

# Module MAE 24

» Hardware module with 4 analogue inputs + 2 analogue outputs

## » OVERVIEW

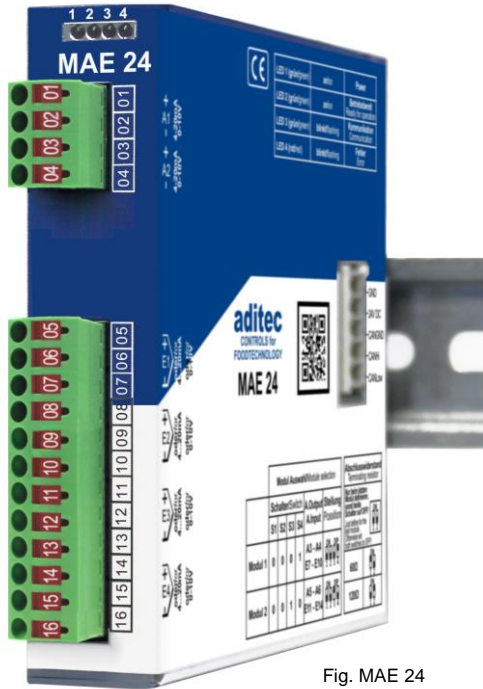


Fig. MAE 24

The MAE24 device is an analogue in/output module with a total of 6 channels (4 analogue inputs, 2 analogue outputs) and can only be used in combination with the aditec controllers MS 120, MS 220, MIC 900, MIC1100, MIC 3000, MKA 500 and MKA 800. The CAN-BUS interface is used for programming and communication with the basic unit. The module is designed for mounting on a DIN rail in control cabinets.



The MAE24 module can only be used in combination with the aditec controllers MS 120, MS 220, MIC 900, MIC 1100, MIC 3000, MKA 500 and MKA 800!

## » FEATURES

- **4 universal analogue inputs**  
Can be programmed as: Pt100, all thermocouples conforming to DIN EN 60584 i.a. type K: NiCrNi, voltage 0-10V or power 0(4)-20mA.
- **2 analogue outputs**  
transposable between 0(4)-20mA and 0(2)-10V
- **1x CAN interface** for communication with the basic unit and for programming
- The module can be connected **centralised** (no wiring needed for communication) or **decentralised** (via cable connection) to the basic units in separate control cabinets.

### Basic devices:

- **MS 120 / MS 220**  
Extension with max. 2 MAE 24 units
- **MIC 900 / MIC 3000**  
Extension with max. 2 MAE 24 units
- **MIC 1100**  
Extension with max. 2 MAE 24 units
- **MKA 500 / MKA 800**  
Extension with max. 1 MAE 24 unit

## » LED STATUS DISPLAY

- **LED 1=** Power (lights up green)
- **LED 2=** Operation (lights up green)
- **LED 3=** Communication (flashes green)
- **LED 4=** Error (flashes red)

## » TECHNICAL DATA

General data		
Dimensions	22,5mm x 104mm x 106,5mm (W x H x D)	Without connection elements
Material	Robust stainless steel housing (1.4016)	Ideal for use in the food industry
Cooling	Passive (without fan)	
Own weight	Ca. 250 g	
Operating temperature	-20 to +65°C	
Storage temperature	-50 to +75°C	
Air humidity	35% - 80% (non-condensing)	
Atmosphere	Non-aggressive gases	
Protection class	IP20 according to EN 60529	
Electrical data		
Power supply	24V DC +25% -20%	
Residual ripple	5%	
Current consumption	Max. 130mA at 24V DC	
Power consumption	Max. 3,2W	When all inputs and outputs are fully used.

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Electrical data				
Wire cross-section	Braid with wire end sleeve Single wire flexible or fixed	Min. 0,14 mm <sup>2</sup> max. 1,0 mm <sup>2</sup> Min. 0,14 mm <sup>2</sup> max. 1,5 mm <sup>2</sup>	Stripping length 11 mm	
Electrical safety	According to DIN EN 61010-1	Overvoltage category III		
Electromagnetic compatibility	Emitted interference: Class A for industrial use Interference immunity: For industrial requirements	According to DIN EN 61326-1		
Connections	Removable terminals in push-in technology (spring terminals)	Min. 0,14 mm <sup>2</sup> , max. 1,5 mm <sup>2</sup> Wire cross-section with 10mm wire end sleeves		
4x analogue inputs				
Sensor	Type	Measuring range	Accuracy	Ambient temperature effect
E1 - E4	Pt100	-100... 500°C (-148... 932°F)	≤0,1%	≤100ppm/°C
	TFG80H	0...100 % relative humidity	≤0,6%	≤100ppm/°C
	P1000A	Potentiometer:1000Ω	≤0,12%	≤100ppm/°C
	Type K: NiCr-Ni	-200...1372°C (-328...2501°F)	≤0,4%	≤100ppm/°C
	Type T: Cu-CuNi	-200... 400°C (-328... 752°F)	≤0,5%	≤100ppm/°C
	Type B: Pt30Rh-Pt6Rh	250...1820°C ( 482...3308°F)	≤0,4%	≤100ppm/°C
	Type E: NiCr-CuNi	-200...1000°C (-328...1832°F)	≤0,4%	≤100ppm/°C
	Type J: Fe-CuNi	-210...1200°C (-346...2192°F)	≤0,4%	≤100ppm/°C
	Type N: NiCrSi-NiSi	-200...1300°C (-328...2372°F)	≤0,4%	≤100ppm/°C
	Type R: Pt13Rh-Pt	-50...1768°C (-58...3214°F)	≤0,4%	≤100ppm/°C
	Type S: Pt10Rh-Pt	-50...1768°C (-58...3214°F)	≤0,4%	≤100ppm/°C
	0(4)...20mA	0...20 mA with R <sub>in</sub> = 200Ω	≤0,33%	≤100ppm/°C
	0(2)...10V	0-10V with R <sub>in</sub> = 100kΩ	≤0,13%	≤100ppm/°C
	0...1V	0-1V with R <sub>in</sub> = 100kΩ	≤0,1%	≤100ppm/°C
Sensor HC2	Depending on sensor type	≤0,1%	≤100ppm/°C	
Additional module MAE 24 in combination with the basic devices for expansion by a total of 4 inputs per module.				
2x analogue outputs				
A1 - A2	0(2)-10V with R <sub>Last</sub> ≥ 1000 Ω 0(4)-20mA with R <sub>Last</sub> ≤ 500 Ω			
Galvanic isolation				
Mains input 24V DC	2,5 kV			
Analogue inputs/outputs	3,75 kV			

## » DIMENSIONS / CONNECTION DIAGRAM

