

Smart Agriculture Automation System Components

BACnet, Modbus, and Ethernet I/Os





BACnet MS/TP I/Os

Digital input



BMT-DI4
BMT-F-DI4

I/O module for DIN rail mounting TH35 with 4 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- > Inputs: 4 x Digital inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485



BMT-DI4-IP65

I/O module in IP65 surface mount housing with 4 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- > Inputs: 4 x Digital inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485



BMT-DI10
BMT-F-DI10

I/O module for DIN rail mounting with 10 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- > Inputs: 10 x Digital inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485



BMT-SI4
BMT-F-SI4

I/O module for DIN rail mounting TH35 with 4 SO inputs according to DIN EN 62053-31 class A for counting SO counter pulses, e.g. in energy controlling systems etc.

- > Inputs: 4 x Digital inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485

BMT-DI4
P/N 1108841319
 BMT-F-DI4
P/N 110884131970

BMT-DI4-IP65
P/N 1108841319IP

BMT-DI10
P/N 1108811319
 BMT-F-DI10
P/N 110881131970

BMT-SI4
P/N 11088913
 BMT-F-SI4
P/N 1108891370

BACnet MS/TP I/Os

Analog input



BMT-AI8
BMT-F-AI8

I/O module for DIN rail mounting TH35 with 8 configurable resistance range or voltage inputs for the detection of e.g. passive and active temperature sensors, etc.

- > Inputs: 8 x Analog inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485



BMT-CI4
BMT-F-CI4

I/O module for DIN rail mounting TH35 with 4 analog voltage or current inputs for the detection of e.g. electrical ventilation and mixing flaps, etc.

- > Inputs: 4 x Analog inputs
- > Outputs: -
- > Protocol: BACnet MS/TP, RS485



BMT-DO4
BMT-F-DO4

I/O module for DIN rail mounting with 4 relay outputs and manual operation for the control of e.g. lamps, blinds, contactors, motors, etc.

- > Inputs: -
- > Outputs: 4 x Digital outputs
- > Protocol: BACnet MS/TP, RS485



BMT-TO4
BMT-F-TO4

I/O module for DIN rail mounting TH35 with 4 Triac outputs and manual operation for the control of e.g. PWM actuators, HVAC valves, contactors, etc.

- > Inputs: -
- > Outputs: 4 x Digital outputs
- > Protocol: BACnet MS/TP, RS485

BMT-AI8
P/N 11088213
 BMT-F-AI8
P/N 1108821370

BMT-CI4
P/N 1108901332
 BMT-F-CI4
P/N 110890133270

BMT-DO4
P/N 1108861321
 BMT-F-DO4
P/N 110886132170

BMT-TO4
P/N 11088013
 BMT-F-TO4
P/N 1108801370



with screw type terminal blocks



with spring clamp terminal blocks



BACnet MS/TP I/Os

Analog output



**BMT-AOP2
BMT-F-AOP2**

I/O module for DIN rail mounting TH35 with 2 voltage outputs and manual operation for the control of e.g. lighting, ventilation and mixing flaps, valve positions, etc.

- Inputs: -
- Outputs: 2 x Analog outputs
- Protocol: BACnet MS/TP, RS485



**BMT-AOP4
BMT-F-AOP4**

I/O module for DIN rail mounting TH35 with 4 voltage outputs and manual operation for the control of e.g. ventilation and mixing flaps, valve positions, etc.

- Inputs: -
- Outputs: 4 x Analog outputs
- Protocol: BACnet MS/TP, RS485



**BMT-AO4
BMT-F-AO4**

I/O module for DIN rail mounting TH35 with 4 analog voltage outputs for the control of e.g. ventilation and mixing flaps, valve positions, etc.

- Inputs: -
- Outputs: 4 x Analog outputs
- Protocol: BACnet MS/TP, RS485

BACnet router



**BMT-RTR
BMT-F-RTR**

Router enables data exchange between BACnet/IP and BACnet MS/TP fieldbus devices. Can be connected to METZ CONNECT BACnet MS/TP devices via two 4-pole terminals on the front of the device and a jumper plug.

