WATERPROOF MINI-IPC (IP68) + UPS

# DESCRIPTION

The **wiu series** includes unique, high performance and rugged mini IPCs that are fully sealed to meet IP68 specifications. In addition, these mini-IPCs includes the complete functionality of an uninterruptible power supply (UPS), so that they can continue to be operated even if there is a loss of power, thus preventing possible malfunctions.

The rugged and environmentally friendly mini IPCs have powerful processors, as well as plenty of disk space and work space. Thanks to the fanless concept and the implemented ECO design guideline, they are also quiet and energy-saving.

The minimal housing and the simultaneous design with all common interfaces allow optimal use in mobile, demanding and harsh environments.

The wiu series minwaterproof IPC products are ideal for demanding applications in the industrial, commercial, scientific research, military, public safety, service, marine, transportation, mining and telecommunications markets.

**Each model is customizable!**

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable
  - Expandable by further interfaces and hardware
  - Housing adjustment
  - increased capacity of the battery
  - specific software

# CONTENT








Product images may vary.


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wiu 1

# WATERPROOF MINI-IPC (IP68) + UPS 1.2GHZ, 32GB SD CARD

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable
  - Expandable by further interfaces and hardware
  - Housing adjustment
  - increased capacity of the battery
  - specific software

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837 chipset operating at 1.2 GHz
- 32GB SD card
- 64 bit Quad Core ARM Cortex-A53
- 802.11 b / g / n wireless LAN
- Bluetooth 4.1 (Classic & Low Energy)
- Dual-Core Coprocessor Videocore IV® Multimedia
- 1 GB LPDDR2 memory
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input
- 1x 10/100 Ethernet connection
- 4x USB
- 31x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu 1 |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 32GB SD card |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 802.11 b / g / n wireless LAN |
| Bluetooth | Bluetooth 4.1 (Classic & Low Energy) |
| Graphic | Dual-Core Coprocessor Videocore IV® Multimedia |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V/5A power output for external peripherals, additional +7-24V backup input, 1x 10/100 Ethernet port, 4x USB, 31x GPIO |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu 2

## WATERPROOF MINI-IPC (IP68) + UPS 1,92GHZ, 64GB EMMC

### KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable
  - Expandable by further interfaces and hardware
  - Housing adjustment
  - increased capacity of the battery
  - specific software

### APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace

### GUIDELINES / STANDARDS

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- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

### IPC-FUNCTIONS

- Intel® Atom ™ x5 Z8350 Processor 64 bit - up to 1.92GHz
- 64GB eMMC
- 64 bit quad core
- Intel® HD 400 Graphics, 12 EU GEN 8, up to 500MHz,
- Support DX * 11.1 / 12, Open GL * 4.2, Open CL * 1.2 OGL ES3.0, H.264, HEVC (decode), VP8
- 4GB DDR3L
- Microsoft Windows 10 full version, Linux, Android
- Dimensions: 159 x 128 x 90 mm
- IP68

### ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

### PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

### INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input
- 1x 10/100 Ethernet connection
- 4x USB
- 31x GPIO for specific customer occupancy
- LED status display


| | Technical specification |
|---|---|
| | wiu 2 |
| Chipset | Intel® Atom ™ x5 Z8350 Processor 64 bit - up to 1.92GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit quad core |
| Ethernet | 802.11 b / g / n wireless LAN |
| Bluetooth | Bluetooth 4.1 (Classic & Low Energy) |
| Graphic | Intel® HD 400 Graphics, 12 EU GEN 8, up to 500MHz, |
| Random access memory | Support DX * 11.1 / 12, Open GL * 4.2, Open CL * 1.2 OGL ES3.0, H.264, HEVC (decode), VP8 4GB DDR3L |
| Operating systems | Linux (default), Android, Microsoft Windows 10 |
| Interfaces | + 7-48V primary input, additional + 5V / 5A power output for external peripherals, additional + 7-24V backup input, 1x 10/100 Ethernet port, 4x USB, 31x GPIO |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu automation

The perfect solution for controlling, monitoring and automating your processes. With a variety of built-in, as well as customizable extras, such as relays, digital and analog inputs and outputs, specific GPIOs and much more. This all-rounder enables you to integrate ideally into your chosen environment and to guarantee a central component for the automation of your process landscape even under extreme conditions. Benefit from a self-sufficient and energy-saving mode of operation.

