

FLATMAN ECO / PRO – User Manual



Customer: Standard

User Manual (Version 1.9)

FLATMAN ECO / PRO – User Manual

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2 Introduction

2.1 Symbols used in this Manual



This symbol point out to especially information.

2.2 Important Instructions

This chapter contains instructions which must be observed when using your Flatman Monitor. The manufacturer's instructions provide useful information on your device.

2.3 Note on the Warranty

Due to their limited service life, parts which by their nature are subject to a particularly high degree of wear (wearing parts) are excluded from the warranty beyond that provided by law. This applies to the CMOS battery, for example.

3 General Safety Instructions

The ext. supply shall meet the criteria for SELV (Safety Extra-low Voltage) and <240VA acc. UL 60950-1.

It must be assumed that safe operation is no longer possible, if the device has visible damage or if the device no longer functions. In these cases the device must be shut down and secured against unintentional operation.

Please read this section carefully and observe the instructions for your own safety and correct use of the device. The chapter also contains information on approval and interference suppression of your device. Observe the warnings and instructions on the device and in the manual.

In order to maintain this condition and ensure safe operation, the user must observe the instructions and warnings contained in this manual.

- The device must be used in accordance with the instructions for use.
- The electrical installations in the room must correspond to the requirements of the local (country-specific) regulations.
- Take care that there are no cables, particularly power cables, in areas where persons can trip over them.
- Only use the power cord supplied. Don't use injured or damaged power cords.
- For DC power connection:
The DC power source should be able to be switched off and on via an isolating switch.
The unit is only completely disconnected from the DC main power source, when the DC power cord is disconnected either from the power source or the unit. Therefore, the DC power cord and its connectors must always remain easily accessible.
- For AC power connection via external AC/DC adapter:
The main power cable of the external AC/DC adapter serves as disconnecting device. For this reason the outlet of the AC power source must be located near to the device and be easily accessible.
- Do not place the device in direct sunlight, near heat sources or in a damp place. Make sure the device has adequate ventilation.
- Only devices and components which fulfill the requirements of an SELV circuit (safety extra low voltage) in accordance with EN60950 may be connected to the interfaces of the system.
- All plugs on the connection cables must be screwed or locked to the housing.
- The device generates heat during operation. Make sure it is adequately ventilated. Do not cover the air intake and exhaust openings of the device.
- Repairs may only be carried out by qualified specialist personnel authorized by S&T.
- Maintenance or repair on the open device may only be carried out by qualified personnel authorized by SNT which is aware of with the associated dangers.
- When accessing internal components the device must be switched off and disconnected from the power source.

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4 Electromagnetic Compatibility

4.1 Electromagnetic Compatibility EU

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. If the user modifies and/or adds to the equipment (e.g. installation of add-on cards) the prerequisites for the CE conformity declaration (safety requirements) may no longer apply.

4.2 Electrostatic Discharge (ESD)



A sudden discharge of electrostatic electricity can destroy static-sensitive devices or micro-circuitry. Therefore proper packaging and grounding techniques are necessary precautions to prevent damage. Always take the following precautions:

- Keep electrostatic sensitive parts in their containers until they arrive at the ESD-safe workplace.
- Always be properly grounded when touching a sensitive board, component, or assembly.

4.2.1 Grounding Methods

The following measures help to avoid electrostatic damages to the device:

- Cover workstations with approved antistatic material. Always wear a wrist strap connected to workplace as well as properly grounded tools and equipment.
- Use antistatic mats, heel straps, or air ionizers for more protection.
- Always handle electrostatically sensitive components by their edge or by their casing.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or connecting test equipment.
- Keep work area free of non-conductive materials such as ordinary plastic assembly aids and styrofoam.
- Use field service tools such as cutters, screwdrivers, and vacuum cleaners which are conductive.
- Always place drives and boards PCB-assembly-side down on the foam.

