REVOLUTION PI

The Industrial Pi



Powered by
Raspberry Pi

revolutionizing the automation industry since 2016


PLEASE
ALLOW
ME TO
INTRODUCE
MYSELF...

The flexible powerhouse for automation and IIoT solutions

The success story of the single-board computer Raspberry Pi has been unbroken since its introduction in 2012. By launching the very first Revolution Pi models in 2016, we expanded its success story to the industrial world.

Revolution Pi has been the first truly industry-compatible IPC based on Raspberry Pi. By using the Raspberry Pi Compute Module we were able to develop a robust and industry-compatible periphery which meets all important industrial standards incl. IEC 61131-2.

Depending on the requirements of the application, the RevPi base modules can be easily extended by expansion modules such as digital and analog IO modules as well as fieldbus gateways.





That‘s why we call Revolution Pi the





ultimate multi tool for automation & IIoT



aws Qualified Device AWS IoT Greengrass

CERTIFIED DEVICE CUMULOCITY

Microsoft Azure Certified Device

C#

CODESYS

balena

python

Node-RED

docker

Grafana

KEYBOARD & MOUSE

SCANNER

4G / 5G

CAMERA

Software? Your choice!

Revolution Pi, while an open system, comes equipped with software and apps covering most applications. It features a **customized Raspberry Pi OS**, including a real-time kernel patch and a process image for easy value reading and writing. This approach balances the original Raspberry Pi environment with enhanced task priority control.

Applications can be programmed via **Node-RED**, **Python**, or **C**. For more flexibility, you can build a custom image using files from our GitLab repository. Off-the-shelf solutions like **CODESYS** are also available for project realization.

Furthermore, our devices offer various built-in network protocols. These include the fieldbus protocols **Modbus RTU** and **Modbus TCP** (both master and slave functionality), as well as **MQTT** client and **OPC UA** server capabilities.



Cloud connectivity

Collecting sensor data, processing it, and sending the processed data to a cloud is one of the Revolution Pi's key strengths, making it an ideal IIoT gateway. Its robust hardware and versatile software enable seamless edge computing and data management, bridging

the gap between OT and IT for real-time decision-making and predictive maintenance. Revolution Pi has been certified by major cloud platforms, ensuring smooth integration with services such as Microsoft Azure, Amazon Web Services, and Cumulocity IoT. The open-source nature of Revolution Pi allows for customization and adaptation to specific IIoT requirements, providing flexibility and scalability for diverse industrial applications.







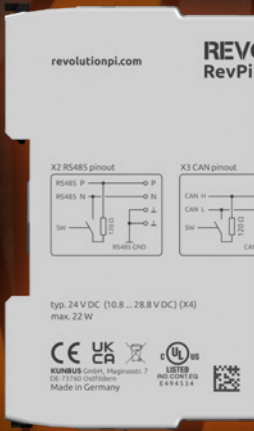
Security

Our products comply with RED DA. We will implement the CRA requirements systematically and as a high priority by December 2027. The integrated TPM 2.0 hardware security module supports encryption and secure key storage for sensitive data*. Secure Boot support enables system integrity verification at every startup, protecting against unauthorized modifications. Combined with continuous security patches and long-term support (LTS), Revolution Pi provides a solid foundation for secure operation in industrial applications.

* TPM 2.0 is available on RevPi Connect 5, RevPi Connect 4, and RevPi Flat S

Successful across industries

Revolution Pi combines the capabilities of an Industrial PC, Soft PLC, Industrial IoT gateway, edge device, and HMI into a single solution. This versatility makes Revolution Pi the ideal platform for digital transformation across industries and applications:



SOFTWARE DEVELOPMENT & CLOUD SOLUTIONS

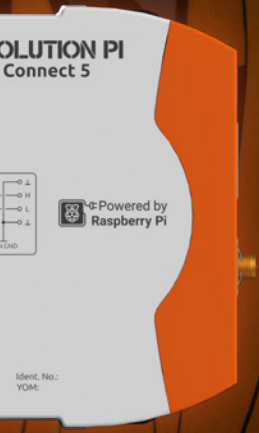
supports your choice of tech stack and integrates with all major cloud platforms – with industrial-grade reliability.



