

powerIO® - products

**powerIO®-Box**

Decentralized automation box.
230V power supply, ethernet communication, gateway function
2 x 230V outputs up to 6A
4 x M12 coupling A-coded for RS485
Connections incl. 24V/2A DC
Power supply (Port 1 to 4)
1 x optional slot (Port5)
1 x M12 service interface for commissioning with the App
Incl. shield clamp, ethernet, < microfuse (4A).

Typ

T1.B100

Art. -Nr.

100101

Euro/St.

1652,40



CODESYS® Runtime License
Extension for powerIO-Box
to USB dongle

T1.B100-CDS

100102

145,00
NET PRICE**powerIO®-Line**

Hybrid cable for connecting the powerIO®-Boxes.
Power: 3 x 4.00 mm²
Data: 2 x (2 x 0.34 mm²), shielded
Available by the meter,
minimum order quantity 20 m

T1.L100

100104

on
request**powerIO®-Line**

Hybrid cable for connecting the powerIO®-Boxes.
Power: 3 x 2.50 mm²
Data: 2 x (2 x 0.34 mm²), shielded
Available by the meter,
minimum order quantity 20 m

T1.L200

100103

on
request**powerIO®- Start Unit**

Switch, allows to connect up to 3x powerIO®-Lines and 2x RJ45 Ethernet cables for example controller, touch panel or network.

T1.S110

100170

286,42

**powerIO®-WiFi Dongle**

For connecting to the "service" port of the powerIO®-Box. Communication with powerIO®-App for commissioning/service of the sensors/actuators.

T1.D200

100206

230,00

**powerIO®-Rio 1**

T1.R100

100107

439,54

Extension box with

- 6 x digital input
- 1 x analog input 0-10 V
- 1 x analog input passive
- 3 x digital outputs pot. free (I_{max} 16A)
- 4 x digital outputs 24V/0,5A
- 1 x analog outputs 0-10V

Outputs each with manual override (switch/pot). Addressable via rotary switch. Connection via Modbus RTU.

**powerIO®-Rio 4DI**

T1.R100-4DI

100186

167,89

Digital input module for the connection of messages (24V)

- 4x digital inputs with counter function
- Power supply

24V AC/DC

Connection via Modbus RTU.

**powerIO®-Rio 8DI**

T1.R100-8DI

100187

176,13

Digital input module for the connection of messages (24V)

- 8x digital inputs with counting function
- Power supply

24V AC/DC

Connection via Modbus RTU.

**powerIO®-BSK Module ECO**

T1.BSK1-AMP-24-ECO

100174

133,09

Fire damper module for 1x 24V or 230V fire damper, without galvanic isolation (ECO)

- 2 digital inputs + 1 digital output relay 230V/5A
- BSK pluggable via AMP socket
- Power supply

24V AC/DC

- Enclosure IP54 (110x110x66mm)

Connection via Modbus RTU.

**powerIO®-BSK Module ECO**

T1.BSK1-24-ECO

100175

133,09

Fire damper module for 1x 24V or 230V fire damper, without galvanic isolation (ECO)

- 2 digital inputs + 1 digital output relay 230V/5A
- power supply

24V AC/DC

- Enclosure IP67 (110x110x66mm)

Connection via Modbus RTU.

**powerIO®-BSK Module**

Fire damper module for 1x
24V or 230V fire damper,
with galvanic isolation
- 2 digital inputs +
1 digital outputs relay 230V/16A
- BSK pluggable via AMP socket
- Power supply
24V AC/DC
- Enclosure IP54 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK1-AMP-24

100178

153,57

**powerIO®-BSK Module**

Fire damper module for 1x
24V or 230V fire damper,
with galvanic isolation
- 2 digital inputs +
1 digital outputs relay 230V/16A
- power supply
24V AC/DC
- Enclosure IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK1-24

