

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

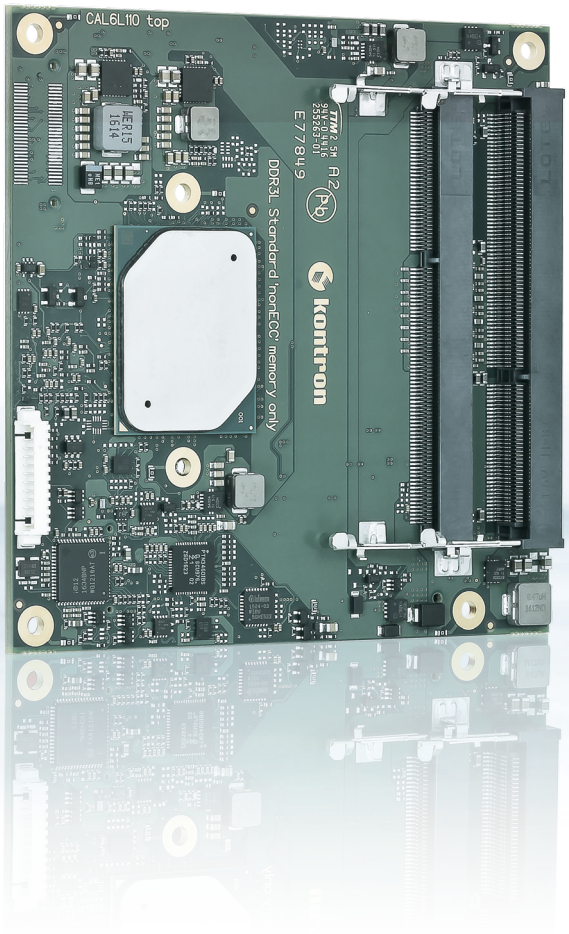
- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

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COMe-cAL6 (E2)



COM Express® Compact Type 6 with Intel Atom® E3900 Series, Pentium® and Celeron® Processors

- Low-power - performance/watt optimized form factor solution
- Up to 8 GByte DDR3L 1600/1866 Memory (2x SODIMM socket)
- 4x USB 3.0/2.0, 4x USB 2.0, 2x SATA, eMMC Flash
- Industrial grade temperature
- Support of Kontron's Embedded Security Solution - APPROTECT (optional)

