

grup ARGE

Analog Input Module User Manual



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PROPER USE AND SAFETY REGULATIONS



Cut all the power when connecting and disconnecting the device to a panel.



Do not clean the device with a solvent or similar material. Only use a dry cloth.



Please do not intervene to the device when a technical problem is encountered and get in contact with a technical service within the shortest time.



If the warnings are not taken into account, our company or the authorized dealer shall not be held responsible for the negative consequences.



Do not dispose in the trash, the device must be delivered to the collection centers (electronic device recycling centers). It should be recycled or disposed of without harming human health and environment.



The installation, assembly, activation and operation of the device should be done and used by only expert professionals and in accordance with safety regulations and instructions.



The device operates with current transformers. Do not strictly leave current transformer tips unattached. Dangerous high voltage can occur

1. INTRODUCTION

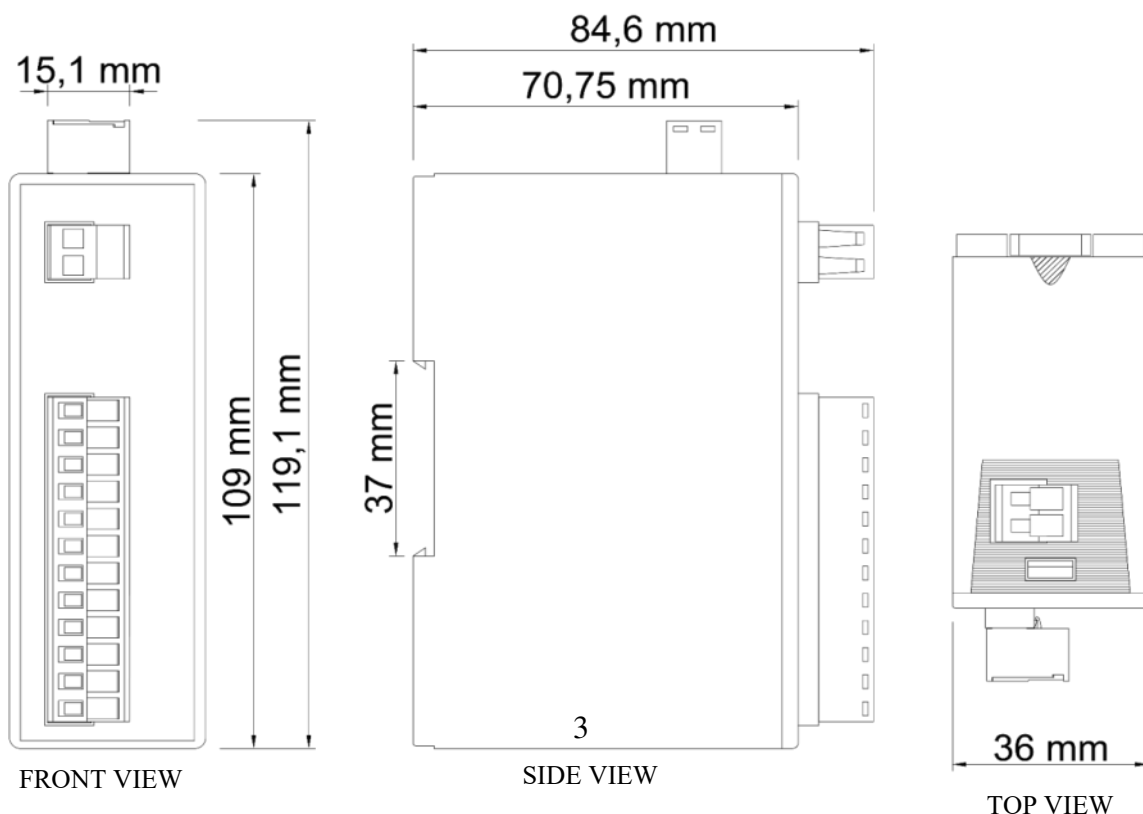
1.1 GENERAL FEATURES

Analog sensor data that outputs 0-10 V DC and 4-20 mA DC with Analog Input Module, It can be read over Standard MODBUS RTU protocol with RS-485 line. The device can be mounted on the in-panel rail.

