

Computer-on-Module

- SMARC™
- Qseven®
- COM Express® Mini
- COM Express® Compact
- COM Express® Basic
- ETX®



Qseven®
(70 x 70 mm)



SMARC™
(84 x 55 mm)



COM Express® mini
(84 x 55 mm)



COM Express® Compact
(95 x 95 mm)



COM Express® Basic
(125 x 95 mm)

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OUR GLOBAL COMPETENCE CENTRES



 APOLLO DISPLAY
TECHNOLOGIES



 DISTEC



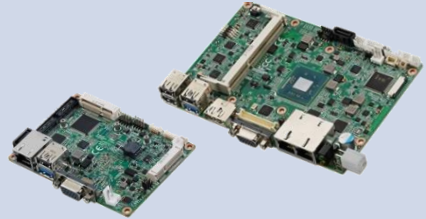



 DISPLAY
TECHNOLOGY



FORTEC
ELEKTRONIK AG

Computer-on-Module

EMBEDDED

Embedded Boards	Industrial Mainboards	Embedded Systems	Accessories & IoT
 <p>2,5" Pico-ITX™ 3,5" Single Board Computer PC/104 Slot SBC Computer-on-Module</p>	 <p>Mini-ITX™ Micro-ATX Flex-ATX ATX</p>	 <p>Embedded Box PCs Embedded Panel PCs Embedded Server Embedded Desktop PCs Digital Signage Player Industrial Monitors</p>	 <p>Gateways Switches Router Memory, CPUs Cables Power Supplies</p>

Available Features & Options:

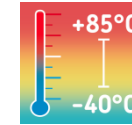
Designed for Industrial Applications
Extended Temperature -40°C...+85°C
Design-in Support
Kits (Board with OS, Display & Cables)

Long-term Availability
Custom Design
Fixed Bill of Material
EOL / PCN Handling

FEATURES

COMPUTER-ON-MODULE

- Extended Temperature up to -40° ... $+85^{\circ}$
(Depends on Product and CPU)
- Long-Term Availability up to 15 Years
- For Industrial Applications e.g. 24/7 Usage
- PCN and EOL Notification
- Faster Time to Market
- Support (Customized BIOS..)
- Possibility for Customization
- Fanless Designs Possible



SMARC™

INTEL® ATOM™ (APOLLO LAKE & BAY TRAIL)



Product	SMARC-sXAL	SOM-2569	conga-SA5
Vendor	Kontron	ADVANTECH	congatec
Type / Pin-out	SMARC 2.0	SMARC	SMARC
Processor	Intel® Atom™ x7-E3950, x5-E3940, x5-E3930, Celeron® N3350, Pentium® N4200	Intel® Atom™ x7-E3950, x5-E3940, x5-E3930, Celeron® N3350, Pentium® N4200	Intel® Atom™ x7-E3950, x5-E3940, x5-E3930, Celeron® N3350, Pentium® N4200
Chipset	SoC Apollo Lake	SoC Apollo Lake	SoC Bay Trail
Memory	8GB max. (onboard)	8GB max. (onboard)	8GB max. (onboard)
Graphic	48-bit LVDS or eDP, HDMI, DP	48-bit LVDS or eDP, HDMI, DP	24-bit LVDS or eDP or MIPI-DSI
Storage	SATA II, mSATA	SATA, eMMC (onboard, optional)	SATA, eMMC 64GB max (onboard)
Ethernet	10/100/1000 Mbit	Up to 2x 10/100/1000 Mbit	2x 10/100/1000 Mbit
I/O	2x USB 3.0, 4x USB 2.0, Serial, I2S, I2C, SPI, MIPI CSI	2x USB 3.0, 6x USB 2.0, Serial, I2S, SPI, MIPI CSI, CAN (opt.)	2x USB 3.0, 4x USB 2.0, Serial, I2S, SPI, UART, SDIO

Product	SMARC-sXBTi
Vendor	Kontron
Type / Pin-out	SMARC
Processor	Intel® Atom™ E3845, E3827, E3826, E3825, E3815,
Chipset	SoC Bay Trail
Memory	8GB max. (onboard)
Graphic	24-bit LVDS or eDP, HDMI or DP
Storage	SATA, eMMC 64GB max (onboard)
Ethernet	10/100/1000 Mbit
I/O	1x USB 3.0, 3x USB 2.0, Serial, I2S, I2C, SPI, MIPI CSI