100179

153,57

**powerIO®-BSK Module**

Fire damper module for 1x
230V fire damper,
with galvanic isolation
- 2 digital inputs +
1 digital outputs relay 230V/16A
- BSK pluggable via AMP socket
- Power supply 230V AC
- Enclosure IP54 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK1-AMP-230

100180

168,46

**powerIO®-BSK Module**

Fire damper module for 1x
230V fire damper,
with galvanic isolation
- 2 digital inputs +
1 digital outputs relay 230V/16A
- power supply 230V AC
- Housing IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK1-230

100181

168,46

**powerIO®-BSK Module**

Fire damper module for 2x
24V or 230V fire damper,
with galvanic isolation
- 4 digital inputs +
2 digital outputs relay 230V/16A
- BSK pluggable via AMP socket
- Power supply
24V AC/DC
- Enclosure IP54 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-AMP-24

100176

187,89

**powerIO®-BSK Module**

Fire damper module for 2x
24V or 230V fire damper,
with galvanic isolation
- 4 digital inputs +
2 digital outputs relay 230V/16A
- power supply
24V AC/DC
- Enclosure IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-24

100177

187,89

**powerIO®-BSK Module**

For a motorized fire damper with
smoke detector integration.
2 relay outputs and 4 digital inputs for
controlling motorized fire dampers with
230V AC or 24V DC and for integration
of their end position contacts.
Potential-free relay output for
applications such as smoke detector
reset.
Enclosure IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-24-RM

100191

200,85

**powerIO®-BSK Module**

Fire damper module for 2x
230V fire damper,
with galvanic isolation
- 4 digital inputs +
2 digital outputs relay 230V/16A
- BSK pluggable via AMP socket
- Power supply 230V AC
- Enclosure IP54 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-AMP-230

100182

198,34

**powerIO®-BSK Module**

Fire damper module for 2x
230V fire damper,
with galvanic isolation
- 4 digital inputs +
2 digital outputs relay 230V/16A
- power supply 230V AC
- Enclosure IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-230

100183

198,34

**powerIO®-BSK Module**

For a motorized fire damper with
smoke detector integration.
2 relay outputs and 4 digital inputs for
controlling motorized fire dampers with
230V and for integration of their end
position contacts.
Potential-free relay output for
applications such as smoke detector
reset.
Enclosure IP67 (160x140x81mm)
Connection via Modbus RTU.

T1.BSK2-230-RM

100192

211,15

**powerIO®-HK-Verteiler**

Suitable for thermal actuators and
installation in underfloor heating circuit
distributors

- Modbus
- 230V power supply
- 12x DO 24V
- 2x AI (0–10V or PT1000)
- 2x DI
- Enclosure 326.5 x 90 x 52 mm
- Wall mounting / DIN rail

Magnetic mounting optional

T1.R310

100193

395,00

**powerIO®-DIN Rail Holder Set**

DIN rail holders for powerIO® HK
Distributor T1.R310
(Set / 2 pieces)

T1.R310-RH

100198

6,50

**powerIO®-Booster**

For power amplification on 24V side
Input U=230V AC
Output U=24V DC, I=2A
2 pcs. M12 connectors with 24V DC
outputs each and Modbus RTU.

T1.R350

100144

215,00

**powerIO®-Hub**

T1.H100

100108

195,00

Distributor for hybrid line powerIO-Line.
Input terminals for power and Ethernet
CAT6 hybrid cable with shield clamps
Output terminals for
2 pcs. Power and Ethernet CAT 6
Hybrid cable with shield clamps
HUB functionality for Ethernet CAT6
distribution via connection to expansion
board "Ethernet" at powerIO® box. Can
also be used to extend the powerIO®-
Line.

**powerIO®-Surge Protection Device**

T1.SPD1

100196

535,00

Surge protection for powerIO-Line
Preassembled 230V and Ethernet surge
protection device
2x cable entry (incoming/outgoing)
Savings on lightning protection
Complete ventilation unit on the roof via
a single box
Enclosure 182 x 180 x 111 mm, IP67

powerIO®-Y

T1.Yxxx

Enables the connection of 2 x RS485
participants with 24V power supply
(LED). Is connected to the powerIO® box
on port 1 to 4. Connection terminals for
cross sections up to 1.00 mm² or
pluggable via M12.