ENERGY & ENVIRONMENT

connects and manages your entire energy infrastructure: from solar panels and battery storage to heat pumps and charging stations.







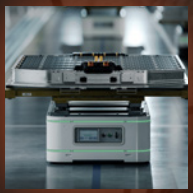
MECHANICAL & PLANT ENGINEERING

combines precise control, monitoring, and visualization for smart manufacturing – in both new and existing machines.



INFRASTRUCTURE

ensures reliable processes and secure data transmission in decentralized facilities – from water treatment to grid management.



LOGISTICS

coordinates your logistics processes, making them smart and future-ready: from warehouse management to mobile robots (AGV/AMR).

Discover our industry solutions & success stories

Tailor-made solutions

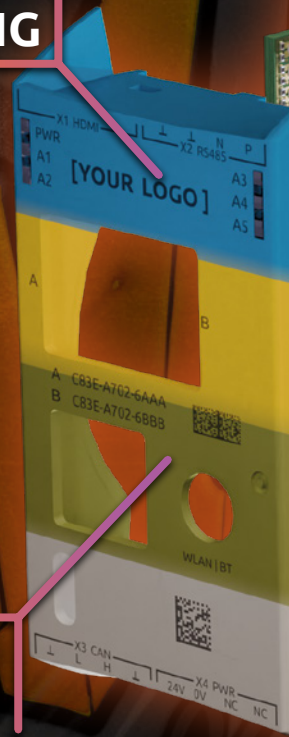
For all those who prefer a more individual and exclusive approach, we have the perfect solution:

If you decide to use Revolution Pi as the hardware for your next project, we will manufacture our Revolution Pi modules according to your wishes.

From subtle customizations like adding your company logo to comprehensive software modifications - we offer tailored solutions for your specific requirements.

This way, you don't have to spend your time on hardware development and can focus on your core business, which in turn shortens the time-to-market for your own solution – a classic win-win situation.