## SPECIFICATION WIU AUTOMATION

- 3x24V @ 2A relay (NC and NO terminals)
- 3x12-bit ADC @ 0-24V
- 3x24V tolerant buffered inputs
- 3x24V tolerant sinking outputs
- 15x channel indicator LEDs
- 1x 12-bit ADC @ 0-3.3V
- 3.5 mm screw terminals
- Power, Comms and Warn LED Indicators
- Python library

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
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- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
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- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu automation |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu sense

The ideal solution for connecting sensors with integrated amplifiers for recording, processing and displaying measurement data. By centrally logging sensor data, coupled with flexible processing and advanced communication technologies, this model can be used as a self-sufficient and central sensor gateway in many locations, where you have your data at any time, no matter where control. Especially used as a self-sufficient device, it can also operate as a mobile unit.

## SPECIFICATION WIU SENSE

- 6-channel measuring amplifier
- 1x GSV-6 shield with strain gage inputs and voltage inputs
- suitable for the development of data loggers
- 1x entrance for DMS full bridge, half bridge or quarter bridge
- 5x input configurable for strain gauge or voltage +-10V
- 6x half bridges supplement, 6x quarter bridge supplement 120 ohms, 350 ohms, 1kOhm

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
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- Industry 4.0
- Automation
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- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
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- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu sense |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
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| Temperature range | -40 ° C to + 75 ° C |
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| Data battery | |

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# wiu gpio

The perfect GPIO gateway for use under special conditions. Use a variety of available GPIOs for specific programming, control and monitoring, making it easy and fast to adapt the gateway to your needs. The self-sufficient and energy-saving mode of operation of this model also increases the flexibility and possible deployment scenarios.

## SPECIFICATION WIU GPIO

- up to 128 additional GPIOs
- 16-bit remote bidirectional I/O connection
- configurable interrupt output pins - active - high, active - low or open drain
- INTA and INTB can be configured to work independently or together
- configurable interrupt source-based on input changes
- Polarity inversion register for configuring the polarity of the input port data
- external reset input

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
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- up to 128 x GPIO for specific customer occupancy
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| | wiu gpio |
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| Processor | 64 bit Quad Core ARM Cortex-A53 |
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| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, up to 128 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |

Performance specifications

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |

Data battery

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu eth

The ideal solution for real-time communication. Real-time data transmission is one of the most important core components, especially in time-critical application environments. Use this product to transfer your data of any kind via modern real-time Ethernet technology, thus ensuring the stability of your application environment. The self-sufficient and energy-saving mode of operation also forms the foundation for a mobile unit.

## SPECIFICATION WIU ETH

- Real-time Ethernet slave
- PROFINET, EtherNet / IP and EtherCAT firmware
- Input and output data configured with 32 bytes
- with device description files and drivers

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet,
- 1x Real-time Ethernet
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu eth |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x Real-time Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |

Performance specifications

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |

Data battery

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu srl

The ideal solution for serial communication. Especially when it comes to transferring data via serial interfaces, this product is used. Through standardized serial interfaces and the possibility of a customizable interface, data of any kind can be transmitted.

## SPECIFICATION WIU SRL

- RS232 serial communication interface
- RS485 mode (half duplex)
- RS422 mode (full duplex)
- galvanic isolation Increased ESD protection
- Adjustable automatic transceiver switching for RS485 mode
- adjustable control of the transceiver / receiver via GPIO pin

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

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- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
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- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 2 x I2C, 2 x SPI, 2 x UART, 1x RS232/RS485/RS422
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu srl |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1x RS232/RS485/RS422,1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu control

The perfect solution for controlling, monitoring and automating your processes directly on site via a human-machine interface. The additional expansion of the functions of our wiu automation, a touch-screen, can be used, for example, to serve machines and systems directly on site. Benefit from an HMI, which can be used under the most special conditions.