POSSIBILITIES START HERE

kontron
S&T Group

TECHNICAL INFORMATION

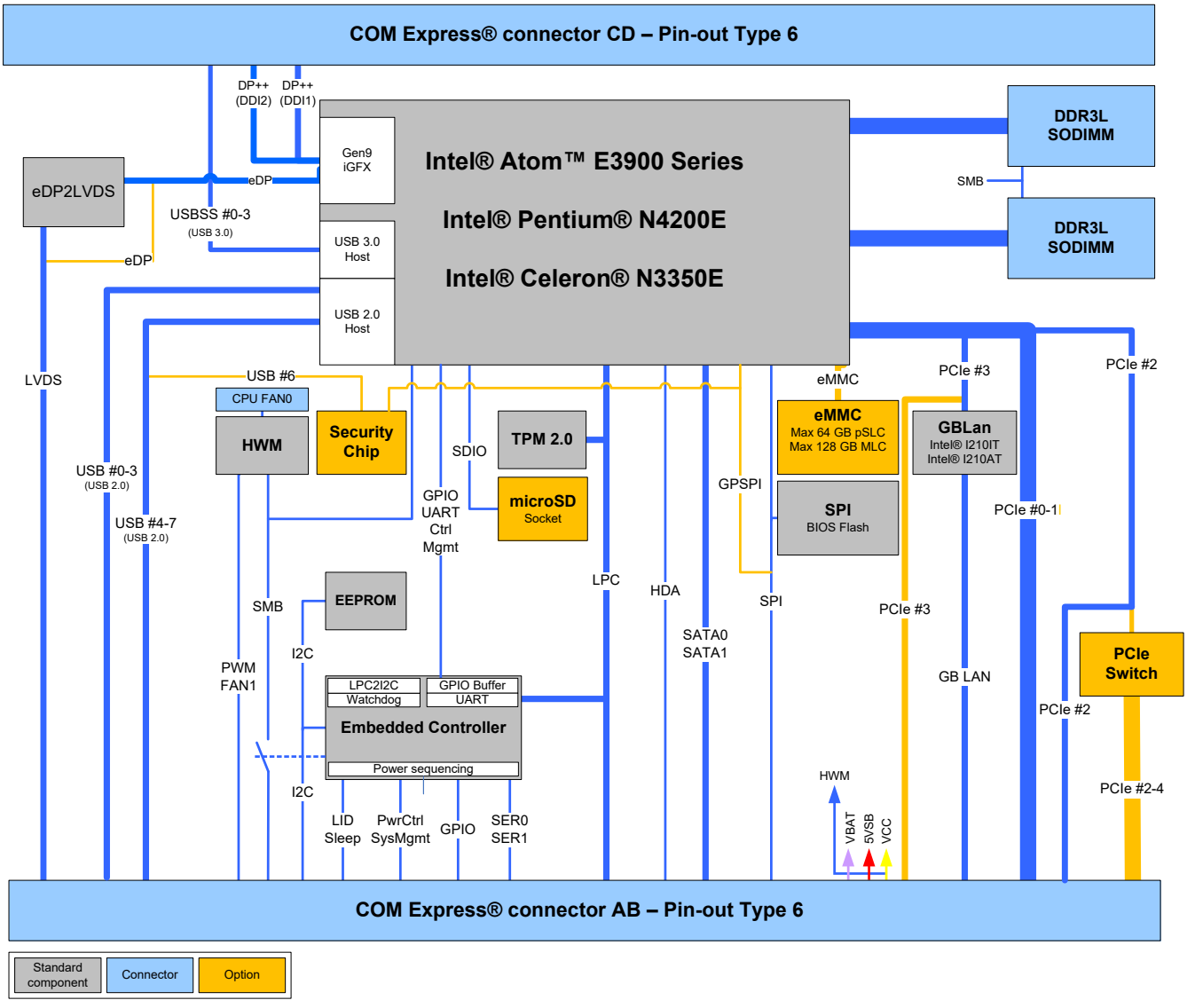
COMPLIANCE	COM Express® compact, Pin-out Type 6
DIMENSIONS	95 x 95 mm
CPU	Intel Atom® E3900E Series, Pentium® and Celeron® Processor For details see table (CPU variants) given below
CHIPSET	-
MAIN MEMORY	2x SODIMM for DDR3L-1866 (non ECC) up to 8 GByte
GRAPHICS CONTROLLER	Intel HD Gfx Gen9: 1x LVDS/eDP (3840 x 2160 @ 60 Hz) 2x DP (++) on DDI1/DDI2 up to 4K
ETHERNET CONTROLLER	Intel® I210IT/I210AT (I211AT)
ETHERNET	10/100/1000 MBit Ethernet
STORAGE	2x SATA 6Gb/s, SDIO Interface (shared with GPIO)
FLASH ONBOARD	32 GByte eMMC SLC on request: - up to 64 GByte eMMC SLC - up to 128 GByte eMMC MLC
PCI EXPRESS®	default: LAN yes, PCIe switch no, PCIe config 3x PCIe x1 on request: LAN yes, PCIe switch yes, PCIe config 5x PCIe x1 or 1x PCIe x2 + 3x PCIe x1 on request: LAN no, PCIe switch no, PCIe config 2x PCIe x2 or 4x PCIe x1
DISPLAY	DDI 1/2: DP++, LVDS: Dual Channel up to 48-bit or eDP on request)
USB	4x USB 3.0/2.0, 4x USB 2.0 (3x USB 2.0 w Security Chip)
SERIAL	2x serial interface (RX/TX only)
AUDIO	Intel® High Definition Audio
COMMON FEATURES	SPI, LPC, SMB, Fast I²C, Staged Watchdog, RTC
BIOS	AMI Aptio V
HUMIDITY	93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78)
FEATURES ON REQUEST	PCIe configurations w/ PCI hub and w/o LAN chip Security Chip (Support of Kontron APPROTECT) eMMC Flash configuration eDP instead of LVDS General Purpose SPI instead of Boot SPI USB client
POWER MANAGEMENT	ACPI 5.0
POWER SUPPLY	8.5 V – 20 V Wide Range, Single Supply Power
SPECIAL FEATURES	POSCAP capacitors, Trusted Platform Module TPM 2.0, microSD card socket 4k Resolutions, GPIO/SDIO Switch, Industrial grade temperature
OPERATING SYSTEM	Windows® 10, Enterprise, Windows 10 IoT, Linux, VxWorks 7.x
TEMPERATURE	COMe-cAL6 - commercial temperature: 0 °C to +60 °C operating, -30 °C to +85 °C non-operating COMe-cAL6 E2 - industrial temperature: -40 °C to +85 °C operating, -40 °C to +85 °C non-operating

