

WEBINAR STELIAU



Modules SOM et produits Raspberry, de Kontron

Thomas Müller, Kontron Electronics, June 29th, 2021

AGENDA

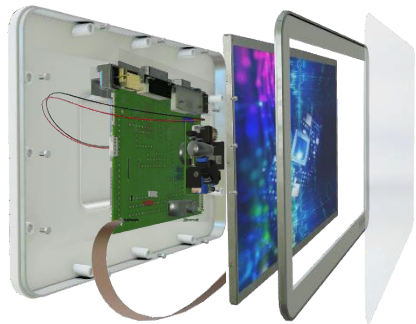


- ▶ ABOUT STELIAU TECHNOLOGY
- ▶ ABOUT KONTRON
- ▶ SOM LINE
- ▶ RASPBERRY PRODUCTS
- ▶ WEB PANELS
- ▶ APPLICATIONS
- ▶ QUESTIONS / ANSWERS

ABOUT STELIAU TECHNOLOGY

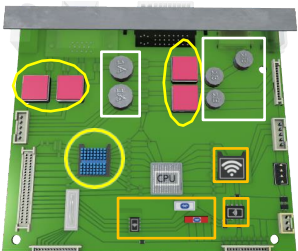


AN INCOMPARABLE PRODUCT COVERAGE



DISPLAYS & TOUCHSCREEN SOLUTIONS

- ⊕ MECHANIC & EMI
- ⊕ **EMBEDDED SYSTEMS**
- ⊕ CONNECTORS AND CABLES & AUDIOVISUAL
- ⊕ ENERGY CONVERSION
- ⊕ CONSUMABLES FOR ELECTRONICS
- ⊕ THERMAL
- ⊕ CONNECTIVITY & IOT
- ⊕ ELECTRONIC COMPONENTS



2021

**Acquisition of the Italian
company Special-Ind**



STELIAU'S LOCATION



Headquarters and offices

- France
- Italy
- Spain
- Germany
- China
- Taiwan

Hub

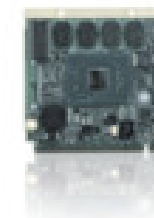
- Le Havre (France)
- Shenzhen (China)

STELIAU TECHNOLOGY EMBEDDED ADD-ON VALUE



FROM DESIGN TO AFTER SALES SUPPORT

- ▶ Architecture definition and pre-sales support
- ▶ Design and Design to cost
- ▶ Hardware Design Review organisation
- ▶ Project Set up and Prototyping
- ▶ Hardware and software support
- ▶ Integration
- ▶ Sustaining
- ▶ RMAs

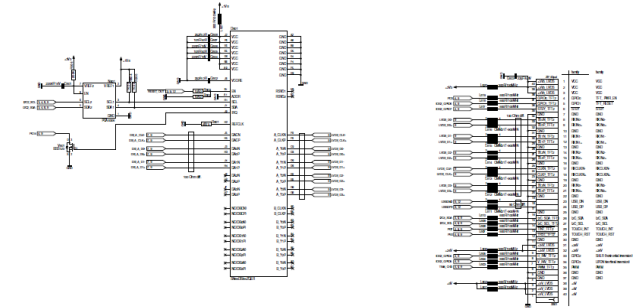


STELIAU TECHNOLOGY RESOURCES



IN-HOUSE DESIGN TO AFTER SALES SUPPORT

- ▶ A team of sales engineers
- ▶ Specialized product managers for each Business Unit
- ▶ Support engineers and developers
- ▶ Direct access to the factory's technical support



QUALITY EQUIPMENT AND ORGANISATION

- ▶ A clean-room for assembling touchscreen displays
- ▶ Two cut-to-measure thermal pad machines
- ▶ Dry-Pack management machines
- ▶ A laboratory for screen assembly and configuration,
- ▶ A laboratory for Tablets and industrial PCs preparation
- ▶ An integrated sub-assembly line
- ▶ A workshop dedicated to quality control and RMA claim
- ▶ More than 1500 m² of storage space



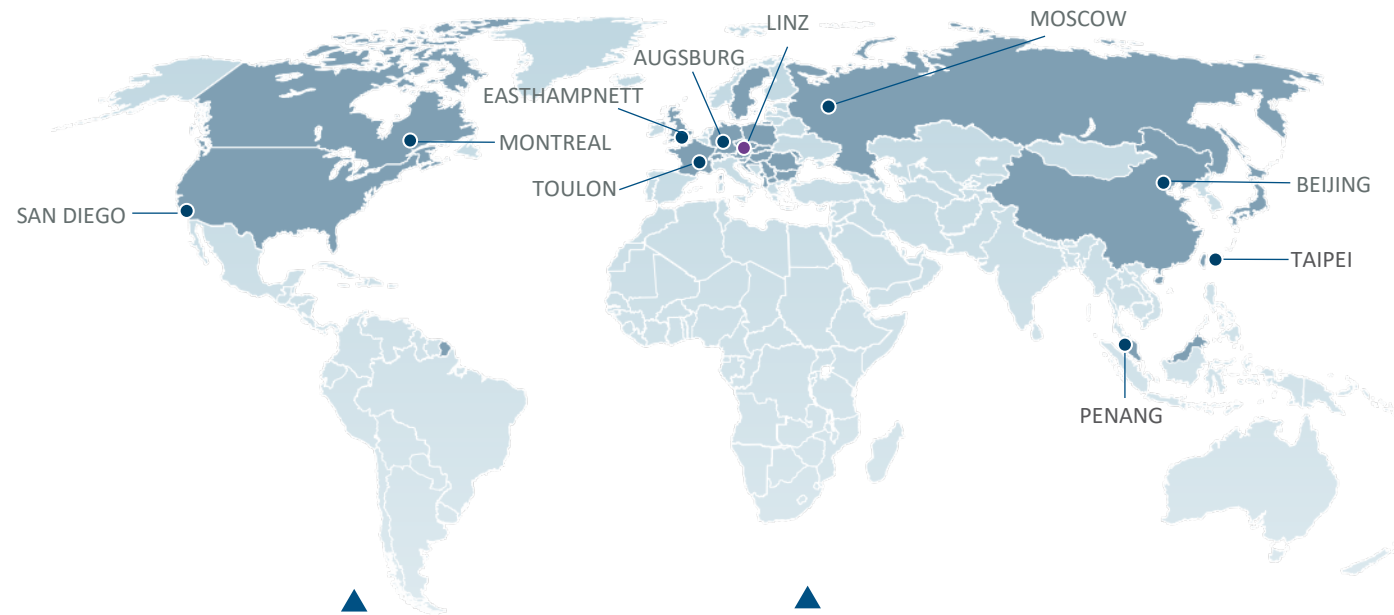
KONTRON - MEMBER OF THE S&T GROUP

Founded
1959

Management buyout
1999
from BMW

S&T Group revenues 20
EUR 1,123 Mio.
2020 fc.: EUR 1,150 Mio.

Leader in
IoT/Industry 4.0
secure and connected



Employees worldwide
4,934
S&T Group

Engineers worldwide
~ 3,000
S&T Group

Global presence in more than
32 countries
S&T Group w. multiple sales offices & partners

Headquarters
Linz/Augsburg
S&T/Kontron

KONTRON ELECTRONICS – NUMBERS 2020



KONTRON ELECTRONICS (GROßBETTLINGEN AND SCHORNDORF)

40,5

Mio. € turnover (2020)

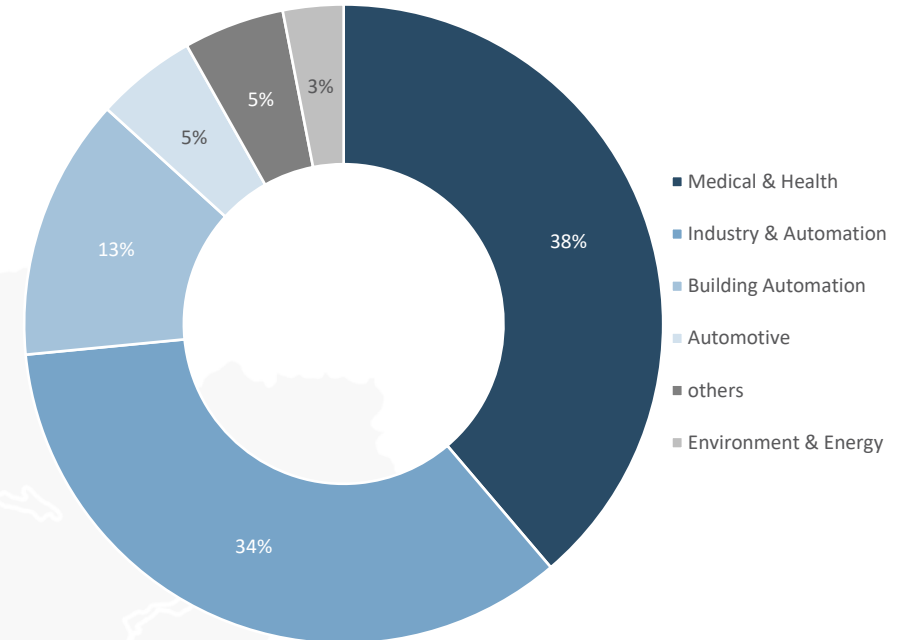
300

FTE

27

FTE in R&D

KONTRON ELECTRONICS HUNGARY



KONTRON ELECTRONICS AT A GLANCE

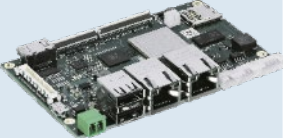
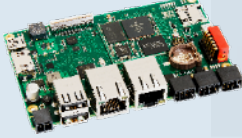
Kontron Electronics is a full-service provider for the development and production of complex electronic components, modules and systems for industrial and medical applications.

