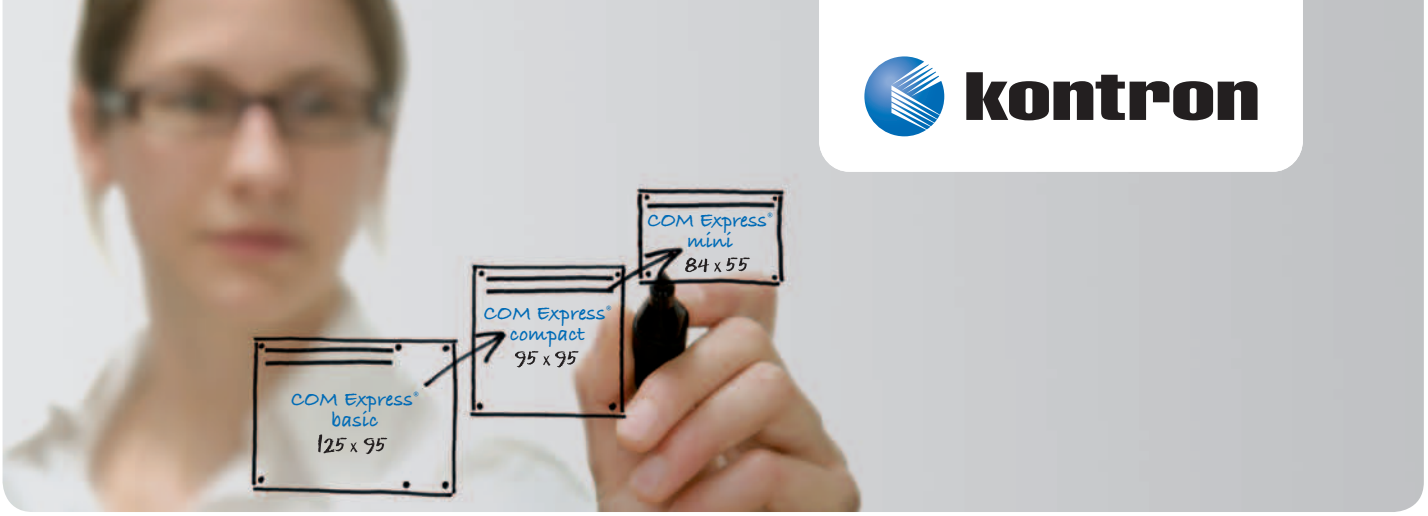
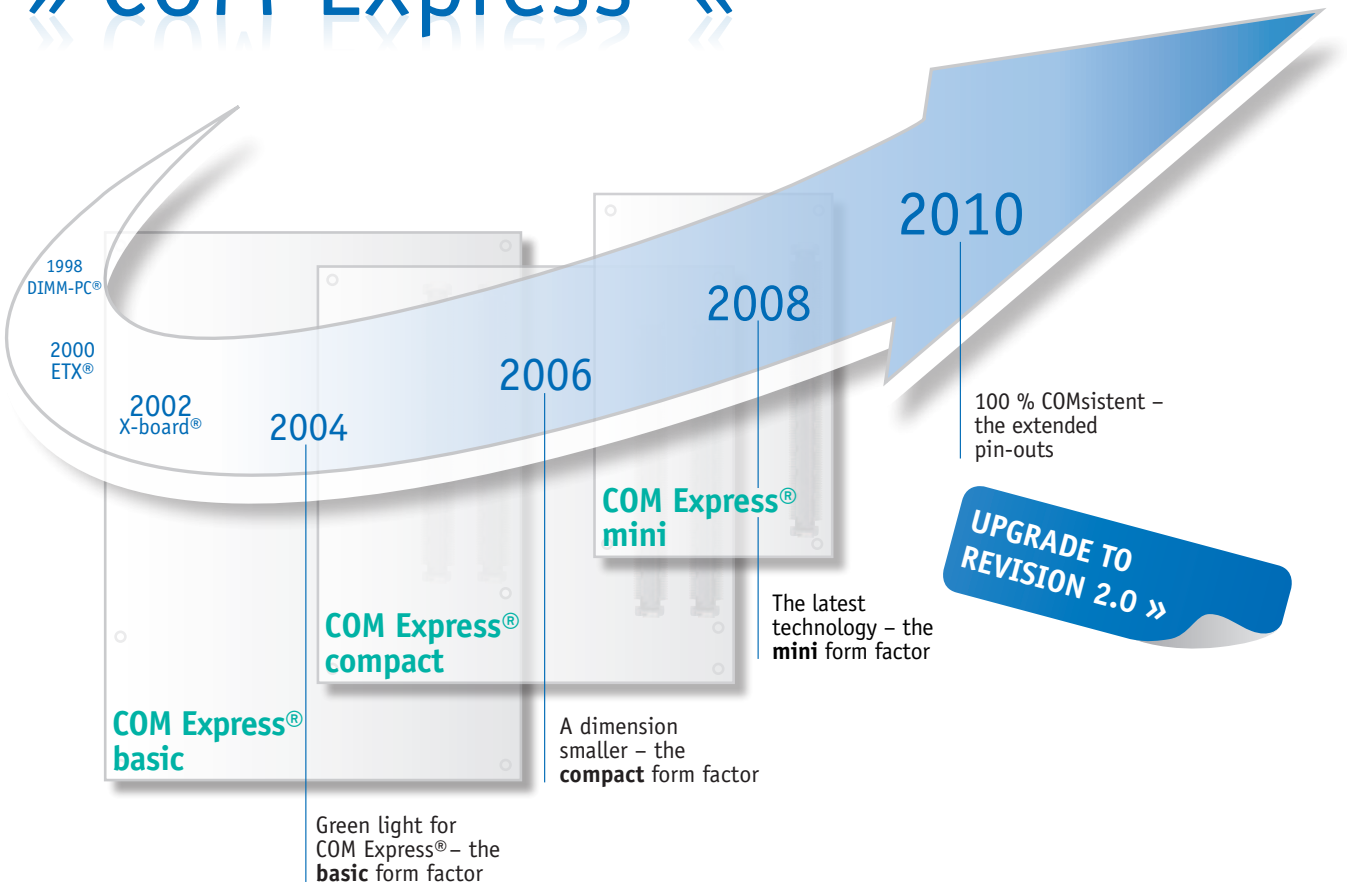