- Access to 32 devices on the BACnet MS/TP bus
- Bidirectional exchange of data between BACnet/IP and BACnet MS/TP devices
- Protocol: BACnet MS/TP, BACnet/IP, BACnet Ethernet, HTTP 1.0

BMT-AOP2
P/N 1108871303
 BMT-F-AOP2
P/N 110887130370

BMT-AOP4
P/N 1108871302
 BMT-F-AOP4
P/N 110887130270

BMT-AO4
P/N 1108851302
 BMT-F-AO4
P/N 110885130270

BMT-RTR BACnet Router
P/N 11088001
 BMT-F-RTR BACnet Router
P/N 1108800170

BACnet MS/TP I/Os

Mixed modules



BMT-Multi-I/O

Multi-I/O for DIN rail mounting TH35 with 29 digital and analog inputs/outputs for connecting sensors and actuators to a BACnet controller.

- Inputs: 12 x digital, 7 x analog
- Outputs: 8 x digital, 2 x analog
- Protocol: BACnet MS/TP, RS485



**BMT-DIO4/2
BMT-F-DIO4/2**

I/O module for DIN rail mounting TH35 with 4 digital inputs and 2 relay outputs with manual operation for e.g. detection of window contacts and control of blinds, fire safety flaps, etc.

- Inputs: 4 x Digital inputs
- Outputs: 2 x Digital outputs
- Protocol: BACnet MS/TP, RS485



BMT-DIO4/2-IP65

I/O module in IP65 surface mount housing with 4 digital inputs and 2 relay outputs for e.g. detection of window contacts and control of blinds, etc. Operating voltage 24 V AC/DC

- Inputs: 4 x Digital inputs
- Outputs: 2 x Digital outputs
- Protocol: BACnet MS/TP, RS485



**BMT-TP
BMT-F-TP**

I/O three-point module for DIN rail mounting TH35 with 6 digital inputs and 2 two-stage relays and 2 digital outputs with manual operation for e.g. blind controls, etc.

- Inputs: 6 x Digital inputs
- Outputs: 2 x Digital outputs
- Protocol: BACnet MS/TP, RS485

BMT-Multi-I/O
P/N 11089313

BMT-DIO4/2
P/N 1108831326
 BMT-F-DIO4/2
P/N 110883132670

BMT-DIO4/2-IP65
P/N 1108831326IP

BMT-TP
P/N 11088813
 BMT-F-TP
P/N 1108881370

with screw type terminal blocks

with spring clamp terminal blocks

BACnet MS/TP I/Os

Mixed modules



MB-DIO2/1-IP

I/O module in IP65 housing with 2 digital inputs and 1 relay outputs for e.g. detection of window contacts and control of blinds, etc. Operating voltage 24 V AC/DC

- Inputs: 2 x Digital inputs
- Outputs: 1 x Digital outputs
- Protocol: Modbus RTU/BACnet MSTP



MB-DIO4/2-IP

I/O module in IP65 housing with 4 digital inputs and 2 relay outputs for e.g. detection of window contacts and control of blinds, etc. Operating voltage 24 V AC/DC

- Inputs: 4 x Digital inputs
- Outputs: 2 x Digital outputs
- Protocol: Modbus RTU/BACnet MSTP

Ethernet I/Os

Multi I/O controller



EWIO₂-BM
(Ethernet-I/O/BACnet/Modbus)

BACnet/IP or Modbus TCP-I/O controller with integrated web server for control tasks in building and industrial automation. It has digital and analog inputs and outputs.



EWIO₂-W-BM
(Ether.-I/O/WLAN/BACnet/Modb.)

BACnet/IP or Modbus TCP-I/O controller with integrated web server for control tasks in building and industrial automation. It has WLAN as well as digital and analog inputs and outputs.

