EKO MS80 | PYRANOMETER

SENSOR WIRING TABLE

Sensor Model	Sensor Pin	Manufacturer Cable Colors		Orbit 360		
				Section	Terminal	Type
	TD + A	🔵	Blue	RS485	③③ ③⑦ ④①	A1, A2, A3
	TD - B	⚫	Black	RS485	③④ ③⑧ ④②	B1, B2, B3
MS80	Not required	⚪	Grey			
	Vcc (+)	🟤	Brown	Power Input	⊕	
RS485 output	GND	⚪	White	Power Imput	(-)	
	Shield	🟡	Yellow-Green	Power Input	⏚	

Note: *This sensor has to be preconfigured before it is configured in Atlas software.*

RS485 DIGITAL OUTPUT:

Parameter	Sensor settings
Baudrate	9600
Data bits	8
Parity	None
Stop bits	1

REQUIRED DATA LOGGER VERSION

Minimum data logger required: **ORBIT 360 PREMIUM**.
Minimum **firmware** required: **2.51**.

HOW TO CONFIGURE IN ATLAS

Start Atlas and open the data logger you are working on. Now go to Site settings and scroll down to the Channels section and select the following type and model. The variables from the digital output signal can be chosen (or assigned) to either a frequency or an analog channel according to the list here below.

Example:

Serial bus 1 baud rate: 9600bps

Bus: Serial 1 >>> ID: A >>> Sensor model: MS-80>>> Name: MS-80_SERIAL1_A

- Group: Analog channels
- Sensor Type: Serial device
- Sensor Model: **MS-80_SERIAL1_A**
  - Sensor Model: **Compensated Radiation**
  - Sensor Model: **Raw Radiation**
  - Sensor Model: **Tilt X**
  - Sensor Model: **Tilt Y**
  - Sensor Model: **Humidity**
  - Sensor Model: **Temperature**

Important! Please make sure you are working with the latest version of Atlas. To check for new updates click the Check for updates button in the left-hand menu located in the main dashboard.

Sensor response time: **100ms**.
The sum of the response times of all the sensors connected to the same bus must not exceed 850ms.

For more information please contact **web@kintech-engineering.com**
or visit our website **www.kintech-engineering.com**

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EKO MS80 | PYRANOMETER

SENSOR WIRING TABLE

Sensor Model	Manufacturer Cable Colors		Kintech AMPVAR* Kintech Colors				Orbit 360			EOL Zenith	
							Section	Terminal	Type	Section	Type
MS80-MS80S mV output	○	White	A	K	🟤	Brown	Analog Channels	47 51 55 59 64 / 68 72 76 80 87	(-)	Analog Inputs	− −
	🟤	Brown	B	L	○	White	Analog Channels	48 52 56 60 65 / 69 73 77 81 84 / 85 86 90 91 92	Signal	Analog Inputs / Extra Analog	1 2 3 4 5 / 1 2 3 4 / 5 6 7 8
				H	🟢	Green	Power Input	+		BAT	+
				G		Do not connect					

Note: *AMPVAR amplifier is provided by Kintech Engineering.*
Consult to the Solar department (solar@kintech-engineering.com) for its configuration and Slope and Offset.

Sensor Model	Sensor Pin Manufacturer Colors			Kintech Connector R: 249Ω (1%)			Orbit 360			EOL Zenith	
							Section	Terminal	Type	Section	Type
MS80S 4-20mA output					○	White	Analog Channels	47 51 55 59 64 / 68 72 76 80 87	(-)	Analog Inputs	− −
	⚪	Grey	Supply (-)	S	🟢	Green	Analog Channels	48 52 56 60 65 / 69 73 77 81 84 / 85 86 90 91 92	Signal	Analog Inputs / Extra Analog	1 2 3 4 5 / 1 2 3 4 / 5 6 7 8
	○	White	4-20mA (-)	-	⚫	Black	Power Input	(-)		BAT	−
	🟤	Brown	Supply (+)	+	🔴	Red	Power Input	+		BAT	+
		Do not connected		+							

Sensor Model	Sensor Pin Manufacturer Colors			Kintech Connector R: 249Ω (1%)			Orbit 360			EOL Zenith	
							Section	Terminal	Type	Section	Type
MS80A 4-20mA output					⚫	Black	Analog Channels	47 51 55 59 64 / 68 72 76 80 87	(-)	Analog Inputs	− −
	○	White	Signal (-)	B	🟢	Green	Analog Channels	48 52 56 60 65 / 69 73 77 81 84 / 85 86 90 91 92	Signal	Analog Inputs / Extra Analog	1 2 3 4 5 / 1 2 3 4 / 5 6 7 8
	🟤	Brown	Signal (+)	A	🔴	Red	Power Input	+		BAT	+

Note: *4 mA → 0 W/m²; 20mA → 1600 W/m²*

REQUIRED DATA LOGGER VERSION

Minimum data logger required: **ORBIT 360 BASIC PLUS**.
Minimum **firmware** required: **any**.

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EKO MS80 | PYRANOMETER

Important! Please make sure you are working with the latest version of Atlas. To check for new updates click the Check for updates button in the left-hand menu located in the main dashboard.

HOW TO CONFIGURE IN ATLAS

Start Atlas and open the data logger you are working on. Now go to Site settings and scroll down to the Channels section and select the following type and model:

MS80S/MS80 (mV output)
- Group: Analog channels
- Sensor Type: Radiation
- Sensor Model: **Thermopile**

MS80S/MS80A (4-20mA output)
- Group: Analog channels
- Sensor Type: Radiation
- Sensor Model: **Thermopile**
- Slope: 401.6064
- Offset: -400

HOW TO CONFIGURE THIS SENSOR ON SITE

We recommend performing the entire sensor configuration using Atlas at the office before installing sensors onsite. Once the sensor is correctly setup in Atlas, use the Upload settings tool, to upload the sensor configuration to the data logger.

In case you are already on site and need to configure the sensor directly on the data logger, follow these steps:

1. Turn on the data logger.
2. Using the keypad on the data logger, navigate the menu until you see Sensor model, then click the "right arrow" on the keypad.
3. Now scroll down to the channel you are going to connect the sensor to, and click the "right arrow" on the keypad.
4. Now click "Set" on the keypad and scroll up in the menu to set the sensor model type according to the table here below. Once you have found the correct sensor model, click the "right arrow" key twice to select it and save.
5. Click the "left arrow" several times to go back to the main menu.

Data logger model	Firmware version	Sensor model type on data logger		
		Magnitude	Number	Name
ORBIT 360	any	Solar radiation	42	THERMOPILE
EOL ZENITH	any	Solar radiation	42	THERMOPILE

HOW TO CONFIGURE IN EOL MANAGER

Open EOL Manager and go to Settings of the data logger you are working on. Open the Inputs tab and select the following type and model:

MS80S/MS80 (mV output)
- Group: Analog Inputs
- Sensor Type: Radiation
- Sensor Model: **Thermopile**

MS80S/MS80A (4-20mA output)
- Group: Analog Inputs
- Sensor Type: Radiation
- Sensor Model: **Thermopile**
- Slope: 401.6064
- Offset: -400

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