kontron

» COM Express® «



One technology, three form factors

» New pin-outs with USB 3.0 and multiple displays

» 100 % band width from Intel® Atom™ to Quad Core

» 100 % COMsistent, over 14 years COM experience

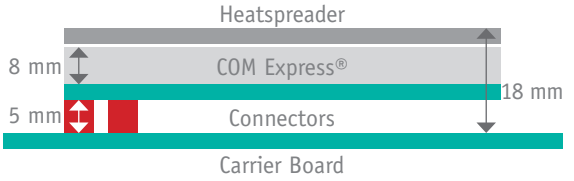
COM Express®

» COM Express® by Kontron ...

COM Express® mini in credit card size

The COM Express® **mini** form factor is the smallest member of the Kontron COM family. It is just the size of a credit card. Extremely low power consumption and small format are well-suited to mobile battery-powered and above all, inexpensive applications. The well-known and proven COM Express® concepts are used. COM Express® mini modules offer maximum compatibility with COM Express® compact and COM Express® basic. Their wide-range power supply input of down to 5V make them perfect and an ideal fit for the small form factor (SFF) application area. They can also be used in extreme environmental conditions and in temperature ranges from -40 to +85° C.

COOLING CONCEPT



- » Heatspreaders are bolted onto the COM Express® module
- » They offer a uniform mechanical surface for heat dissipation
- » 100 % modular
- » All COM Express® modules therefore have the same mechanical dimensions
- » Easy integration
- » Independence

