

BM3400

Book Mounting fanless IPC based on Intel® Skylake platform

BM3400 – Book Mounting IPC concepts



'on top' interfaces

- Ergonomic cabling
- Reduced installation space
- Protection against accidentally cable disconnection



'on front' interfaces

- Better visibility of signals/warnings
- Better access to removable devices like extractable drawers for HDD/SSD



Chassis & Expandability

- Full aluminium
- Compact, solid and robust
- Expandability ensured by two PCI/PCIe slots (S2 version)



Thermic dissipation

- Fanless operation and 0÷50°C operating temperature even with Core i7 processor

BM3400 - Highlights



BM3400 S0

- **Fanless book mounting PC** (0÷50°C operating temperature)
- **ASEM UBIQUITY Basic Win32/64** runtime included
- Intel® **Skylake** platform
 - Intel® **Celeron G3900E** 2,4Ghz, 2 cores – 2 threads – 2MB smart cache
 - Intel® **Core™ i3-6100E** 2,7Ghz, 2 cores – 4 threads – 3MB smart cache
 - Intel® **Core™ i5-6440EQ** 2,7Ghz (3,4GHz Turbo), 4 cores – 4 threads – 6MB smart cache
 - Intel® **Core™ i7-6820EQ** 2,8Ghz (3,5GHz Turbo), 4 cores – 8 threads – 8MB smart cache
- **RAM** System memory expandable up to **32GB**
- **Mass storage** 1 x CFast, 1 x mSATA SSD and 2 x 2,5" HDD/SSD with SATA III interface also with extractable drawers and RAID 0, 1 configurations
- Integrated **Remote Video Link video output** for remotation of DVI-D and USB 2.0 signals up to 100 m (optional)
- **Isolated 24V DC power supply** input and optionally
 - UPS with external battery pack
- **2 x PCIe x4** or **1 x PCI + 1 x PCIe x4** slot (S2 version)



BM3400 – Features 1/2



BM3400 S0



BM3400 S2

		BM3400 S0	BM3400 S2
PROCESSOR		Intel® Celeron G3900E 2.40GHz 64bit, 2 cores / 2 threads, 2MB L2 cache, soldered Intel® Core i3-6100E 2.70GHz 64bit, 2 cores / 4 threads, 3MB L2 cache, soldered Intel® Core i5-6440EQ 2.70GHz (3.40GHz Turbo) 64bit, 4 cores / 4 threads, 6MB L2 cache, soldered Intel® Core i7 6820EQ 2.80GHz (3.50GHz Turbo) 64bit, 4 cores / 8 threads, 8MB L2 cache, soldered	
CHIPSET		Intel® HM170 PCH (Platform Controller Hub)	Intel® HM170/CM236 PCH (Platform Controller Hub)
VIDEO CONTROLLER		Intel® HD Graphics 510 integrated in Celeron 3900E processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Core i3-6100E processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Core i5-6440EQ, Core i7-6820EQ processors • 350MHz/1,00GHz DirectX 12 and OpenGL 4.4 support	
SYSTEM MEMORY - RAM		4GB or 8GB or 16GB or 32GB (2 x SODIMM DDR4 modules)	
MASS STORAGE	D0	1 x bootable CFast SATA III slot on board with external front access 1 x onboard connector for direct insertion of mSATA SSD SATA III 1 x onboard connector for 2,5" SSD/HDD 24x7 SATA III with internal installation kit	
	D1	1 x bootable CFast SATA III slot on board with external front access 1 x onboard connector for direct insertion of mSATA SSD SATA III 1 x onboard connector for 2,5" SSD/HDD 24x7 SATA III with front extractable drawer	
	D2	1 bootable CFast slot on board with front access 1 x onboard connector for direct insertion of mSATA SSD SATA III <u>without RVL</u> : 2 x onboard connector for 2,5" SSD/HDD 24x7 SATA III with front extractable drawers	1 bootable CFast slot on board with front access 1 x onboard connector for direct insertion of mSATA SSD SATA III 2 x onboard connector for 2,5" SSD/HDD 24x7 SATA III with front extractable drawers
RAID		Integrated into chipset Intel® HM170, RAID 0, 1	
LAN		4 x LAN 10/100/1000Mbps, top (3 x Intel® I210 + 1 x Intel® I219LM)	
USB		1 x USB 3.0, front (Type-A) 2 x USB 3.0, top (Type-A) 2 x USB 2.0, top (Type-A)	
SERIAL		1 x RS232, top (DB9M)	
BATTERY		1 x CR2032 removable from the front	