INTEL® ATOM™ (APOLLO LAKE & BAY TRAIL)

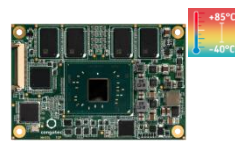


Product	SOM-3569	IBQ800	conga-QA5
Vendor	ADVANTECH	iBASE	congatec
Type / Pin-out	Qseven® 2.1 (70x70mm)	Qseven® 2.1 (70x70mm)	Qseven® 2.0 (70x70mm)
Processor	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ x5-E3930, x7-E3950,	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, J3455, Pentium® N4200
Chipset	SoC Apollo Lake	SoC Apollo Lake	SoC Apollo Lake
Memory	8GB max. (onboard)	8GB max. (onboard)	8GB max. (onboard)
Graphic	48-bit LVDS, DDI	48-bit LVDS, DDI	48-bit LVDS or eDP
Storage	2x SATA, 64GB max. (onboard)	2x SATA, 32GB eMMC max. (onb.)	2x SATA, 64GB max. (onboard)
Ethernet	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit
I/O	2x USB 3.0, 5x USB 2.0, 2x COM, CAN, MIPI-CSI, LPC	3x USB 3.0, 4x USB 2.0, 1x UART (TX/RX only)	1x USB 3.0, 5x USB 2.0, COM, LPC

SOM-3567
ADVANTECH
Qseven® 2.1 (70x70mm)
Intel® Atom™ E3845, E3827, E3825, E3815, Celeron® J1900
SoC Bay Trail
8GB max. (onboard)
48-bit LVDS, DDI
2x SATA, 32GB max. (onboard)
10/100/1000 Mbit
1x USB 3.0, 6x USB 2.0, 2x COM, LPC

COM EXPRESS® MINI

INTEL® ATOM™ (APOLLO LAKE & BAY TRAIL)



Product	ET875	SOM-7569	conga-MA5	COMe-mAL10	SOM-7567	COMe-mBT10
Vendor	iBASE	ADVANTECH	congatec	Kontron	ADVANTECH	Kontron
Type / Pin-out	COM R.3.0) Type 10	COM R.2.1 Type 10	Type 10	Typ 10	COM R.2.1 Type 10	Typ 10
Processor	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ E3845, E3825, E3815, Celeron® J1900, N2930	Intel® Atom™ E3845, E3827, E3826, E3825, E3815, Celeron® J1900, N2920, N2930, N2807
Chipset	SoC Apollo Lake	SoC Apollo Lake	SoC Apollo Lake	SoC Apollo Lake	SoC Bay Trail	SoC Bay Trail
Memory	8GB max. (onboard)	8GB max. (onboard)	8GB max. (onboard)	8GB max. (onboard)	4GB max. (onboard)	4GB max. (onboard)
Graphic	DP/LVDS or eDP	48-bit LVDS or eDP HDMI or DP	48-bit LVDS or eDP DDI	24-bit LVDS, DDI	24-bit LVDS, DDI	24-bit LVDS or eDP DDI
Storage	2x SATA	2x SATA 32GB max. (onboard)	2x SATA 128GB eMMC max. (opt.)	2x SATA 32GB max. (onboard)	1x SATA 64GB max. (onboard)	2x SATA 64GB max (onboard)
Ethernet	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit
I/O	USB 3.0, USB 2.0	2x USB 3.0, 8x USB 2.0, 2x COM	2x USB 3.0, 6x USB 2.0, 2x UART	2x USB 3.0, 8x USB 2.0, 2x Serial	1x USB 3.0, 4x USB 2.0, 2x COM	1x USB 3.0, 3x USB 2.0, 2x Serial

COM EXPRESS® COMPACT

INTEL® CORE™ I CPU (8TH GEN.)



Product	conga-TC370	SOM-6882	COMe-cWL6
Vendor	congatec	Advantech	Kontron
Type / Pin-out	Type 6	Type 6	Type 6
Processor	Intel® Core™ i3-8145U, i7-8565U	Intel® Core™ i3-8145U, i7-8565U, i5-8365, 4305UE	Intel® Core™ i3-8145U, i7-8565U, i5-8365, 4305UE
Chipset	SoC 8th Gen.	SoC 8th Gen.	SoC 8th Gen.
Memory	64GB DDR4 max.	32GB DDR4 max.	48GB DDR4 max.
Graphic	2x DP/HDMI or DP++, 48-bit LVDS or eDP, VGA (opt.)	DDI, LVDS	tbd.
Storage	3x SATA, eMMC (opt.)	2x SATA	tbd.
Ethernet	10/100/1000 Mbit	10/100/1000 Mbit	tbd.
I/O	4x USB 3.1, 8x USB 2.0, UART	4x USB 3.0, 8x USB 2.0	tbd.

