# MAER210 series

## AIR UNIT (ELECTRO – PNEUMATIC REGULATOR)

Features

RS-232 manual

RS-485 manual

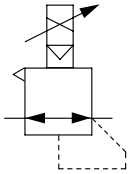
Caution for safety
(Read before installing)



## Feature

- Stepless control of air pressure proportional to an electrical signal.
- Simplify complex pipeline for controlling different pressure.
- MAER210 can be assembled with MA**302 series.
- Achieve high precision pressure control with microcomputer PID.
- Maximum flow rate 1500 L/min (Supply pressure 1.0 MPa, Set pressure 0.6 MPa).
- Comply with IP65 and CE certification.

## Symbol



## Specification

| Model | | MAER210 | | |
|---|---|---|---|---|
| Pressure range | | 1K | 5K | 9K |
| Bore No. | | 8A, 10A | | |
| Port size | | 1/4, 3/8 | | |
| Medium | | Air | | |
| Proof pressure | | 0.3 MPa | 1.5 MPa | |
| Ambient temperature | | +5~+50°C (No condensation) | | |
| Min. supply pressure | | Set pressure +0.1 MPa | | |
| Max. supply pressure | | 0.2 MPa | 0.7 MPa | 1 MPa |
| Setting pressure range (*1) | | 0.005~0.1 MPa | 0.005~0.5 MPa | 0.009~0.9 MPa |
| Power supply | Connector | M12 plug, 4-pin, A-coded | | |
| | Voltage | DC24V±10% | | |
| | Current | 180mA or less | | |
| Precision | Linearity | Within ±1% (F.S.) | | |
| | Hysteresis | Within 0.5% (F.S.) | | |
| | Repeatability | Within ±0.5% (F.S.) | | |
| | Sensitivity | Within 0.2% (F.S.) | | |
| Temperature characteristics | | Within ±0.2% (F.S.)/°C | | |
| Output pressure display (*2) | Precision | ±2% F.S. ±1 digit | | |
| | Min. unit | MPa:0.001, kgf/cm$^2$:0.01, bar:0.01, psi:0.1, kPa:1 | | |
| Enclosure | | IP65 | | |
| Accessories of cable with connector | | Power: M124A-** , Communication: M125A-** | | |
| Weight | Main | 410 g | | |
| | Accessories | Bracket: Approx. 86g(B1) , 80g(B2); Power cable with connector: Approx. 130g(3m)<br>Communication cable with connector: Approx. 140g(3m) | | |

## Communication type

| Protocal | RS-232 | RS-485 |
|---|---|---|
| Input connector | M12 plug, 5-pin, A-coded | M12 plug, 5-pin, A-coded |
| Address | 1 | 1~248 |
| Comm. speed | 9.6k / 19.2k / 38.4k bps | 9.6k / 19.2k / 38.4k bps |
| Comm. interface | Modbus ASCII | Modbus RTU |

*1. Minium setting pressure is equal to 1% F.S..
*2. Linearity setting and preset pressure setting value both are set by the minimum unit of the output pressure display.
*3. The above characteristics are confined to no flow in the pipeline. When air is consumed on the output side, pressure may become unstable.
*4. The above characteristics apply in a control pressure of 10% to 90% when power voltage is 24 VDC, ambient temperature is 25±3°C, no-loading and working pressure set at the maximum control pressure.