BM3400 – Features 2/2



BM3400 S0

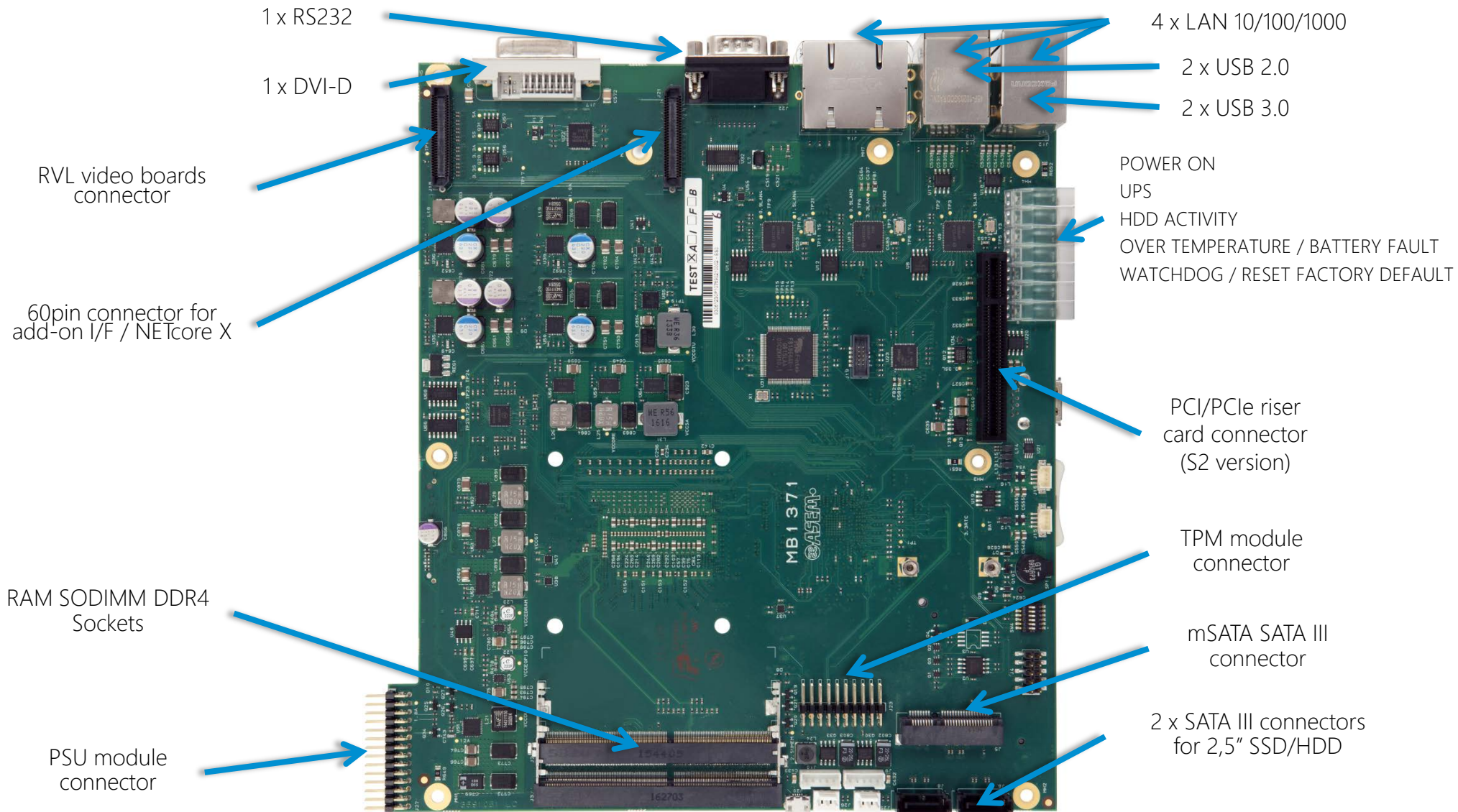


BM3400 S2

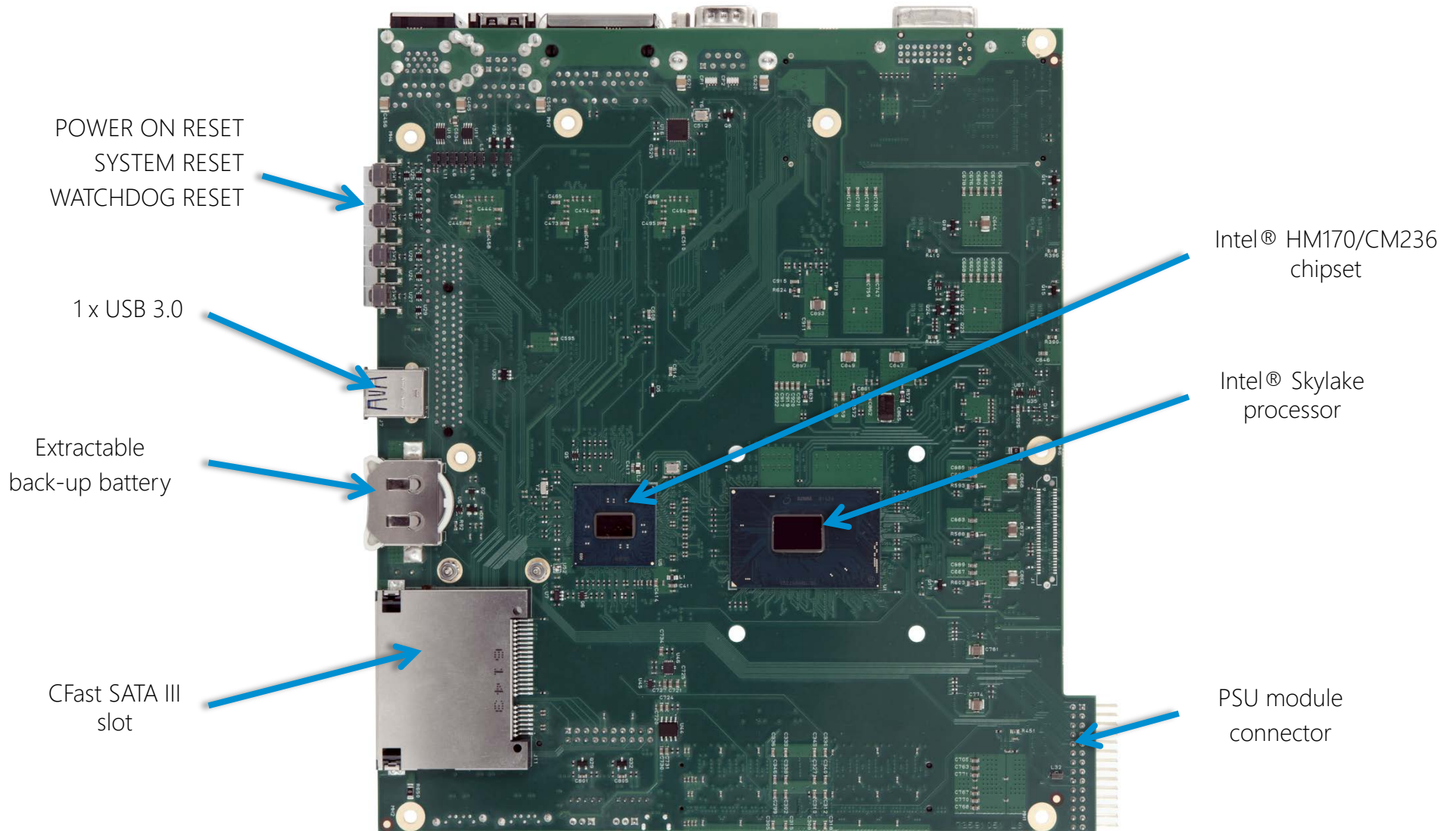
		BM3400 S0	BM3400 S2
VIDEO OUTPUT		1 x DVI-D, top 1 or 2 x RJ45 connector Remote Video Link, top (DVI-D and USB 2.0 up to 100 m, optional*)	
ADD-ON INTERFACES		1 x RS232/422/485 (DB15M) + 1 x USB 2.0 (Type-A), top 1 x RS232/422/485 (DB15M) isolated + 1 x USB 2.0 (Type-A), top 2 x RS232 (DB9M), top 2 x USB 2.0 (Type-A), top	
FIELDBUS		1 x NETcore X fieldbus *	
EXPANSION SLOTS		-	1 x PCI + 1 x PCIe x4 or 2 x PCIe x 4, top Max 10W without fans Max 20W with fans
FORCED VENTILATION		-	2 x tachometric fans with speed control (optional)
POWER SUPPLY UNIT		24VDC isolated or 24VDC isolated with UPS with external battery pack	
CASE	Installation	For book mounting	