## SPECIFICATION WIU AUTOMATION

- integrated touch-screen
- 3x24V @ 2A relay (NC and NO terminals)
- 3x12-bit ADC @ 0-24V
- 3x24V tolerant buffered inputs
- 3x24V tolerant sinking outputs
- 15x channel indicator LEDs
- 1x 12-bit ADC @ 0-3.3V
- 3.5 mm screw terminals
- Power, Comms and Warn LED Indicators
- Python library

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu control |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |

Performance specifications

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |

Data battery

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu zigbee

Especially when using low-volume wireless networks, e.g. in the home automation area, the use of ZigBee modules is in great demand. Use this product as the ideal solution for using a ZigBee gateway. Create the ability to control, monitor and control your ZigBee modules.

## SPECIFICATION WIU ZIGBEE

- Radio module deRFmega256-23M12
- 2.4 GHz
- Range up to 500m in free field
- incl. Power Amplifier / Low Noise Amplifier
- with ZigBee firmware, no knot restriction
- Firmware via Bootloader updateable

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x ZigBee Wireless Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display


| | Technical specification |
|---|---|
| | wiu zigbee |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x ZigBee Wireless Interface 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
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| Temperature range | -40 ° C to + 75 ° C |
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| Dimensions | 159 x 128 x 90 mm |
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| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
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| Max. Input current | 5A | - | - |
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| | $LiFePO_4$ Battery |
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| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
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# wiu lora

The Long Range Wide Area Network (LoRaWAN) is especially used when it comes to the energy efficiency of the connected devices. Especially in modern IoT networks, there is no way around a central IoT gateway on LoRa communication technology. With this product, you can therefore form the central interface of your IoT devices and profit from the use under the most specific conditions and operation as a self-sufficient and mobile system.

## SPECIFICATION WIU LORA

Lora spezifications:
- 168 dB maximum connection budget
- +20 dBm - 100 mW constant RF power compared
- +14 dBm high efficiency PA
- programmable bit rate up to 300 kbps
- high sensitivity: up to -148 dBm
- bullet-proof frontend: IIP3 = -12.5 dBm
- excellent blocking immunity
- low RX current of 10.3 mA, 200 nA regain retention
- fully integrated synthesizer with a resolution of 61 Hz
- FSK, GFSK, MSK, GMSK, LoRaTM and OOK modulation
- built-in bit synchronizer for clock recovery
- Preamble detection
- 127 dB dynamic range RSSI
- automatic RF Sense and CAD with ultra-fast AFC
- Package engine up to 256 bytes with CRC
- built-in temperature sensor and battery indicator

GPS-Spezifications:
- current consumption: 25mA, power tracking: 20mA
- compliant with GPS, SBAS
- programmable bit rate up to 300 kbps
- serial ports UART: Adjustable 4800 ~ 115200 bps, Default: 9600 bps
- refresh rate: 1Hz (default), up to 10Hz
- protocols: NMEA 0183, PMTK
- horizontal position accuracy: Autonomic <2.5 m CEP
- TTFF @ -130dBm with EASY ™: cold start <15s, warm start <5s, hot start <1s; TTFF@-130dBm.without EASY ™: Cold start <35s, warm start <30s, hot start <1s
- time accuracy: 1 PPS out 10ns, response time <1s
- speed accuracy without help <0,1m / s, acceleration accuracy without help 0,1m / $s^2$
- Sensitivity detection -148dBm, tracking -165dBm, recovery -160dBm
- Dynamic power level max.18000m, maximum speed max.515m / s, maximum acceleration 4G
- L1 band receiver (1575.42 MHz) channel 22 (tracking) / 66 (detection)

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
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- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x LoRa Wireless Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu lora |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x LoRa Wireless Interface 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu nfc

Almost every modern mobile device is now equipped with NFC. This technology can be used, for example, to read RFID tags or to transfer data to another NFC device. Form an NFC gateway with our product and realize your NFC architecture under special conditions. Operation as a self-sufficient and mobile system also creates completely new application scenarios.

## SPECIFICATION WIU NFC

- NXP PN512 based fully NFC compliant device that meets the requirements of all 3 NFC modes
- Reader mode supports four NFC tag types and proprietary NXP MIFARE commands
- integrated, powerful antenna
- in-board MIFARE RFID card
- Compatible with Reader, P2P and Card Emulation modes

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x NFC Wireless Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu nfc |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x NFC Wireless Interface, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu enocean

EnOcean is now a widely used, batteryless radio technology, which finds its main application mainly in the areas of building automation and smart home. Create a central and fully self-contained component for your EnOcean network with our product and control, monitor and control your devices anytime, anywhere. This product is ideal for use as a central gateway under extreme conditions.

