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endrich news

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ELECTRONICA SPECIAL NEWS – PART 1

OUR PRODUCT HIGHLIGHTS

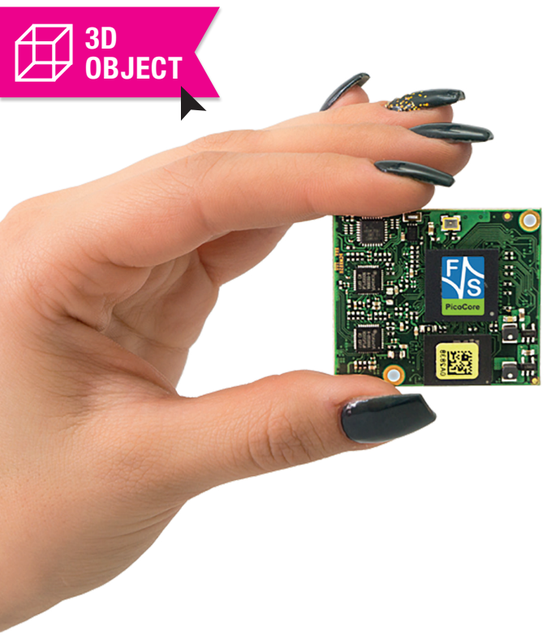
We wish you all a Merry Christmas and a Happy New Year. Thank you very much for your trust and for further good cooperation.

Ho Ho Ho

PICOCORE™ – THE NEW INNOVATIVE COM FORM FACTOR
COMPACT AND POWERFUL AT ONLY 35 x 40 mm

The new compact form factor PicoCore™ with only 35 x 40 mm and a very small board-to-board distance of only 1.5 mm.

The PicoCore™ Computer on Module product family is offered with a NXP i.MX 8M Mini, Nano or a MiniPlus CPU. These heterogeneous multicore applications processors combine high performance computing, power efficiency, enhanced system reliability and embedded security, which is needed to drive the growth in edge computing, multimedia streaming and machine learning applications.



The heart of the processor is a scalable core complex with up to 4x Cortex®-A53 cores & 1x Cortex®-M4 core, 1080px hardware video acceleration for two-way video applications and an integrated 3D and 2D hardware acceleration. The PicoCore™MX8MM / MN / MPlus is offered with SLC NAND Flash, alternatively with up to 64 MB eMMC. The two 100-pin connectors enable a variety of interfaces such as: 2x SD card slot, 1-2 GBit Ethernet, 2x USB, CAN, 4x I2C, 2x SPI, 4x UART, audio (line in / out / mic / headphone or I2S), PCIe, GPIO, PWM and MIPI-CSI for camera connection. A MIPI-DSI or alternatively a LVDS 24 bit interface is provided as display connection and I2C is used to connect an capacitive touch panel. Optionally, a WLAN / BT module is also available for some versions. These modules are characterized by low power dissipation and they're ideally suited for portable devices as well as for secure cloud connections.

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PICOCORE™ – THE NEW INNOVATIVE COM FORM FACTOR
COMPACT AND POWERFUL AT ONLY 35 x 40 mm

	PicoCore™MX-8MM-V3-LIN	PicoCore™MX-8MM-V4-LIN	PicoCore™MX-8MM-V5-LIN	PicoCore™MX-8MN-V1-LIN
Status	Production	Production	Production	Production
Type	NXP i.MX 8M Mini	NXP i.MX 8M Mini	NXP i.MX 8M Mini	NXP i.MX 8M Nano
Core	ARM Cortex-A53 + Cortex-M4	ARM Cortex-A53 + Cortex-M4	ARM Cortex-A53 + Cortex-M4	ARM Cortex-A53 + Cortex-M7
Number of Cores	4	4	4	4
Frequency	max. 1.8 GHz + 400 MHz	max. 1.8 GHz + 400 MHz	max. 1.8 GHz + 400 MHz	1.5 GHz + 630 MHz
L2-Cache	512 KB	512 KB	512 KB	512 KB
GPU	2D GC328, 3D GCNanoUltra (1 shader)	2D GC328, 3D GCNanoUltra (1 shader)	2D GC328, 3D GCNanoUltra (1 shader)	3D GC7000 UltraLite (2 shader)
Video Decode	1080p60 HEVC H.265, VP9, H.264, VP8	1080p60 HEVC H.265, VP9, H.264, VP8	1080p60 HEVC H.265, VP9, H.264, VP8	—
Flash	512 MB SLC NAND	4 GB eMMC	256 MB SLC NAND	4 GB eMMC
RAM	1 GB DDR4	1 GB DDR4	512 MB DDR3L	512 MB DDR3L
SD-Card	1x external	1x external	2x external	2x external
Ethernet	1x 100 / 1000 MB	1x 100 / 1000 MB	2x 100 / 1000 MB	2x 100 / 1000 Mb
WLAN	802.11 ac/a/b/g/n	802.11 ac/a/b/g/n	—	—
BT	5.0 LE	5.0 LE	—	—
USB Host	1x	1x	1x	—
USB Device	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0
CAN	—	—	1x CAN-FD	1x
UART	max. 4x	max. 4x	max. 4x	max. 4x
I2C	max. 4x	max. 4x	max. 4x	max. 4x
SPI	max. 2x	max. 2x	max. 2x	max. 2x
Camera analog/digital	MIPI CSI	MIPI CSI	MIPI CSI	MIPI CSI
PCIe	1x	1x	1x	—
RTC	CPU	CPU	CPU	PCF85263
LVDS	1x 24 bit	1x 24 bit	2x 24 bit	2x 24 bit
Long-term availability	2034	2034	2034	2034