COM EXPRESS® COMPACT

INTEL® CORE® I (7TH GEN. KABY LAKE & 6TH GEN. SKYLAKE)



Product	SOM-6898	COMe-cKL6	SOM-6897	COMe-cSL6	ET975
Vendor	ADVANTECH	Kontron	ADVANTECH	Kontron	iBASE
Type / Pin-out	Type 6	Type 6	Type 6	Type 6	Type 6
Processor	Intel® Core™ i7-7600U, i5-7300U, i3-7100U, Celeron® 3965U	Intel® Core™ i7-7600U, i5-7300U, i3-7100U, Celeron® 3965U	Intel® Core™ i7-6600U, i5-6300U, i3-6100U, Celeron® 3955U	Intel® Core™ i7-6600U, i5-6300U, i3-6100U	Intel® Core™ i7-7600U, i5-7300U, i3-7100U
Chipset	SoC Kaby Lake	SoC Kaby Lake	SoC Skylake	SoC Skylake	SoC Kaby Lake
Memory	32GB DDR4 max.	16GB DDR4 max.	16GB DDR4 max.	16GB DDR4 max.	32GB DDR4 max.
Graphic	48-bit LVDS, DDI	48-bit LVDS, 2x DDI	48-bit LVDS, DDI	48-bit LVDS, 2x DDI	48-bit LVDS, DVI, HDMI, DP
Storage	2x SATA (3x optional)	2x SATA, 32GB max. (optional)	2x SATA (3x optional)	2x SATA, 32GB max. (optional)	2x SATA eMMC (optional)
Ethernet	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit
I/O	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 4x USB 2.0, 2x COM	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 4x USB 2.0, 2x COM	4x USB 3.0, 8x USB 2.0, COM

COM EXPRESS® COMPACT

INTEL® ATOM™ (APOLLO LAKE & BAY TRAIL)



Product	ET870	SOM-6869	COMe-cAL6	conga-TCA5	SOM-6867	ET860
Vendor	iBASE	ADVANTECH	Kontron	congatec	ADVANTECH	iBASE
Type / Pin-out	Type 6	Type 6	Type 6	Type 6	Type 6	Type 6
Processor	Intel® Atom™ x5-E3930 x7-E3950	Intel® Atom™ x5-E3930, x5-E3940, x7-E3950, Celeron® N3350, Pentium® N4200	Intel® Atom™ x7-E3950, x5-E3940, x5-E3930, Celeron® N3350, Pentium® N4200	Intel® Atom™ x7-E3950, x5-E3940, x5-E3930, Celeron® N3350, Pentium® N4200	Intel® Atom™ E3845, E3827, E3825 Celeron® J1900	Intel® Atom™ E3845, E3827
Chipset	SoC Apollo Lake	SoC Apollo Lake	SoC Apollo Lake	SoC Apollo Lake	SoC Bay Trail	SoC Bay Trail
Memory	16GB DDR3L max.	8GB DDR3L max.	8GB DDR3L max.	8GB DDR3L max.	8GB DDR3L max.	8GB DDR3L max.
Graphic	48-bit LVDS or eDP, 2x DDI (DP / DVI-D)	48-bit LVDS, VGA, DDI	24-bit LVDS or eDP, 2x DDI (DP++)	48-bit LVDS, 2x DP or HDMI	48-bit LVDS, VGA, DDI	LVDS, VGA, DP
Storage	2x SATA III	2x SATA III	2x SATA, 128GB max. (onboard)	2x SATA II, 64GB eMMC max. (opt.)	2x SATA II, 64GB max. (onboard)	2x SATA II MicroSD
Ethernet	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit
I/O	3x USB 3.0, 4x USB 2.0, 2c COM	2x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 4x USB 2.0, Serial	4x USB 3.0, 8x USB 2.0, 2x UART	1x USB 3.0, 8x USB 2.0, 2x COM	1x USB 3.0, 8x USB 2.0, 2x COM

