



POWERED BY
Raspberry Pi

REVOLUTION PI

The S/SE series

PLEASE ALLOW
ME TO
INTRODUCE
MYSELF...

The Swiss knife of automation & IIoT since 2016

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.

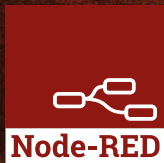
Depending on the requirements of the application, the RevPi base modules can be easily extended by up to ten expansion modules such as digital and analog IO modules as well as fieldbus gateways.



Software? Your choice!

Although Revolution Pi is an open system on which everyone can install their own software, we have tried to equip Revolution Pi with software and apps that cover most applications.

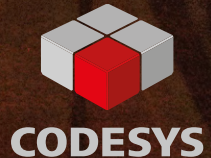
Therefore, Revolution Pi comes with a customized version of Raspberry Pi OS. The modifications include, for example, a real-time patch of the kernel, as well as a process image, in which all the current process values can easily be written in or read from. In our view, this is the best compromise to remain as close as possible to the original development environment of a Raspberry Pi and still maintain a high level of control over the priorities of the tasks that the scheduler manages.



Individual applications can be programmed via Node-RED, Python or directly in C, among others. If this is not

flexible enough for you, you can even build your own custom image for your system. All necessary files are waiting for you at our GitHub repository.

Besides writing your own code, you can use off-the-shelf software solutions such as CODESYS to realize your project.



Furthermore, the devices already have master and slave capability for the popular Modbus RTU and Modbus TCP network protocols. External gateways are therefore no longer required for these two protocols.

Cloud connectivity

Collecting sensor data, processing it and sending the processed data to a cloud is one of the Revolution Pi's strengths. Therefore, Revolution Pi has been certified by major cloud platforms.

The certification ensures that the integration with the most important cloud platforms, such as Microsoft Azure, Amazon Web Services or Cumulocity IoT can be done as smoothly and easily as possible.



S/SE series device overview

RevPi Core S system

RevPi Core SE system



IPC
Base modules

IO
Expansion modules

Gateway
Expansion modules

As shown in the graphic, the S and SE variants differ in the fact that the SE variants **do not** support fieldbus gateways (except RevPi Connect exclusive gateways).



RevPi Connect SE system

RevPi Connect S system

IO
Expansion modules

IPC
Base modules

Gateway
Expansion modules
(RevPi Connect exclusive)

RevPi Connect S / SE

Base modules powered by Compute Module 4S



Device

SKU

RevPi Connect S 8 GB 100362

RevPi Connect S 16 GB 100363

RevPi Connect S 32 GB 100364

Device

SKU

RevPi Connect SE 8 GB 100368

RevPi Connect SE 16 GB 100369

RevPi Connect SE 32 GB 100370

INTERFACES

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	12 - 24 V DC
Size (L x W x H)	111 x 45 x 96 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	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

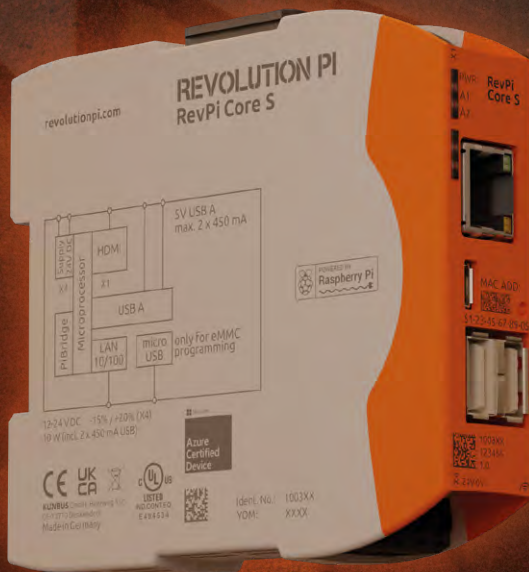
* (acc. to EN61131-2 & IEC 61000-6-2)

More details
and specs:



RevPi Core S / SE

Base modules powered by Compute Module 4S



Device

SKU

RevPi Core S 8 GB

100359

RevPi Core S 16 GB

100360

RevPi Core S 32 GB

100361

Device

SKU

RevPi Core SE 8 GB

100365

RevPi Core SE 16 GB

100366

RevPi Core SE 32 GB

100367

INTERFACES

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	12 - 24 V DC
Size (L x W x H)	111 x 22.5 x 96 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	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

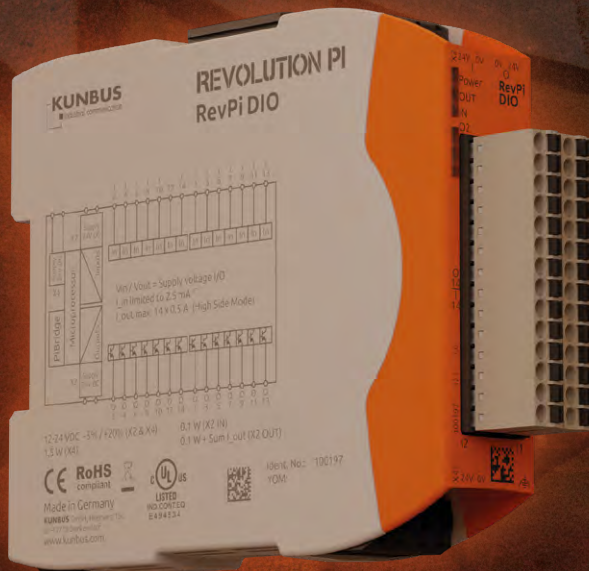
* (acc. to EN61131-2 & IEC 61000-6-2)

