



## SONOVE M2 Maritime Panel PC





- ✓ Designed for Maritime Automation and Navigation
- ✓ Display Sizes: 27", 24", 24"HB, 18.5", 18.5"HB
- ✓ With or without PCAP Multi-Touch
- ✓ Full Range Dimming (0 .. 100%)
- ✓ Additional I/O and COM Ports for Remote Control
- ✓ ECDIS Compliant / Calibrated for your ECDIS Applications
- ✓ CPU: Up to 11th Generation
- ✓ „Made in Germany“
- ✓ Certifications: DNV, EU RO MR, Tested according to EN 60945

## Display

M2-PPC-27	27 inch, 1920 x 1080, 16:9, 300 cd/m <sup>2</sup>
M2-PPC-24	24 inch, 1920 x 1080, 16:9, 300 cd/m <sup>2</sup>
M2-PPC-24HB	24 inch, High Bright, 1920 x 1080, 16:9, 1000 cd/m <sup>2</sup>
M2-PPC-18.5 <sup>(1)</sup>	18.5 inch, 1920 x 1080, 16:9, 300 cd/m <sup>2</sup>
M2-PPC-18.5HB <sup>(1)</sup>	18.5 inch, High Bright 1920 x 1080, 16:9, 1000 cd/m <sup>2</sup>

## Performance

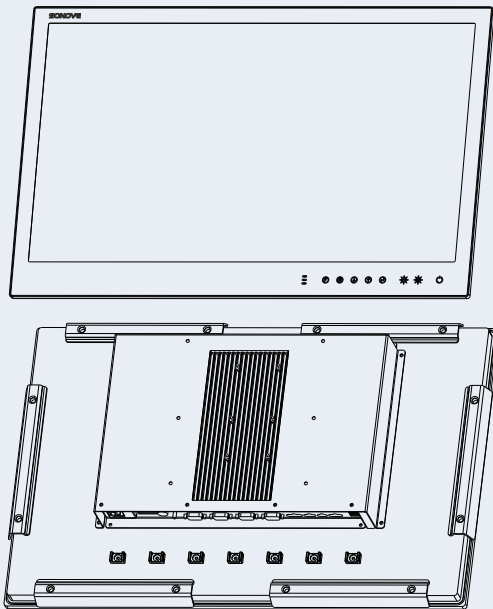
CPU	Up to 11th Generation Intel® Core™ Processors
Memory	Up to 64 GB RAM
Storage	Up to 2 x 2 TB (RAID)
Graphics	Up to Intel® Iris® Xe Graphics

<sup>(1)</sup> Available Q3/2022, Type Approval in progress

# Mounting Options

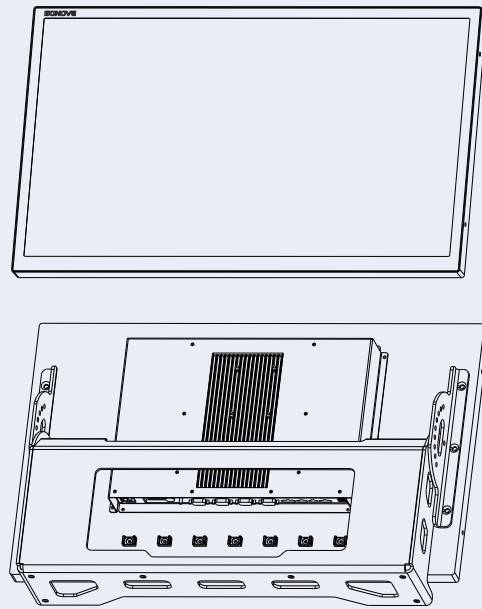
## Flush Mount (FM)

- ✓ Flush Mounting with Console Mounting Kit
- ✓ Capacitive Front Keys, Power On/Off and Dimming  
Optional Multi-Color Status LEDs
- ✓ Capacitive Multi-Touch or Antireflex Glass
- ✓ M2 Control Interface