In addition to our services, we also offer our own product portfolio with control, visualization and communication solutions can be implemented directly. Our products are prepared to be used in M2M, IoT and Cloud solutions.

We produce your and our electronic assemblies for you on modern production lines at locations in the DACH region and in Eastern Europe. From consulting and development to production and process optimization, Kontron Electronics covers the entire value chain.



STANDARD PRODUCTS / PLATFORM FOR ODM

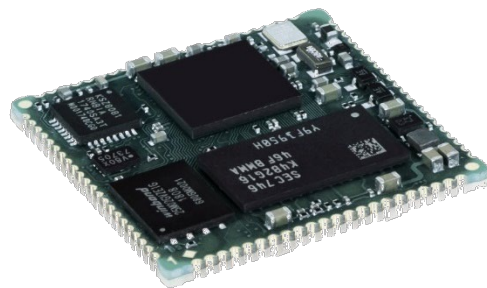
Display-Line	5" Display 	7" Display 	10" Display 			7" Web Panel 	15,6" Web Panel 
Automation-Line	AL i.MX6 ULL 	AL i.MX6 Solo/Dual 	AL i.MX8M Mini 	AL STM32MP157 	AL PI-TRON CM3+ 	PiXtend V2-L-ePLC Pro 	PiXtend eIO Digital/Analog One Pro 
Board-Line	BL i.MX6ULL 	BL i.MX6 Solo/Dual 	BL i.MX8M Mini 	BL STM32MP157 	BL PI-TRON CM3+ 	PiXtend V2 -L-ePLC Basic 	PiXtend eIO Digital/Analog One Basic 
SoM-Line	SL i.MX6ULL 		SL i.MX8M Mini 	SL STM32MP157 	Compute Module / Raspberry Pi 	PiXtend V2 -L-Extension Board 	
Prozessor manufacturers	NXP	NXP	NXP	STM	Broadcom	Broadcom	

SOM LINE



Performance

SoM i.MX6UL/ULL



SoM STM32 MP157



SoM i.MX8M mini



SOM LINE

Performance

ARM® Cortex A7®

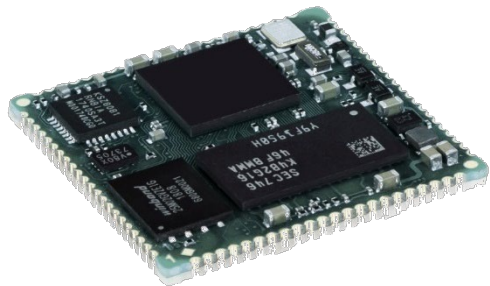
Dual ARM® Cortex A7® and Cortex M4®

Quad ARM® Cortex A53® and Cortex M4®

SoM i.MX6UL/ULL

SoM STM32 MP157

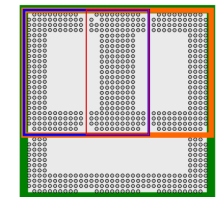
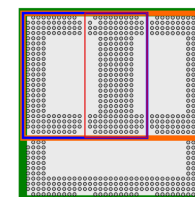
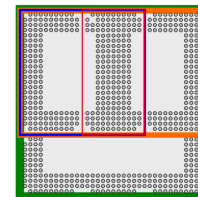
SoM i.MX8M mini



OSM i.MX8M nano

OSM i.MX8M mini

OSM i.MX8M plus

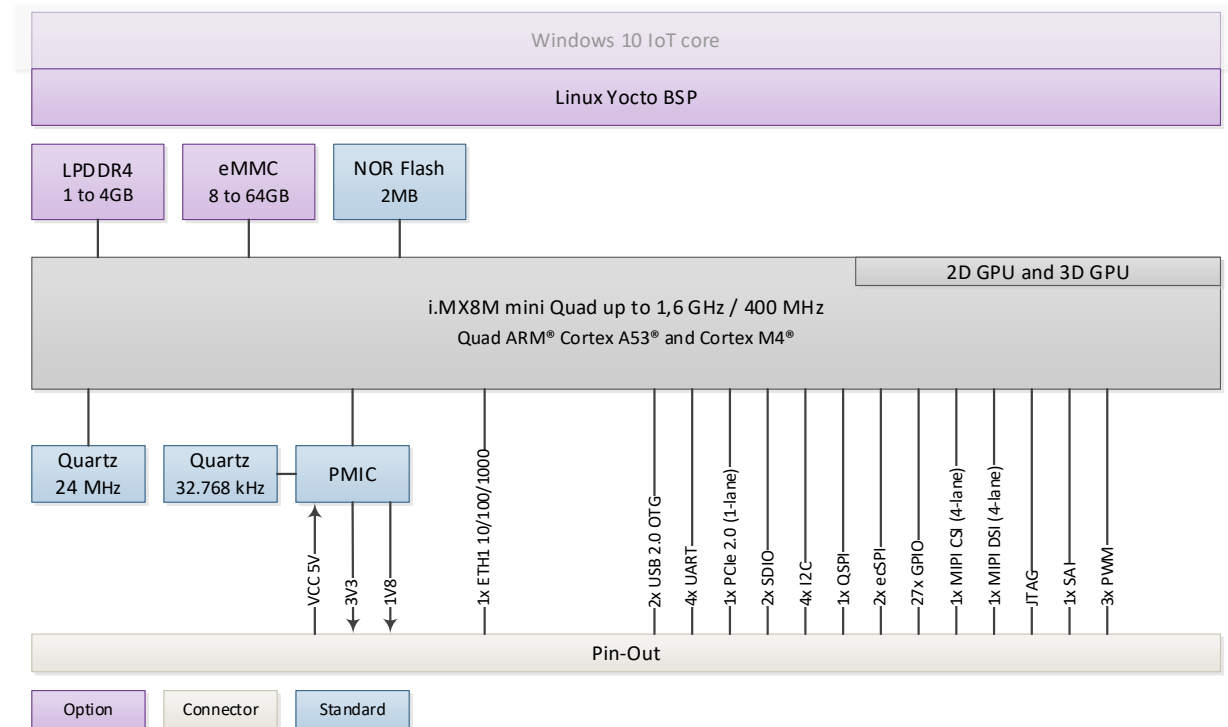


SOM: NXP i.MX8M MINI QUAD ARM® CORTEX A53® AND CORTEX M4®



OSM Version Q4/2020

- 4x 1,6 GHz / 1x 400 MHz
- 1 GB bis zu 4 GB LPDDR4-RAM
- 8 GB bis zu 64 GB eMMC
- 2 MB NOR-Flash
- 1x 1 Gbit/s Ethernet
- 2x USB 2.0 OTG
- 4x UART
- 4x I²C, 2x SPI, 27x GPIO, 3x PWM, 1x PCIe, 1x SAI, 1x QSPI
- 2x SDIO
- LCD Interface 1x MIPI DSI (4-lane)
- Camera Interface 1x MIPI CSI2 (4-lane)
- Footprint: 30x30mm / 267 Pin
- -20°C ...+85°C
- Longterm CPU: 15Y – Feb 2019

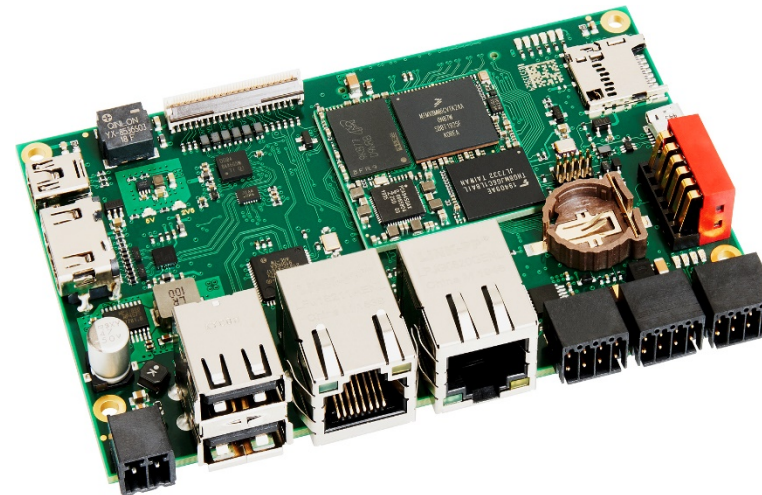


Item number	Description	Memory
40099 175 *	SL iMX8MM Quad 1,6GHz/400MHz	1GB/8GB
40099 185	SL iMX8MM Quad 1,6GHz/400MHz	2GB/8GB
On request	SL iMX8MM Quad 1,6GHz/400MHz	4GB/32GB

