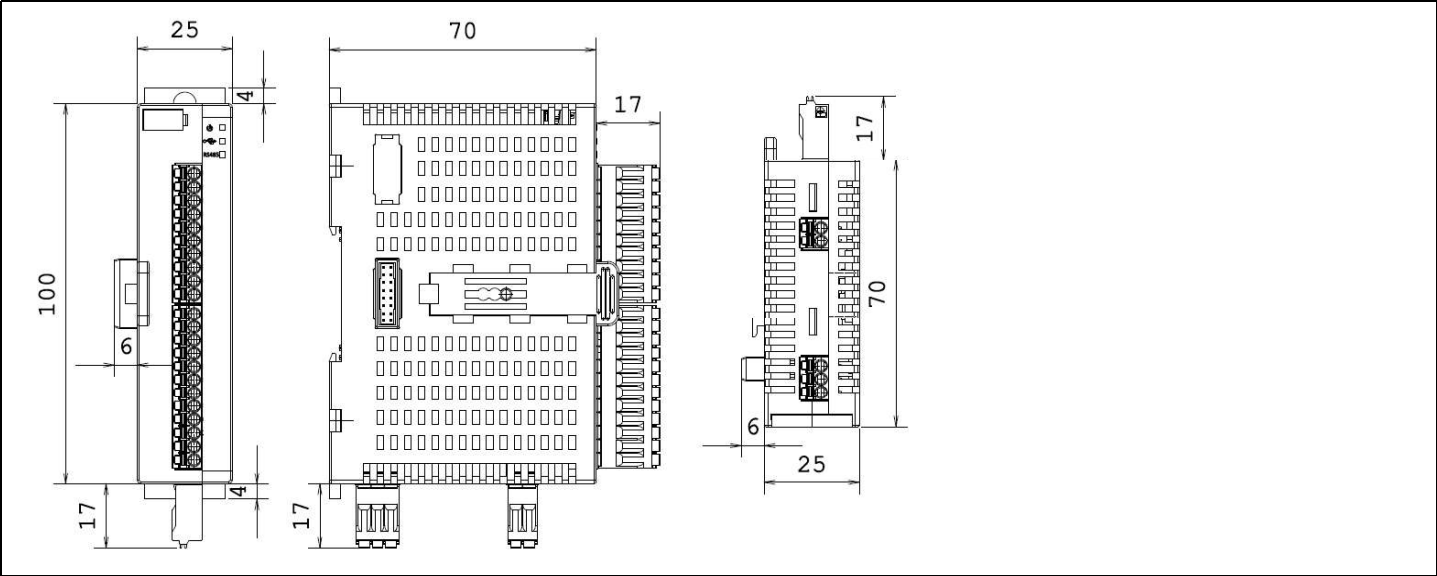
Installation & Wiring



* Do not connect AC Power to any I/O terminal, otherwise serious damage may occur in module. Please check all wiring prior to energizing device. In order to prevent electromagnetic interference, be sure the grounding made corrected. Connect ground terminal in the power input connector to the overall system ground. Don't touch any terminals after energizing the device, in case of need to touch any terminal, de-energize the device before connection.

* For RS485 communication connection; Connect the termination resistor (120R) between A&B terminal of the master module (located at the far left of the extension module group). In case of more than one extension module group, connect it between the A&B terminals of the master module (located at the far left of the extension module group) of the group at the end of the communication line. Use shielded and twisted-pair communication cable. Ground the shield connection of the cable to power input earth terminal.

Dimensions



Product Order Codes

Extension Modules with Digital Inputs / Outputs	Digital Input	Analog Input	Digital Output	Analog Output	USB	RS485
SMR1P1-03-00-20-00_1	8 x NPN / PNP	-	8 x Relay	-	+	+
SMR1P1-03-00-02-00_1	8 x NPN / PNP	-	8 x Transistor	-	+	+