	Material	Alluminum alloy 6082/5754/5056	
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2016 64bit; Microsoft Windows 8.1 Industry Pro 32/64bit; Windows 7 Pro/Ultimate 32/64bit; Microsoft Windows Embedded Standard 7E/7P 32/64 bit; Linux Other operating systems, such as VxWorks, QNX, etc., have not been certified by ASEM but they are reasonably supported by the Intel platform after verification of compatibility.	
OPERATING TEMPERATURE		0°- 50°C 0°- 45°C with HDD 24x7 or i7 processor 5°- 45°C with standard HDD	Without fans 0°- 50°C 0°- 45°C with HDD 24x7 or i7 processor With fans 0°- 50°C 0°- 45°C with HDD 24x7
APPROVALS		CE, cULus LISTED (61010) pending	

* Options cannot be installed together

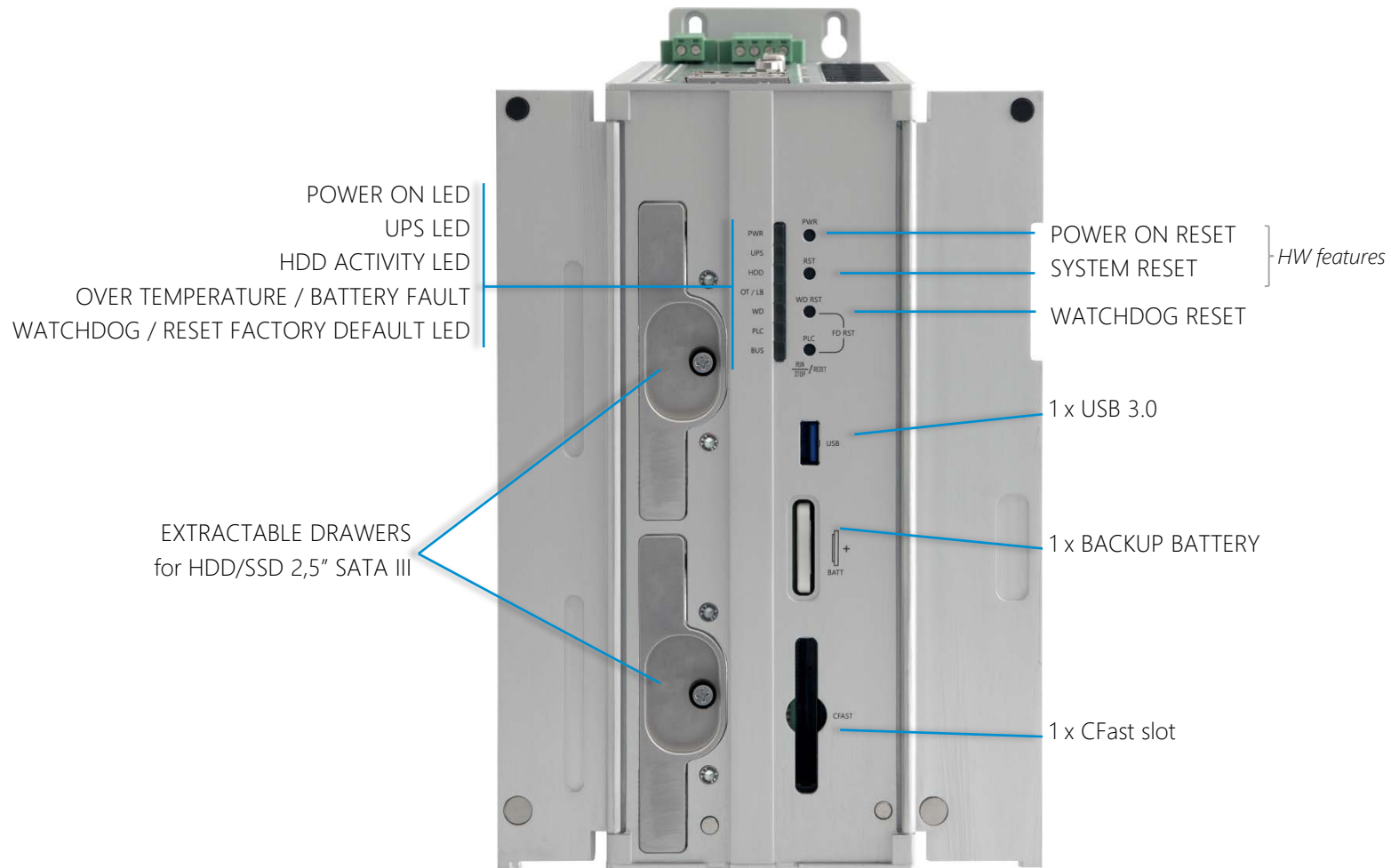
BM3400 - Motherboard «all-in-one» 1371, top