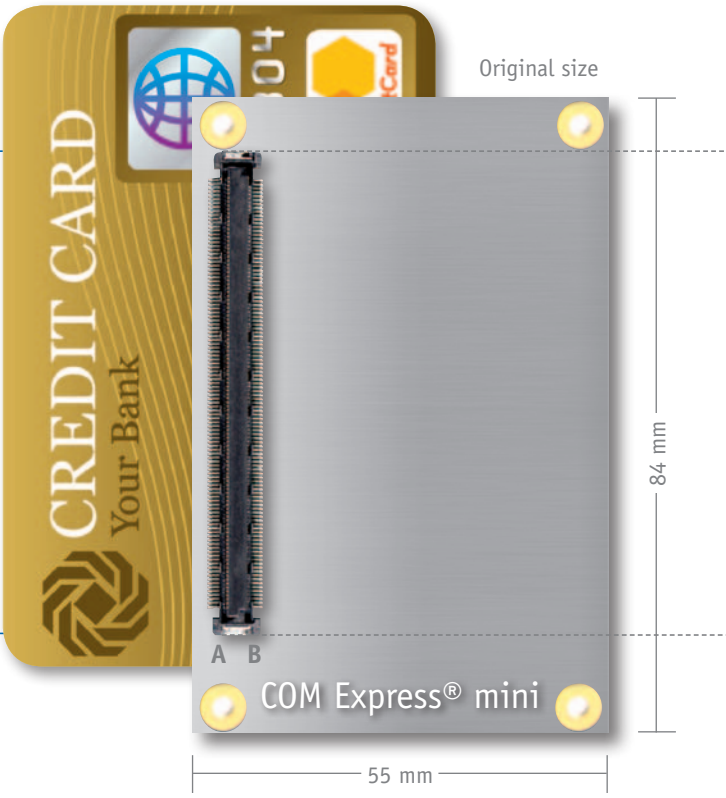
Format
55 x 84 mm

Connector system
1 x 220 pins

Pin-outs
COM Express®
Types 1 and 10

Maximum Power Input
Up to 86W, Types 1 and 10

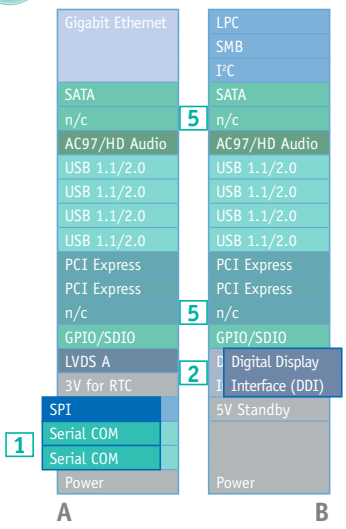
Voltage Range
5V – 14V



From Revision 1.0 to 2.0 – fit for the future!
New: Pin-out Types 10 and 6 with multiple displays and USB 3.0

NEW

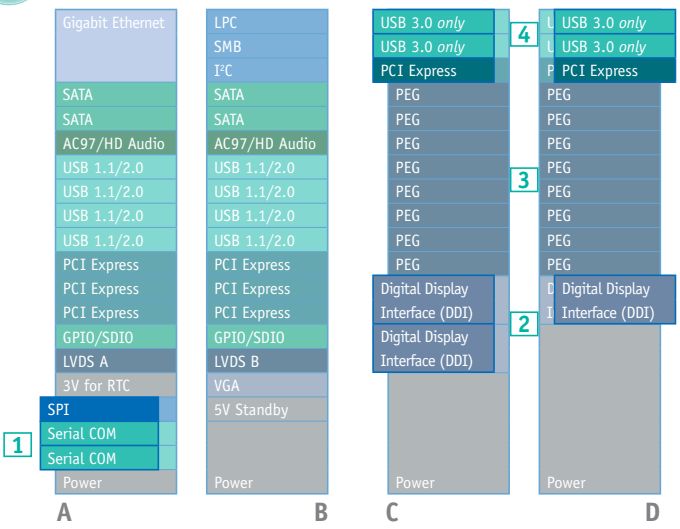
Pin-out Type 10



1 Serial COM signals can be assigned to unneeded power pins without problems.
2 The **Digital Display Interface (DDI)** permits pin-out with SDVO, DisplayPort or HDMI/DVI respectively.
3 PEG and up to 3 DDI usable simultaneously.
4 Existing USB 2.0 ports can be extended to USB 3.0
5 n/c: Reserved for future extensions such as USB 3.0

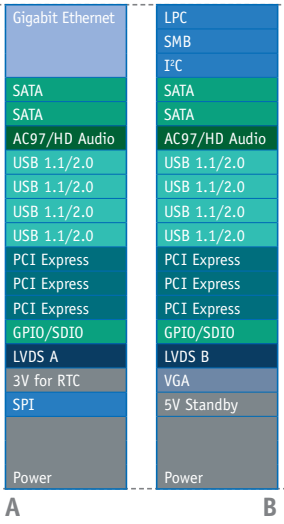
NEW

Pin-out Type 6



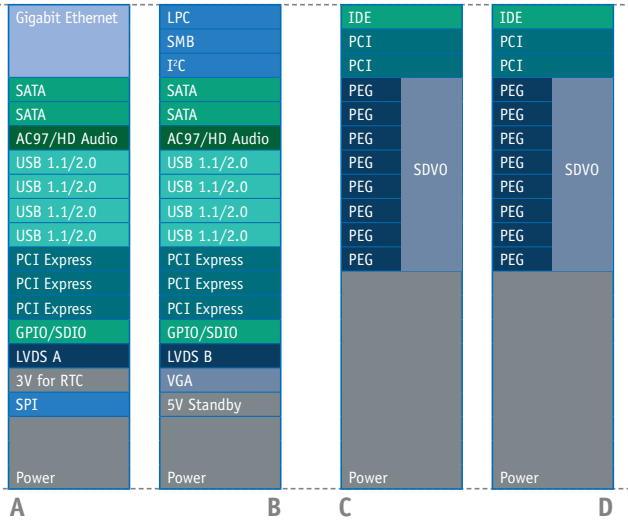
Pin-out Types 1 and 2.