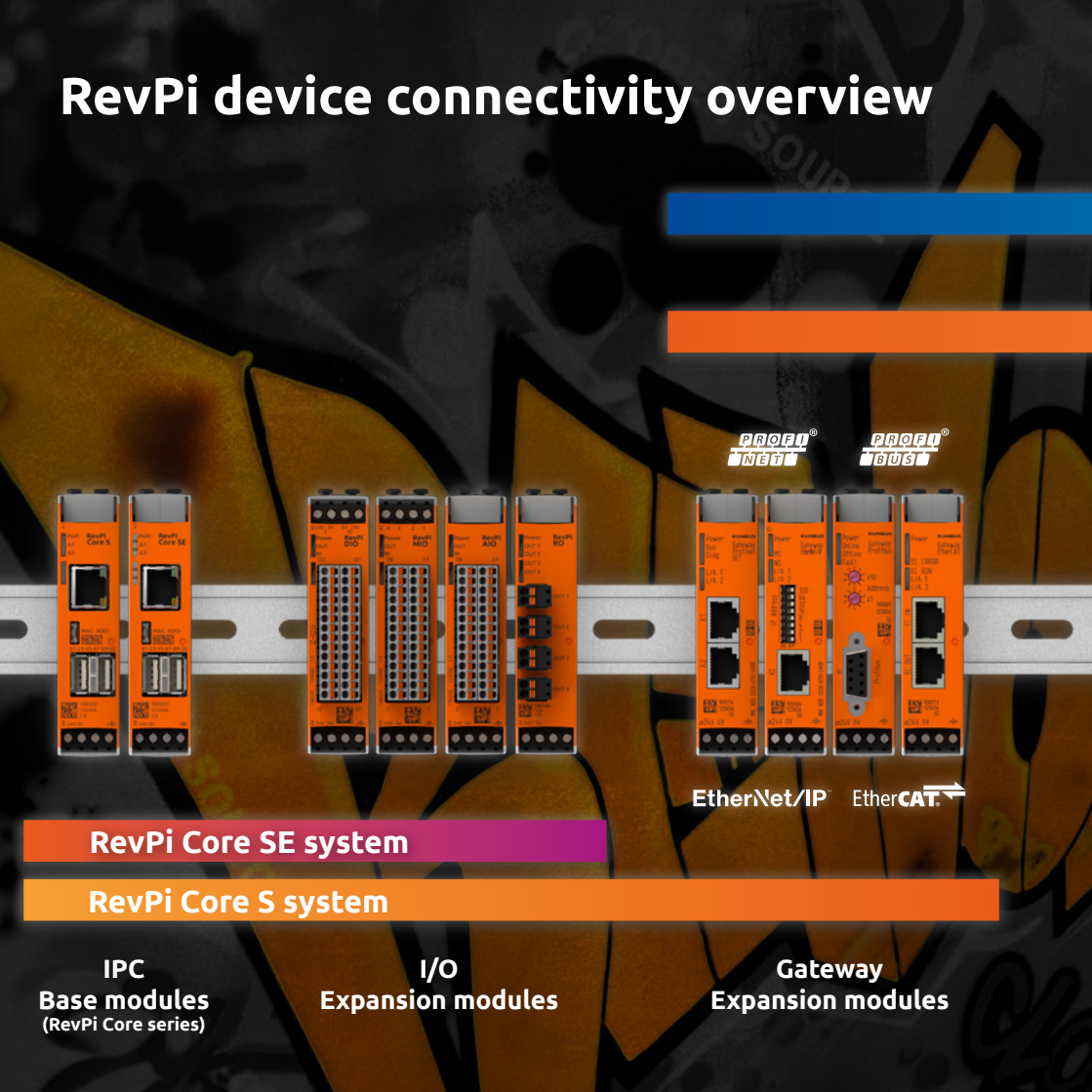
CUSTOM LASER ENGRAVING



CUSTOM COLOR


CUSTOM
SOFTWARE
IMAGE
CUSTOM
CERTIFICATIONS
Raspberry Pi
Compute Module 5
REVOLUTION PI
typ. 24 V DC (10,8 ... 28,8 V DC) (X4)
max. 22 W
Made in Germany

RevPi device connectivity overview



RevPi Connect 5 system

RevPi Connect 4 system

RevPi Connect S system

RevPi Connect SE system



I/O
Expansion modules

IPC
Base modules
(RevPi Connect series)

Gateway
Expansion modules
(RevPi Con modules)

RevPi Connect 5

Base modules powered by Raspberry Pi Compute Module 5



Item no.	WLAN/BT	RAM	eMMC	RS485	CAN
100412	No	4 GB	32 GB	1 x	No
100413	Yes	4 GB	32 GB	1 x	No
100414	No	4 GB	32 GB	1 x	1 x
100415	Yes	4 GB	32 GB	1 x	1 x
100441	No	4 GB	64 GB	1 x	No
100442	Yes	4 GB	64 GB	1 x	No
100443	No	4 GB	64 GB	1 x	1 x
100444	Yes	4 GB	64 GB	1 x	1 x
100416	No	8 GB	32 GB	1 x	No

Item no.	WLAN/BT	RAM	eMMC	RS485	CAN
100417	Yes	8 GB	32 GB	1 x	No
100418	No	8 GB	32 GB	1 x	1 x
100419	Yes	8 GB	32 GB	1 x	1 x
100420	Yes	8 GB	32 GB	No	2 x
100445	No	8 GB	64 GB	1 x	No
100446	Yes	8 GB	64 GB	1 x	No
100447	No	8 GB	64 GB	1 x	1 x
100448	Yes	8 GB	64 GB	1 x	1 x
100449	Yes	8 GB	64 GB	No	2 x

KEY SPECS

Processor	Broadcom BCM2712, quad-core ARM Cortex-A76
Clock rate	2.4 GHz
RAM	4 GB / 8 GB
eMMC flash memory	32 GB / 64 GB
Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 45 x 115 mm (incl. RP-SMA socket)
Operating temperature	-25 °C … +60 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
EMI/ Surge/Burst tests*	Passed
CE, RoHS	Yes
RED DA	Yes**
UL	Yes, UL-File-No. E494534

