

Manufacturer: **Hatteland Technology AS**

Product: **Compact Fanless Computer**
Type: **HT B30Kx STC-yzz-Ezzzzz (Short Depth model)**
(where x=CPU type, y=OS, z=Configuration)

Last Revised: **11 Apr 2022**
Revision#: **29**

Compact Fanless Computer

Overview:

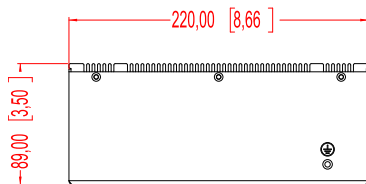
The HT B30 range is based on the latest Intel chipset and Skylake processor platform, delivering even more power for maritime technology developers to design and build high-end vessel control and monitoring solutions that enable safer and more efficient maritime operations.

HT B30 computers are available in two new form factors, short depth and long depth, allowing for flexible installation options including 3U rack mounting in pairs. Using the same system architecture as our new, second generation Series X Panel Computers, the HT B30 range offers significant processing speed and graphical performance improvements, which when combined with multiple-drive solid state storage and silent, fanless operation, positioning it among the most advanced computing platforms for maritime applications.

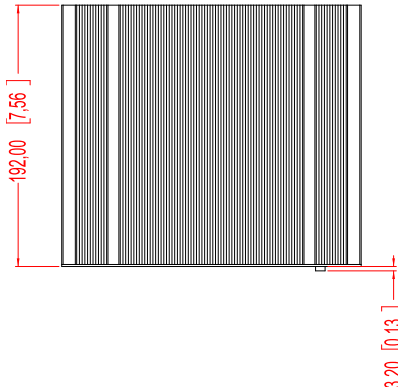
HT B30 computers can be delivered with a choice of Intel® Core™ / Celeron® processors, up to i7. Graphical output is handled by 1 x DVI-I, 1 x DVI-D and 1 x Display Port (DP++ 1.2) while standard interfaces include 4 x Ethernet Ports, 4 x USB2.0 and 4 x USB3.0. The HT B30 platform also supports a wide range of interface modules such as CAN/NMEA COM/COM and DIO, ensuring it is ready off-the-shelf for all maritime applications. In addition, HT B30K range of computers features a lightweight, fully enclosed aluminium chassis and comes dual DC power input.



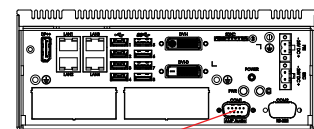
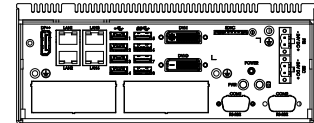
FRONT VIEW



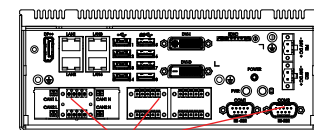
TOP VIEW



BACK VIEW

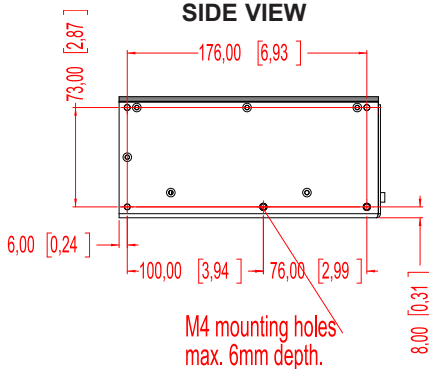


Shown with AMP Audio Option



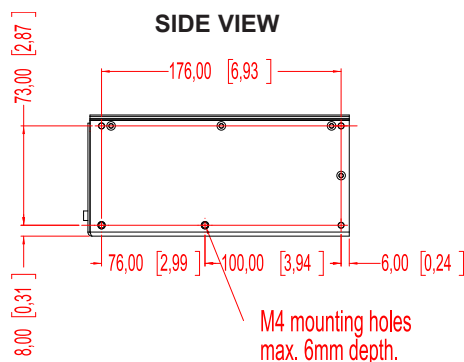
Shown with 3 x Factory Mounted Module Options

SIDE VIEW



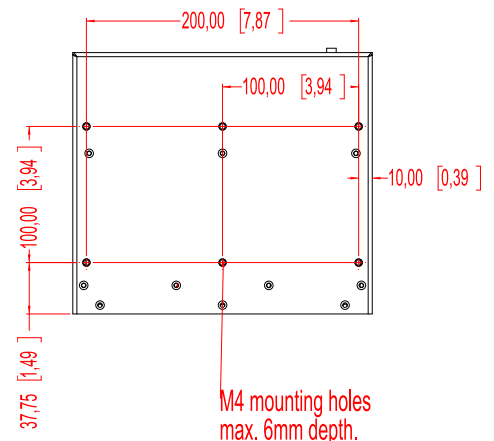
M4 mounting holes
max. 6mm depth.