* take for samples

BOARD: NXP I.MX8M MINI QUAD ARM® CORTEX A53® AND CORTEX M4®

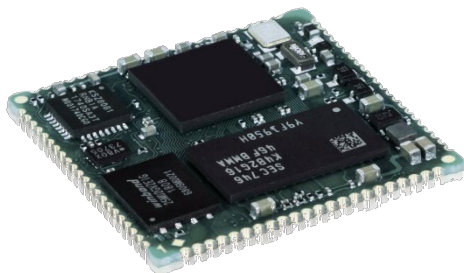
- 4x 1,6 GHz / 1x 400 MHz
- 1 GB bis zu 4 GB LPDDR4-RAM
- 8 GB bis zu 64 GB eMMC
- 2 MB NOR-Flash
- 2x Ethernet Interface on RJ45 (1x 10/100 Mbit/s, 1x 1 Gbit/s)
- 2x USB 2.0 Host, 1x 2.0 USB OTG
- 4x DIO (24V/up to 800mA, short circuit-proof)
- 1x RS232, 1x RS485, 1x CAN 2.0
- LCD Interface 1x HDMI, 1x LVDS, up to 1920 x 1080 @60fps
- Touch 1x I2C, 1x USB
- Power supply 24V DC ±20%
- Power consumption Linux running <2W
- Temperature range 0°C...+70°C
- Operating system Embedded Linux (Yocto Distribution)
- Optional Operating system Microsoft Windows 10 IoT Core
- Form factor 105.5 x 67 mm (4.3")
- RTC 1x on baseboard with buffering battery CR1220
- Debug 1x Console
- Expansion plug 1x I2C, 1x PCIe, 1x SPI, 1x SDIO 8 bit,
- Camera Interface 1x MIPI CSI (4-lane)
- 1x Buzzer Audio
- Security HAB Secure Boot, TrustZone, True RNG, RSA bis zu 4096,
- AES-128/192/256, 3DES, ARC4, MD-5, SHA bis zu 256, ECC, Secure JTAG



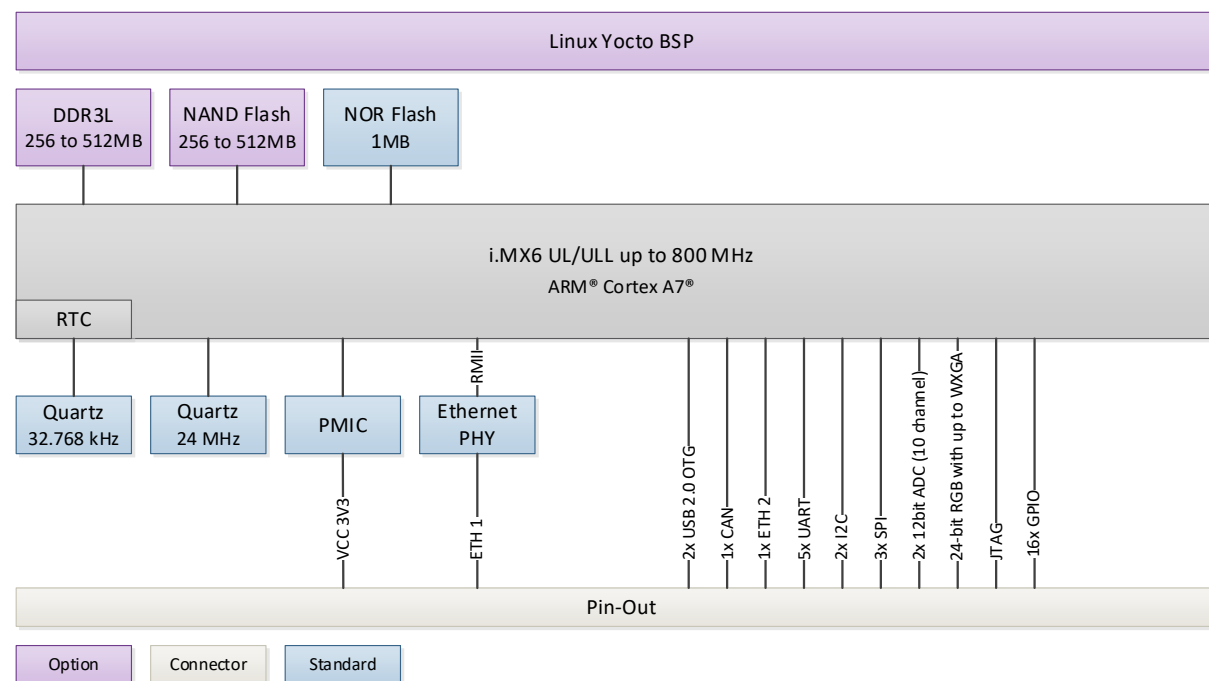
Item number	Description	Memory
40099 187	BL iMX8MM Quad 1GB/8GB *	1GB/8GB
on request	BL iMX8MM Quad 2GB/8GB	2GB/8GB
on request	BL iMX8MM Quad 4GB/32GB	4GB/32GB

* take for samples

SOM: NXP I.MX6UL/ULL 1X ARM® CORTEX®-A7



- UL 528 MHz (UltraLite) / ULL 800 MHz
- 256 MB / 512 MB DDR3-RAM
- 256 MB / 512 MB NAND-Flash
- 1 MB NOR-Flash
- 2x 10/100 Mbit/s (1x PHY included) Ethernet
- 2x USB 2.0 OTG
- 3x UART
- 2x I²C, 1x SPI, 16x GPIO, 2x PWM, 2x SDIO 4 bit, 3x ADC
- Up to 1x CAN 2.0
- LCD Interface 1x RGB 24 bit bis zu 1366 x 768 @60fps
- Internal RTC – on SoM with Quartz
- Footprint: 25x25mm 88 Pin CASTELLATIONS, 38 LGA Pads
- -40°C ...+85°C
- Longterm CPU: 15Y – Oct 2016



Item number	Description	Memory
40099 123	SL iMX6 UL 1xA7 528MHz	256MB/256MB
40099 122 *	SL iMX6 UL 1xA7 528MHz	512MB/512MB
40099 144	SL iMX6 ULL 1x 7 800MHz	256MB/256MB
40099 145 *	SL iMX6 ULL 1x 7 800MHz	512MB/512MB

* take for samples

BOARD: NXP I.MX6UL/ULL 1X ARM® CORTEX®-A7

- UL 528 MHz (UltraLite) / ULL 800 MHz
- 256 MB / 512 MB DDR3-RAM
- 256 MB / 512 MB NAND-Flash
- 1 MB NOR-Flash / 64 kByte NV SRAM
- eMMC up to 128 GByte, 1x micro SD-card slot
- 2x 10/100 Mbit/s Ethernet Interface on RJ45
- 2x USB 2.0 Host, 1x USB 2.0 OTG
- 1x RS232, 1x RS485, 1x CAN 2.0
- 2x DIO (24V/up to 800mA, short circuit-proof)
- 2x AIN (0...24V)
- LCD Interface 1x RGB 24 bit up to 1366 x 768 @60fps
- Touch 1x I2C, 1x USB
- Power supply 24V DC ±20%
- Power consumption Linux running <1,5W
- Temperature range 0°C...+70°C
- Operating system Embedded Linux (Yocto Distribution)
- Form factor 105.5 x 67 mm (4.3")
- External RTC 1x on Baseboard
- RTC-Buffering battery on Baseboard CR1220
- Debug 1x Console
- Expansion plugs 2x USB, 1x I2C, 1x SPI instead nvSRAM
- Audio 1x Buzzer
- Security Secure Boot, RNG, AES-128