INTERFACES

Interfaces	**Quantity**
RS485 screw terminal (X2 connector, 4 pole)	0 / 1
CAN screw terminal (X2 and X3 connector, 4 pole)	0 / 1 / 2
RJ45 Gigabit Ethernet ports	2
USB 3.2 Gen 1 sockets	2
USB-C (solely for image transfer to eMMC)	1
Micro-HDMI socket (HDMI 2.0 (4K))	1
PiBridge (for RevPi expansion modules)	2
SMA socket for connecting an external antenna	1**

* (acc. to EN61131-2 & IEC 61000-6-2)

** only applicable on devices with WLAN/BT functionality

More details and specs:

RevPi Connect 4

Base modules powered by Raspberry Pi Compute Module 4



Item no.	WLAN/BT	RAM	eMMC
100376	No	2 GB	8 GB
100377	Yes	2 GB	8 GB
100433	No	2 GB	16 GB
100434	Yes	2 GB	16 GB
100435	No	2 GB	64 GB
100378	No	4 GB	32 GB
100379	Yes	4 GB	32 GB

Item no.	WLAN/BT	RAM	eMMC
100437	No	4 GB	64 GB
100438	Yes	4 GB	64 GB
100395	No	8 GB	32 GB
100380	Yes	8 GB	32 GB
100439	No	8 GB	64 GB
100440	Yes	8 GB	64 GB

KEY SPECS

Processor	Broadcom BCM2711, quad-core ARM Cortex-A72
Clock rate	1.5 GHz
RAM	2 GB / 4 GB / 8 GB
eMMC flash memory	8 GB / 16 GB / 32 GB / 64 GB
Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 45 x 111 mm
Operating temperature	-25 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
EMI/ Surge/Burst tests*	Passed
CE, RoHS	Yes
RED DA	Yes**
UL	Yes, UL-File-No. E494534

INTERFACES

Interfaces	**Quantity**
RJ45 Gigabit Ethernet ports	2
USB 3.2 Gen 1 sockets	2
Micro HDMI socket (HDMI 2.0 (4K))	1
Micro USB 2.0 socket (for firmware uploads only)	1
PiBridge (for RevPi expansion modules)	2
SMA socket for connecting an optional antenna	1**
RS485 screw terminal (4 pole)	1
Freely programmable 24 V input	1
Freely programmable relay switching contact	1

* (acc. to EN61131-2 & IEC 61000-6-2)

** only applicable on devices with WLAN/BT functionality

More details and specs:

RevPi Connect S / SE

Base modules powered by Raspberry Pi Compute Module 4S



RevPi Connect S and RevPi Connect SE are identical, with one exception: Only the RevPi Connect S supports RevPi Gateway expansion modules.

Device	eMMC	Item no.
RevPi Connect S	8 GB	100362
RevPi Connect S	16 GB	100363
RevPi Connect S	32 GB	100364

Device	eMMC	Item no.
RevPi Connect SE	8 GB	100368
RevPi Connect SE	16 GB	100369
RevPi Connect SE	32 GB	100370

KEY SPECS

Processor	Broadcom BCM2711, quad-core ARM Cortex-A72
Clock rate	1.5 GHz
RAM	1 GB LPDDR4
eMMC flash memory	8 GB / 16 GB / 32 GB
Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 45 x 110.5 mm
Operating temperature	-25 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
ESD protection	4 kV/8 kV
EMI/ Surge/Burst tests*	Passed
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

INTERFACES

Interfaces	**Quantity**
RJ45 Ethernet ports (10/100 Mbit/s)	2
USB 2.0 sockets	2
Micro HDMI socket (HDMI 2.0 (4K))	1
Micro USB 2.0 socket (for firmware uploads only)	1
PiBridge (for RevPi expansion modules)	1
ConBridge (for RevPi Con expansion modules)	1
RS485 screw terminal (4 pole)	1
24 V input for shutdown signal of an UPS	1
Freely programmable relay switching contact	1

* (acc. to EN61131-2 & IEC 61000-6-2)

More details and specs:

RevPi Core S / SE

Base modules powered by Raspberry Pi Compute Module 4S



RevPi Core S and RevPi Core SE are identical, with one exception: Only the RevPi Core S supports RevPi Gateway expansion modules.