2 x Cable gland

T1.Y100

100109

27,54



Cable gland, 1 x M12 socket

T1.Y200

100110

42,96



2 x M12 socket

T1.Y300

100111

58,38

**Expansion board: Ethernet**

T1.C100-ETH

100112

218,12

M12: 4-pin D-coded

Allows the connection of an M12 Ethernet cable. Integration of other IP participant with up to 100 Mbit/s.

**Expansion board: RS485**

T1.C100-RS485-24

100142

218,12

M12: 5-pole A-coded. Extended

Port 5 by another RS485 COM port. With 24V on M12 pins as output voltage.

**Expansion board: RS232**

T1.C100-RS232-24

100143

286,42

M12: 5-pole A-coded. Extended

Port 5 around a RS232 COM port. With 24V on M12 pins as output voltage.

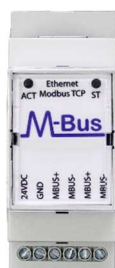
**Expansion Board: Internal USB**

T1.C100-USB-INT

100197

210,00

Expansion board for internal USB interface.

**M-Bus to Modbus TCP Gateway**

T1.G100-MBus-ModbusTCP

100195

590,00

Integration of up to 20 M-Bus consumption meters into building management systems or a PLC with Modbus TCP (Ethernet).

Enclosure 35 x 90 x 59 mm (2 HP), DIN rail

powerIO® - Accessories

**RJ45 plug <-> M12 D-coded 4-pin plug**

Typ

Art. -Nr.

Euro/St.

Ethernet cable for direct connection to powerIO® expansion board "Ethernet".

T1.Z102

100114

79,32

**M12 A-coded 5-pin plug <-> open end**

Standard installation cable for connecting sensors/actuators to the powerIO®-Box.

5 x 0.25 mm² shielded.

Cable length 2 m

T1.Z104

100117

17,60

Cable length 5 m

T1.Z105

100118

20,35

Cable length 10 m

T1.Z106

100119

27,50


M12 A-coded 5-pin plug <-> M12 A-coded 5-pin socket

Standard installation cable for connecting sensors/actuators to the powerIO®-Box.

5 x 0.25 mm² shielded.

Cable length 2 m	T1.Z107	100121	34,10
Cable length 5 m	T1.Z108	100122	38,50


Installation line

Installation line by the meter.

5 x 0.25 mm² shielded. Corresponds to the same cable type/color code as M12 cable. Minimum order quantity 10m.

	T1.Z109	100123	2,31/m
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M12 A-coded 5-pole Y-distributor
Plug <-> 2x socket

Allows two M12 plugs to be connected to one socket. Bus and voltage bridged. Can be plugged directly into the powerIO box to connect two sensors/actuators.

	T1.Z122	100166	62,79
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M12 A-coded 5-pin Y-adapter

M12 5-pin A-coded socket/plug to plug

Connector Socket M12 5-pin A-coded

For self-assembly.



Screw connection	T1.Z111	100125	15,87
Insulation displacement connection	T1.Z111-IDC	100209	upon request

Connector Plug M12 5-pin A-coded

For self-assembly.



Screw connection	T1.Z112	100126	14,63
Insulation displacement connection	T1.Z112-IDC	100210	upon request

Flange coupling M12 5-pin A-coded, front panel mounting

T1.Z113	100127	16,52
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Flange plug M12 5-pin A-coded, front panel mounting

T1.Z114	100128	17,63
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Flange coupling M12 5-pin A-coded, rear panel mounting

T1.Z115

100129

16,52



Flange plug M12 5-pin A-coded, rear panel mounting

T1.Z116

100130

16,52



M12 protective cap

Protection cap for unused M12 sockets

T1.Z117

100131

3,30



Shield clamp

For shield connection of the powerIO®-Line to the powerIO®-Box. Included in the scope of delivery of the powerIO®-Box.