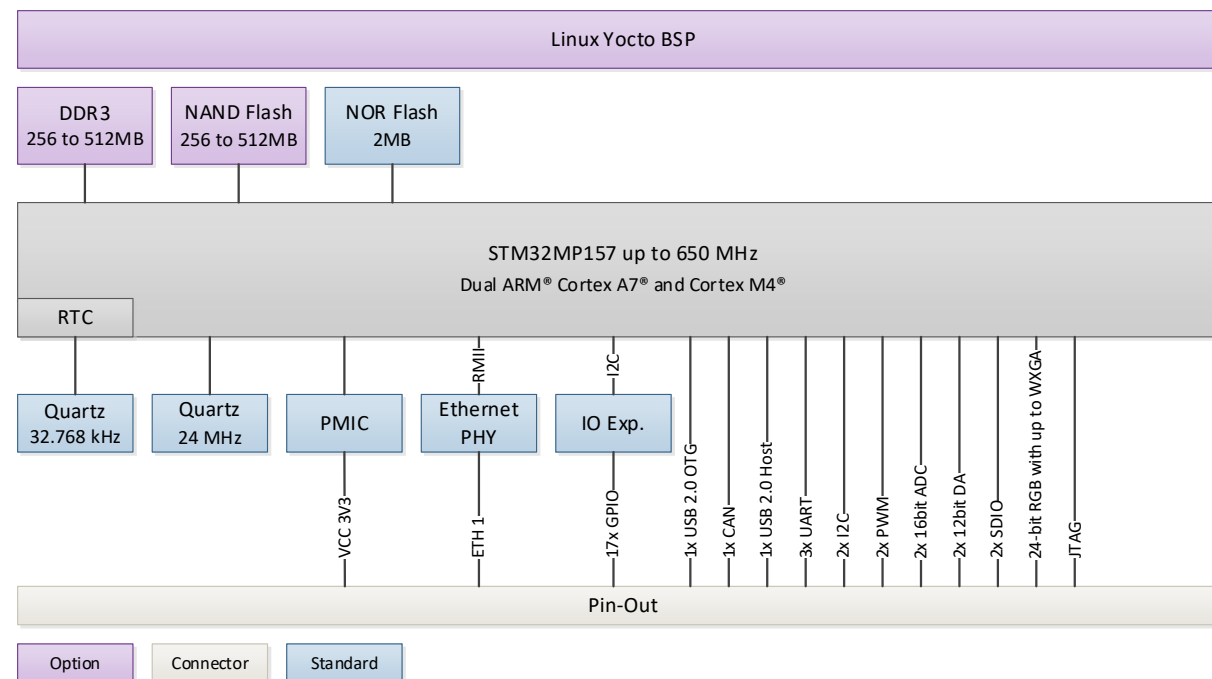
Item number	Description	Memory
40099 191	BL iMX6 UL 512MB/512MB *	512MB/512MB
40099 148	BL iMX6 ULL 512MB/512MB *	512MB/512MB

* take for samples

SOM: STM32MP157 DUAL ARM® CORTEX A7® AND CORTEX M4®



- 2x 650 MHz / 1x 200 MHz
- 256 MB / 512 MB DDR3-RAM
- 256 MB / 512 MB NAND-Flash
- 2 MB NOR-Flash
- 1x 10/100 Mbit/s (PHY included) Ethernet
- 2x USB 2.0, 1x USB OTG
- 3x UART
- 2x I2C, 17x GPIO, 2x PWM, 3x SDIO 4 bit, 2x ADC Analog
- 1x CAN 2.0
- LCD Interface 1x MIPI DSI, 1x RGB 24 bit, up to 1366 x 768 @60fps
- Internal RTC – on SoM with Quartz
- Footprint: 25x25mm 88 Pin CASTELLATIONS, 38 LGA Pads -40°C ...+85°C
- Longterm CPU: 10Y – Jan 2020

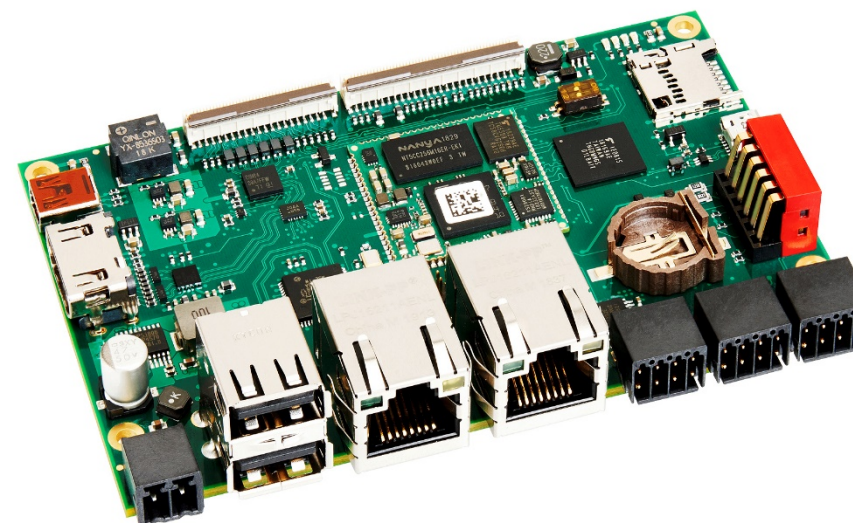


Item number	Description	Memory
40099 168	SL STM32 MP157 650MHz/200MHz	256MB/256MB
40099 167 *	SL STM32 MP157 650MHz/200MHz	512MB/512MB

* take for samples

BOARD: STM32MP157 DUAL ARM® CORTEX A7® + CORTEX M4®

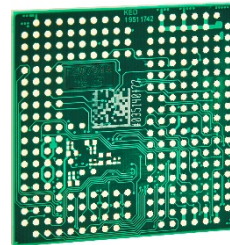
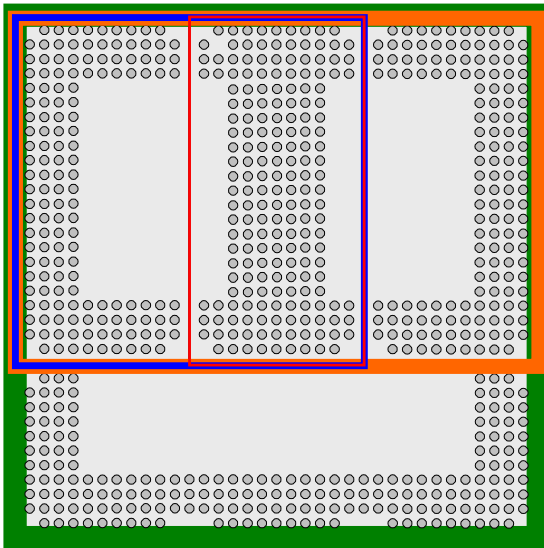
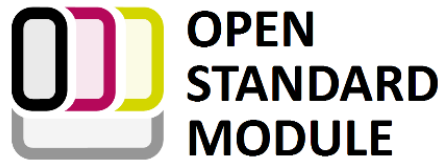
- 2x 650 MHz / 1x 200 MHz
- 256 MB / 512 MB DDR3-RAM
- 256 MB / 512 MB NAND-Flash
- 2 MB NOR-Flash
- eMMC up to 128 GByte, 1x micro SD-card slot
- 2x 10/100 Mbit/s Ethernet Interface on RJ45
- 2x USB 2.0 Host, 1x USB 2.0 OTG
- 1x RS232, 1x RS485, 1x CAN 2.0
- 2x DIO (24V/up to 800mA, short circuit-proof)
- 2x AIN (0...24V)
- LCD Interface 1x RGB 24 bit, 1x LVDS, 1x HDMI up to 1366 x 768 @60fps
- Touch 1x I2C, 1x USB
- Power supply 24V DC ±20%
- Power consumption Linux running <2W
- Temperature range 0°C...+70°C
- Operating system Embedded Linux (Yocto Distribution)
- Form factor 105.5 x 67 mm (4,3")
- Internal RTC on SoM with Quartz, External RTC 1x on Baseboard
- Debug 1x Console
- Audio 1x Buzzer
- Security TrustZone, AES 256, SHA-256, MD5, HMAC, 3x Tamper Pins with 1 active, Secure RAMs, Secure Peripherals, Secure RTC, Analog true RNG, 98-bit unique ID