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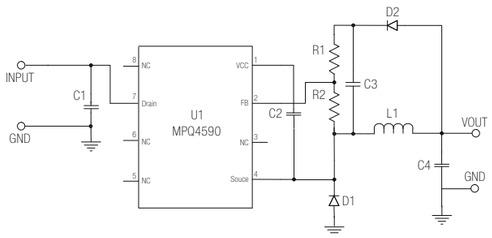
MPQ4590 640 V NON-ISOLATED REGULATOR, UP TO 400 mA OUTPUT CURRENT AEC-Q100 QUALIFIED

The MPQ4590 is a primary-side regulator that provides accurate constant voltage (CV) regulation without an optocoupler. The MPQ4590 supports buck, buck-boost, boost, and flyback topologies and has an integrated 640 V MOSFET to simplify structure and reduce costs. These features make the MPQ4590 an ideal regulator for low-power applications, such as home appliances and standby power. The MPQ4590 is a green-mode operation regulator. Both the peak current and switching frequency decrease as the load decreases. This feature provides excellent efficiency at light load and improves the overall average efficiency. Full protection features include thermal shutdown (OTP), VCC under-voltage lockout (UVLO), overload protection (OLP), short-circuit protection (SCP), and open-loop protection. The MPQ4590 is available in a SOIC-8.

All MPS parts are lead-free, halogen-free, and adhere to the RoHS directive.

FEATURES

- Guaranteed Industrial / Automotive Temp Range Limits
- Primary-Side CV Control Supporting Buck, Buck-Boost, Boost, and Flyback Topologies
- Integrated 640 V / 13.5 Ω MOSFET and Current Source
- <30 mW No-Load Power Consumption
- Up to 5 W Output Power
- Maximum DCM Output Current less than 250 mA
- Maximum CCM Output Current less than 400 mA
- Low VCC Operating Current
- Frequency Foldback
- Limited Maximum Frequency
- Peak-Current Compression
- Internally Biased VCC
- OTP, UVLO, OLP, SCP, Open-Loop Protection
- Available in a SOIC-8 Package
- Available in AEC-Q100 Qualified Grade



APPLICATIONS

- Automotive PTC Heater
- Electric or Hybrid Cars
- Industrial Controls
- Standby Power

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OPT.SENSE : SENSING WITHOUT COMPLEX CABLING

The “opt.sense” product range draws energy where it costs nothing. The existing environmental energy is used for radio communication and data transmission to the IoT edge gateway. The combination with the wireless sensor technology and the Olmatic IoT Cloud “opt.control” enables maintenance-free application scenarios in the field of digital energy management. The overall package offers maximum transparency with maximum integration capability and that without complex cabling. Internet of Things has never been so easy! The sophisticated security system also offers comprehensive protection for all your data. Plug & play into the Olmatic IoT cloud.

The wireless sensor technology of the opt.sense product portfolio enables your energy management system to record all relevant energy parameters in real time at every consumer, every source and every energy storage device. As a maintenance-free plug & play product, it can be easily attached to the respective measuring points as required without special tools and with minimal installation effort. The sensors connect automatically to the “opt.control” gateway within a very short time and immediately supply the relevant energy parameters.