1.2 TECHNICAL FEATURES

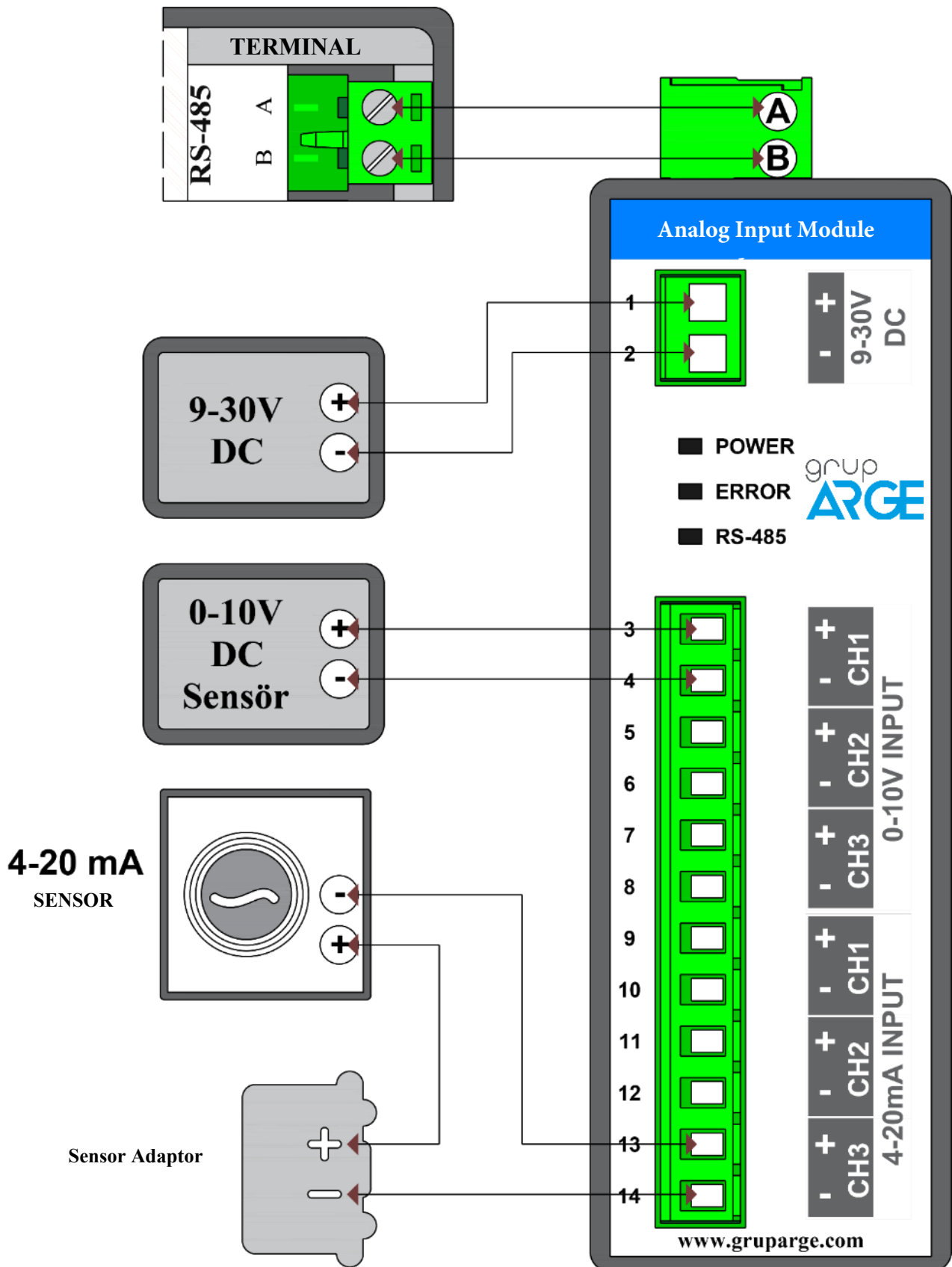
- Microprocessor based.
- It works with 9-30 V DC supply.
- It supports RS-485 Standard Modbus RTU protocol.
- There are 3 x 0-10 V DC analog sensor inputs
- There are 3 x 4-20 mA DC analog sensor inputs.
- It has POWER (Güç), ERROR (Hata) ve RS-485 (Communication) LED.
- The operating ambient temperature of the device is between -10 °C and +55 °C
- The power consumption is less than 1 VA.
- It has IP40 protection class

1.3 Device Dimensions



Shape1.1

2. CONNECTION DIAGRAM



Shape 2.1

3. MODBUS MAP

3.1 MODBUS MAP

- The parameters that the user can read, write and clear are shown in the table below. In the R/W/C column in the table;
- R → The parameter can be read,
- W → The parameter can be wrote,
- C → Indicates that the parameter can be cleared.

✚ NOT: *Note: A parameter can have more than one property at the same time. E.g; R/W in column If written, it indicates that the parameter can be both read and written.*

MODBUS MAP					
Multimeter with communication and output					
INPUT REGISTER					
PARAMETER NAME	ADDRESS (dec)	UNIT	MULTIPLIER	DATA TYPE	R/W/C
Serial number	998	-	-	32 Bit Long	R
1.Channel – Analog Input Value	1000	-	0,01	16 Bit Int	R
2.Channel – Analog Input Value	1001	-	0,01	16 Bit Int	R
3.Channel – Analog Input Value	1002	-	0,01	16 Bit Int	R
4.Channel – Analog Input Value	1003	-	0,01	16 Bit Int	R
5.Channel – Analog Input Value	1004	-	0,01	16 Bit Int	R
6.Channel – Analog Input Value	1005	-	0,01	16 Bit Int	R
HOLDING REGISTER					
PARAMETER NAME	ADDRESS (dec)	UNIT	MULTIPLIER	DATA TYPE	R/W/C
Serial number	100		-	32 Bit Long	R
Product (Type, Sub-Type)	102	-	-	16 Bit Int	R
Application Version (Main,Sub)	103	-	-	16 Bit Int	R
Hardware (0, Type)	104	-	-	16 Bit Int	R
Hardware Version (Main, Sub	105	-	-	16 Bit Int	R
Parameter Version	106	-	-	16 Bit Int	R
System Version (Main,Sub)	107	-	-	16 Bit Int	R
Modbus Address [1:254]	206	-	-	16 Bit Int	R/W
Bus Speed [0:1200, 1:2400, 2:4800, 3:9600, 4:19200]	207	Bps	-	16 Bit Int	R

3.2 Communication Parameters

Baudrate	9600 bps
Data bits	8
Parity	None
Stop bits	1

✦ **NOT:** *The default MODBUS address is the number obtained by adding 100 to the last two digits of the serial number of the device. For example, suppose the serial number is 185247. Since it ends with 47, the MODBUS address becomes 147.*

3.3 MODBUS Speed

MODBUS speed is determined by indices between 0-4. The table below contains MODBUS speeds according to the indices. By adjusting the Bus Speed part of the Modbus map, the desired speed can be obtained from the table below.

Index	0	1	2	3	4
MODBUS Speed (Bps)	1200	2400	4800	9600	19200