Item number	Description	Memory
40099 176	BL STM32 MP157 512MB/512MB	512MB/512MB

* take for samples

STANDARDIZATION

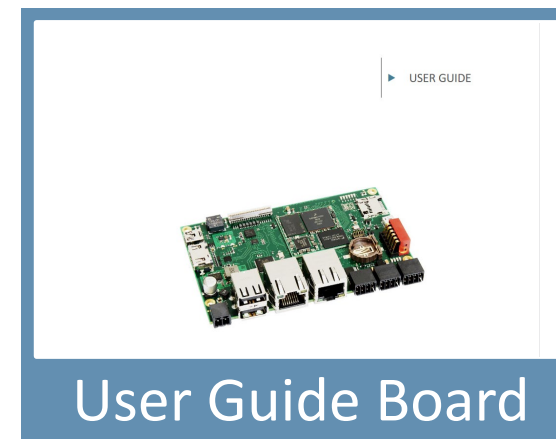
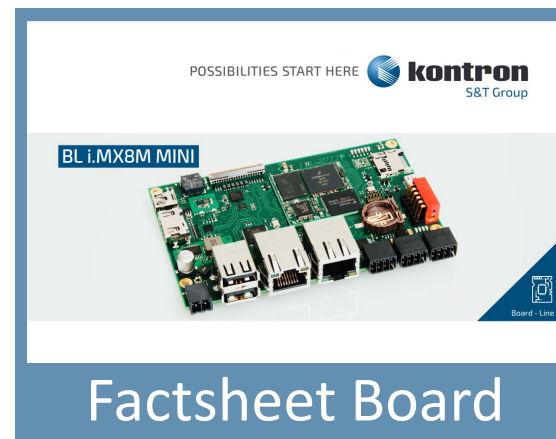
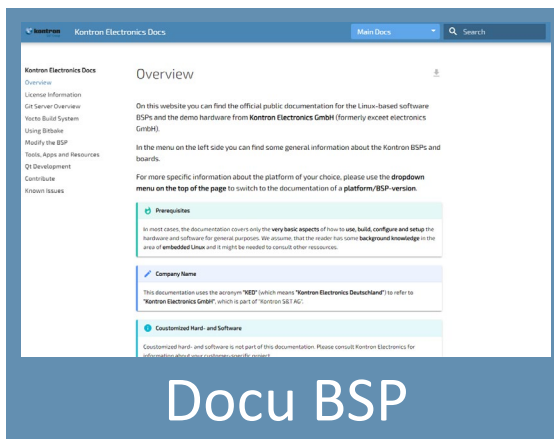
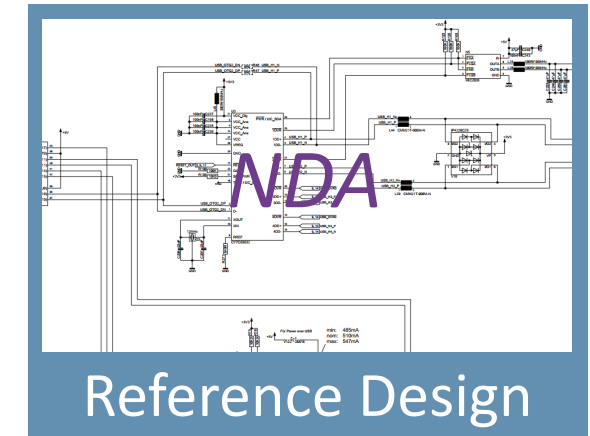
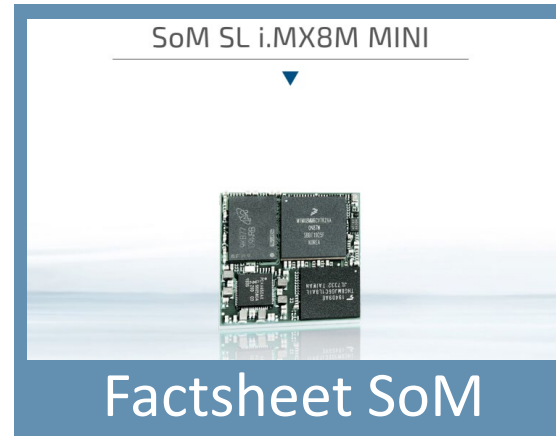


i.MX8MM SoM

- ▶ OSM Standardization in SGET, started in 2019
- ▶ Release: **OSM_V1.0.docx** Dec 09, 2020
- ▶ **4 form factors:**
 - ▶ Size-0 “**zero**” 30x15 mm / with 188 contacts
 - ▶ Size-S “**small**” 30x30 mm / with 332 contacts
 - ▶ Size-M “**medium**” 30x45 mm / with 476 contacts
 - ▶ Size-L “**large**” 45x45 mm / with 662 contacts
- ▶ **Key features**
 - ▶ exchangeable between manufacturers
 - ▶ Small
 - ▶ machine processable
 - ▶ Cost-effective because of solder-down

SOM: LINKS AND DOCUMENTS

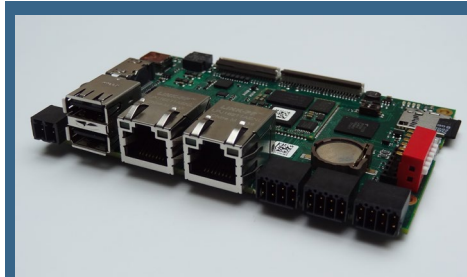
New Homepage



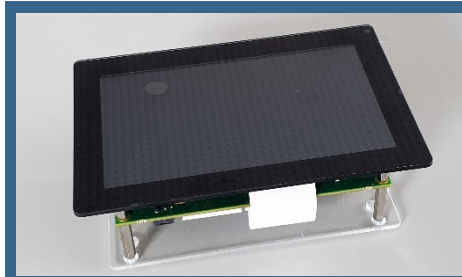
EVAL-KITS



Presentation Box



Boardline



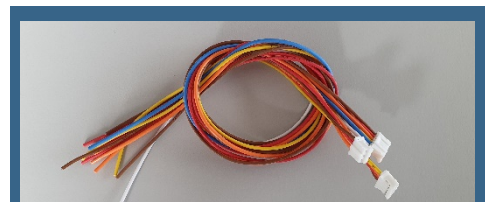
Display



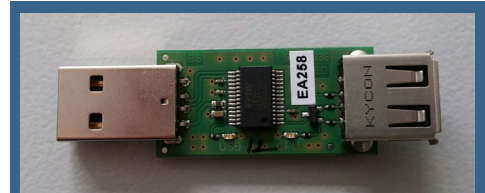
24V Power Supply



EVAL Kit

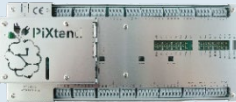


Cable

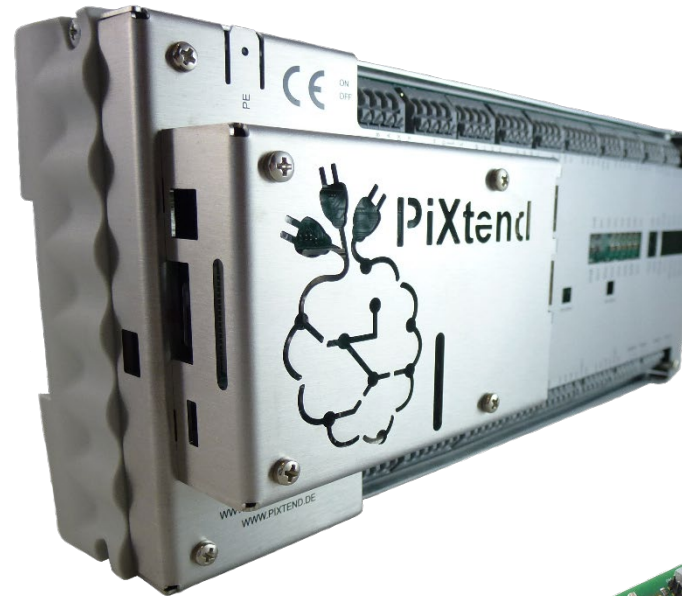


USB to serial converter

RASPBERRY PI TOOLBOX

Webterminal	7" Webpanel WP70 	10,1" Webpanel WP101 	15,6" Webpanel WP156 			
PiXtend Pro	PiXtend V2 –L- ePLC Pro 	PiXtend V2 –S- ePLC Pro 	PiXtend eIO Digital One Pro 	PiXtend eIO Analog One Pro 	AL PI-TRON CM3+ 	AL CAN-IO 
PiXtend Basic	PiXtend V2 –L- ePLC Basic 	PiXtend V2 –S- ePLC Basic 	PiXtend eIO Digital One Basic 	PiXtend eIO Analog One Basic 	BL PI-TRON CM3+ 	
PiXtend Board	PiXtend V2 –L- Extension Board 	PiXtend V2 –S- Expansion Board 			Compute Module / Raspberry Pi 	
Prozessor- Hersteller	Broadcom	Broadcom			Broadcom	

PIXTEND V2 -L-



PIXTEND V2 -L-



V2 -L- EXTENSION BOARD



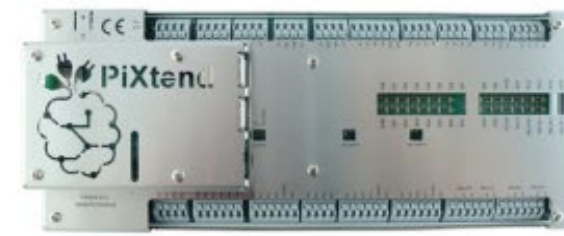
- ▶ Without Raspberry Pi
- ▶ Connect to RPi and go!
- ▶ Item no.: 50199 001

V2 -L- ePLC® BASIC



- ▶ Board basic version
- ▶ Includes Raspberry Pi
- ▶ Open version
- ▶ Preinstalled SD card
Basis Image
Item no.: 50199 002
CODESYS Image
Item no.: 50199 011

V2 -L- ePLC® PRO



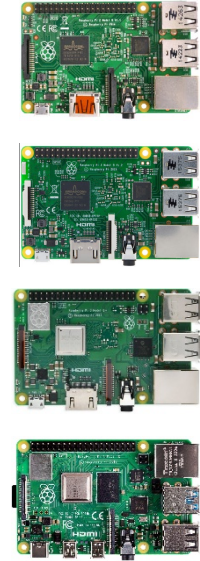
- ▶ Complete device - Pro
- ▶ Incl. Raspberry Pi
- ▶ Top hat rail housing
- ▶ Brushed stainless steel cover
- ▶ Preinstalled SD card
Basis Image
Item no.: 50199 003
CODESYS Image
Item no.: 50199 012