In this way, maximum transparency of the energy parameters can be flexibly set up and expanded. In addition to the classic parameters such as power, current and voltage, the sensors also provide a large number of other parameters such as phase frequency, time of zero crossing, signal analysis, effective power and many more. You not only have the added value of maximum transparency in the energy sector, but also the possibility of optimizing further resources, as appropriate conclusions can be drawn from the recorded parameters, for example in the field of maintenance in the event of a possible defect in a product.

Whether for a new installation or retrofitting – these intelligent energy harvesting sensors can be easily integrated into your system and, if required, can also be wirelessly connected to the intelligent "opt.control" control unit. The wireless communication interfaces enable a comprehensive network infrastructure in real time.

With the Olmatic Power Tracking we can present you an innovative demonstrator and offer our customers a professionally scalable solution.

FEATURES

- Current range: 4 – 400 A rms
- Voltage range: up to 400 V rms
- Frequency: 50 / 60 Hz
- Accuracy: class 3-5
- Sample rate: 8 kSPS
- Refresh rate: 1 – 4 Hz
- Power quality indices: IEC 61000-4-30 class s, dip and swell monitors, line frequency – one per phase zero crossing zero-crossing timeout, phase angle measurements
- Advanced metrology feature set: Total and fundamental active power, volt amperes reactive (VAR), volt amperes (VA), watthour, VAR hour, VA hour, total and fundamental IRMS, VRMS, total harmonic distortion, power factor
- Interface: On-board long range communication module
- Size (W x D x H): 111 x 89 x 40 mm
- Operating temperature: -20 °C to 80 °C

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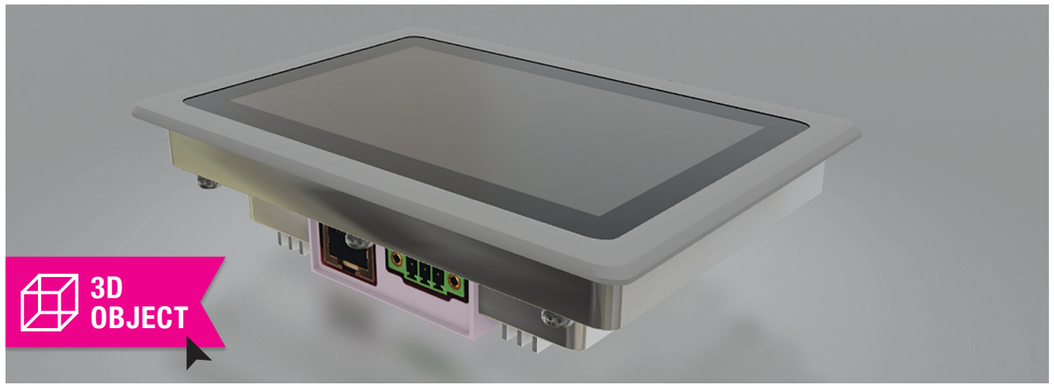
INDUSTRIAL PANEL-PCS WITH TOUCH SCREEN



Endrich offers a wide range of Panel-PCs with screen sizes starting from 5" up to 21,5". Basically all devices meet industrial specifications such as extended operating temperature range, high brightness, solid and robust mechanics and outstanding optical features like wide viewing angle, anti-reflective and anti-glare surfaces and of course optically bonded touch and display assembly.

The range of used CPUs starts with ultra low power ARM-based platforms from NXP, Rockchips and Allwinner up to X86 Intel Core i7. The main ARM-based CPUs are NXP's i.MX6 and i.MX8, Rockchip's RK3288 and RK3399 and Allwinner's V40. Regarding X86 CPUs Intel's N4200 and Core i5 and i7 are used.

In terms of OS support the main focus is on Linux while additionally Android and Windows are supported as well.

Endrich offers full design-in support for the standard products and also helps to create custom designed versions.