More details
and specs:



RevPi DIO / DI / DO

Digital IO expansion modules



Device

RevPi DIO

RevPi DI

RevPi DO

Function

Digital IO module

Digital Input module

Digital Output module

SKU

100197

100195

100196

INTERFACES

KEY SPECS

Power supply	12 - 24 V DC
Max. power consumption	1.5 Watt (X4/power supply)
Size (L x W x H)	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 mm ²)
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

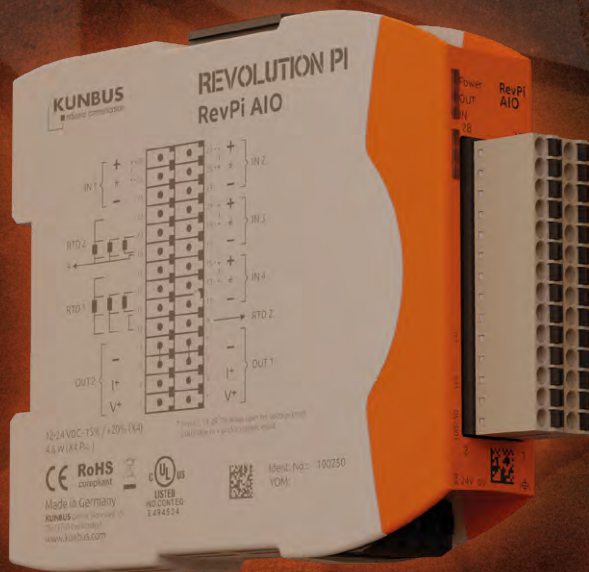
Device	No. of digital Inputs	No. of digital Outputs
RevPi DIO	14	14
RevPi DI	16	0
RevPi DO	0	16

More details
and specs:



RevPi AIO

Analog IO expansion module



Device

RevPi AIO

Function

Analog IO module

SKU

100250

INTERFACES

KEY SPECS

Power supply	12 - 24 V DC
Size (L x W x H)	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 mm ²)
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

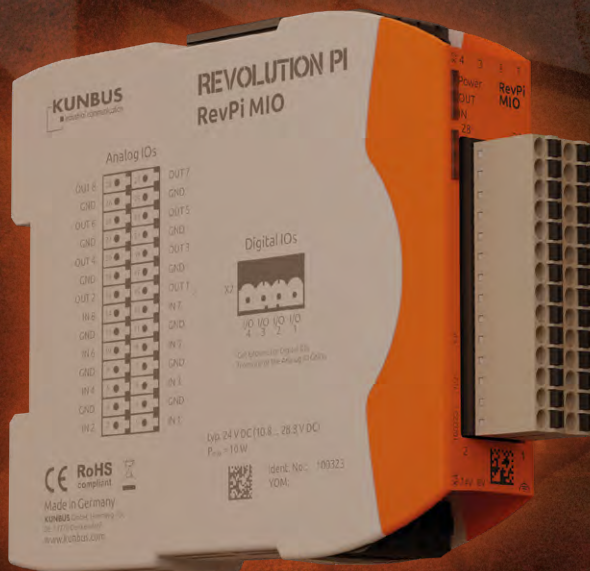
Interface	Quantity
Input channels	6
for voltage	max. 4
for current	max. 4
for RTD (PT100/PT1000)	2
Output channels	2
for voltage	max. 2
for current	max. 2

More details
and specs:



RevPi MIO

Analog & Digital IO expansion module



Device

RevPi MIO

Function

Analog & Digital IO module

SKU

100323

INTERFACES

KEY SPECS

Power supply	24 V DC (10.8 ... 28.8 V DC)
Max. power consumption (system)	10 W
Size (L x W x H)	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 mm ²)
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

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 Gates

Fieldbus gateways expansion modules



Device	Protocol	SKU
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 (L x W x H)	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



EtherNet/IP

EtherCAT



Like the IO expansion modules, the gateways are also connected to the base module via the overhead PiBridge connector. Thus, up to two gateway modules (maximum of 2 for RevPi Core and 1 for RevPi Connect) can be used per system.

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

More details
and specs:



RevPi Con

Gateway expansion modules, exclusively for RevPi Connect



Device	Protocol	SKU
RevPi Con M-Bus	Wireless M-Bus 868 MHz	100281
RevPi Con M-Bus VHP	Wireless M-Bus 169 MHz	100282
RevPi Con CAN	CanBus	100286

KEY SPECS

Power supply	Power supply via ConBridge
Size (L x W x H)	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 modules have a so-called ConBridge connector. This interface makes it possible to connect special expansion modules to the right side of the RevPi Connect 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.

More details
and specs:



White labeling – Revolution Pi with your logo and name

For all those who like it more individual and exclusive, we have the perfect solution: If you decide to use Revolution Pi as the standard hardware for your next project, we will manufacture our Revolution Pi modules according to your wishes.

We laser engrave your logo, adapt the device color to your corporate identity and even flash your own software image. 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 of your own solution – a classic win-win situation.

If white labeling and customization sound interesting to you or if you have any further questions concerning this topic, don't hesitate to get in touch with us.



More details:



...WELL, WHAT AM I?

Hot GATEWAY

DIN-RAIL IPC OR

SMALL CONTROL UNITS?

IT'S YOUR CALL!



revolutionpi.com

REVOLUTION PI
a KUNBUS brand

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