COMPATIBILITY RASPBERRY PI



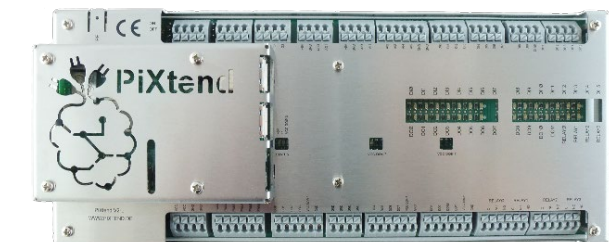
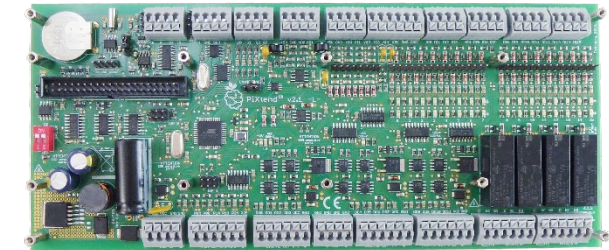
Your choice of Raspberry Pi

- The PiXtend boards can be used with a wide range of Raspberry Pi computers like
 - The model 1 B+, 2 B, 3 B, 3 B+
 - The 4 B, can also be used. It offers different memory options up to 8 GB and enhanced performance. It is recommended however to use it on PiXtend without an enclosure.



PIXTEND V2 -L- TECHNICAL DATA

HARDWARE	PiXtend® V2 -L-
Power supply	24V DC ±20%
Retain-/Remanence memory	64 Bytes Flash EEPROM
Real Time Clock (RTC)	With battery buffering
Temperature- and Air Humidity Sensors	Up to 4 DHT11, DHT22, AM2302
CAN Bus	1x **
RS232	1x *
RS485	1x*, Modbus RTU capable
Digital inputs (DI)	16x 3,3 / 5 / 12 / 24V
Digital outputs (DO)	12x PNP 5 / 12 / 24V, 0,5A
Analog voltage inputs (AI-U)	4x 0...5V, 0...10V, 10 Bit
Analog current inputs (AI-I)	2x 0...20mA, 10 Bit
Analog outputs (AO)	2x 0...10V, 10 Bit
Relais	4x, max. 230V / 6A
PWM-/Servo outputs	4x, 16 Bit resolution, 5V
GPIO	4x 5V GPIO
Interfaces and I/Os	Short circuit proof, supply with reverse polarity and overload protection (self-resetting safety device)
Max. temperature range	0°C...50°C
Dimension – without housing	236.3 x 101.8 x 27 mm
Top hat rail housing	Aluminium
Supported RPI models	1 B+, 2B, 3 B, 3 B+ 4 B (Extension Board & Basic)
SOFTWARE	
Short cycle times	5 ms (200 Hz)
Support for	CODESYS V3, C- and Phyton Library, FHEM, Node-RED



ONE HARDWARE PLATFORM - MANY SOFTWARE OPTIONS



Various programming languages and software tools like

- Python with the PiXtend Python Library v2, available as download
- The C programming language, library available as download and via SourceForge
- Node-RED, the IoT editor for flow-based programming, extension available as download
- CODESYS V3.5 PLC Runtime - Turns the devices into a full-fledged plc's with HMI
 - Available pre-installed and ready to use or as download for a manual install on existing systems
- Adaption or integration into other systems is also possible, for example Scratch, JavaScript, Java, C++, Ruby, C# and many more



PIXTEND V2 -S-



PIXTEND V2 -S-



V2 -S- EXTENSION BOARD



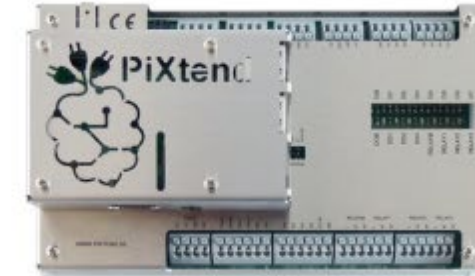
- ▶ Without Raspberry Pi
- ▶ Connect to RPi and go!
- ▶ Item no.: 50199 004

V2 -S- ePLC® BASIC



- ▶ Board basic version
- ▶ Includes Raspberry Pi
- ▶ Open version
- ▶ Preinstalled SD card
Basis Image
Item no.: 50199 005
CODESYS Image
Item no.: 50199 013

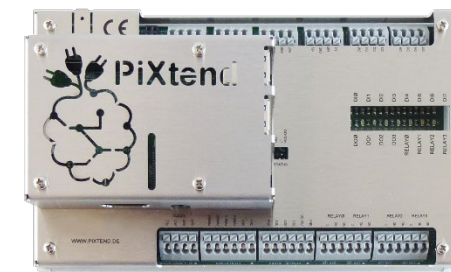
V2 -S- ePLC® PRO



- ▶ Complete device - Pro
- ▶ Incl. Raspberry Pi
- ▶ Top hat rail housing
- ▶ Brushed stainless steel cover
- ▶ Preinstalled SD card
Basis Image
Item no.: 50199 006
CODESYS Image
Item no.: 50199 014

PIXTEND V2 -S- TECHNICAL DATA

HARDWARE	PiXtend® V2 -S-
Power supply	24V DC ±20%
Retain-/Remanence memory	32 Bytes Flash EEPROM
Real Time Clock (RTC)	With battery buffering
Temperature- and Air Humidity Sensors	Up to 4 DHT11, DHT22, AM2302
RS232	1x
RS485	Via USB-Dongle
Digital inputs (DI)	8x 3,3 / 5 / 12 / 24V
Digital outputs (DO)	4x PNP 5 / 12 / 24V, 0,5A
Analog voltage inputs (AI-U)	2x 0...5V, 0...10V, 10 Bit
Analog voltage outputs (AO)	2x 0...10V, 10 Bit
Relais	4x, max. 230V / 6A
PWM-/Servo outputs	2x 16 Bit, 2x 8 Bit resolution, 5V
GPIO	4x 5V GPIO
Interfaces and I/Os	Short circuit proof, supply with reverse polarity and overload protection (self-resetting safety device)
Max. temperature range	0°C...50°C
Dimension – without housing	166.3 x 101.8 x 27 mm
Top hat rail housing	Aluminium
Supported RPI models	1 B+, 2B, 3 B, 3 B+ 4 B (Extension Board & Basic)
SOFTWARE	
Short cycle times	2.5 ms (400Hz)
Support for	CODESYS V3, C- and Phyton Library, FHEM, Node-RED



PIXTEND -EIO-

PiXtend® eIO BASIC MODELS

ANALOG ONE BASIC



Item no.: 50199 009

DIGITAL ONE BASIC



Item no.: 50199 007

PiXtend® eIO PRO MODELS

ANALOG ONE PRO



Item no.:50199 010

DIGITAL ONE PRO



Item no.: 50199 008

TECHNICAL DATA

HARDWARE	PiXtend® eIO Digital One	PiXtend® eIO Analog One
Power supply	24V DC ±20%	
Communication	EIA/RS485, halbduplex (2-wire)	
Digital inputs (DI) - inclusive counting function	8x 3,3 / 5 / 12 / 24V	-
Digital outputs (DO)	8x 0,5A, 5 / 12 / 24V, HyperLogic < 1ms	-
Analog voltage inputs (AI-U)	-	4x 0...5V / 0...10V, 10 Bit
Analog current inputs (AI-I)	-	4x 0...20mA, 10 Bit
Analog voltage outputs (AO-I)	-	4x 0...10V, 12 Bit
Analog current outputs (AO-U)	-	2x 0...20mA, 12 Bit
Wire-break detection	-	at 0...20mA outputs
Temperature range	0°C...+60°C	
Dimensions - without housing (Basic)	96,3 x 101,8 x 21 mm	
Dimension - with housing (Pro)	106 x 105 x 45 mm	
Form factor	Aluminium housing for mounting on mounting rail	
Conformity	CE, RoHS, Modbus, IEC 61131-2 (SPS-norm)	
PiXtend compatibility	direct: V2 -L-, V2-S- with USB-RS485 Dongle	
Baud rate	from 2400 to 230400, parity: none, even or uneven	
SOFTWARE		
Supported protocols	Modbus RTU, PiXtend eIO ASCII protocol	
Fast digital logic "HyperLogic"	Available	-
Security	Watchdog-Timer, CRC-checksum, Parity-Check	
Support for	CODESYS V3, Java, C, C++, C#, Phyton, FHEM, Node-RED	