SIDE VIEW



M4 mounting holes
max. 6mm depth.

BOTTOM VIEW



M4 mounting holes
max. 6mm depth.

Dimensions might be shown with or without decimals and indicated as mm [inches]. Tolerance on drawings is +/- 1mm. For accurate measurements, check relevant DWG file.

TECHNICAL DESCRIPTION

Computer Specifications: (Standard model)

• Operating System	: None or Customized image - See table below	
• Processor	: 1 x Intel® Core™ - See table below	
• Memory/RAM	: 2 x SO-DIMM SLOT DDR4-2133, Max 2x16GB - See table below	
• Storage internal	: 1 x SSD m.2 - See table below for sizes	
• Media Storage	: 1 x SDXC (SDcard) slot	1 x SDcard Slot
• Graphics	: Intel® HD Graphics 510 (OpenGL 4.4)/520 (OpenGL 4.5), DirectX 12.0, OpenCL 2.0 3 independent displays (valid combinations: ref Intel datasheet)	1 x DVI-I*** + 1 DVI-D + 1 x DP++ 1.2
• Graphics Res.	: DP = 4096x2304@60Hz. DVI-I/D = 1920x1200@60Hz	
• System Chipset	: Integrated in 6th Generation Intel® Core™ U-series processor	
• BIOS	: ACPI support	
• Ethernet #1	: 1 x 10/100/1000Mbps, Intel® Gigabit LAN	1 x RJ-45, Teaming
• Ethernet #2	: 1 x 10/100/1000Mbps, Intel® Gigabit LAN	1 x RJ-45, Teaming
• Ethernet #3	: 1 x 10/100/1000Mbps, Realtek Gigabit LAN	1 x RJ-45, Teaming
• Ethernet #4	: 1 x 10/100/1000Mbps, Realtek Gigabit LAN	1 x RJ-45, Teaming
• USB Ports #1	: 4 x USB2.0 (<5m)	4 x USB Type A
• USB Ports #2	: 4 x USB3.0 (<3m)	4 x USB Type A
• Power Manager	: ACPI S3/S4	
• Watchdog Timer	: 256 Segments, 0, 1, 2...255 sec/min	
• RTC	: 0.5s/day**	
• H/W Status Mont.	: TPM2.0, Firmware Raid, Temperatures, voltages, Battery load status Alarm, cooling fan status*. Auto throttling control if CPU overheats	
• Battery	: Normal operational conditions: life time >5 year, worst case conditions(@70C, 24/7): life time >2 year	

* Cooling FAN status, not applicable for system without CPU/system FAN.

** Required accuracy may be dependent of the actual implementation/environment and may require calibration to be within specified boundaries.

*** Depending on manufactured date of unit, the DVI-I connector are present on unit, but it will not support VGA

ref: <https://www.hattelandtechnology.com/product-notifications/ht-b30-configuration-update-due-to-component-shortage>

Power Specifications:

Power Supply options:

- Dual DC Input 24VDC, 24V nom, Galvanic isolated, automatic switch between power source 2 x 2-pin Terminal Block 5.08
- Power Consumption** - Operating : 43W (typ)* - 75W (max) - *at 25% load. Max Allowed External USB load = 10W.

Available Computer Configurations:

Type	Description	Size/Specification
CPU	1 x Intel® Core™ i5-6300U (2 physical core / 4 thread) or Intel® Core™ i7-6600U (2 physical core / 4 thread) or Intel® Celeron® 3955U (2 physical core / 2 thread)	- 2.4GHz / 3GHz 2/4 @15W, 403 GFLOPS, Chipset: Intel® HD 520 - 2.6GHz / 3.4GHz 2/4 @15W, 403 GFLOPS, Chipset: Intel® HD 520 - 2.0GHz 2/2 @15W, 173 GFLOPS, Chipset: Intel® HD 510
Memory	Dual Channel, DDR4 SO-DIMM, 2 slots available	- 2x4GB (Standard), 2x8GB, 2x16GB (Max)
Storage	1 x SSD m.2 SATA	- 240GB (599TBW), 480GB (945TBW), 960GB (1750TBW) Review "SSD Selection Guide" in User Manual
OS Option 32/64bit where applicable	Windows® 7 Pro/Ult. Embedded Systems*, Windows® Emb. Standard 7 (Toolkit & Runtime) All Versions**, Windows® 10 IoT Enterprise 2019 LTSC*** Linux (Skylake: kernel 4.4 or later). *Product Distribution End Date September 2024. **Product Distribution End Date July 2025. ***Product Distribution End Date January 2029.	