T1.Z100

100134

7,71



Ethernet connector blue

Ethernet connector for the powerIO®-Line on the powerIO®-Box or powerIO®-Start Unit. The Ethernet connectors are included in the scope of delivery of the powerIO®-Box.

T1.Z101

100135

10,40



Ethernet Plug Red

4-pin for patch cables / CAT
Tool-free assembly
(Insulation displacement connection / 0.14–0.25 mm²)

T1.Z123

100199

10,40



Installation plate powerIO®-Box T1

Aluminium installation plate for the T1 series. Allows easy preassembly for electrical installation. 4 threaded bolts for subsequent screwing on of the powerIO®-Box. With cut-out for mounting on pipes using lashing straps.

T1.Z119

100136

57,28



Installation plate powerIO®-Box T1 with magnets

Aluminium installation plate for the T1 series. Allows easy preassembly for electrical installation. 4 threaded bolts for subsequent screwing on of the powerIO®-Box. With premounted magnets for mounting for example on ventilation ducts.

T1.Z125

100171

80,42

**Magnet Set**

Optional mounting for T1.Rxxx / BSKxxx
/ Yxxx / Hxxx / Zxxx
(Set consisting of 4x magnetic bases +
M4 screw)

Magnet Set Small (16 mm – holding force 50 N)	100200	12,50
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Magnet Set Large (25 mm – holding force 160 N)	100201	21,00
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**powerIO® Demo Case**

T1.Z120

100137

on
request

The demo case clearly presents the
powerIO® system and enables first tests
on site. Case contains a powerIO® box,
M12 cable, Modbus sensor, Modbus
actuator.

Test the system for 4 weeks*

(*inside the EU - Other countries on
request.)

powerIO® - Starter Set*

T1.Z121

100138

1652,40

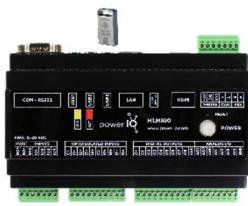
This starter set consists of:

- 1 x powerIO® box (T1.B100)
- 1 x Start Unit (T1.S100)
- 20m powerIO®-Line (T1.L100)
- 5m installation cable (T1.Z109)
- 1 x M12 cable 2m (T1.Z104)
- 1 x M12 cable 5m (T1.Z105)
- 1 x M12 cable 10m (T1.Z106)
- 1 x M12 cable 2m (T1.Z107)
- 1 x M12 flange plug (T1.Z114)
- 1 x powerIO®-Y distributor (T1.Y200)
- 1 x powerIO® WiFi Dongle (T1.D200)



* Purchase of the starter set only once
per customer possible. Product not
discountable.

HVAC-Automation Products



IoT Gateway and Controller with CODESYS MC License on USB Dongle
IoT gateway and PLC controller (CODESYS optional) with 4x 1.2 GHz processor and 8 GB memory. 24V power supply, 12 DI, 8 DO, 4 AI, 2 AO, RS485 and RS232, LAN, 3x USB DIN rail

H1.M100-CDS

100145

550,00
NET PRICE

IoT Gateway and Controller with CODESYS MC License on USB Dongle
IoT gateway and PLC controller. Includes CODESYS MC SL license. 1 GB RAM / 8 GB memory / 4x 1.5 GHz. 24V power supply, DIN rail

H1.M200-CDS

100202

750,00
NET PRICE

IoT Gateway and Controller with CODESYS MC License on USB Dongle
IoT gateway and PLC controller. Includes CODESYS MC SL license. 1 GB RAM / 8 GB memory / 4x 1.5 GHz. 24V power supply, DIN rail
With LTE module (without SIM card) for installation in H1.M200

H1.M200-CDS-LTE

100203

840,00
NET PRICE

HVAC Building Automation Package
SL License preinstalled on USB key

License per controller
(Dongle not included! Only valid in combination with a controller / dongle.)