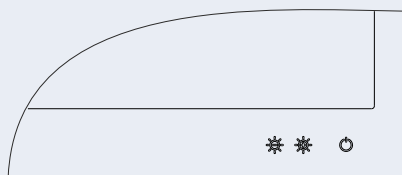


## Desktop, Wall, Ceiling

- ✓ Desk, Wall, Ceiling Mounting with Mounting Bracket
- ✓ Thin Frame without any Front Keys and LEDs  
(Backside Keys and LED)
- ✓ Capacitive Multi-Touch or Antireflex Glass
- ✓ M2 Control Interface



## M2 Front Keys and LEDs



- ✓ Capacitive Front Keys, Power On/Off with Status LED
- ✓ Capacitive Front Keys for Dimming
- ✓ All Keys with Backlight (dimmable)
- ✓ Multi-Color Status LEDs (optional)

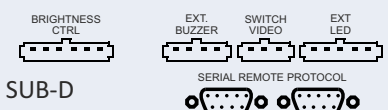
## M2 Remote Control Interface

- ✓ RS 232/485/422 for Remote Control
- ✓ Dig. IN for Dimming Keys (+/-) and Potentiometer IN
- ✓ Dig. IN for Video Source Select
- ✓ Buzzer Control IN and Relais OUT for External Buzzer
- ✓ Analog OUT for Multi-Color Status LED

- ✓ Screwless  
Cable Entry Plugs



- ✓ Alternatively  
SMP Connectors and SUB-D



## Technical Data

### 6th Generation Intel® Core™ Processors

<b>System</b>	Processor	<b>6th Generation Intel® Core™ Processors</b> Intel® Core™ i7-6600U, Dual Core, 4M Cache, 2.60 GHz up to 3.40 GHz Intel® Core™ i5-6300U, Dual Core, 4M Cache, 2.40 GHz up to 3.00 GHz	
	Memory	Up to 16GB, Dual Channel DDR3L 1600MHz	
	Storage	1 x mSATA SSD up to 1TB 2 x SSD up to 2TB RAID 0/1/5	
<b>Graphics</b>	Controller	Intel® HD Graphics 520	
	Feature	OpenGL 4.4, DirectX 12, OpenCL 2.1 HW Decode: AVC/H264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8/9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9	
	Displays	Triple Displays; Internal Display + 1 x DP + 1 x DP++	
<b>Expansion</b>	Interface	1 x PCIe x4 (Gen3) Low Profile	
<b>Rear I/O</b>	Ethernet	2 x GbE (RJ-45)	Optional up to 6 x GbE
	USB	4 x USB 3.0	Optional up to 8 x USB
	Display	1 x DP, 1 x DP++	
	Audio	1 x Line-out, 1 x Mic-in	
	Serial		Optional up to 4 x COM (RS232, RS422/485)
<b>Optional (M2 CB)</b>	Controller	M2 Controller Board	
	Feature	1 x Internal Alarm-Buzzer 1 x Out for ext. Alarm-Buzzer 1 x Potentiometer In, 2 x Push Button In 2 x Out for Status LED	
<b>Watchdog Timer</b>	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>Security</b>	TPM	dTPM 2.0 (available upon request)	
<b>Power Options</b>	DC	24 VDC	
	AC	230/115 VAC (50/60Hz)	
	DCAC	24 VDC + 230/115 VAC (redundant)	
<b>OS Support</b>		Windows 7 Windows 8.1 Windows 10 Linux	
<b>Environment</b>	Operating Temp.	-15 to +55°C	
	Storage Temp.	-20 to +70°C	
	IP Rating	IP66 (front) - IP20 (rear)	
<b>Type Approval</b>		DNV GL Tested according to EN 60945	
	Type Approval in progress, expected Q3/2022	DNV EU RO MR, Tested according to EN 60945	

Options and additional features are configurable. Contact your Sonove sales representative for further information.  
Depending on the product configuration, interfaces or slot brackets may differ from the figures in this document.