Factory Mounted Options:

- 1 or 2 x PCA200828-1 (4 x COM RS-422/485 isolated NMEA 4 channel) module
- 1 x ZIA0001310-B (1 x CAN isolated, 2 channel) module
- 1 x ZIA0001310-SLCAN (1 x CAN isolated, 2 channel, socketCAN) module
- 1 x PCA100297-1 (4 x Digital Input/Output isolated) module
- 1 x PCA100298-1 (LAN 10/100Mbps, 2 ports (RJ45) module
- 1 x VSD203134-1 (2W Amplified Audio out via DB9F)
- 1, 2 or 3 x PCA100309-1: Dual Isolated RS-232, 2xDB9M module
- Recessed Power Button Option
- Recessed Reset Button Option
- Reset Button Option
- Variations of Storage Devices, RAM Memory and Operating System
- * Contact us for possible combinations. Review separate datasheet for more info.

Available Accessories:

- HT 00262 OPT-A1: 4 x RS-422/RS-485 isolated, USB ext. module
- HT 00263 OPT-A1: 4 x RS-232 COM non-isolated, USB ext. module
- HT 00264 OPT-A1: 1 x CAN isolated, 2 channel, USB ext. module
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- HT 00274 OPT-A1: 2 x LAN 10/100Mbps, RJ45, USB ext. module
- HT 00228 OPT-A1: 1 x Mounting Plate with cable relief, RAL9011
- HT MBK STD-A2: 1 x Mounting Bracket Kit**
- HT RET STD-A1: 1 x Cable Retainer/Relief Kit**
- HT RMK STD-A1: 1 x 2U Rack Mount Kit RAL9011
- HT RMK STD-H1: 1 x 2U Rack Mount Kit w/Handles, RAL9011
- HT SRK STD-A2: 1 x 3U 19" Slide Rack Mount Kit (For 1 or 2 x HTB30)
- SF-41-20: 2 x 20" ball bearing sliding rail kit for 19" Rack*
- SF-41-26: 2 x 26" ball bearing sliding rail kit for 19" Rack*
- JH C01MF A-A: 1 x USB Cable 1m, Type A to Chassis mount receptacle
- HT 00300 MSOS: OS options: <https://www.hattelandtechnology.com/os>
- * Must be combined with HT SRK STD-A2
- ** Included with delivery

MECHANICAL DESCRIPTION

Physical Specifications:

- W:220.00 [8.66"] x H:89.00 [3.50"] x D:192.00 [7.56"] mm [inch]
- Weight: 2.5 kg / 5.5lbs
- Aluminium Cooling Chassis
- Includes: Mounting Bracket Kit, USB + DP/HDMI Retainers, Cable Relief Retainer
- Power (or Reset=optional model) Button, Power LED, Activity LED SSD

**Power Consumption: Numbers are specified as the unit is delivered from factory. All additional installed equipment like USB, PCIe and similar loads have to be added to power consumption. Note that total extra load have to be multiplied by 1.5 to compensate for efficiency in internal power converters. Typical power consumption varies a lot with computer load. We measure with 25% of max computer load.

Environmental Considerations:

• Operating	: Temperature -15°C to +55°C
• Storage	: Temperature -20°C to +60°C
• Humidity	: Up to 95% (Operating / Storage)
• Shock - Vibration	: 5g/11ms - 0.7g (IEC 60945 / IACS E10)
• Air Pressure Maximum Altitude	: Operating: 4000m - Storage: 12912m
• Air Pressure Maximum Altitude (Bonded)	: Operating: 3000m - Storage: 3000m
• Compass Safe Distance	: Standard: 30cm - Steering: 25cm

Lifetime Considerations:

Even though the test conditions for bridge units provide for a maximum operating temperature of 55°C, continuous operation of all electronic components should, if possible, take place at ambient temperatures of only 25°C. This is a necessary prerequisite for long life and low service costs.

APPROVALS & CERTIFICATES

These products have been tested / type approved by the following classification societies:

IEC 60945 4th (EN 60945:2002)
ClassNK - Nippon Kaiji KyokaiIACS E10
CCS - China Classification Society

EN55024

ABS - American Bureau of Shipping

EN55022, Class A

EU RO MR - Mutual Recognition

BV - Bureau Veritas