- Inputs: 40-4 Mohm, 0-10 V, 0-20 mA, contact
- Outputs: 0-10 V, Relais, PNP, Triac
- Interfaces: LAN, BACnet/IP, Modbus TCP
- Inputs: 40-4 Mohm, 0-10 V, 0-20 mA, contact
- Outputs: 0-10 V, Relais, PNP, Triac
- Interfaces: LAN, WLAN, BACnet/IP, Modbus TCP



MB-DIO2/1-IP
P/N 1108111326IP



MB-DIO4/2-IP
P/N 1108121326IP



EWIO₂-BM
P/N 110904



EWIO₂-W-BM
P/N 110909

Modbus RTU I/Os

Digital input



MR-DI4
MR-F-DI4

I/O module for DIN rail mounting TH35 with 4 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- Inputs: 4 x Digital inputs
- Outputs: -
- Protocol: Modbus RTU, RS485



MR-DI4-IP65

I/O module in IP65 surface mount housing with 4 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- Inputs: 4 x Digital inputs
- Outputs: -
- Protocol: Modbus RTU, RS485



MR-DI4-IP65
with external display

I/O module in IP65 surface mount housing with 4 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps with external display.

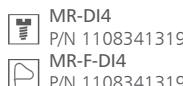
- Inputs: 4 x Digital inputs
- Outputs: -
- Protocol: Modbus RTU, RS485



MR-DI10
MR-F-DI10

I/O module for DIN rail mounting with 10 digital inputs for detection of potential-free switch states, e.g. electrical limit switches on ventilation flaps, etc.

- Inputs: 10 x Digital inputs
- Outputs: -
- Protocol: Modbus RTU, RS485



MR-DI4
P/N 1108341319

MR-F-DI4
P/N 11083413190



MR-DI4-IP65
P/N 11083413191P



MR-DI4-IP65
with external display

P/N 110834131901P



MR-DI10
P/N 1108311319

MR-F-DI10
P/N 110831131970



with screw type terminal blocks



with spring clamp terminal blocks



Modbus RTU I/Os

Digital input



MR-SI4
MR-F-SI4

I/O module for DIN rail mounting TH35 with 4 SO inputs according to DIN EN 62053-31 class A for counting SO counter pulses, e.g. in energy controlling systems etc.

- > Inputs: 4 x Digital inputs
- > Outputs: -
- > Protocol: Modbus RTU, RS485

Analog input



MR-AI8
MR-F-AI8

I/O module for DIN rail mounting TH35 with 8 configurable resistance range or voltage inputs for the detection of e.g. passive and active temperature sensors, etc.

- > Inputs: 8 x Analog inputs
- > Outputs: -
- > Protocol: Modbus RTU, RS485



MR-CI4
MR-F-CI4

I/O module for DIN rail mounting TH35 with 4 analog voltage or current inputs for the detection of e.g. electrical ventilation and mixing flaps, etc.

- > Inputs: 4 x Analog inputs
- > Outputs: -
- > Protocol: Modbus RTU, RS485



MR-SM3
MR-F-SM3

I/O module for DIN rail mounting TH35 with 3 analog inputs for monitoring three 230 Volt power circuits e.g. variables such as voltage, current, power, asymmetry, etc.

- > Inputs: 3 x Analog inputs
- > Outputs: -
- > Protocol: Modbus RTU, RS485

MR-SI4
P/N 11083913
 MR-F-SI4
P/N 1108391370

MR-AI8
P/N 11083213
 MR-F-AI8
P/N 1108321370

MR-CI4
P/N 1108401332
 MR-F-CI4
P/N 110840133270

MR-SM3
P/N 11084113
 MR-F-SM3
P/N 1108411370

Modbus RTU I/Os

Digital output



MR-DO4
MR-F-DO4

I/O module for DIN rail mounting with 4 relay outputs and manual operation for the control of e.g. lamps, blinds, contactors, motors, etc.