CPU VARIANTS

BRAND	PROCESSOR NUMBER	TDP	CORES	THREADS	CACHE	BASE FREQ	MAX TURBO FREQ	GRAPHICS GEN 11	ECC	USE CONDITION
Celeron®	N3350E	6 W	2	2	2 MByte	1.1 GHz	2.4 GHz	12	no	PC Client
Pentium®	N4200E	6 W	4	4	2 MByte	1.1 GHz	2.5 GHz	18	no	PC Client
Intel Atom®	x5-E3930	6.5 W	2	2	2 MByte	1.3 GHz	1.8 GHz	12	yes	Embedded
Intel Atom®	x5-E3940	9.5 W	4	4	2 MByte	1.6 GHz	1.8 GHz	12	yes	Embedded
Intel Atom®	x7-E3950	12 W	4	4	2 MByte	1.6 GHz	2.0 GHz	18	yes	Embedded

* The COMe-cAL6 doesn't support ECC memory

BLOCK DIAGRAM



VARIANTS

PART NO.	CPU	SO-DIMM	ETHERNET	PCIE LANES	FLASH - eMMC	VARIOUS	OP. TEMPERATURE
36023-0000-11-2	N3350E	DDR3L-1866 non ECC	I211AT	3	no	LPC, LVDS, no SecurityChip	0 °C - 60 °C
36023-0000-11-4	N4200E	DDR3L-1866 non ECC	I211AT	3	no	LPC, LVDS, no SecurityChip	0 °C - 60 °C
36024-0000-13-5	E3930	DDR3L-1866 non ECC	I210IT	3	no	LPC, LVDS, no SecurityChip	-40 °C - 85 °C
36024-0000-16-5	E3940	DDR3L-1866 non ECC	I210IT	3	no	LPC, LVDS, no SecurityChip	-40 °C - 85 °C
36024-0000-16-7	E3950	DDR3L-1866 non ECC	I210IT	3	no	LPC, LVDS, no SecurityChip	-40 °C - 85 °C
36024-0032-16-7	E3950	DDR3L-1866 non ECC	I210IT	5	32 GByte pSLC	LPC, LVDS, no SecurityChip	-40 °C - 85 °C

Please contact your sales representative for other versions.

CARRIER

ARTICLE	PART NO.	DESCRIPTION
COMe EVAL CARRIER2 T6	38116-0000-00-5	COM Express® Eval Carrier Type 6
COMe REF.CARRIER–I T6 TMI	38115-0000-00-0	COM Express® Reference Carrier Type 6 for industrial temperature - professional

COOLING

ARTICLE	PART NO.	DESCRIPTION
HSP COMe-cAL6 (E2) THREAD	36024-0000-99-0	Heatspreader for COMe-cAL6 commercial and E2, threaded mounting holes
HSP COMe-cAL6 (E2) THROUGH	36024-0000-99-1	Heatspreader for COMe-cAL6 commercial and E2, through holes
COME ACTIVE UNI COOLER (W/O HSP)	36099-0000-99-0	COM Express® Universal Active Cooler for Heatspreader Mounting (87x78x14.3 mm) (for CPU's <20 W)
COME PASSIVE UNI COOLER (W/O HSP)	36099-0000-99-1	COM Express® Universal Passive Cooler for Heatspreader Mounting (87x78x14.3 mm)
COME PASSIVE UNI COOLER2 SLIM (W/O HSP)	36099-0000-99-3	COM Express® Universal Passive Cooler low profile for Heatspreader Mounting (95x95x10 mm) 90° fin direction mounting option

MEMORY

PART NO.	MIN. SPEC.	SIZE	ECC	OP. TEMPERATURE
97015-4096-19-0	DDR3L-1866	4 GByte	No ECC	0 °C to +60 °C
97015-8192-19-0	DDR3L-1866	8 GByte	No ECC	0 °C to +60 °C
97015-4096-19-2	DDR3L-1866	4 GByte	No ECC	-40 °C to +85 °C
97015-8192-19-2	DDR3L-1866	8 GByte	No ECC	-40 °C to +85 °C

GLOBAL HEADQUARTERS

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Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

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