Device	eMMC	Item no.
RevPi Core S	8 GB	100359
RevPi Core S	16 GB	100360
RevPi Core S	32 GB	100361
RevPi Core S	64 GB	100430

Device	eMMC	Item no.
RevPi Core SE	8 GB	100365
RevPi Core SE	16 GB	100366
RevPi Core SE	32 GB	100367
RevPi Core SE	64 GB	100431

KEY SPECS

Processor	Broadcom BCM2711, quad-core ARM Cortex-A72
Clock rate	1.5 GHz
RAM	1 GB LPDDR4
eMMC flash memory	8 GB / 16 GB / 32 GB / 64 GB
Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 22.5 x 110,5 mm
Operating temperature	-25 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
ESD protection	4 kV/8 kV
EMI/ Surge/Burst tests*	Passed
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

INTERFACES

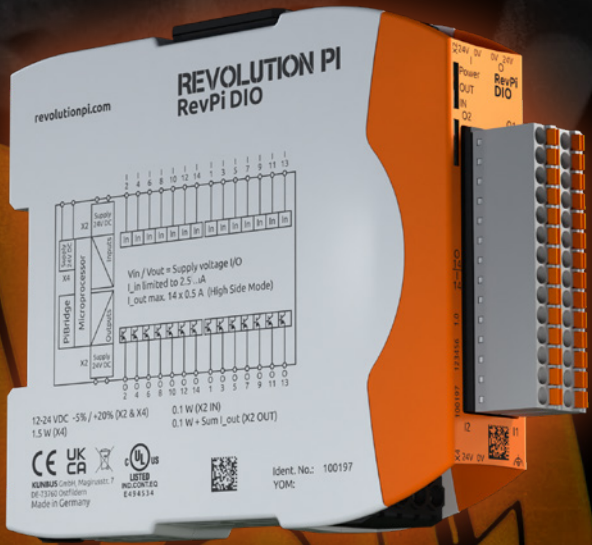
Interfaces	**Quantity**
RJ45 Ethernet port (10/100 Mbit/s)	1
USB 2.0 sockets	2
Micro HDMI socket (HDMI 2.0 (4K))	1
Micro USB 2.0 socket (for firmware uploads only)	1
PiBridge (for RevPi expansion modules)	2

* (acc. to EN61131-2 & IEC 61000-6-2)

More details and specs:

RevPi DIO / DI / DO

Digital IO expansion modules



Device	Function	Item no.
RevPi DIO	Digital IO module	100197
RevPi DI	Digital Input module	100195
RevPi DO	Digital Output module	100196

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Max. power consumption	1.5 Watt (X4/power supply)
Size (H x W x D)	96 x 22.5 x 110.5 mm
Operating temperature	-40 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
Connectors	2 x 14-pin socket connectors with spring clamp contacts (0.2 - 1.5 mm²)
Input current limitation	2.4 mA (at 24 V power supply)
Maximum current per output	500 mA (high-side mode), 100 mA (push-pull mode)
Surge/Burst tests*	Passed
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

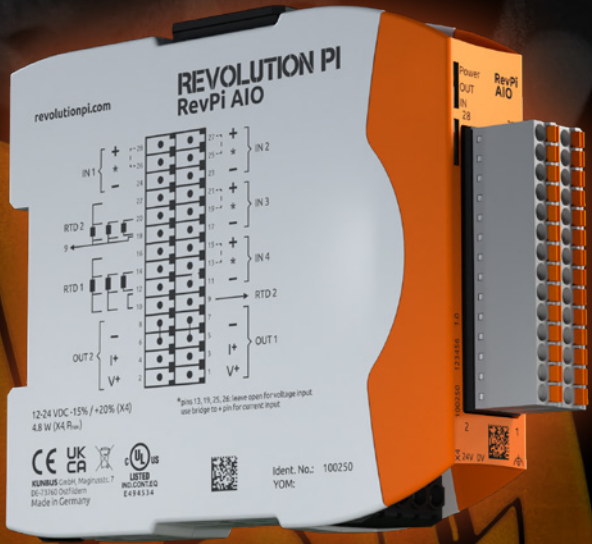
INTERFACES

Device	No. of digital Inputs	No. of digital Outputs
RevPi DIO	14	14
RevPi DI	16	0
RevPi DO	0	16