BM3400 - Motherboard «all-in-one» 1371, bottom



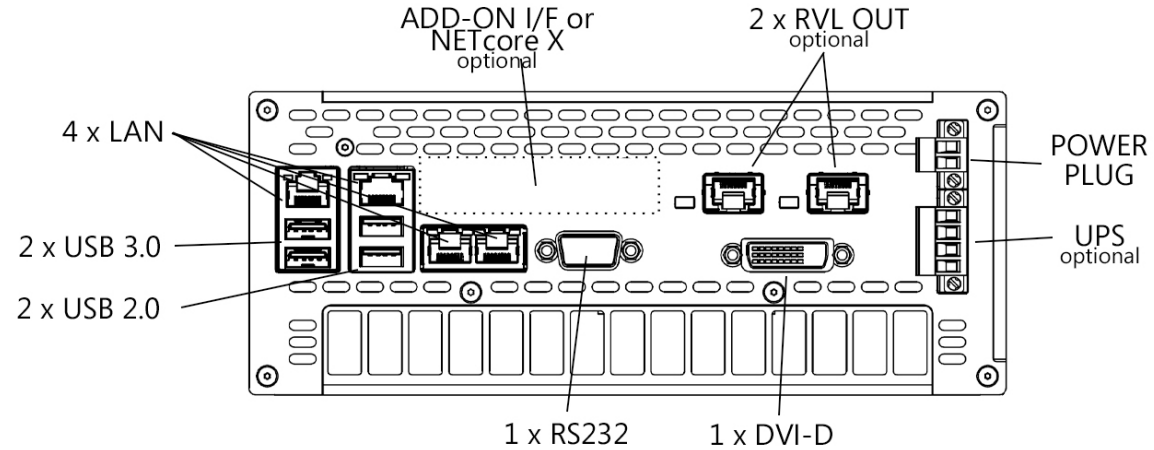
BM3400 – Front interfaces & Connectors



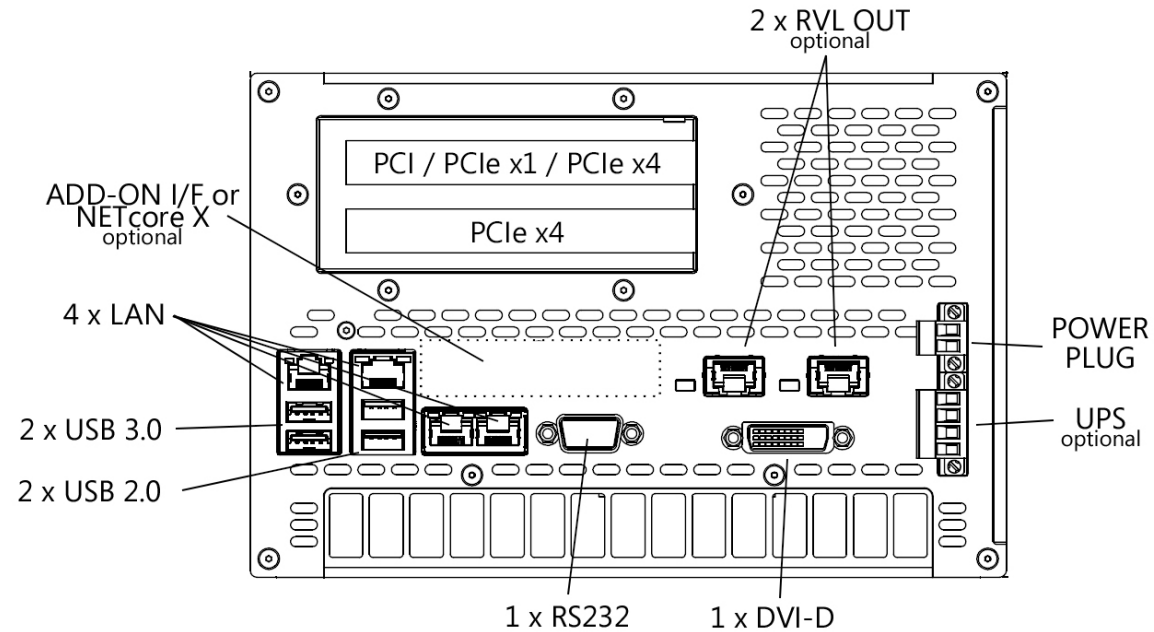
BM3400 S0

BM3400 – Top interfaces & Connectors

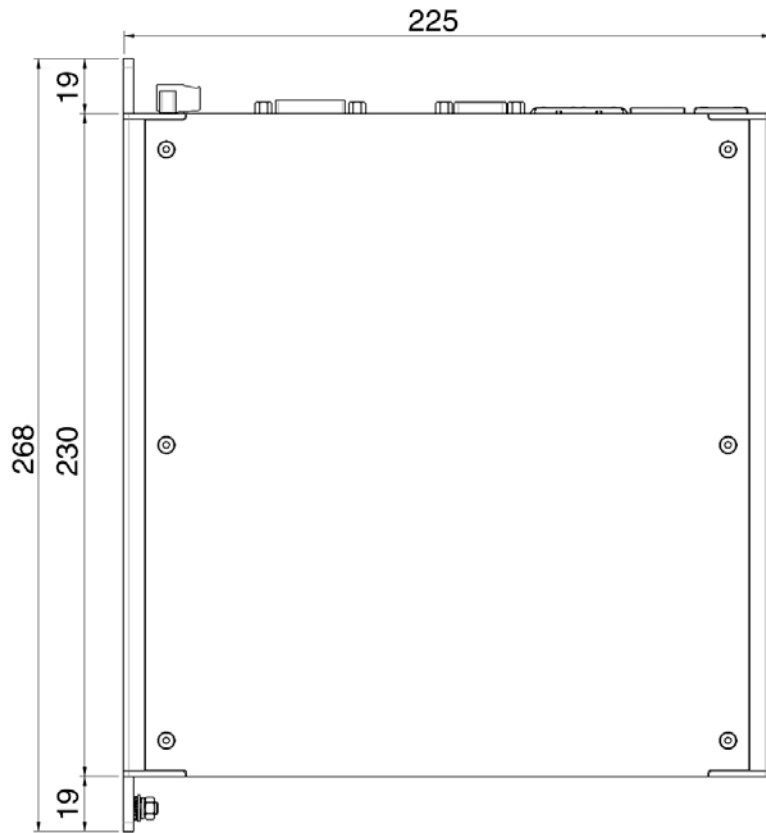
BM3400 S0



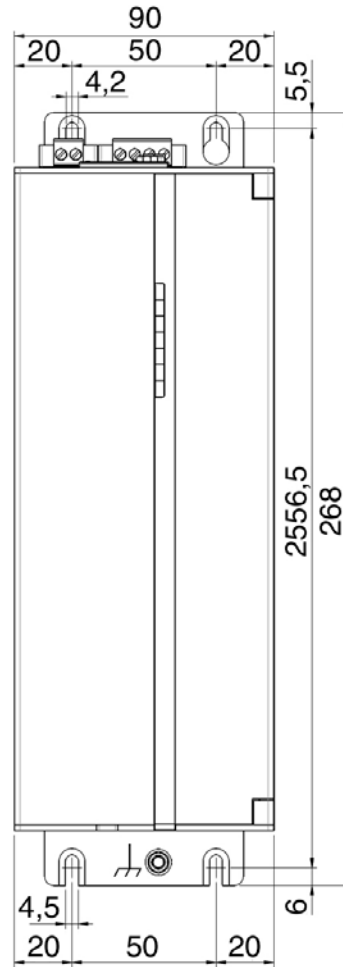
BM3400 S2



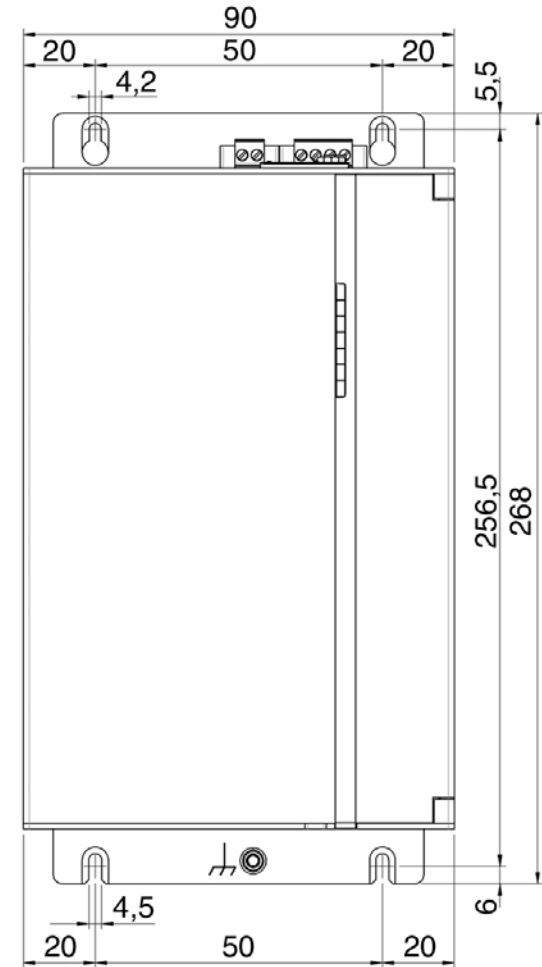
BM3400 – Dimensions



BM3400 S0

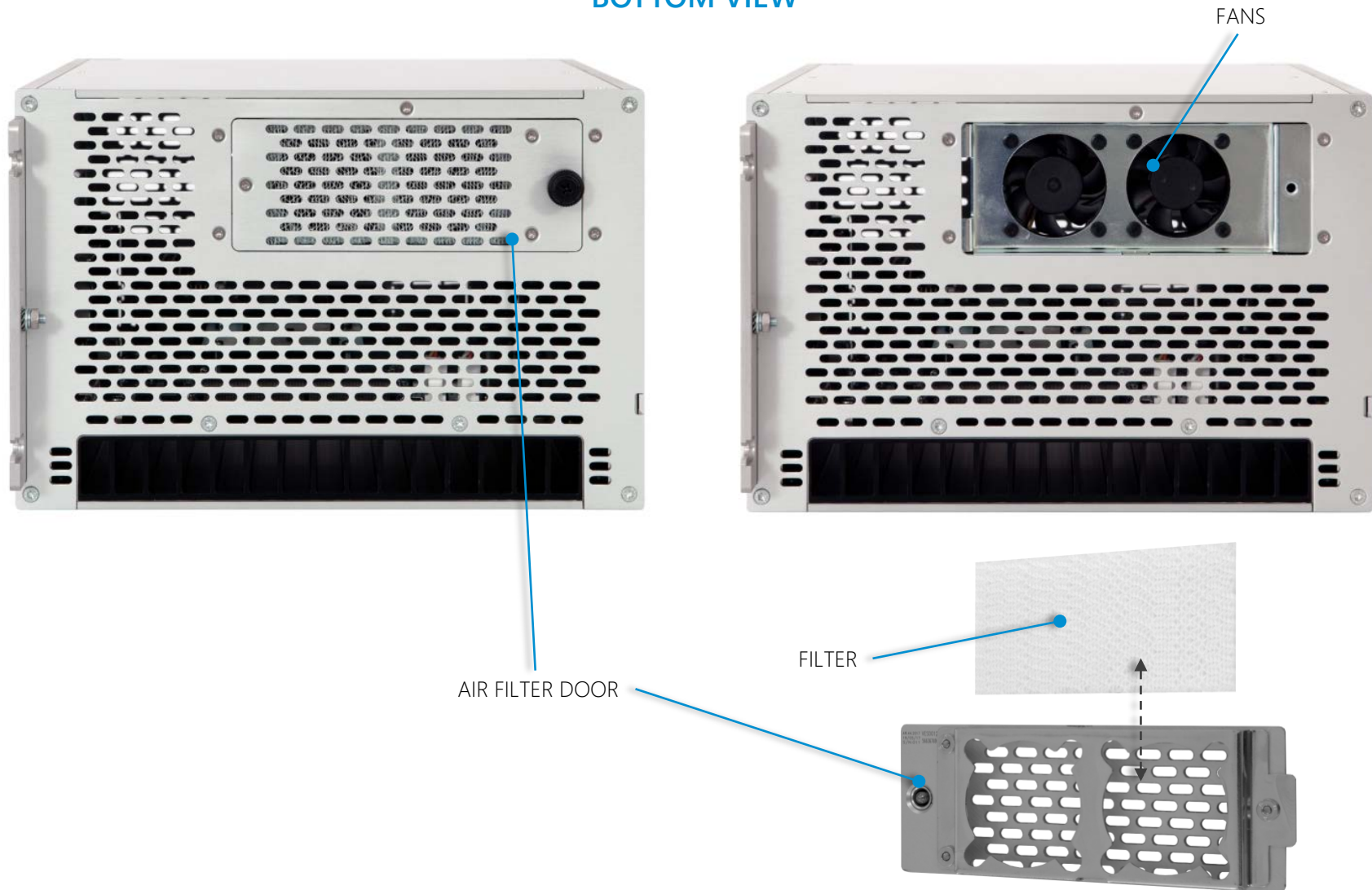


BM3400 S2