Pin-out Type 1



The successful Types 1 and 2 have been extended in revision 2.0: **Serial Peripheral Interface (SPI)** on reserved pins, support for PCI Express 2.0. Ideal placement gives maximum compatibility with Types 6 and 10.

Pin-out Type 2



The COM Express® specification defines different pin-outs, with Types 1, 2, 6 and 10 being the most important.

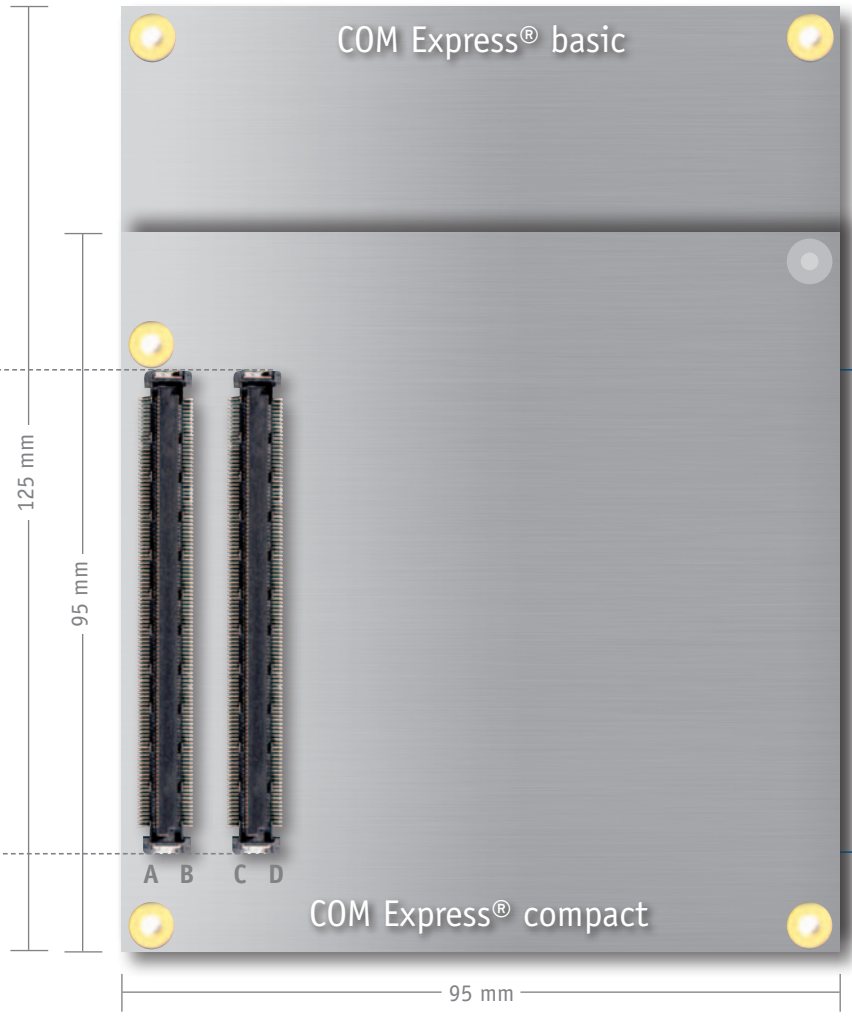
COM Express® basic – space for a lot!

The **basic** and **compact** form factors from COM Express® are the recognized successors to the legendary ETX® form factor that in its day set the standard for COM modules. Over 14 years of COM experience means a safe investment in the future. The COM Express® basic form factor offers space to meet all requirements. Moreover, these powerful modules, with a host of features, are very easy to implement.

COM Express® compact – smaller and mobile.

The official compact form factor from COM Express® is smaller and ideally suited for space-critical or mobile applications. The interfaces, pin-outs and connector placements are 100 % compatible with the COM Express® basic form factor. Even the attachment holes and cooling concept are identical. This guarantees extremely simple interchangeability on Carrier Boards and maximum protection of investment.

Original size



COM Express®

Format
95 x 125 mm
(COM Express® basic)
95 x 95 mm
(COM Express® compact)
Connector system
2 x 220 pins
Pin-outs
COM Express®
Types 2 and 6
Maximum Power Input
Up to 127W, Types 2 and 6
Voltage Range
8.5V – 18V

... your safe choice! «

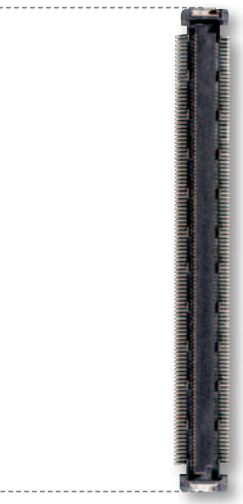
Investment protection included!