## SPECIFICATION WIU ENOCEAN

- Frequency: 868 MHz (Europe), 902 MHz (USA / Canada), 928 MHz (Japan)
- Smart Ack controller functionality
- transparent radio channel
- Functionality for programmable repeaters (1/2-level)
- ESP3 support
- Type. conducted output power: 3dBm
- Data transfer rate of 125kbps and ASK modulation

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x enocean Wireless Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display


| | Technical specification |
|---|---|
| | wiu enocean |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x enocean Wireless Interface, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |

Performance specifications

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |

Data battery

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu z-wave

Z-Wave is a wireless communication standard designed primarily for home automation, optimized for low power consumption and high communication security. Thus, our product can be used to implement a central gateway for the control, monitoring and control of a wide variety of sensors and actuators for home automation.

## SPECIFICATION WIU Z-WAVE

- Backup and restore function including network topology
- optimized transmission queue handling to speed up the transmission process
- Firmware update from the operating system level in the field
- Trusted Platform module with strong encryption
- advanced wake-up notification
- Handling to extend the battery life of battery-powered devices in the network

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x Z-Wave Wireless Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu z-wave |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x Z-Wave Wireless Interface, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |

Performance specifications

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |

Data battery

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu knx

KNX is a well-known fieldbus, specially developed for building automation. As a result, our product is ideal for use as a central gateway with which sensors and actuators can be accessed at any time and from any location. So hereby form your central control and monitoring system for your building automation and benefit from a self-sufficient and energy-saving mode of operation.

## SPECIFICATION WIU KNX

- Safety extra-low voltage SELV DC 29 V
- Baud rate 19.2 / 115 kbps, 8e1
- Serial frame format FT1.2
- KNX telegram format: Common EMI (CEMI)
- certified KNX stack (system B)
- long pictures, max. APDU length 55
- up to 1000 group objects
- up to 70 kbyte parameter space

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
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- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
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## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x KNX Bus Interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu knx |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1 x KNX Bus, 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | |
|---|---|
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu iot

At the latest with the entry into Industry 4.0, the networking of machines and systems, ie the Internet of Things, would be indispensable. Especially in this context, a central gateway, which stores the data centrally, processed and forwarded accordingly unavoidable. With our product, such an IoT gateway can be ideally implemented using state-of-the-art communication technologies. In addition, this system can be operated independently and thereby under very specific conditions. So this product is the perfect complement to your IoT network.

## SPECIFICATION WIU IOT

- supports mobile micro SIM card
- 4G mobile data (100 Mbps - 50 Mbps)
- simple setup via terminal command
- external antenna for better reception
- High efficiency power control up to 3 amps
- Enables external projects with a solar panel and a rechargeable battery

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
- RED Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- CE / FCC Conformity

- IEC 62368-1:2014
- Protection class: IP69
- Protection class: 2
- Protective measures according to: IEC 61140:2016

## IPC-FUNCTIONS

- Broadcom BCM2837, Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
- 1 GB LPDDR2 memory
- 64GB eMMC Flash
- 2.4GHz and 5GHz IEEE 802.11b/g/n/ac wireless LAN
- Gigabit Ethernet
- Bluetooth 4.2 (BLE)
- supports all current ARM GNU / Linux distributions and Windows 10 IoT
- Dimensions: 159 x 128 x 90 mm
- IP68

## ADDITIONAL FUNCTIONS

- Optimized for self-sufficient use via regenerative energy source
- Backup input to secure supply via additional power source
- integrated UPS for safe bridging of the supply in case of power failure
- integrated LiFePO4 battery (3400mAh) with adjustable charging function
- start and operate purely on battery as a mobile device
- web-based software solution for control and monitoring
- Live firmware updates
- integrated Real Time Clock
- Monitoring Surveillance System
- External Voltage Monitoring / Dynamic power tracking
- Battery Management Controller
- Battery Management System
- Thermal Management
- Watchdog / Power Cycle functionality
- time-controlled and event-based switching on and off of the system - Action Scheduler
- Supply Switch (On / Off Button / File Safe Shutdown)