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5 Technical Data / Environmental Specification

Display size	10.4"	12.1"	12.1" XGA	15.0"
Display manufacturer	Innolux	Innolux	Innolux	Innolux
Display type	G104AGE-L02	G121AGE-L03	G121X1-L03	G150XNE-L01 (new !!!)
Resolution	800x600	800x600	1024x768, XGA	1024x768
Format	4:3	4:3	4:3	4:3
Contrast ratio	700:1	1500:1	700:1	2500:1
Brightness	400cd	450cd	600cd	500cd
Angle View	H160° / V140°	H178° / V178°	H160° / V140°	H176° / V176°
Colors	16.7 million	16.7 million	16.2 million	16.7 million
LED Lifetime (> 50%, 25°C)	> 50.000h	> 50.000h	> 50.000h	> 70.000h
Dimensions (WxHxD - mm)	297 x 244 x 65	338 x 277 x 65	338 x 277 x 65	396 x 312 x 69
Weight	~ 3,9kg	~ 4,7kg	~ 4,7kg	~ 6,4kg
Touch Options	Protection glass / PCAP / resistive			
Mounting Option	full metal housing / built-in-mounting			
Fastening	VESA 75/75 or 100/100 (full metal housing only); fastening clips (built-in-variant only)			
Color	RAL 7021 (black anthracite)			

Display size	15.6"	15.6" Full HD	17.0"	18.5"
Display manufacturer	Innolux	AUO	AUO	Innolux
Display type	G156BGE-L01	G156HTN02.0	G170EG01V1	G185BGE-L01
Resolution	1366x768, HD	1920x1080, Full HD	1280x1024	1366x768, HD
Format	16:9	16:9	5:4	16:9
Contrast Ratio	500:1	500:1	800:1	1000:1
Brightness	300cd	400cd	350cd	300cd
Angle View	H160° / V160°	H140° / V120°	H160° / V140°	H178° / V170°
Colors	16.7 million	16.2 million	16.7 million	16.7 million
LED Lifetime (> 50%, 25°C)	> 50.000h	> 50.000h	> 50.000h	> 50.000h
Dimensions (WxHxD - mm)	432 x 281 x 74	432 x 281 x 74	427 x 360 74	500 x 321 x 74
Weight	~ 6,7kg	~ 6,7kg	~ 7,8kg	~ 8,6kg
Touch Options	Protection glass / PCAP / resistive			
Mounting Option	full metal housing / built-in-mounting			
Fastening	VESA 75/75 or 100/100 (full metal housing only); fastening clips (built-in-variant only)			
Color	RAL 7021 (black anthracite)			

Display size	18.5" Full HD	19.0"	21.5"	23.8"
Display manufacturer	AUO	AUO	AUO	AUO
Display type	G185HAN01.0	G190ETN01.2	G215HVN01.0	G238HAN01.1 (new !!!)
Resolution	1920x1080	1280x1024	1920x1080, Full HD	1920x1080
Format	16:9	5:4	16:9	16:9
Contrast Ratio	1000:1	1000:1	3000:1	1000:1
Brightness	350cd/m ²	350cd	300cd	400cd/m ²
Angle View	178°/178°	H170° / V160°	H178° / V178°	178°/178°
Colors	16,7million	16.7 million	16.7 million	16,7million
LED Lifetime (> 50%, 25°C)	50.000h	> 50.000h	> 50.000h	50.000h
Dimensions (WxHxD - mm)	500 x 321 x 74	473 x 396 x 68	575 x 367 x 74	569 x 357 x 69
Weight	~ 8,6kg	~ 9,4kg	~ 10,7kg	~ 11,8 kg
Touch Options	Protection glass / PCAP / resistive			Protection glass / PCAP
Mounting Option	full metal housing / built-in-mounting			
Fastening	VESA 75/75 or 100/100 (full metal housing only); fastening clips (built-in-variant only)			
Color	RAL 7021 (black anthracite)			

- other Display manufacturers and types are possible

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5.1 Technical Information ECO LINE