- > Inputs: -
- > Outputs: 4 x Digital outputs
- > Protocol: Modbus RTU, RS485



MR-DOA4
MR-F-DOA4

I/O module for DIN rail mounting TH35 with 4 relay outputs for the control of e.g. lamps, blinds, contactors, motors, etc.

- > Inputs: -
- > Outputs: 4 x Digital outputs
- > Protocol: Modbus RTU, RS485



MR-TO4
MR-F-TO4

I/O module for DIN rail mounting TH35 with 4 Triac outputs and manual operation for the control of e.g. PWM actuators, HVAC valves, contactors, etc.

- > Inputs: -
- > Outputs: 4 x Digital outputs
- > Protocol: Modbus RTU, RS485



MR-AOP4
MR-F-AOP4

I/O module for DIN rail mounting TH35 with 4 voltage outputs and manual operation for the control of e.g. ventilation and mixing flaps, valve positions, etc.

- > Inputs: -
- > Outputs: 4 x Analog outputs
- > Protocol: Modbus RTU, RS485

MR-DO4
P/N 1108361321
 MR-F-DO4
P/N 110836132170

MR-DOA4
P/N 110836132101
 MR-F-DOA4
P/N 11083613210170

MR-TO4
P/N 11083013
 MR-F-TO4
P/N 1108301370

MR-AOP4
P/N 1108371302
 MR-F-AOP4
P/N 110837130270

with screw type terminal blocks
 with spring clamp terminal blocks



Modbus RTU I/Os

Analog output



MR-AO4
MR-F-AO4

I/O module for DIN rail mounting TH35 with 4 analog voltage outputs for the control of e.g. ventilation and mixing flaps, valve positions, etc.

- > Inputs: -
- > Outputs: 4 x Analog outputs
- > Protocol: Modbus RTU, RS485

Mixed modules



MR-Multi-I/O

Multi-I/O for DIN rail mounting TH35 with 29 digital and analog inputs/outputs for connecting sensors and actuators to a Modbus controller.

- > Inputs: 12 x digital, 7 x analog
- > Outputs: 8 x digital, 2 x analog
- > Protocol: Modbus RTU, RS485



MR-AIO4/2-IP65

I/O module in IP65 housing with 4 configurable resistance range or voltage inputs and 2 analog outputs e.g. for temperature detection and control of mixing flaps,etc.

- > Inputs: 4 x Analog inputs
- > Outputs: 2 x Analog outputs
- > Protocol: Modbus RTU, RS485



MR-DIO4/2
MR-F-DIO4/2

I/O module for DIN rail mounting TH35 with 4 digital inputs and 2 relay outputs for e.g. detection of window contacts and control of blinds, etc.

- > Inputs: 4 x Digital inputs
- > Outputs: 2 x Digital outputs
- > Protocol: Modbus RTU, RS485

MR-AO4
P/N 1108351302

MR-F-AO4
P/N 110835130270

MR-Multi-I/O
P/N 11084313

MR-AIO4/2-IP65
P/N 11084213IP

MR-DIO4/2 (Relais CO)
P/N 1108331326

MR-DIO4/2 (Relais NO)
P/N 110833132601

MR-F-DIO4/2 (Relais CO)
P/N 110833132670

Modbus RTU I/Os

Mixed modules



MR-DIO4/2S
MR-F-DIO4/2S

I/O module for DIN rail mounting TH35 with 4 digital inputs and 2 relay outputs for e.g. detection of window contacts and control of blinds, etc.

- > Inputs: 4 x Digital inputs
- > Outputs: 2 x Digital outputs
- > Protocol: Modbus RTU, RS485



MR-DIO4/2-IP65

I/O module in IP65 surface mount housing with 4 digital inputs and 2 relay outputs for e.g. detection of window contacts and control of blinds etc. Operating voltage 24 V AC/DC

- > Inputs: 4 x Digital inputs
- > Outputs: Digital outputs
- > Protocol: Modbus RTU, RS485



MR-TP
MR-F-TP

I/O three-point module for DIN rail mounting TH35 with 6 digital inputs and 2 two-stage relays and 2 digital outputs with manual operation for e.g. blind controls, etc.