More details and specs:

RevPi AIO

Analog IO expansion module



Device	Function	Item no.
RevPi AIO	Analog IO module	100250

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 22.5 x 110.5 mm
Operating temperature	-30 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
Connectors	2 x 14-pin socket connectors with spring clamp contacts (0.2 - 1.5 mm²)
Voltage measuring range	±10 V | ±5 V | 0 … 10 V | 0 … 5 V
Current measuring range	0 … 20 mA | 0 … 24 mA | 4 … 20 mA | ±25 mA
Temperature measuring range	-200 … +850 °C
Voltage output range	±10 V | ±11 V | ±5 V | ±5.5 V | 0 … 10 V | 0 … 11 V | 0 … 5 V | 0 … 5.5 V
Current output range	0 … 20 mA | 0 … 24 mA | 4 … 20 mA
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

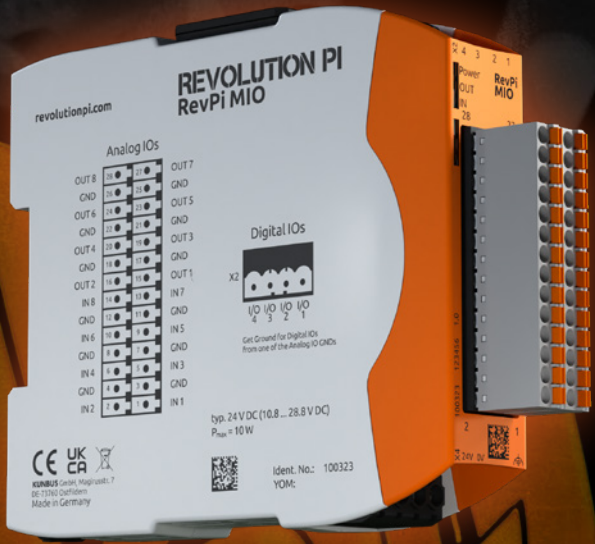
INTERFACES

Interface	Quantity
Input channels	6
for voltage	max. 4
for current	max. 4
for RTD (PT100/PT1000)	2
Output channels	2
for voltage	max. 2
for current	max. 2

More details and specs:

RevPi MIO

Analog & Digital IO expansion module



Device	Function	Item no.
RevPi MIO	Analog & Digital IO module	100323

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Max. power consumption (system)	10 W
Size (H x W x D)	96 x 22.5 x 110.5 mm
Operating temperature	-20 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
Connectors	2 x 14-pin socket connectors with spring clamp contacts (0.2 - 1.5 mm²)
Analog IO voltage range	0 … 10 V DC
Analog IO modes	Analog input, analog output, logic level input, logic level output
Digital IO modes	Digital input, digital output, PWM input, PWM output, pulse input, pulse output, encoder input
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

INTERFACES

Analog IO	**Quantity**
Analog Input	8
Analog Output	8

Digital IO	**Quantity**
Digital Input/Output	4 configurable via software either as digital inputs or digital outputs

More details and specs:

RevPi RO

Relay output expansion module



Device	Function	Item no.
RevPi RO	Relay output module	100386

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Max. power consumption (system)	2.5 W
Size (H x W x D)	96 x 22.5 x 126 mm (incl. connectors)
Operating temperature	-20 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	85 %, non-condensing
Protection class	IP20
Relay type	NO (normally open)
Resistive load	5 A at 250 V AC / 5 A at 30 V DC
Inductive load (cos φ = 0.4, L/R = 7 ms)	2 A at 250 V AC / 2 A at 30 V DC
CE, RoHS	Yes

INTERFACES

No. of Outputs	4
Connectors	4 x 2-pin socket connectors with spring clamp contacts (0.08 - 1.5 mm²)

More details and specs:

RevPi Gateways

Fieldbus gateways expansion modules



Device	Protocol	Item no.
RevPi Gate PROFINET IRT	PROFINET IRT Device	100074
RevPi Gate EtherCAT	EtherCAT Slave	100073
RevPi Gate EtherNet/IP	EtherNet/IP Adapter	100066
RevPi Gate PROFIBUS	PROFIBUS Slave	100069

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	96 x 22.5 x 110.5 mm
Operating temperature	0 °C … +60 °C
Storage temperature	-25 °C … +70 °C
Humidity	93 %, non-condensing
Protection class	IP20
CE, RoHS	Yes
UL	Yes, UL-File-No. E494534

PROFINET® EtherNet/IP™ EtherCAT® PROFIBUS®

Like the IO expansion modules, the gateways are connected to the base module via the overhead PiBridge connector. Depending on the base module, up to two gateway modules can be connected per system (one gateway per PiBridge).