CPU	Intel® BayTrail Celeron Quad Core J1900	Option: Intel® Braswell Celeron Quad Core
Memory	4GB DDR3 SO-DIMM	4GB DDR3 SO-DIMM
BIOS	AMI uEFI BIOS	AMI uEFI BIOS
I/O Standard	2xGbE (1x Intel® I210, 1x Realtek RTL8111G), 1x HDMI, 1x VGA, 1x USB3.0, 2x USB2.0	2xGbE (2x Intel® I210), 1x HDMI, 1x DP, 4x USB3.0, 1x VGA, 2x USB2.0 (option)
Power Supply	12-30VDC Input	12-30VDC Input
Cooling	Fanless passive cooling	Fanless passive cooling
Operating Temperature	0°C - 50°C ambient (**)	0°C - 50°C ambient (**)
Operating Altitude	Up to 3000m (9900 ft)	Up to 3000m (9900 ft)
Storage Altitude	Up to 5000m (16500 ft)	Up to 5000m (16500 ft)
Humidity	10%-90% @ 39°C, non condensing	10%-90% @ 39°C, non condensing
OS Support	Windows7 incl Embedded, Windows8.1 Pro, Windows10 IoT, Linux Ubuntu	Windows7 incl Embedded, Windows8.1 Pro, Windows10 IoT, Linux Ubuntu
Certification	CE, cULus, Design to meet FCC	CE
Protection class	Front: IP65, Housing IP20	Front: IP65, Housing IP20
EMC	EN55022 class B	EN55022 class B
Options <i>(Further options on request)</i>	8GB RAM CF/SD Card Adapter SD Card Memory 4GB, 16GB, 32GB, 64GB CF Card Memory on demand mSATA SSD 32GB, 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) RFID, WiFi (on demand)	8GB RAM CF/SD Card Adapter SD Card Memory 4GB, 16GB, 32GB, 64GB CF Card Memory on demand mSATA SSD 32GB, 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) RFID, WiFi (on demand)

CPU	Intel® Apollo Lake Pentium® N4200
Memory	4GB DDR3 SO-DIMM
BIOS	AMI uEFI BIOS
I/O Standard	2xGbE (Intel® I210) 1x HDMI, 1x DP, 4x USB3.0
Power Supply	12-30VDC Input
Cooling	Fanless passive cooling
Operating Temperature	0°C - 50°C ambient (**)
Operating Altitude	Up to 3000m (9900 ft)
Storage Altitude	Up to 5000m (16500 ft)
Humidity	10%-90% @ 39°C, non condensing
OS Support	Windows10 IoT, Linux Ubuntu
Certification	CE, cULus, Design to meet FCC
Protection class	Front: IP65, Housing IP20
EMC	EN55022 class B
Options <i>(Further options on request)</i>	8GB RAM CF/SD Card Adapter SD Card Memory 4GB, 16GB, 32GB, 64GB CF Card Memory on demand M.2 SSD 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) RFID, WiFi (on demand)

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5.2 Technical Information PRO LINE

CPU	Intel® Haswell ULT i5-4300U	<i>Option: Intel® Broadwell ULT i5-5350U</i>
Memory	4GB DDR3 SO-DIMM	<i>4GB DDR3 SO-DIMM</i>
BIOS	AMI uEFI BIOS	<i>AMI uEFI BIOS</i>
Hardware Monitor	Temperature, Voltages	<i>Temperature, Voltages</i>
Watchdog	Programmable WDT to generate System reset event	<i>Programmable WDT to generate System reset event</i>
RTC	Processor integrated RTC	<i>Processor integrated RTC</i>
I/O Standard	3x GbE, 2x Display Port, 4x USB3.0	<i>3x GbE, 2x Display Port, 4x USB3.0</i>
Power Supply	12-30VDC Input	<i>12-30VDC Input</i>
Cooling	Fanless passive cooling	<i>Fanless passive cooling</i>
Operating Temperature	0°C - 50°C ambient (UL listed 0°C - 45°C) (**)	<i>0°C - 50°C ambient (UL listed 0°C - 45°C) (**)</i>
Operating Altitude	Up to 3000m (9900 ft)	<i>Up to 3000m (9900 ft)</i>
Storage Altitude	Up to 5000m (16500 ft)	<i>Up to 5000m (16500 ft)</i>
Humidity	10%-90% @ 39°C, non condensing	<i>10%-90% @ 39°C, non condensing</i>
OS Support	Windows7 incl Embedded, Windows8.1 Pro, Windows10 IoT, Linux Ubuntu	<i>Windows7 incl Embedded, Windows8.1 incl Embedded, Linux, Windows10 IoT</i>
Certification	CE, cULus, Design to meet FCC	<i>CE</i>
Protection class	Front: IP65, Housing IP20	<i>Front: IP65, Housing IP20</i>
EMC	EN55022 class B	<i>EN55022 class B</i>
Options <i>(Further options on request)</i>	8GB RAM CF/SD Card Adapter SD Card Memory 4GB, 16GB, 32GB, 64GB mSATA SSD 32GB, 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) CF Card Memory, RFID, WiFi (on demand)	<i>8GB RAM CF/SD Card Adapter SD Card Memory 4GB, 16GB, 32GB, 64GB mSATA SSD 32GB, 64GB, 128GB, 256Gb, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) CF Card Memory, RFID, WiFi (on demand)</i>