## PROTECTION CIRCUIT

- Active reverse polarity protection
- Short circuit protection
- Inrush current limiter
- Overload protection
- Overcurrent protection
- Overvoltage protection
- Undervoltage protection
- Thermal management
- Overdischarge protection
- Reverse Current Protection

## INTERFACES

- +7-48V
- additional +5V/5A power output for external peripherals
- additional +7-48V backup input 1 x 10/100/1000 Ethernet
- 1x mobile communication interface
- 2 x I2C, 2 x SPI, 2 x UART
- 1 x USB
- 48 x GPIO for specific customer occupancy
- LED status display

| | Technical specification |
|---|---|
| | wiu iot |
| Chipset | Broadcom BCM2837 operating at 1.2 GHz |
| Storage | 64GB eMMC |
| Processor | 64 bit Quad Core ARM Cortex-A53 |
| Ethernet | 10/100/1000 Ethernet |
| Bluetooth | Bluetooth 4.2 (BLE) |
| WLAN | 802.11.b/g/n/ac WLAN |
| Random access memory | 1 GB LPDDR2 memory |
| Operating systems | supports all current ARM GNU / Linux distributions (standard) and Windows 10 IoT |
| Interfaces | +7-48V primary input, additional + 5V / 5A power output for external peripherals, additional +7-24V backup input, 1 x 10/100/1000 Ethernet, 1x mobile com., 2 x I2C, 2 x SPI, 2 x UART, 1 x USB, 48 x GPIO for specific customer assignment, LED status indicator |
| | |
| Input voltage - Primary | +7-48V |
| Input voltage - fixed backup | +7-48V |
| Performance specifications | |
| Power consumption | average. <4W / max. 25W |
| Efficiency | up to 91% |
| Ripple | <50 mVss |
| Up time | at average. Consumption = 7-8h |
| Protection Circuit | RPP, SCP, ICL, OLP, OCP, OVP, UVP, OTP, ODP, RCP |
| Safety / EMC | EMC Directive 2014/30 / EU, IEC 62368-1: 2014, IEC 61140: 2016 |
| Temperature range | -40 ° C to + 75 ° C |
| Protection | IP68 |
| Dimensions | 159 x 128 x 90 mm |
| | |
| Data battery | |

| | primary | secondary (battery operation) | Charging Circuit |
|---|---|---|---|
| Max. Input current | 5A | - | - |
| Max. Output current | 5A | 5A | 1A |
| Max. Output voltage | +5V | +5V | +3,65V |

| | $LiFePO_4$ Battery |
|---|---|
| Nominal voltage | 3.2V |
| Operating voltage | 2.5V - 3.65V |
| Capacity | 3400mAh |
| Internal impedance | ≤20mΩ |
| Constant charge / discharge current | 1C / 5C |
| Working temperature | -20-75°C |
| Connection cable | UL1571#28 |

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# wiu can

The CAN bus is mainly used in the automotive sector. Especially in this area and also in view of the upcoming electric cars, CAN controllers play an important role. Benefit from a self-sufficient and energy-saving mode of operation for this product, which makes it ideal as a control unit for communication via the CAN bus under very specific conditions.

## SPECIFICATION WIU CAN

- CAN v2.0B with 1 Mbps
- Standard and extended data and remote frames
- compatible with OBDII cable
- ready for 120 Ω terminator
- ready for serial LCD

## KEY FACTS

- waterproof
- IP68 specification
- integrated uninterruptible power supply
- Protection Circuit
- low noise
- energy saving
- high efficiency (up to 91%)
- small form factor
- robust housing
- mounting option
- all common interfaces
- customizable

## APPLICATIONS

- Energy Management / Regenerative Energy
- self-sufficient power supply
- Outdoor
- Smart Home / Smart City
- Water Industry
- Automotive
- Aircraft
- Defense
- Aerospace
- Industry 4.0
- Automation
- IoT
- Control technology
- Mechanical Engineering
- customized applications

## GUIDELINES / STANDARDS

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- EMC Directive 2014/30/EU
- ErP Directive 2009/125/EC
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