APPLICATIONS

- Appliances & Vending
- Industrial Control
- Marine & Trucking
- Laboratory Equipment
- Food Processing
- Healthcare
- Medical Harsh Environment
- IoT
- Smart Industry 4.0

Typical value-added services by Endrich as far as software is concerned:

- Touch controller calibration
- Modification of BSPs
- Adjustment of virtual machines
- Driver adaption
- Configuration and build of the Embedded Linux systems based on Yocto or Buildroot
- Qt support including special C-classes and libraries

As mentioned above also custom designed hardware can be offered:

- Mechanical engineering of fixtures and housings with plastic, metal, aluminum and stainless steel material
- Special connectors and interfaces
- Wireless connectivity modules supporting Bluetooth, Bluetooth smart, WiFi, ZigBee, LoRaWAN®
- Up to IP67 and IK10 ratings
- Custom shape, thickness and ceramic printing of cover glass
- R&D and manufacturing of specific electronics with Altium designer
- Consulting and pre-testing regarding EMI related issues

Our solutions offer a fast time to market and a simple integration. And of course all products are designed and manufactured under highest quality standards and according ISO9001, QS9000, ISO14000, ISO14001, ISO45001; on request UL, TUV and TS16949-1/2 as well.

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SAFT – YOUR RELIABLE PARTNER FOR HIGH QUALITY BATTERIES

SAFT has been existing for 100 years and is a French high-performance battery manufacturer with almost 800M € sales in 2019 and 4,300 employees worldwide. SAFT is a world leader in the design and manufacture of advanced technology batteries for industrial and IoT applications. In fact, SAFT was a pioneer in the development and production of both primary lithium cells and lithium-ion technology and continues today to develop innovative technologies.

SAFT was bought by Total in 2016 and is a 90.1 % subsidiary of Total Group. In 2019, SAFT acquired the US company Go Electric. As a manufacturer, SAFT batteries are produced in Poitiers for the European market.

Primary lithium-thionyl chloride, lithium-sulfur dioxide and lithium manganese dioxide batteries are very suitable for measuring devices (also in the ATEX environment), medical technology, IoT and professional electronics. The Li-MnO2 series is ideal for high performance and high energy without passivation.

Secondary or rechargeable Li-ion batteries are very suitable for specific applications:

- Lithium mixed oxide (NMC / NCA) for MP xlr and small VL xlr ranges (3.65 V) for energy applications
- Saft's specific MP xc Li-Ion technology for extremely cold environments
- Saft's specific MP xtd Li-Ion technology for longer service life and temperatures, whereby the MP is specially designed as an ATEX compatible component
- Saft's specific VL32600-125 high-temperature Li-ion technology for applications with temperatures up to +125 °C.

All these cells are UL and IEC certified, as well as with UN cargo regulations. Most battery packs conform to the European and US packaging IEC 600076-11 Part 10.5 "Intrinsic Safety" standard for ATEX applications.

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AUDIOWELL SENSOR TECHNOLOGY

ULTRASONIC RANGEFINDER – LIQUID LEVEL SENSOR

By measuring the time of flight of ultrasonic waves, this unit calculates the depth of containersand monitors the level of liquid being added. Therefore it can control the liquid addition amount and prevent overfill regardless of the shape of containers. Non-contact measurement is performed to avoid contamination.

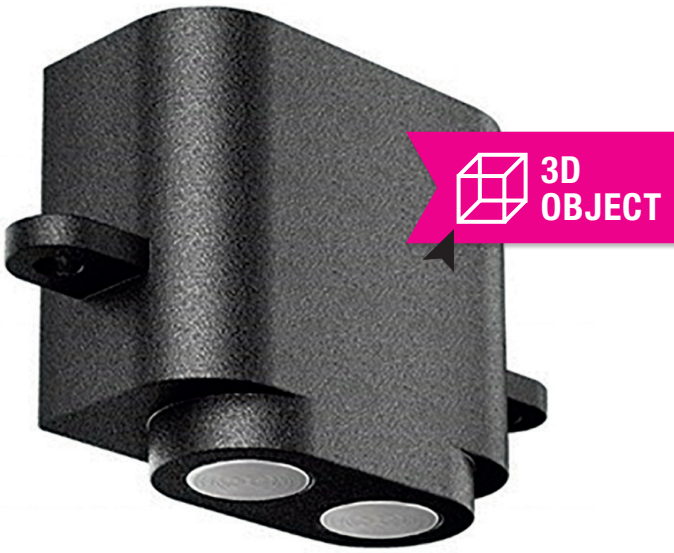
FEATURES

- Highly intelligent
- High accuracy
- Short response time
- High stability

APPLICATIONS

- Water dispenser
- Water purifier
- Coffee machine and other liquid fill-in machines

Model	UM0034
Measuring Range	20 ~ 250 mm
Cup-in Response Time	≤ 3s
Cup-out Response Time	< 2s
Operating Temperature	0 °C to +85 °C
Operating Voltage	≤ 12 mA



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