BM3400 S2 – Air filter door (optional)

BOTTOM VIEW



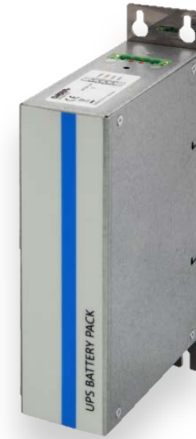
BM3400 - O.S. compatibility

- Operating systems **certified by ASEM**
 - Win 10 IoT Enterprise 2016 LTSB 64bit
 - Win 8.1 Industry Pro 32/64bit
 - Win 7 Pro/Ultimate 32/64bit
 - Win Embedded Standard 7E/7P 32/64Bit
 - Linux
- Intel® **Skylake platform** does not support:
 - Win XP Pro 32/64bit
 - Windows Embedded Standard 2009 (XPe SP3) 32/64bit
 - Win 2000/ 98/ NT
- The Intel platform can support other operating systems but they are not certified by ASEM

BM3400 - Integrated UPS (optional)

UPS integrated in the internal power supply unit

- With external battery pack - standalone wall mounting



UPS features

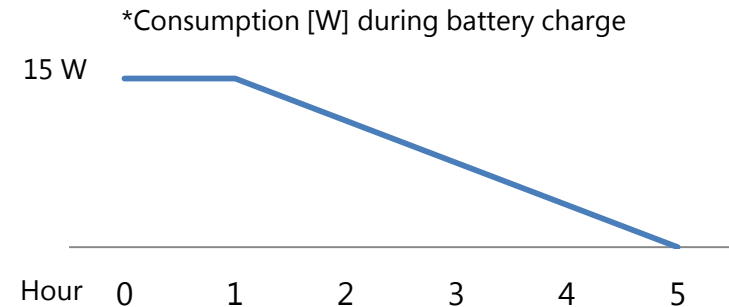
- 12V DC UPS battery backup system
- Input voltage intervention threshold 18V DC
- 10' nominal duration at 25°C, full charge, 5A load (estimated value)
- 15W max consumption during battery charge*

