- **max 22 words may be read out as a whole (i.e. 44 bytes)**
- **first 256 bits can be addressed bitwise (i.e. 1LSB - 16MSB)**

Name	**Address**	**Type**	**Description**	**Note**
module LSB	1 LSB	R	module ID lower byte	0x0104 hex
module MSB	1 MSB	R	module ID upper byte	
firmware LSB	2 LSB	R	firmware version, lower byte	6hex
firmware MSB	2 MSB	R	firmware version, upper byte	
status LSB	3 LSB	R	module status, lower byte **bit 0** – EEPROM writing enabled **bit 4** – EEPROM init **bit 5** – calibration offset **bit 6** – calibration span **bit 7** – calibration enabled	**EEPROM init** is executed if the INIT was ON at the module power-up; when writing 1 to bit 4, the switch must be OFF (indicated by bit 2 of **status MSB**) **calibration enabled** is executed by writing a 1 into bit 7 (indicated by bit 3 in status MSB) **calibration offset** is executed by writing a 0 (must have been 1) to bit 7 and writing a 1 to bit 5. After calibration, the bit 5 goes to zero. **calibration span** is executed by writing a 0 (must have been 1) to bit 7 and writing a 1 to bit 6. After calibration, the bit 6 goes to zero.
status MSB	3 MSB	R	module status, upper byte **bit 0** 0... normal mode 1... init mode **bit 1** 1... at next write attempt to EEPROM all data will be written to EEPROM 0... at next write attempt received data will be written to RAM only **bit 2** – 1 – EEPROM initialized **bit 3 –** 1 – calibration enabled **bit 4** – 0 **bit 5** - 1 **bit 6** - 0 **bit 7** – 1	

address	4 LSB	R, W EEPROM (0x01)	module address **!!!** the change will be effective after restart only (however the register will be set immediately)	This is the actual module address configured by software or hardware switches.
baud rate	4 MSB	R,W EEPROM (9600 bps, 13dec)	communication, no parity 10_{dec} = 1200 bps 11_{dec} = 2400 bps 12_{dec} = 4800 bps 13_{dec} = 9600 bps 15_{dec} = 19200 bps 16_{dec} = 57600 bps 17_{dec} = 115200 bps	**!!!** the change will be effective after restart only (however the register will be set immediately)
input range for channels AI1, AI2	5 LSB	R (0x11)	2 … voltage 0 to 10 V 5 … resistance 0 to 5000 ohm	bit 0 – bit 3… channel 1 bit 4 – bit 7… channel 2
input range for channels AI3, AI4	5 MSB	R (0x12)	5 … resistance 0 to 5000 ohm	bit 0 – bit 3… channel 3 bit 4 – bit 7… channel 4
SSR threshold value	6 LSB 6 MSB	R,W EEPROM (0x32)	There is a position for another output (SSR) on the board. The output is optionally linked with the analogue output. The value in this register specifies the switching threshold value. It is multiplied by 10, e.g. **50** (0x32) is for **5V**. With this setting the SSR will be off for 0...5V, and on for 5.1V to 10.0V.	If this register is set to 0, the SSR is controllerd separately over register **relay (10LSB)**
SSR hysteresis	7 LSB 7 MSB	R,W EEPROM (0x1)	Hysteresis for SSR relay switching. The hysteresis applies both above and below the setpoint. See register **6LSB, MSB**. The value is multiplied by 10. 1 = 0.1 V	Example: if the value is 2 dec and register 6 value is 50dec, the SSR switches on at 5.2 V, and off at 4.8 V
relay state	8 LSB	R, W EEPROM (0x0)	relays go on or off (according to corresponding bits) if there was no communication with module for a given time and in **relay com** the corresponding relay bit is set to 1	**bit 0** is relay 1 **bit 1** is relay 2
relay time	8 MSB	R, W EEPROM (0x0)	time in [s] of no communication which is considered as communication failure	if set to 0, the function is disabled
relay start enable	9 LSB	R, W EEPROM (0x0)	startup relay behaviour **0** – relays are not commanded **1** – the corresponding relay is set to its **relay start** value after module startup	**bit 0** is relay 1 **bit 1** is relay 2