## 7th Generation Intel® Core™ Processors

<b>System</b>	Processor	<b>7th Generation Intel® Core™ Processors</b> Intel® Core™ i7-7600U, 2 Cores, 4M Cache, 2.80 GHz up to 3.90 GHz Intel® Core™ i5-7300U, 2 Cores, 4M Cache, 2.60 GHz up to 3.50 GHz Intel® Core™ i3-7100U, 2 Cores, 4M Cache, 2.40 GHz Intel® Celeron® 3965U, 2 Cores, 2M Cache, 2.20 GHz	
	Memory	Up to 32GB, Dual Channel DDR4 1866/2133MHz	
	Storage	1 x M.2 SSD up to 1TB or SATA3.0/PCIe Gen3 x2 NVMe 2 x SSD up to 2TB RAID 0/1/5	
<b>Graphics</b>	Controller	Intel® HD Graphics GT Series	
	Feature	OpenGL 4.4, DirectX 12, OpenCL 2.1 HW Decode: AVC/H264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265,VP8,VP9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9	
	Displays	Triple Displays; Internal Display + 2 x DP++	
<b>Expansion</b>	Interface	1 x PCIe x4 (Gen 3) Low Profile	
<b>Rear I/O</b>	Ethernet	2 x GbE (RJ-45)	Optional up to 6 x GbE
	USB	4 x USB 3.0	Optional up to 8 x USB
	Display	2 x DP++	
	Audio	1 x Line-out, 1 x Mic-in	
	Serial		Optional up to 4 x COM (RS232, RS422/485)
<b>Optional (M2 CB)</b>	Controller	M2 Controller Board	
	Feature	1 x Internal Alarm-Buzzer 1 x Out for ext. Alarm-Buzzer 1 x Potentiometer In, 2 x Push Button In 2 x Out for Status LED	
<b>Watchdog Timer</b>	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>Security</b>	TPM	TPM 2.0 (Opt.)	
<b>Power Options</b>	DC	24 VDC	
	AC	230/115 VAC (50/60Hz)	
	DCAC	24 VDC + 230/115 VAC (redundant)	
<b>OS Support</b>		Windows 10 Linux	
<b>Environment</b>	Operating Temp.	-15 to +55°C	
	Storage Temp.	-20 to +70°C	
	IP Rating	IP66 (front) - IP20 (rear)	
<b>Type Approval</b>		DNV GL Tested according to EN 60945	
	Type Approval in progress, expected Q3/2022	DNV EU RO MR, Tested according to EN 60945	

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## 11th Generation Intel® Core™ Processors

<b>System</b>	Processor	<b>11th Generation Intel® Core™ Processors</b> Intel® Core™ i7-1185GRE, 4 Cores, 8M Cache, 1.80 GHz up to 4.40 GHz Intel® Core™ i5-1145GRE, 4 Cores, 8M Cache, 1.50 GHz up to 4.10 GHz	
	Memory	Up to 64GB, Dual Channel DDR4 up to 3200MHz	
	Storage	1 x M.2 SSD up to 1TB or SATA3.0/PCIe Gen3 x4 NVMe 2 x SSD up to 2TB RAID 0/1/5	
<b>Graphics</b>	Controller	Intel® Iris® Xe Graphics for i7/i5 Processors	
	Feature	OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: WMV9, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1 HW Encode: AVC/H264, JPEG, HEVC/H265, VP9	
	Displays	Triple Displays; Internal Display + 1 x HDMI + 1 x DP++	
<b>Expansion</b>	Interface	1 x PCIe x4 (Gen3 x4) Low Profile	
<b>Rear I/O</b>	Ethernet	3 x GbE (RJ-45)	Optional up to 7 x GbE
	USB	4 x USB 3.1 Gen2 (Type-A) 1 x USB 4.0 Type-C (Thunderbolt 3) (Support USB 3.1 Gen2, DP 1.4)	Optional up to 9 x USB
	Display	1 x DP++, 1 x HDMI	
	Audio		Optional 1 x Line-out, 1 x Mic-in
	Serial		Optional up to 4 x COM (RS232, RS422/485)
<b>Optional (M2 CB)</b>	Controller	M2 Controller Board	
	Feature	1 x Internal Alarm-Buzzer 1 x Out for ext. Alarm-Buzzer 1 x Potentiometer In, 2 x Push Button In 2 x Out for Status LED	
<b>Watchdog Timer</b>	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>Security</b>	TPM	dTPM 2.0/fTPM (Opt.)	
<b>Power Options</b>	DC	24 VDC	
	AC	230/115 VAC (50/60Hz)	
	DCAC	24 VDC + 230/115 VAC (redundant)	
<b>OS Support</b>		Windows 10 Linux	
<b>Environment</b>	Operating Temp.	-15 to +55°C	
	Storage Temp.	-20 to +70°C	
	IP Rating	IP66 (front) - IP20 (rear)	
<b>Type Approval</b>			
	Type Approval in progress, expected Q3/2022	DNV EU RO MR, Tested according to EN 60945	

