DATASHEET

ADQUIO 8 ANALOG INPUTS MODBUS MODULE

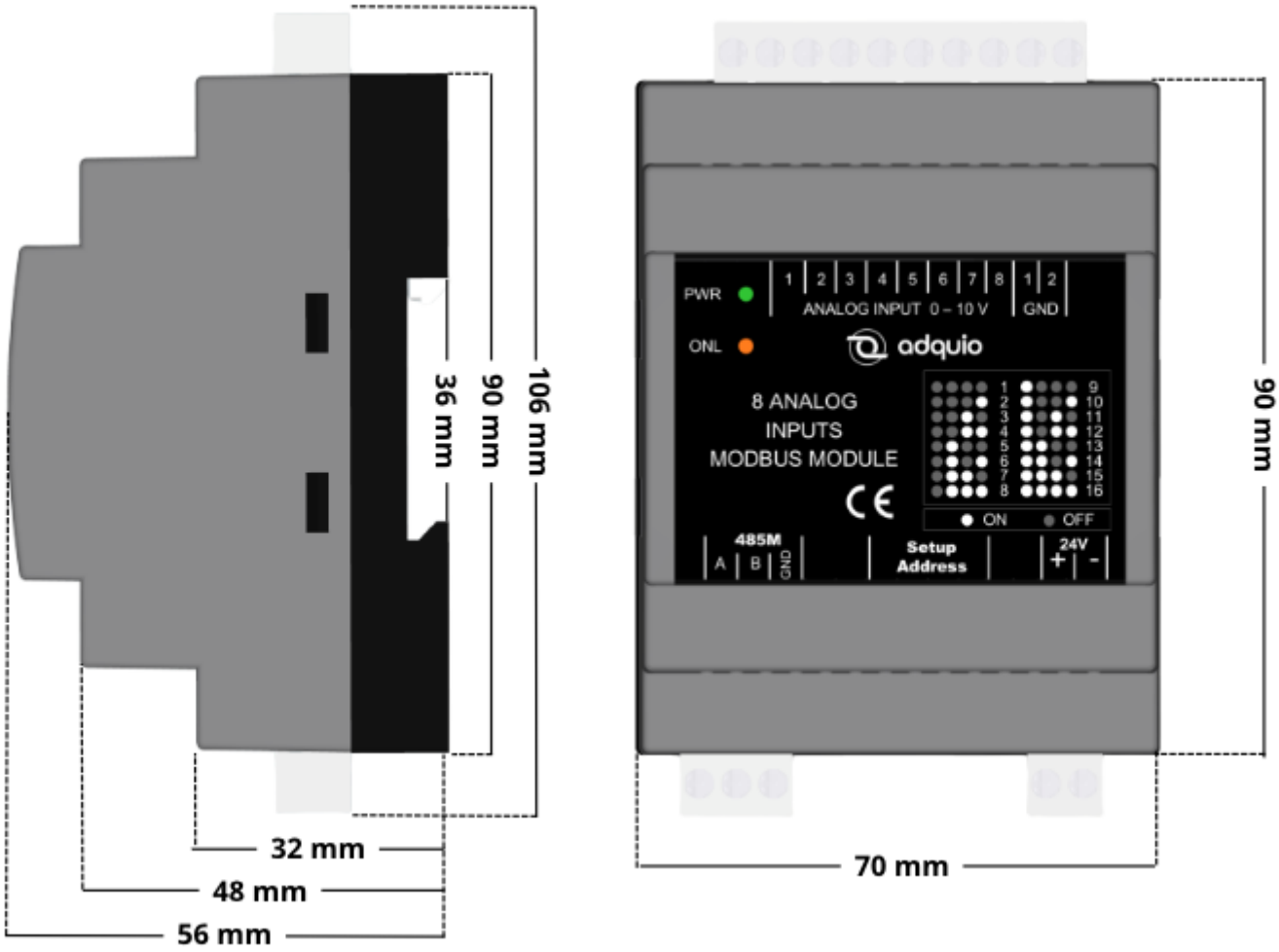
Modbus module with 8 analog inputs

1 Ordering information

Reference	Description	Lifecycle *
ADQ-SA-8AI	Adquio 8 analog inputs Modbus module, 1 485 slave	Active

* For planning and commissioning of new installations, use modules in Active status only

2 Dimensions



3 Technical data

Parameter		Value
Process voltage		
	Connections	Removable terminal block 5.08 Pitch 2 contacts
	Nominal value	24 VDC
	Maximum supported	28 VDC
	Voltage reversal protection	And
	Fuse protection rated up to	3 A
Consumption		
	From a 24V power supply	15 mA
	Maximum consumption	20 mA
	Maximum consumption peak at startup	15 mA

CAUTION!
Exceeding the maximum power supply voltage for process or supply voltages could result in unrecoverable damage to the system. The system could be destroyed.

CAUTION!
Inadequate connection cables cause over temperature in the terminals.
Adquio 8 analog inputs, may be destroyed if the wrong cable type, cable size, or cable temperature rating is used.