- > Inputs: 6 x Digital inputs
- > Outputs: 4 x Digital outputs
- > Protocol: Modbus RTU, RS485



MR-LD6
MR-F-LD6

I/O module for DIN rail mounting TH35 with 6 analog inputs and 2 relay outputs for monitoring leaks and/or fill levels, as well as control of e.g. valves or signal transmitters etc.

- > Inputs: 6 x Analog inputs
- > Outputs: 2 x Digital outputs
- > Protocol: Modbus RTU, RS485

MR-DIO4/2S
P/N 110833132601

MR-F-DIO4/2S
P/N 11083313260170

MR-DIO4/2-IP65
P/N 11083313261P

MR-TP
P/N 11083813

MR-F-TP
P/N 1108381370

MR-LD6
P/N 11084413

MR-F-LD6
P/N 1108441370

with screw type terminal blocks

with spring clamp terminal blocks



Modbus RTU I/Os

Modbus RTU/TCP Gateway



MR-GW MR-F-GW

Modbus RTU/TCP Gateway with integrated web server for bi-directional data exchange between Modbus RTU field devices and a Modbus Master. For DIN rail mounting TH35.

- Galvanic separation: 1.5 kV
- Network connection: 1 x Ethernet-Port (RJ45)
- Protocol: Modbus RTU, Modbus TCP

Accessories



Submersible Electrode TE2

Single-pole dipped electrode made of stainless steel for the detection of electrically conductive liquids, e.g. in water supply and pumping stations. For connection to the level-monitors ENW-E12 and MR-LD6.

- Electrode material: Stainless steel
- Housing: Polypropylene
- Length: 115 mm



Leakage sensor LKS-ZD

LKS-ZD for leak monitors MR-LD6 and ENW-E12. In case of leakages such as pipe breaks, electrically conductive liquids are detected by the electrodes.

- Material: Stainless steel
- Housing: Polycarbonate with mounting opening
- Application: ENW-E12, MR-LD6 (with wire break monitoring)



USB/RS485 converter

The USB/RS485 Converter is an adapter cable for connecting serial UART interfaces with USB. In combination with the MR-CT configuration software, the Modbus RTU devices can be configured with a PC.

- Cable end 1: USB connector
- Cable end 2: Free wires, tin-plated
- Cable length: 1.8 m

	MR-GW P/N 11083001
	MR-F-GW P/N 1108300170

	Submersible Electrode TE2 P/N 11032401
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	Leakage sensor LKS-ZD P/N 11032902
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	USB/RS485 converter P/N 11080101
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Accessories

HUB DC



HUB DC

HUB DC is used as ballast to operate I/O modules of the C|Logline LON, Modbus and BACnet range to rectify and smooth 24 V AC (alternating voltage).

- Input voltage: 20 to 28 V AC
- Output voltage: less than 39 V DC
- Smoothing: 4400 µF / 63 V

Power supply



Power supply NG4 24 V DC

The NG4 HS power supply supplies a regulated direct voltage of 24 V DC / 16 W for supplying power to the respective devices of the I/O components product family.

- Voltage input range: 110 - 240 V AC
- Voltage output: 24 V DC (SELV)
- Power: 16 Watt

Connection aids



Jumper plug

Jumper for time-saving and tool-free connection of various I/O components. Connects BUS and supply voltage when I/O modules are mounted side by side.



Terminal block Type 259

Pluggable screw type terminal block for feeding the BUS and power supply of I/O components.

- Pluggable screw type, 4 pole
- Centerline: 3.5 mm
- Rated voltage UL: 150 V
- Rated current: max. 4 A

	HUB DC P/N 110486
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	NG4 24 V DC P/N 110561
	NG4-F 24 V DC P/N 11056170

	Jumper plug for I/O components P/N 31135104
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	Terminal block for I/O components P/N 110369
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	with screw type terminal blocks
	with spring clamp terminal blocks

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