# MAER210 Order example & Interface pin

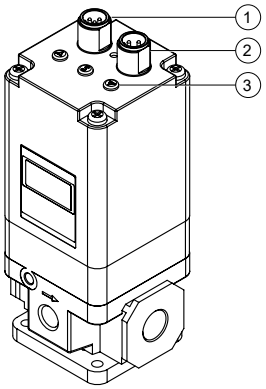
**AIR UNIT** (ELECTRO – PNEUMATIC REGULATOR)

## Order example

MAER210 – 8A – 9K – 1 0 1 – B1 S3 CS – □

- MODEL
- PORT SIZE
  - **8A**: 1/4
  - **10A**: 3/8
- PRESSURE RANGE
  - **1K**: 0.1 MPa (*)
  - **5K**: 0.5 MPa
  - **9K**: 0.9 MPa
  - * Made to order.
- PRESSURE DISPLAY UNIT
  - **1**: MPa
  - **2**: kgf/cm$^2$
  - **3**: bar
  - **4**: psi
  - **5**: kPa
- COMMUNICATION MODEL
  - **10**: RS-232
  - **20**: RS-485
- BRACKET
  - Blank: Without
  - **B1**: L type
  - **B2**: Flat type
- POWER CABLE
  - Blank: Without
  - **S3**: Straight 3m
  - **L3**: Right angle 3m
- COMMUNICATION CABLE
  - Blank: Without
  - **CS**: Straight 3m
  - **CL**: Right angle 3m
- PORT THREAD
  - Blank: Rc thread
  - **G**: G thread
  - **NPT**: NPT thread

## Exterior

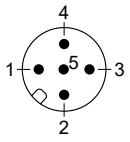



| No. | Item | Description |
|---|---|---|
| 1 | Communication connector | M12 plug, 5-pin, A-coded (male) |
| 2 | Power connector | M12 plug, 4-pin, A-coded (male) |
| 3 | Operation button | Mode settings |

## Interface pin

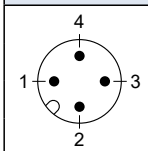
### RS-232

① Communication connector

| Fig | Pin | Signal |
|---|---|---|
|  | 1 | – |
| | 2 | TxD |
| | 3 | RxD |
| | 4 | GND |
| | 5 | – |



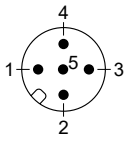
② Power interface

| Fig | Pin | Signal |
|---|---|---|
|  | 1 | 24V |
| | 2 | – |
| | 3 | 0V GND |
| | 4 | – |



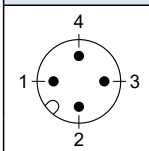
### RS-485

① Communication connector

| Fig | Pin | Signal |
|---|---|---|
|  | 1 | – |
| | 2 | B(-) |
| | 3 | A(+) |
| | 4 | GND |
| | 5 | – |



② Power interface

| Fig | Pin | Signal |
|---|---|---|
|  | 1 | 24V |
| | 2 | – |
| | 3 | 0V GND |
| | 4 | – |

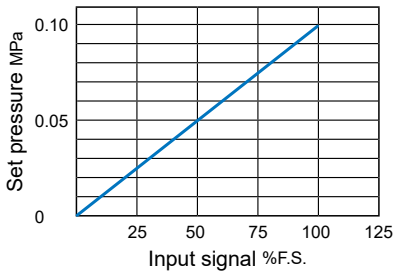
# MAER210 Capacity

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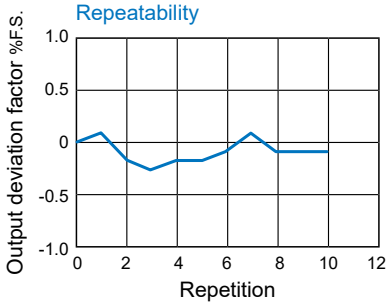
mindman