relay start	9 MSB	R, W EEPROM (0x0)	relay status between power-up and first bus command	**bit 0** is relay 1 **bit 1** is relay 2
relay	10 LSB	R, W, RAM	value for commanding the digital outputs	**bit 0** is relay 1 **bit 1** is relay 2 bit 2 is SSR (reserved)
reserved	10 MSB			
AO value	11 LSB 11 MSB	R, W, RAM	analogue output value in %, or V * 10 maximum value is 100 dec	0 = 0 V 100 = 10 V
relay com	12 LSB 12 MSB	R, W EEPROM (0x0)	**0** – when no communication, relays stay in last state **1** – when no communication, relays are set to **relay state** values	**bit 0** is relay 1 **bit 1** is relay 2
reserved	13 LSB			
reserved	13 MSB			
input AI1 voltage	14 LSB, 14 MSB	R, RAM	**0 to 10V** 0dec … 0,00V 9999dec … 10,00V	measured values at the inputs
input AI2 voltage	15 LSB, 15 MSB	R, RAM	**0 to 10V** 0dec … 0,00V 9999dec … 10,00V	measured values at the inputs
input AI3 voltage	16 LSB, 16 MSB	R, RAM	**0 to 10V** 0dec … 0,00V 9999dec … 10,00V	measured values at the inputs
input AI4 voltage	17 LSB, 17 MSB	R, RAM	**0 to 10V** 0dec … 0,00V 9999dec … 10,00V	measured values at the inputs
input AI1 resistance	18 LSB, 18 MSB	R, RAM	**0 to 5000 Ohm** 0dec … 0 Ohm 50 000dec … 5 000 Ohm	measured values at the inputs
input AI2 resistance	19 LSB, 19 MSB	R, RAM	**0 to 5000 Ohm** 0dec … 0 Ohm 50 000dec … 5 000 Ohm	measured values at the inputs
input AI3 resistance	20 LSB, 20 MSB	R, RAM	**0 to 5000 Ohm** 0dec … 0 Ohm 50 000dec … 5 000 Ohm	measured values at the inputs
input AI4 resistance	21 LSB, 21 MSB	R, RAM	**0 to 5000 Ohm** 0dec … 0 Ohm 50 000dec … 5 000 Ohm	measured values at the inputs
input AI1 temperature	22 LSB, 22 MSB	R, RAM	a **Pt 1000** must be connected 60536dec … -50,00 °C 0dec … 0,00 °C 15000dec … 150,00 °C	measured values at the inputs
input AI2 temperature	23 LSB, 23 MSB	R, RAM	a **Pt 1000** must be connected 60536dec … -50,00 °C 0dec … 0,00 °C 15000dec … 150,00 °C	measured values at the inputs

input AI3 temperature	24 LSB, 24 MSB	R, RAM	a **Pt 1000** must be connected 60536dec … -50,00 °C 0dec … 0,00 °C 15000dec … 150,00 °C	measured values at the inputs
input AI4 temperature	25 LSB, 25 MSB	R, RAM	a **Pt 1000** must be connected 60536dec … -50,00 °C 0dec … 0,00 °C 15000dec … 150,00 °C	measured values at the inputs
AI values as binary inputs	26 LSB, 26 MSB	R, RAM	AI values, if the inputs are used as potential-free on/off contacts. true ... contact closed false... contact open	bit 0 = AI1 bit 1 = AI2 bit 2 = AI3 bit 3 = AI4
input AI1 special	27 LSB, 27 MSB	R, RAM	AI1 value is changed according to the HW input range switch: VOLTAGE (0...10V) *100 0 = 0,00 V, 9999 = 10,00 V RESISTANCE (R) *10 0 = 0,0 Ohm 50000 = 5000,0 Ohm	measured values at the inputs
input AI2 special	28 LSB, 28 MSB	R, RAM	AI2 value, same as AI1	measured values at the inputs
input AI3 special	29 LSB, 29 MSB	R, RAM	AI3 value, same as AI1	measured values at the inputs
input AI4 special	30 LSB, 30 MSB	R, RAM	AI4 value, same as AI1	measured values at the inputs