External battery pack

- 2500mAh 12V/6A max lead battery (Pb)
- Full charge in 5 hours
- Lifetime 10y at 25°C, full charge

Software Management Tools

- Smart battery management to extend lifetime
- Battery estimated duration for individual system configuration



BM3400 - Mass Storage

CFast

- 1 x bootable CFast SATA III slot on board with external front access



CFast card

SSD mSATA

- 1 x onboard connector for direct insertion of mSATA SSD SATA III



mSATA SSD

2,5" SSD/HDD

- 2 x onboard SATA III connectors for:
 - SSD/HDD 2,5" with internal installation kit
 - HDD/SSD 2,5" with extractable drawers

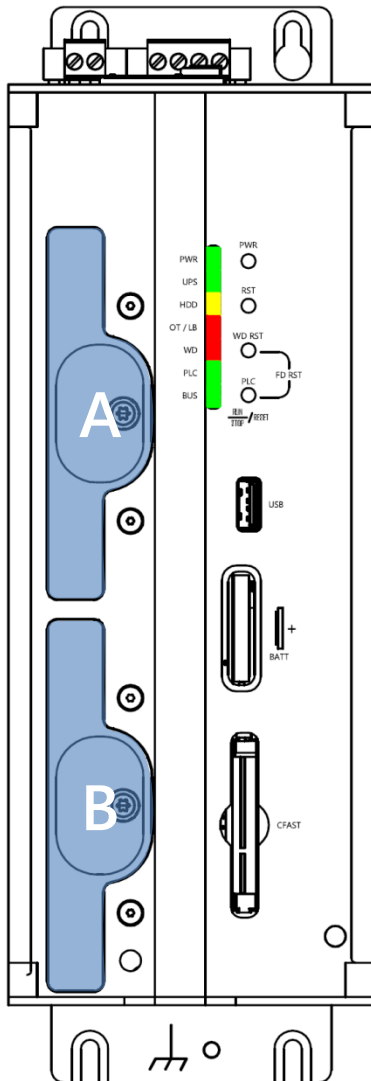
Configurations depends from installed options



SSD/HDD 2,5"

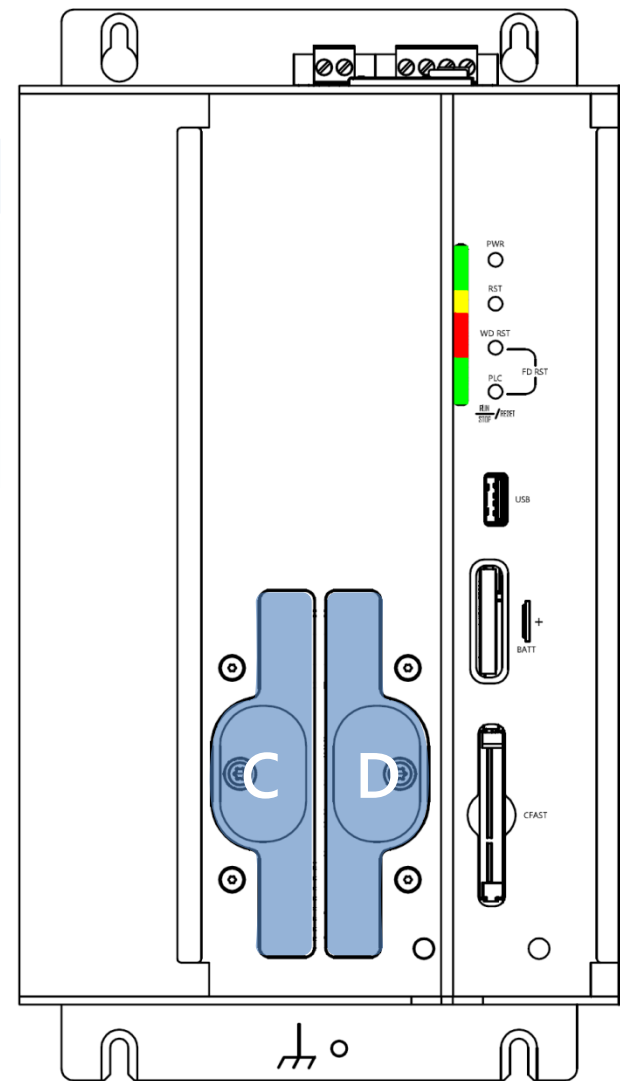
BM3400 – Extractable drawers configurations

BM3400 S0



VERSION	HDD/SSD	DRAWER	LIMITATIONS
S0	1	B	None
	2	A + B	No RVL
S2	1	C	None
	2	C + D	None

BM3400 S2



BM3400 - Optional add-on boards

Position A

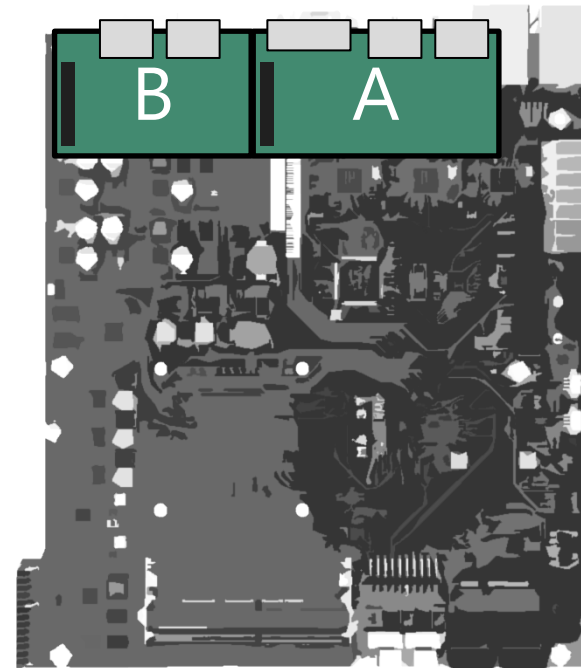
One board among:

- 1 x RS232/422/485 + 1 x USB 2.0
- 1 x RS232/422/485 isol.+ 1 x USB 2.0
- 2 x RS232
- 2 x USB 2.0
- 1 x NETcore X fieldbus board

Position B

One board between:

- 1 x RJ45 Remote Video Link (RVL OUT)
- 2 x RJ45 Remote Video Link (RVL OUT)



Fieldbus available for NETcore X:
EtherCAT *Master/Slave*
PROFINET *Controller/Device*
EtherNet/IP *Scanner/Adapter*
PROFIBUS *Master/Slave*
CANopen *Master/Slave*

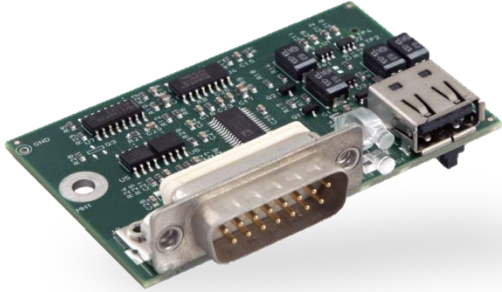
BM3400 - Expansion slot & add-on

Add-on/Slot \ Version	S0	S2
Add-on	<p>Position A (60pin-H), one board among:</p> <ul style="list-style-type: none"> • 1 x RS232/422/485 + 1 x USB • 1 x RS232/422/485 isolated+ 1 x USB • 2 x RS232 • 2 x USB 2.0 • 1 x NETcore X fieldbus <p>Position B (60pin), one board between:</p> <ul style="list-style-type: none"> • 1 x RJ45 RVL OUT • 2 x RJ45 RVL OUT 	
PCI or PCIe x4	No slot	<p>Two boards among:</p> <ul style="list-style-type: none"> • NETcore X APCI • CAN RAW PCI • Customer PCI/PCIe*

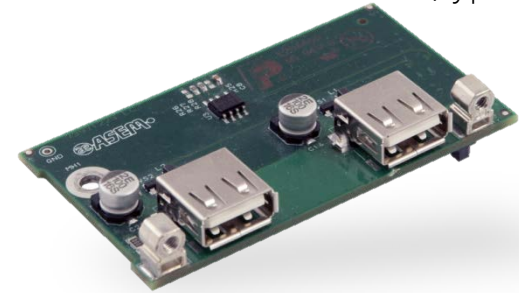
* Max 10W without fans
Max 20W with fans

BM3400 - Add-on interfaces Position A (optional)

1 x RS232/422/485 (DB15M) + 1 x USB 2.0



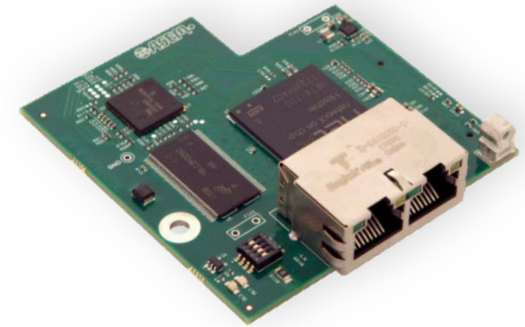
2 x USB 2.0 (Type A)



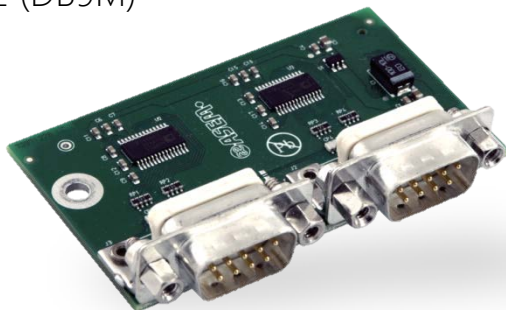
1 x RS232/422/485 optoisolated (DB15M) + 1 x USB 2.0



1 x NETcore X fieldbus

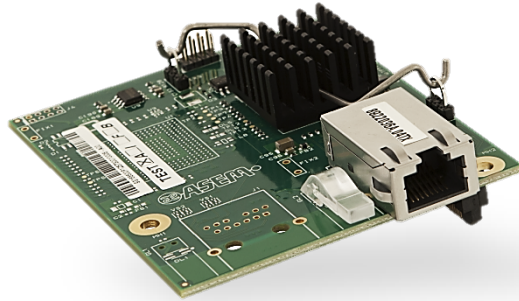


2 x RS232 (DB9M)

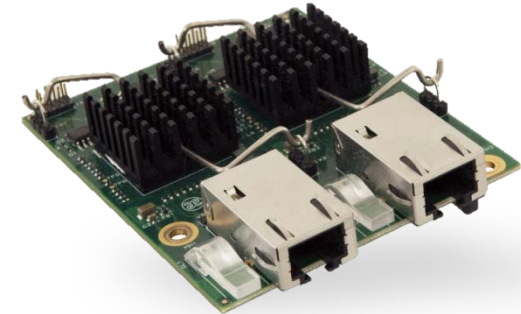


BM3400 - Add-on interfaces Position B (optional)

1 x RVL OUT (RJ45)



2 x RVL OUT (RJ45)



BM3400 - Long term availability



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