## MAER210-5K

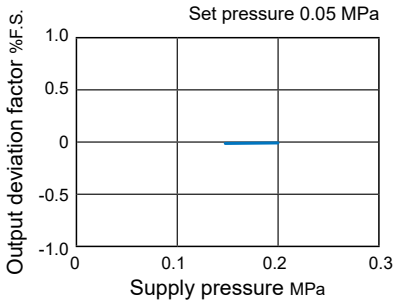
### Linearity



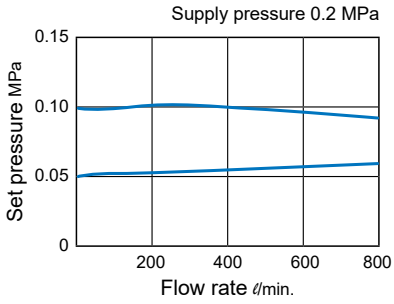

### Repeatability



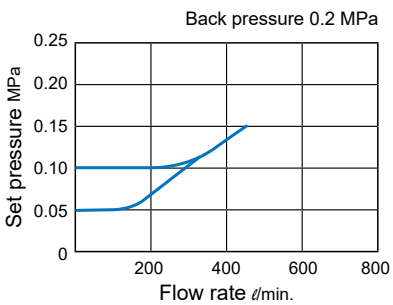

### Pressure characteristics




### Flow rate characteristics

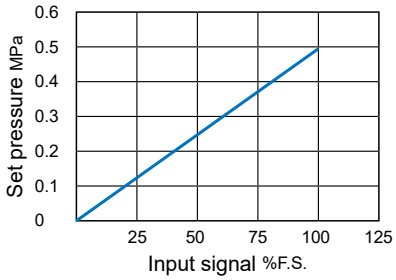



### Relief flow characteristics

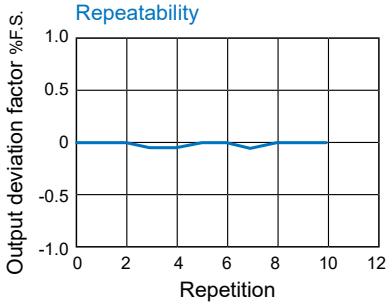



## MAER210-9K

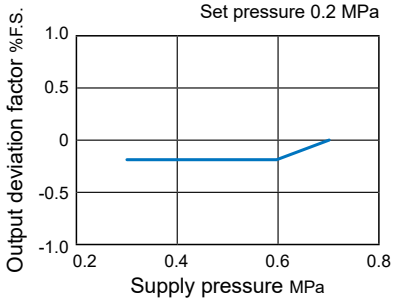
### Linearity



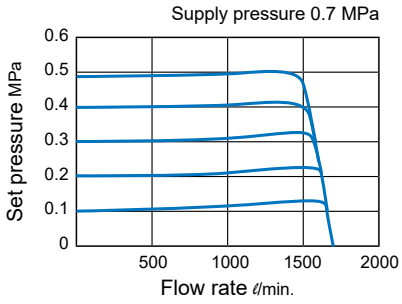

### Repeatability



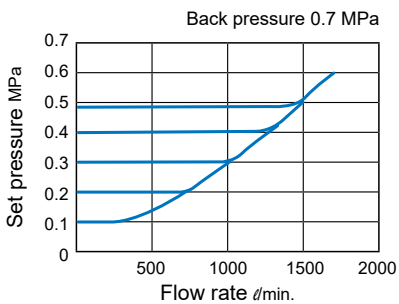