COM EXPRESS® BASIC

AMD® RYZEN V1000 EMBEDDED SERIES



Product	ET976	SOM-5871	conga-TR4
Vendor	iBASE	ADVANTECH	congatec
Type / Pin-out	Type 6 R3.0	Type 6 R3.0	Type 6
Processor	AMD® Ryzen V1000 Series	AMD® Ryzen V1000 Series, V1807B, V1756B, V1605B, V1202B, V1404I	AMD® Ryzen V1000 Series, V1807B, V1756B, V1605B, V1202B, V1404I
Chipset	SoC	SoC	SoC
Memory	4GB onboard		32GB DDR4 max.
Graphic	Vega GPU, 48-bit LVDS, eDP(optional), 2x DDI	Vega GPU, 48-bit LVDS, eDP(optional), 2x DDI	Vega GPU, 48-bit LVDS, eDP(optional), 3x DP/HDMI
Storage	2x SATA	2x SATA	2x SATA
Ethernet	10/100/1000Mbit	Intel® I210IT 10/100/1000Mbit	10/100/1000Mbit
I/O	USB 3.1, USB 2.0, TPM 2.0	3x USB 3.0, 6x USB 2.0, 2x COM, TPM 2.0	4x USB 3.1, 8x USB 2.0, 2x UART, TPM 2.0
Power	tbd.	8,5-20 V	tbd.

COM EXPRESS® BASIC

INTEL® CORE™ I CPU (8TH GEN.)



Product	SOM-5899	COME-bCL6	conga-TS370
Vendor	ADVANTECH	Kontron	congatec
Type / Pin-out	Type 6 R3.0	Type 6	Type 6
Processor	Intel® Core™ i, Xeon® (8th Gen.) i7-8850H, I5-8400H, E-2176M	Intel® Core™ i, Xeon® (8th Gen.) i7-8850H, I5-8400H, E-2176M	Intel® Core™ i, Xeon® (8th Gen.) i7-8850H, I5-8400H, i3-8100H E-2176M
Chipset	Intel® CM246, QM370	Intel® CM246, QM370	Intel® CM246, QM370
Memory	48GB DDR4 max.	64GB DDR4 max.	64GB DDR4 max.
Graphic	48-bit LVDS, eDP (optional), 2x DDI, VGA	48-bit LVDS, 3x DDI (DP++)	48-bit LVDS or eDP (optional), 3x DDI, VGA
Storage	4x SATA III	4x SATA, Flash onboard (optional)	4x SATA
Ethernet	Intel® i219 10/100/1000Mbit	Intel® i219LM 10/100/1000Mbit	Intel® i219LM 10/100/1000Mbit
I/O	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.1, 4x USB 2.0, 2x COM	4x USB 3.1, 8x USB 2.0, UART
Power	8,5-20 V	8,5-20 V	

COM EXPRESS® BASIC

INTEL® CORE™ I CPU (KABY LAKE & SKYLAKE)



Product	SOM-5898	COMe-bKL6	ET970	SOM-5897	COMe-bSL6
Vendor	ADVANTECH	Kontron	iBASE	ADVANTECH	Kontron
Type / Pin-out	Type 6 R2.1	Type 6	Type 6	Type 6	Type 6
Processor	Intel® Core™ i, Xeon (7th Gen.) i7-7820EQ, i5-7442EQ, i5-7442EQ, i3-7100E, i3-7102E, E3-1505MV6, E3-1505LV6	Intel® Core™ i, Xeon® (7th Gen.) E3-1505M, E3-1505L, i7-7820EQ, i5-7440EQ, i5-7442EQ, i3-7100E, i3-7102E	Intel® Xeon®, Core™ i (7th Gen.) i7-7820EQ, i5-7440EQ, i3-7100E,	Intel® Core® i, Xeon, Celeron® i7-6820EQ, i7-6822EQ, i5-6440EQ, i5-6442EQ, i3-6100E, i3-6102E, G3900E, E3-1505L, E3-1515M	Intel® Xeon®, Core® i, Celeron® E3-1515M, E3-1505M, E3-1505L, i7-6820EQ, i7-6822EQ, i5-6440EQ, i5-6442EQ, i3-6100E, i3-6102E, G3900E, i7-6100E
Chipset	Intel® CM238 & QM175	Intel® CM238 & QM175	Intel® CM238 & QM175	Intel® QM170	Intel® CM236 & QM170
Memory	32GB DDR4 max.	2x16GB DDR4 max.	32GB DDR4 max.	32GB DDR4 max.	2x16GB DDR4 max.
Graphic	48-bit LVDS, 2x DDI, VGA	48-bit LVDS, DDI1 (DP++), DDI2 (DP++), DDI3 (DP++)	DVI, HDMI, DP, 48-bit LVDS	48-bit LVDS, 2x DDI, VGA	48-bit LVDS, 3x DDI
Storage	4x SATA III	4x SATA	4x SATA III	4x SATA	4x SATA
Ethernet	Intel® i219 10/100/1000Mbit	10/100/1000Mbit	Intel® i219LM 10/100/1000Mbit	Intel® i219 10/100/1000Mbit	Intel® i219LM 10/100/1000Mbit
I/O	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 4x USB 2.0, 2x COM	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 8x USB 2.0, 2x COM	4x USB 3.0, 4x USB 2.0, 2x COM
Power	8,5-20 V	8,5-20 V		8,5-20 V	8,5-20 V