HVAC Building
Automation
Package

100190

90,00
NET PRICE

USB2.0 RS485 Serial Extension
Adapter for H1.M100-xx IoT Gateway and CODESYS controller
Adds a second RS485 serial COM port to the controller – this is automatically detected and displayed via the H1.M100 web interface. Length 1.8 m

H1.M100-RS485

100149

48,00
NET PRICE

USB2.0 to RJ45 Adapter
for H1.M100-xx IoT Gateway and CODESYS controller
Adds a second LAN port to the controller – this is automatically detected and can be configured via the H1.M100 web interface.

H1.M100-LAN

100150

42,00
NET PRICE

**Digital Input Module 16DI**

H1.16DI.MOD

100151

157,32

Used for integration and signaling of up to 16 messages. This includes operating messages, fault notifications such as frost, filter, or belt, as well as status messages such as damper positions. DIN rail.

**Digital Output Module 4DO-R**

H1.4DO-R.MOD

100152

185,82

Used for controlling four lighting circuits or similar applications. The received switching commands for the DOs via Modbus can be manually overridden using pushbuttons, allowing for so-called local priority control (LPC). DIN rail.

**Analog Input Module 8AI**

H1.8AI.MOD

100153

180,12

Used for integration and signaling of up to eight analog sensor values. Active signals (0..10V) and various passive sensors (e.g., Pt1000, Ni1000) can be connected. If an input is configured for 0..10V, the input signal is indicated by the channel's respective status LED using light/dark switching (green). DIN rail.

**Analog Output Module 8AO**

H1.8AO.MOD

100154

186,96

Used for the output of eight 0..10V control signals, e.g., for controlling heating valves, dampers, frequency converters, or similar devices. The switching commands for the AOs received via Modbus can be manually and continuously overridden using switches and potentiometers, enabling so-called local priority control (LPC). DIN rail.

**Digital Output Module with Relay Outputs 8DO-R**

H1.8DO-R.MOD

100155

174,42

Used for controlling eight single-stage actuators or similar devices. The switching commands for the DOs received via Modbus can be manually overridden using switches, enabling so-called local priority control (LPC). DIN rail.

**Digital Output Module 8DO**

H1.8DO.MOD

100156

169,86

Used for controlling eight single-stage actuators or similar devices. The switching commands for the DOs received via Modbus can be manually overridden using switches, enabling so-called local priority control (LPC). DIN rail.

**Digital Input/Output Module 4DI/4DO-R**

H1.4DIO-R.MOD

100157

156,00

Used for controlling four single-stage actuators and signaling messages. The switching commands for the DOs received via Modbus can be manually overridden using switches. DIN rail.

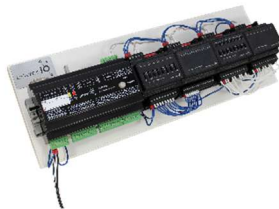
**Digital Input/Output Module with 3-Point Relay Outputs 4DI2DO-R-3P**

H1.4DI2DO-R-3P.MOD

100204

186,00

Used for controlling two 3-point actuators (OPEN-STOP-CLOSE). The switching commands for the DOs received via Modbus can be manually overridden using switches. Two switches are provided for each of the two 3-point outputs.

**Test Setup HVAC by powerIO**

Testaufbau

100194

1.199,00
NET PRICE

H1.M100 with CODESYS MC license
HVAC Building Automation Package SL
license pre-installed on dongle
1 piece each of H1.8DO.MOD,
H1.16DI.MOD, H1.8AO.MOD,
H1.8AI.MOD
Completely wired including power
supply

*Purchase of the test setup is limited
to one per customer.

All prices are ex works, excluding packaging and shipping, plus applicable VAT.
Errors and changes excepted.

All previous prices become invalid with this price list.