Please note, that these gateways are not suitable for RevPi Connect 4, RevPi Connect SE, and RevPi Core SE series.

More details and specs:

RevPi Con

Gateway expansion modules, exclusively for RevPi Connect S/SE



Device	Protocol	Item no.
RevPi Con MBus	Wireless M-Bus 868 MHz	100281
RevPi Con MBus VHP	Wireless M-Bus 169 MHz	100282
RevPi Con CAN	CAN bus	100286

KEY SPECS

Power supply	Power supply via ConBridge
Size (H x W x D)	96 x 22.5 x 110.5 mm
Operating temperature	-20 °C … +60 °C
Storage temperature	-40 °C … +70 °C
Humidity	93 %, non-condensing
Protection class	IP20
CE, RoHS	Yes

Besides the PiBridge, the RevPi Connect S/SE modules have a so-called ConBridge connector. This interface makes it possible to connect special expansion modules to the right side of the base module, called RevPi Con modules.

In addition to data transfer, the ConBridge also supplies power to these modules, unlike the usual expansion modules that are connected via the PiBridge. Like all other expansion modules for Revolution Pi, the RevPi Con expansion modules are housed in a 22.5 mm wide DIN rail housing.

Please note, that all RevPi Con expansion modules are only suitable for RevPi Connect S/SE series.

More details and specs:

RevPi Flat S

powered by Raspberry Pi Compute Module 4S

The RevPi Flat S is a non-modular device which can be due to its size spacesavingly installed in sub-distribution cabinets.



Device	Item no.
RevPi Flat S 32 GB	100371
RevPi Flat S 64 GB	100432

More details about RevPi Flat S:

KEY SPECS

Processor	Broadcom BCM2711, quad-core ARM Cortex-A72
Clock rate	1.5 GHz
RAM	1 GB LPDDR4
eMMC flash memory	32 GB / 64 GB
Power supply	24 V DC (10.8 ... 28.8 V DC)
Size (H x W x D)	90 x 106 x 70 mm
Operating temperature	-25 °C … +55 °C
Storage temperature	-40 °C … +85 °C
Humidity	93 %, non-condensing
Protection class	IP20
EMC interference emission	according to EN 61000-6-4
EMC immunity	according to EN 61000-6-2
CE, RoHS	Yes

INTERFACES

Interfaces	**Quantity**
RJ45 Ethernet ports (10/100 Mbit/s)	4*
USB 2.0 sockets	2
RS485 (spring-loaded terminal)	1
RS485 (RJ12 socket)	1
Digital Output (potential free)	1
Analog Output (0-10 V DC)	1
Analog Input (0-10 V DC or 0 ... 20 mA)	1
WLAN (RP-SMA socket)	1

* two or four separate MAC addresses for LAN0/switch or LAN0 ... LAN3;
LAN0: 1 x Ethernet; LAN1: 3 x Ethernet switched or single (DSA)