COM Express® is the first independent module standard prepared for innovative interface technologies such as USB 3.0. The new Types 6 and 10 pin-outs provide a secure future and help ensure long-term protection of your investment. COM Express® technology now has the ability to handle future developments while retaining the connector concept, the technology and maximum backwards compatibility with the established Types 1 and 2.

COM Express® by Kontron – your advantages at a glance!

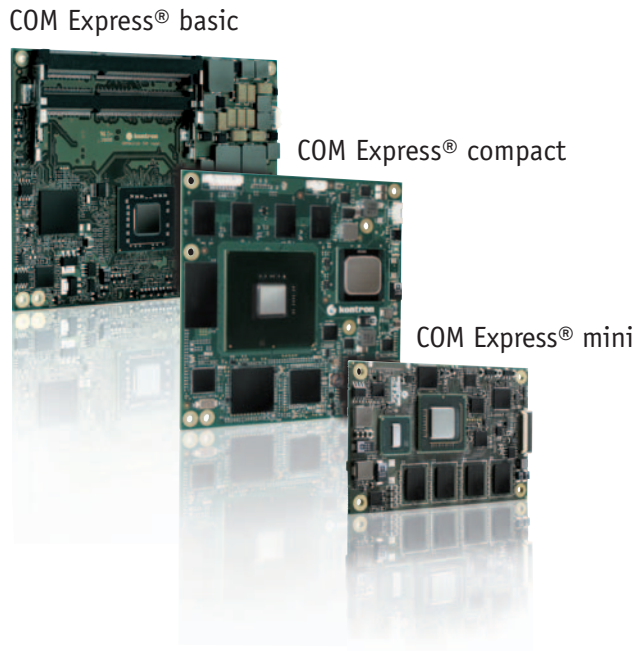
- » Scalable computing power
- » Scalable dimensions
- » Value-added support services
- » Over 14 years COM experience
- » Short time-to-market
- » Manufacturer independence
- » Leverage of know-how
- » Ruggedized
- » Simplified development
- » Long-term availability
- » Numerous product and services vendors

The connector concept – a success factor!



In the COM Express® standard, PICMG® has different defined pin-outs for one or two 220-pin connectors that are placed next to each other. The positioning of the connectors guarantees extremely simple interchangeability of the three form factors. These 'recipes for success' have proven themselves and are widely used, not only for Computer-on-Modules. The connectors are resistant to shock and vibration and offer extra-ordinarily high bandwidth for high-speed data transmission.

One technology, three form factors



» Learn more «

ABOUT PICMG® AND COM EXPRESS®

In 1994, PICMG® (PCI Industrial Computer Manufacturers Group) was founded as a non-profit, tax-exempt organization of more than 400 member companies who collaboratively develop open specifications. They concentrate their activities on telecommunications and industrial computing applications. The companies involved have a long history of developing leading-edge products for these industries.

COM Express® is the latest PICMG® standard – officially adopted in 2005 – for Computer-on-Modules (COM). For the form factors basic, compact and mini the dimensions and the advantageous connector concept are decisive success factors. With revision 2.0, which brings a forward-looking pin-out and numerous further improvements, the COM Express® standard forms the ideal technology basis for product success that is sustainable in the long-term.

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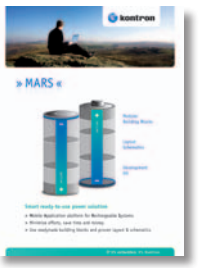
Graphics COMpendium
The standard for graphics output with Computer-on-Modules (COM)

K-station
Powerful software tools and developer library for Computer-on-Modules



MARS
Mobile application platform for battery-operated systems

Boards & More
Customer-specific board development – outsourcing made easy!

CORPORATE OFFICES

Europe, Middle East & Africa
Oskar-von-Miller-Str. 1
85386 Eching/Munich
Germany
Tel.: +49 8165 77777
Fax: +49 8165 77385
info@kontron.com

North America
14118 Stowe Drive
Poway, CA 92064-7147
USA
Tel.: +1 888 294 4558
Fax: +1 858 677 0898
info@us.kontron.com

Asia Pacific
17 Building,Block #1,ABP.
188 Southern West 4th Ring Road
Beijing 100070, P.R.China
Tel.: + 86 10 63751188
Fax: + 86 10 83682438
info@kontron.cn

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