AL (BL) PITRON CM3+

- CM3+, Broadcom BCM2837B0 CPU with 4x Arm® Cortex®-A53
- 1 GByte LPDDR2-RAM
- 1x micro SD-card slot for operating system or 8GB / 32GB eMMC
- 16 kB FRAM
- 2x 10/100 Mbit/s Ethernet Interface on RJ45
- 2x USB 2.0 Host
- 2x UART, 2x I2C, 2x SPI, 28x GPIO, 2x PWM, 1x SDIO
- 4x DIO, 24V/800mA, short circuit-proof
- 1x RS232, 1x RS485, 1x CAN 2.0
- LCD Interface 1x 2-lane DSI Display Interface
- Touch 1x I2C, 1x USB
- 1x micro-HDMI
- 1x 2-lane CSI Camera Interface
- Power supply 24V DC ±20%
- Temperature range 0°C...+55°C
- Operating system Raspbian Linux
- Form factor 110 x 76 x 25mm
- External RTC 1x on Baseboard with buffering battery CR1220
- Expansion plug Raspberry PI GPIO Header 40Pin

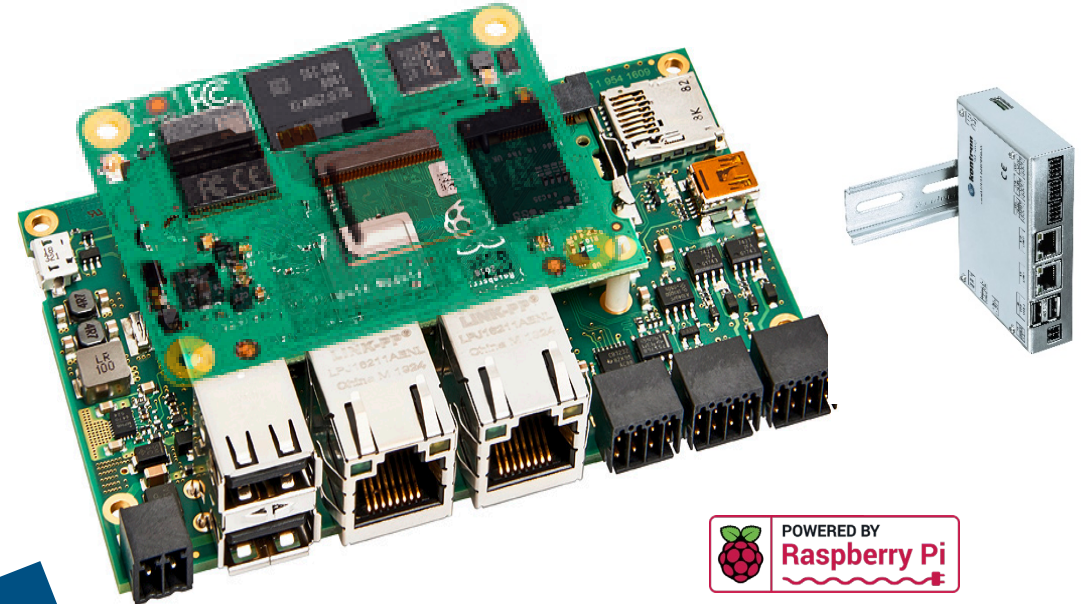


Item number	Description	Memory
50099 043	AL PiTron CM3+ lite 1GB/micro SD Slot	1GB / micro SD-card slot
50099 055	AL PiTron CM3+ 1GB/8GB eMMC	1GB/8GB eMMC
50099 057	AL PiTron CM3+ 1GB/32GB eMMC	1GB/32GB eMMC
40099 196	BL PiTron CM3+ lite 1GB/micro SD Slot	1GB / micro SD-card slot
40099 197	BL PiTron CM3+ 1GB/8GB eMMC	1GB/8GB eMMC
40099 198	BL PiTron CM3+ 1GB/32GB eMMC	1GB/32GB eMMC

PITRON CM4: BROADCOM BCM2711 QUAD-CORE CORTEX-A72

New Features:

- Compute module CM4
- Options for 1GB, 2GB, 4GB or 8GB LPDDR4-3200 SDRAM
- Options for 0GB ("Lite"), 8GB, 16GB or 32GB eMMC Flash memory
- Gigabit Ethernet
- Option for PoE
- Option for fully certified radio module:
2.4 GHz, 5.0 GHz IEEE 802.11 b/g/n/ac wireless;
Bluetooth 5.0, BLE;
external or PCB trace antenna
- HDMI Display up to 4K,
- Hardware-Videodecoding up to 4Kp60,
- OpenGL ES 3.1
-



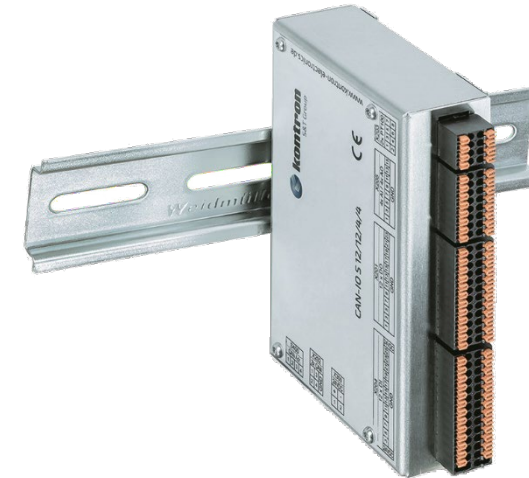
New!
SOP: Q1 / 2022



AL CAN-IO 12/12/4/4

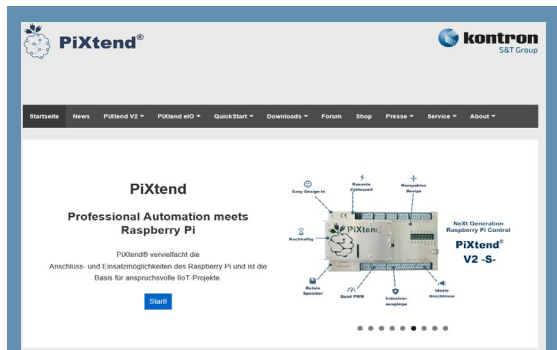


- 2x CAN up to 1Mbit/s
- 12x DI 24V/6mA, incl. 4x 32-bit counters, up to 100kHz
- 12x DO 24V/0.4A, incl. 4x PWM, 1Hz bis 20kHz, 0... 100%
- 4x AI 0... 10V, 12-bit resolution,
> 1ms sampling time, $\pm 0.3\%$ tolerance,
incl. 4x AIN 0...20mA, 12-bit resolution,
> 1ms sampling time, $\pm 0.3\%$ tolerance
- 4x AO, 0... 10V, 12-bit resolution,
conversion time < 250 μ s, $\pm 0.1\%$ tolerance
- 2x PT100, 2/3/4-wire connector,
resolution 0.5° von -40°... +125°C
- Power supply 24V DC $\pm 20\%$
- Temperature range 0...+55°C
- Form factor 110 x 76 x 25mm
- Prepared for cage clamp terminals