COM EXPRESS® BASIC

10GBE COM EXPRESS BOARDS



Product	conga-B7E3	COMe-bBD7	SOM-5992	SOM-5991	COMe-bBD6
Vendor	congatec	Kontron	ADVANTECH	ADVANTECH	Kontron
Type / Pin-out	Type 7	Type 7	Type 7 R3.0	Type 6	Type 6
Processor	AMD® EPYC™ Embedded 3000 Series 3451, 3351, 3251, 3255, 3201, 3151, 3101	Intel® Xeon® D-1577, D-1548, D-1537, D-1528, D-1527, D-1559, D-1539 Pentium® D1517, D1508, D1519	Intel® Xeon® D-1577, D-1548, D-1537, D-1527, D-1559, D-1539 Pentium® D1517, D1508, D1519	Intel® Xeon® D-1548, Pentium® D1508	Intel® Xeon®, Pentium® D-1548, D-1537, D-1528, D-1527, D-1527, D1517, D1508, D-1518, D1519, D-1539, D-1559
Chipset	SoC	SoC Broadwell	SoC Broadwell	SoC	SoC
Memory	96GB DDR4 max.	32GB DDR4 max.	64GB DDR4 max.	32GB DDR4 max.	32GB DDR4 max.
Graphic	-/-	-/-	-/-	-/-	-/-
Storage	2x SATA III Up to 1TB NVMe SSD (optional)	2x SATA III, max. 32GB SSD (onboard)	2x SATA III,	4x SATA III	4x SATA III
Ethernet	4x 10 GbE with KR interface 1x 10/100/1000Mbit	2x Intel® 10GbE Interface 1x 10/100/1000Mbit	2x Intel® 10GbE Interface 1x 10/100/1000Mbit	2x Intel® 10GbE Interface 1x 10/100/1000Mbit	2x Intel® 10GbE Interface 1x 10/100/1000Mbit
I/O	Up to 32 PCIe, 4x USB 3.1, 4x USB 2.0, LPC, SPI, 2x UART, SMBus	24x PCIe, 8x PCI, 4x USB 3.0, 2x seriell, SPI, LPC, SMB	24x PCIe, 4x USB 3.0, 4x USB 2.0, 2x COM, SMBus, I2C, SPI, LPC	24x PCIe, 4x USB 3.0, 4x USB 2.0, 2x COM, SMBus, I2C, SPI, GPIO	24x PCIe, 4x USB 3.0, 4x USB 2.0, 2x COM, SMBus, I2C, SPI, GPIO
Power		8,5-20 V	8,5-20 V	8,5-20 V	8,5-20 V

INTEL® ATOM™ (BAY TRAIL), AMD®



Product	ET839	SOM-4466
Vendor	iBASE	ADVANTECH
Type / Pin-out	ETX (3.0)	ETX (3.02)
Processor	Intel® Atom™ E3845	AMD® T16R, T40E, T56N
Chipset	SoC Bay Trail	AMD® A55E
Memory	4GB DDR3L max.	4GB DDR3 max.
Graphic	48-bit LVDS, DDI, VGA	VGA, TTL, 24-bit LVDS
Storage	SATA II, IDE	SATA II, mSATA, IDE
Ethernet	Realtek 8106E 10/100 Mbit	Realtek 8105E 10/100 Mbit
I/O	4x USB 2.0, ISA- / PCI-Bus, 2x RS232, PS/2, LPT	4x USB 2.0, ISA- / PCI-Bus, 2x COM, PS/2, LPT

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