KUNBUS

the company behind Revolution Pi

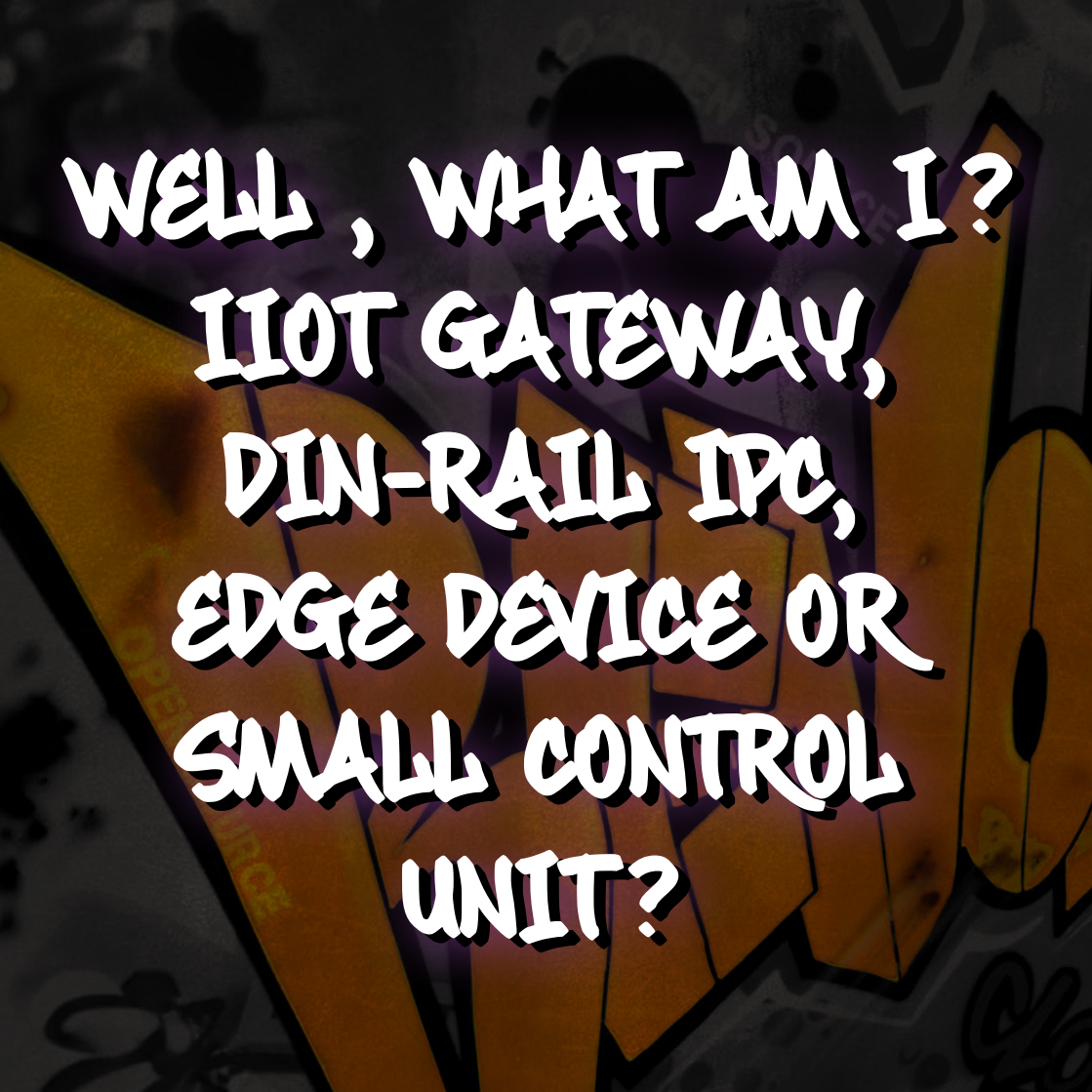
Prior to developing Revolution Pi, KUNBUS, founded in 2008, was primarily active in the field of industrial communication, specializing in the development and manufacturing of communication solutions for automation, process control, manufacturing, and drive technology.

Our in-depth knowledge in industrial communication is not only the foundation for our past successes, but also plays a crucial role in the continuous development and improvement of Revolution Pi.

Revolution Pi – Made in Germany

We are particularly proud of the fact that our devices are not only engineered by us, but also produced – in accordance with ISO 9001 – in Germany. This enables us to meet and verify the high quality standards that our customers and we ourselves demand. Regular quality controls, which ensure complete traceability of batches and 100 % end-of-line tests, play an important role.




WELL , WHAT AM I?
IIOT GATEWAY,
DIN-RAIL IPC,
EDGE DEVICE OR
SMALL CONTROL
UNIT?


IT IS
YOUR
CALL!



revolutionpi.com

REVOLUTION PI

a KUNBUS brand

Errors excepted and possible alterations without prior notice. Pictures may vary.

EN.26.W3