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### Examples of M2 Panel PC standard systems with order information

<b>M2 Panel PC, 18.5 inch</b>		
M2-PPC-18.5 DT GL i7(S) DCAC	463.053.yyyy	M2 Panel PC, 18.5 inch, Redundant 24VDC and 115/230VAC, Intel® Core™ i7-6600U, 2.60 GHz, 8 GB RAM, 128 GB SSD, Windows® 10 IoT Ent.
M2-PPC-18.5 FM CT i5(K) DC	468.022.yyyy	M2 Panel PC, 18.5 inch, Flush Mount, Capacitive Multi Touch, 24VDC, Intel® Core™ i5-7300U, 2.60 GHz, 8 GB RAM, 128 GB SSD, Windows® 10 IoT Ent.
<b>M2 Panel PC, 18.5 inch, High Bright</b>		
M2-PPC-18.5HB DT GL i7(S) DCAC	463.153.yyyy	M2 Panel PC, 18.5 inch, High Bright, Redundant 24VDC and 115/230VAC, Intel® Core™ i7-6600U, 2.60 GHz, 8 GB RAM, 128 GB SSD, Windows® 10 IoT Ent.
M2-PPC-18.5HB FM CT i5(K) DC	468.122.yyyy	M2 Panel PC, 18.5 inch, High Bright, Flush Mount, Capacitive Multi Touch, 24VDC, Intel® Core™ i5-7300U, 2.60 GHz, 8 GB RAM, 128 GB SSD, Windows® 10 IoT Ent.
<b>M2 Panel PC, 24 inch</b>		
M2-PPC-24 DT GL i5(S) DCAC	482.033.yyyy	M2 Panel PC, 24 inch, Redundant 24VDC and 115/230VAC, Intel® Core™ i5-6300U, 2.40 GHz, 8 GB RAM, 128 GB SSD, Windows® 7
M2-PPC-24 FM CT i7(K) AC	488.011.yyyy	M2 Panel PC, 24 inch, Flush Mount, Capacitive Multi-Touch, 115/230VAC, Intel® Core™ i7-7600U, 2.80 GHz, 16 GB RAM, 256 GB SSD, Windows® 10 IoT Ent.
<b>M2 Panel PC, 24 inch, High Bright</b>		
M2-PPC-24HB DT CT i5(K) DC	487.122.yyyy	M2 Panel PC, 24 inch, High Bright, Capacitive Multi-Touch, 24VDC Intel® Core™ i5-7300U, 2.60 GHz, 16 GB RAM, 256 GB SSD, Windows® 10 IoT Ent.
M2-PPC-24HB FM GL i7(K) DCAC	483.113.yyyy	M2 Panel PC, 24 inch, High Bright, Flush Mount, Redundant 24VDC + 115/230VAC, Intel® Core™ i7-7600U, 2.80 GHz, 16 GB RAM, 256 GB SSD, Windows® 10 IoT Ent.
<b>M2 Panel PC, 27 inch</b>		
M2-PPC-27 DT GL i7(K) DCAC	491.013.yyyy	M2 Panel PC, 27 inch, Redundant 24VDC and 115/230VAC, Intel® Core™ i7-7600U, 2.80 GHz, 16 GB RAM, 256 GB SSD, Windows® 10 IoT Ent.
M2-PPC-27 FM CT i5(K) AC	497.021.yyyy	M2 Panel PC, 27 inch, Flush Mount, Capacitive Multi Touch, 115/230VAC, Intel® Core™ i5-7300U, 2.60 GHz, 8 GB RAM, 128 GB SSD, Windows® 10 IoT Ent.

Sonove GmbH  
 Hindelanger Str. 33  
 87527 Sonthofen  
 Germany

Phone +49 8321 67466 200  
 Fax +49 8321 67466 199  
 Mail [marine@sonove.com](mailto:marine@sonove.com)  
 Web [www.sonove.com](http://www.sonove.com)