Item number	Description	Memory
50099 036	AL CAN-IO 12/12/4/4	

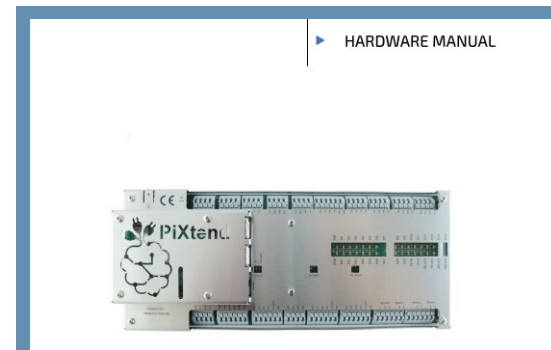
PIXTEND / PITRON INFORMATION



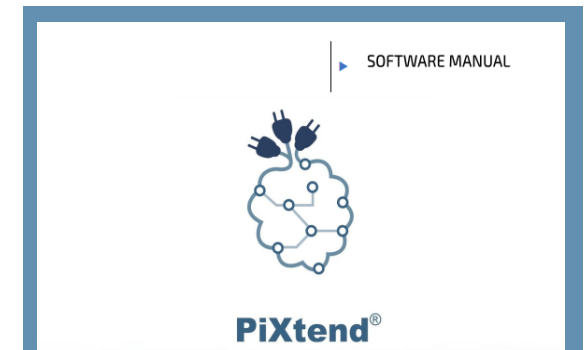
Homepage



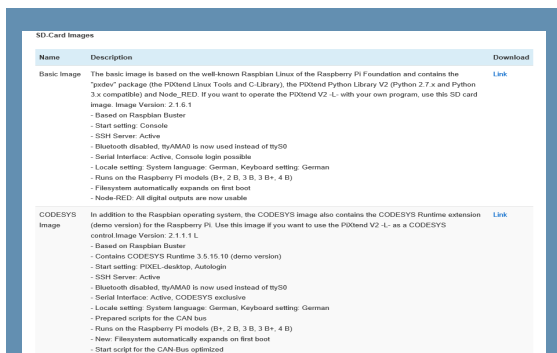
Datasheet



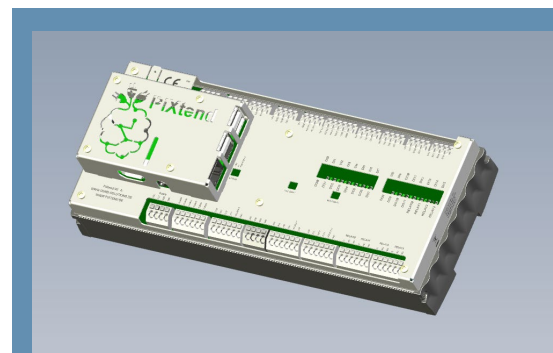
Hardware Manual



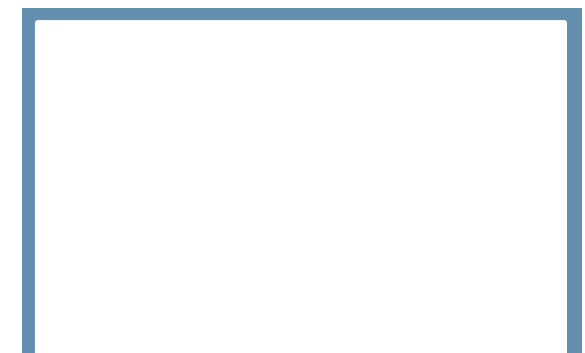
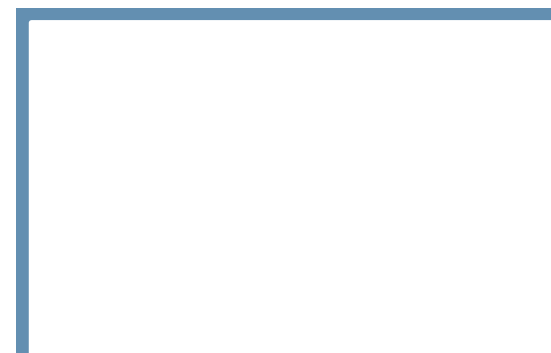
Software Manual



Software Images



CAD STEP Files



MULTITOUCH WEBPANELS 7... 15 INCH

SMART DESIGN



Features

- Standard sizes: 7" (1024 x 600) 10.1" (1280 x 800) 15.6" (1388 x 768)
- High-quality displays : High resolution and large and symmetrical viewing angels -> portrait/landscape format
- Touch: Capacitive Multitouch PCAP (5-fingers)
- Premium Design
 - Front: slim aluminum (standard) or stainless steel frame
 - Backside: robust stainless steel housing with pre-mounted clamping elements
 - Front IP65, backside IP20
 - small installation depth
- Industrial connectors
 - located behind the housing (space saving)
- Selected components with long availability

WEBPANEL SOFTWARE

SMART TOOLS



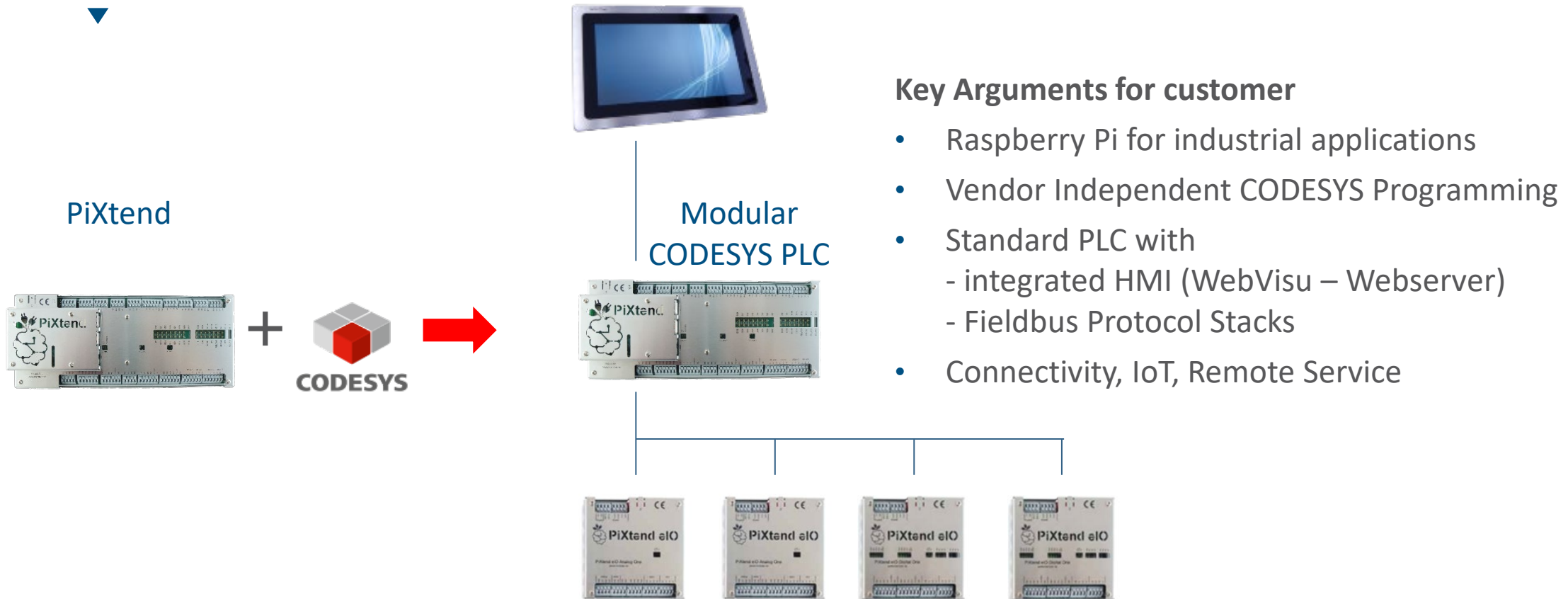
QIWI Software Toolkit

...much more than an ordinary browser

- Powerful browser based on Chromium Browser, with optimized browser engine for enhanced performance
„High performance per EUR“
- Quick and easy panel configuration with integrated webserver either on panel itself or with browser on external device
“Easy configuration”
- Wide range of configuration options (network, browser appearance & behaviour, screen saver, keyboard layouts ...)
“Enhanced feature set to personalize your device”
- Optional: Microbrowser from swiss company «IniNet»
advantage: requires very low performance and fits perfectly to CODESYS web server



RASPBERRY MODULAR PLC



MODERN WEB TECHNOLOGY BASED HMI SOLUTIONS

Web-Panels



Custom WebPanel



Offenes und umfangreiches Steuerungs- und Visualisierungsframework

Ethernet

Ethernet



Fieldbus Level



EtherCAT



CANopen

Actuators, Sensors



IOT Gateway



CODESYS Runtime
CODESYS Web Visu
(Webserver with HTML5)



Custom CODESYS PLC



UNLIMITED APPLICATIONS



access control

- Keyboard / Touch (PCAP)
- Display
- Control electronics
- Scanner, sensor
- Data logging (EVA-DTS)



e-charging

- Charging Control
- CODESYS V3
- GSM / WLAN / LAN



e-mobility

- Vehicle Control electronics
- Touch Display (PCAP)
- wireless communication
- Sensor Interfaces



data logger

- Data logging for industrial & centrifugal fans
- Sensing, Monitoring, Analyzing and Recording
- APP – Visualisation of machine parameters and analyzing results

UNLIMITED POSSIBILITIES



coffee machine

- Keyboard / Touch (PCAP)
- Display
- Control electronics
- Interface to payment System (MDB)
- Data logging (EVA-DTS)



baking oven

- Touch (PCAP)
- Display
- Control electronics
- Increased temperatures
- Increased humidity / steam
- Networking



water pump

- Linux
- Display / Touch (resistiv)
- WLAN (network)
- Bluetooth (service)

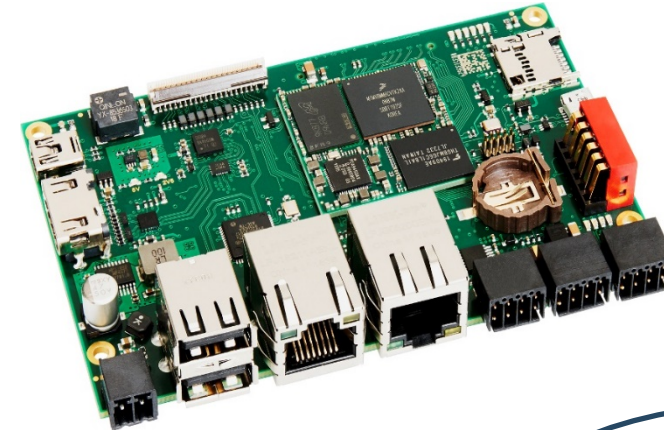


IoT gateway

- Linux
- different interfaces (USB / CAN / RS485 / RS232)
- GSM / WLAN / LAN
- NFC-Reader (pay per use / authentication)



QUESTIONS & ANSWERS



THANK YOU FOR LISTENING

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