DATASHEET

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HATTELAND® DISPLAY
an EMBRON Company

Manufacturer:	**Hatteland Display AS**
Product:	**Compact Fanless Computer**
Type:	**HT B30Gx STC-yzz-Mzzzzz (Long Depth model)** (where x=CPU type, y=OS, z=Configuration)

Last Revised:	**11 Feb 2019**
Revision#:	**17**

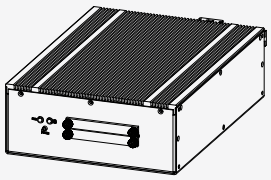
Compact Fanless Computer

Overview:

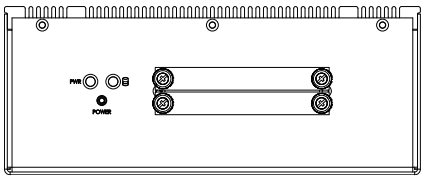
The HT B30 range is based on the latest Intel® chipset and Skylake processor platform, delivering even more power for maritime technology developers to design and build high-end vessel control and monitoring solutions that enable safer and more effecient maritime operations.

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.

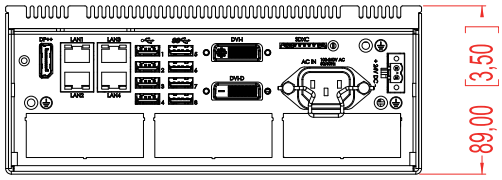
HT B30 computers can be delivered with a choice of Intel® Core™ / Celeron® processors, up to i7. Graphical output is handled by 1 x DVI-I, 1 x DVI-D and 1 x Display Port (DP++ 1.2) while standard interfaces include 4 x Ethernet Ports, 4 x USB2.0 and 4 x USB3.0. The HT B30 platform also supports a wide 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 B30G range of computers features a lightweight, fully enclosed aluminium chassis and comes with Hatteland Display's Multi-power system (both AC and DC power built in).

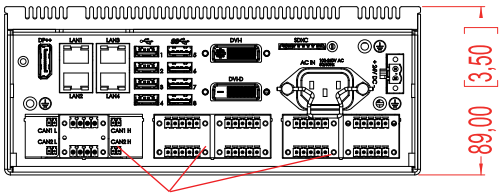


FRONT VIEW



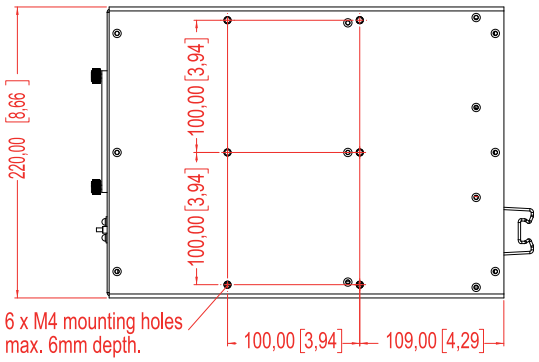
BACK VIEW

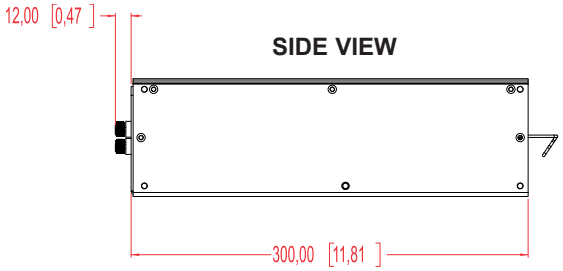




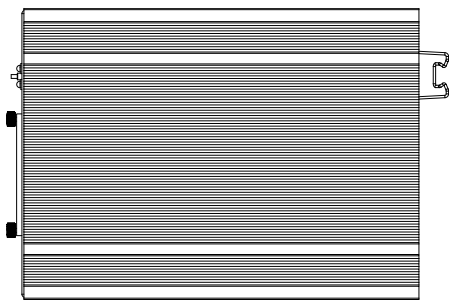
Shown with 3 x Factory Mounted Module Options

BOTTOM VIEW





TOP VIEW



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.

SPECIFICATIONS

Note: All specifications are subject to change without prior notice!
Please visit www.hatteland-display.com for the latest electronic version.

HATTELAND® DISPLAY
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TECHNICAL DESCRIPTION

Computer Specifications: (Standard model)

External Connector Type:

• 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 #1	: 2 x 2.5" removable front trays - See table below for sizes	
• Storage #2 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.	: 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.

Power Specifications:

Power Supply options:

- Multi Power: 100-240VAC 50/60Hz + 24VDC — 1 x STD IEC + 1 x 2-pin Terminal Block 5.08
- Power Consumption** - Operating AC/DC: 39W (typ)* - 50W (max) - *at 25% load. Max Allowed External USB load = 10W.

Note: You may connect either AC power or DC power or both. In case both sources are connected, power will be sourced from the AC input. If AC input is lost, there will be a uninterrupted switch-over to DC input.

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, DDR4-2133 SO-DIMM, 2 slots available	- 2x4GB (Standard), 2x8GB, 2x16GB (Max)
Storage #1	2 x 2.5" SSD SATA Multi Level (MLC)	- 150GB (412TBW),240GB (599TBW),480GB (945TBW),960GB (1750TBW) Review "SSD Selection Guide" in manual
Storage #2	1 x SSD m.2 SATA	- 150GB (412TBW),240GB (599TBW),480GB (945TBW),960GB (1750TBW) Review "SSD Selection Guide" in 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 2016 LTSB*** Linux (Skylake: kernel 4.4 or later). *Product Distribution End Date September 2024. **Product Distribution End Date July 2025. ***Product Distribution End Date November 2025.	

Factory Mounted Options:

- 1,2 or 3 x PCA100293-1 (4xCOM 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
- TPM2.0 (Trusted Platform 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.

*Where xxx=Size of device. yy=GB,TB. z=S (SSD)
Choose Storage Device from table above.

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-A1: 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-A1: 1 x 3U 19" Slide Rack Mount Kit (2xHTB30 side-by-side)
- HT 00224 OPT-A1: 2 x 20" ball bearing sliding rail kit for 19" Rack**
- HT 00225 OPT-A1: 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
- HD 000TR SX2-A2: 1 x Removable Front Tray 2.5" Empty
- HD xxxyy SX2-z2: 1 x Removable Front Tray 2.5" w/Storage Device*
- HT 00300 MSOS: OS options -> http://www.hatteland-display.com/os

**Must be combined with HT SRK STD-A1
***Included with delivery

MECHANICAL DESCRIPTION

Physical Specifications:

- W:220.00 [8.66"] x H:89.00 [3.50"] x D:300.00 [11.81"] mm [inch]
- Weight: 3.7 kg / 8.1lbs
- 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 deg. C to +55 deg. C
• Storage	: Temperature -20 deg. C to +60 deg. C
• Humidity	: Up to 95% (Operating / Storage)
• 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) **IACS E10** **EN55024** **EN55022, Class A** **EU RO MR** - Mutual Recognition