### Pressure characteristics




### Flow rate characteristics

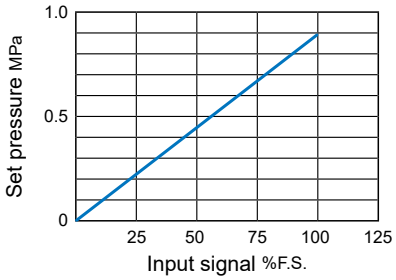



### Relief flow characteristics

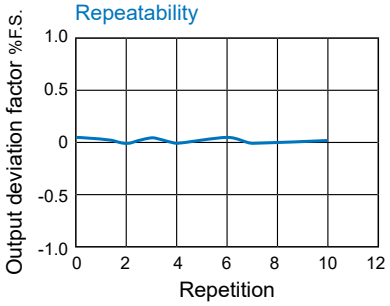



## MAER210-1K

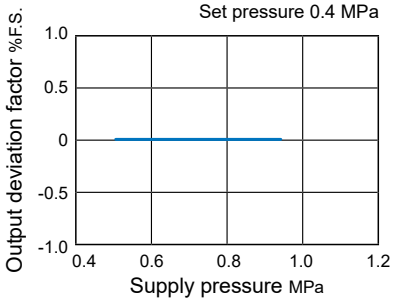
### Linearity



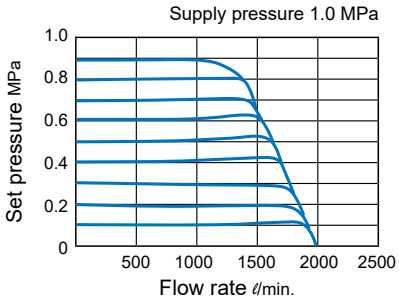

### Repeatability



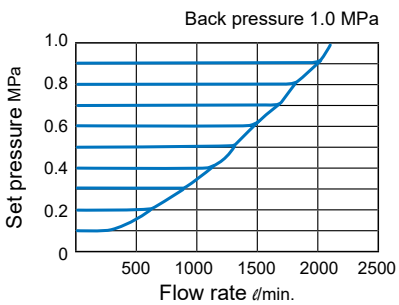

### Pressure characteristics




### Flow rate characteristics



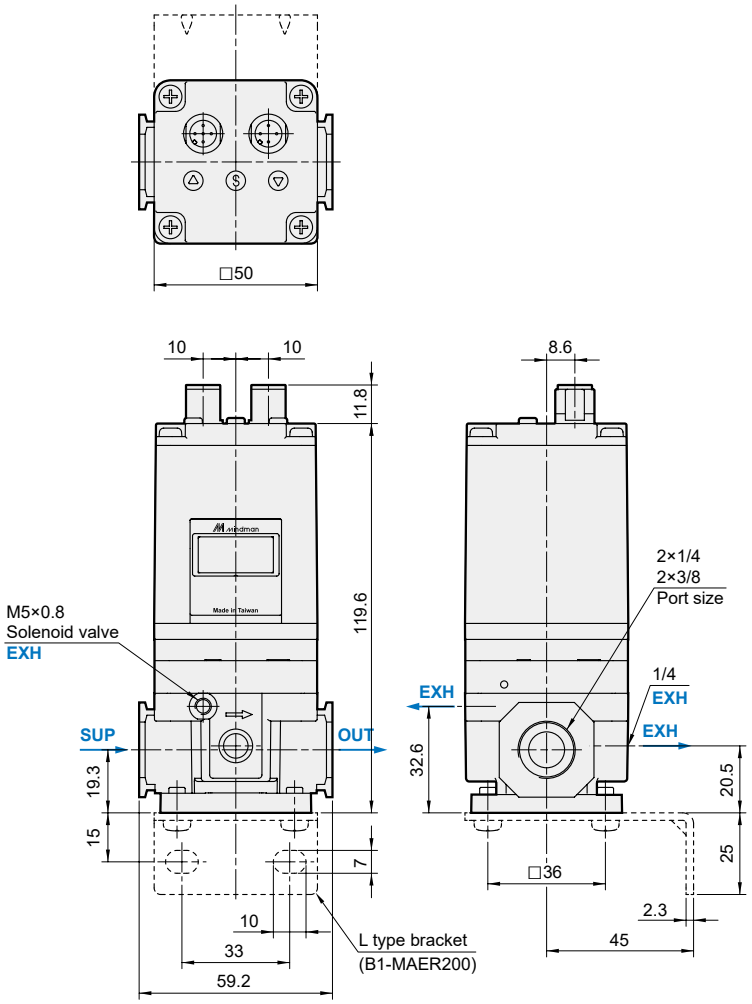

### Relief flow characteristics



# MAER210 Dimensions

**AIR UNIT** (ELECTRO – PNEUMATIC REGULATOR)

## MAER210-*-B1 L type bracket




## MAER210-*-B2 Flat type bracket