3.1 Technical data of analog inputs

Parameter	Value
Number of entries	8
Connections	Removable terminal block 5.08 Pitch 10 contacts
Range	0-10V
Resolution	12 bits
Input signal indicator	No
Overvoltage protection	Yes

4 System data

4.1 Environmental conditions

Parameter		Value
Temperature		
	Operation	0 °C...+60 °C (Horizontal DIN rail mounting)
	Storage	-40 °C...+70 °C
	Transport	-40 °C...+70 °C
Humidity		Max. 95% no condensation
Air pressure		
	Operation	> 800 hPa / < 2000 m
	Storage	> 600 hPa / < 3500 m
Isolation		IP20

4.2 Mechanical data

Parameter	Value
Mounting	Horizontal
Protection level	IP20
Case material	ABS UL-94-HB Dark grey
Mounting alternatives	
DIN rail according to DIN EN 50022	35 mm, depth 7.5 mm or 15 mm
Screw mounting	Screws with a diameter of 4 mm
tightening torque	1.2 Nm

4.4 Communications

Parameter		Value
485 slave		
	Number	1
	Protocol	Modbus RTU

4.5 Modbus register configuration table

Modbus positions						
Function	**Address**	**Description**	**Reading**	**Writing**	**Type**	**Size**
03/06	0	Power Led (0-1)	Yes	Yes	Holding Register	16 Bits
03/06	1	Analog input 1 RAW	Yes	No	Holding Register	16 Bits
03/06	2	Analog input 2 RAW	Yes	No	Holding Register	16 Bits
03/06	3	Analog input 3 RAW	Yes	No	Holding Register	16 Bits
03/06	4	Analog input 4 RAW	Yes	No	Holding Register	16 Bits
03/06	5	Analog input 5 RAW	Yes	No	Holding Register	16 Bits
03/06	6	Analog input 6 RAW	Yes	No	Holding Register	16 Bits
03/06	7	Analog input 7 RAW	Yes	No	Holding Register	16 Bits
03/06	8	Analog input 8 RAW	Yes	No	Holding Register	16 Bits
03/06	9	Analog input 1 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	10	Analog Input 2 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	11	Analog Input 3 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	12	Analog input 4 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	13	Analog input 5 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	14	Analog input 6 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	15	Analog Input 7 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	16	Analog input 8 (0-24 V)	Yes	No	Holding Register	16 Bits
03/06	17	Error LED (0-1)	Yes	Yes	Holding Register	16 Bits
03/06	18	Modbus address	Yes	No	Holding Register	16 Bits

- The reading voltage records must be divided by 100 to obtain the actual value
- RAW values vary between 0 and 16383 and are measured over a range of 0 to 24 V
- Address 18 shows the currently configured Modbus address. It is useful to see its value before restarting the device, and to be able to access it again after changing the configuration microswitches for said address.

4.6 Modbus address configuration table with micro switches

Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Modbus Address
Off	Off	Off	Off	Off	Off	01
Off	Off	Off	Off	Off	On	02
Off	Off	Off	Off	On	Off	03
Off	Off	Off	Off	On	On	04
Off	Off	Off	On	Off	Off	05
Off	Off	Off	On	Off	On	06
Off	Off	Off	On	On	Off	07
Off	Off	Off	On	On	On	08
Off	Off	On	Off	Off	Off	09
Off	Off	On	Off	Off	On	10
Off	Off	On	Off	On	Off	11
Off	Off	On	Off	On	On	12
Off	Off	On	On	Off	Off	13
Off	Off	On	On	Off	On	14
Off	Off	On	On	On	Off	15
Off	Off	On	On	On	On	16
Off	On	Off	Off	Off	Off	17
Off	On	Off	Off	Off	On	18
Off	On	Off	Off	On	Off	19
Off	On	Off	Off	On	On	20
Off	On	Off	On	Off	Off	21
Off	On	Off	On	Off	On	22
Off	On	Off	On	On	Off	23
Off	On	Off	On	On	On	24

Off	On	On	Off	Off	Off	25
Off	On	On	Off	Off	On	26
Off	On	On	Off	On	Off	27
Off	On	On	Off	On	On	28
Off	On	On	On	Off	Off	29
Off	On	On	On	Off	On	30
Off	On	On	On	On	Off	31
Off	On	On	On	On	On	32
On	Off	Off	Off	Off	Off	33
On	Off	Off	Off	Off	On	34
On	Off	Off	Off	On	Off	35
On	Off	Off	Off	On	On	36
On	Off	Off	On	Off	Off	37
On	Off	Off	On	Off	On	38
On	Off	Off	On	On	Off	39
On	Off	Off	On	On	On	40
On	Off	On	Off	Off	Off	41
On	Off	On	Off	Off	On	42
On	Off	On	Off	On	Off	43
On	Off	On	Off	On	On	44
On	Off	On	On	Off	Off	45
On	Off	On	On	Off	On	46
On	Off	On	On	On	Off	47
On	Off	On	On	On	On	48
On	On	Off	Off	Off	Off	49
On	On	Off	Off	Off	On	50
On	On	Off	Off	On	Off	51

On	On	Off	Off	On	On	52
On	On	Off	On	Off	Off	53
On	On	Off	On	Off	On	54
On	On	Off	On	On	Off	55
On	On	Off	On	On	On	56
On	On	On	Off	Off	Off	57
On	On	On	Off	Off	On	58
On	On	On	Off	On	Off	59
On	On	On	Off	On	On	60
On	On	On	On	Off	Off	61
On	On	On	On	Off	On	62
On	On	On	On	On	Off	63
On	On	On	On	On	On	64

4.7 Certifications

Parameter	Value
Safety and Health	EN ISO 13849-1: 2015 EN ISO 13849-2: 2012 EN 62061:2005 + A1:2013 + A2:2015 EN 60950-1:2006 EN 62311:2008
EMC	EN 61000-6-4:2007 + A1:2011 EN 61000-6-2:2005 ETSI EN 301 489-1 v2.2.0 ETSI EN 301 489-17 v3.2.0
RoHS	EN 50581:2012

Neuronal Innovation Control S.L.
Rúa Ánade Real 11
15172 Oleiros, La Coruña
Spain
Telephone: 881246255
E-mail:soporte@adquio.com
https://adquio.com