(** except panel pc in size 23.8": operating temperature 0-45°C ambient)

CPU	Intel® Skylake ULT Core™ i5-6300U	Intel® Kaby Lake ULT Core™ i5-7300U
Memory	4GB DDR4 SO-DIMM	4GB DDR4 SO-DIMM
BIOS	AMI uEFI BIOS	AMI uEFI BIOS
Hardware Monitor	Temperature, Voltages	Temperature, Voltages
Watchdog	Programmable WDT to generate System reset event	Programmable WDT to generate System reset event
RTC	Processor integrated RTC	Processor integrated RTC
I/O Standard	3x GbE, 2x Display Port, 4x USB3.0	3x GbE, 2x Display Port, 4x USB3.0
Power Supply	12-30VDC Input	12-30VDC Input
Cooling	Fanless passive cooling	Fanless passive cooling
Operating Temperature	0°C - 50°C ambient (UL listed 0°C - 45°C) (**)	0°C - 50°C ambient (UL listed 0°C - 45°C) (**)
Operating Altitude	Up to 3000m (9900 ft)	Up to 3000m (9900 ft)
Storage Altitude	Up to 5000m (16500 ft)	Up to 5000m (16500 ft)
Humidity	10%-90% @ 39°C, non condensing	10%-90% @ 39°C, non condensing
OS Support	Windows7 incl Embedded, Windows10 IoT, Linux Ubuntu	Windows10 IoT, Linux Ubuntu
Certification	CE, cULus, Design to meet FCC	CE, cULus, Design to meet FCC
Protection class	Front: IP65, Housing IP20	Front: IP65, Housing IP20
EMC	EN55022 class B	EN55022 class B
Options <i>(Further options on request)</i>	8GB or 16GB RAM M.2 SSD 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) RFID, WiFi (on demand)	8GB or 16GB RAM M.2 SSD 64GB, 128GB, 256GB, 512GB 2x COM (RS232, RS422, RS485) Audio with amplifier (2x 3W) RFID, WiFi (on demand)

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5.3 Order Information

Example:

EN00-Z11100-01

(FLATMAN ECO 10.4" with Intel® BayTrail Celeron Quad Core J1900 resistive touch in full metal housing with 4GB RAM, 32GB mSATA, no any other options

EN00-yyyyyy-xx

① ② ③ ④ ⑤ ⑥

① - Internal Code

② - Display Size/CPU

Z1 = 10.4" with Intel® BayTrail Celeron Quad Core J1900 inside
Z2 = 12.1" with Intel® BayTrail Celeron Quad Core J1900 inside
Z3 = 15.0" with Intel® BayTrail Celeron Quad Core J1900 inside
Z4 = 15.6" with Intel® BayTrail Celeron Quad Core J1900 inside
Z5 = 17.0" with Intel® BayTrail Celeron Quad Core J1900 inside
Z6 = 18.5" with Intel® BayTrail Celeron Quad Core J1900 inside
Z7 = 19.0" with Intel® BayTrail Celeron Quad Core J1900 inside
Z8 = 21.5" with Intel® BayTrail Celeron Quad Core J1900 inside
ZH = 23.8" with Intel® BayTrail Celeron Quad Core J1900 inside
Z9 = 15.6" with Intel® Haswell ULT, i5-4300U inside
ZA = 17.0" with Intel® Haswell ULT, i5-4300U inside
ZB = 18.5" with Intel® Haswell ULT, i5-4300U inside
ZC = 19.0" with Intel® Haswell ULT, i5-4300U inside
ZD = 21.5" with Intel® Haswell ULT, i5-4300U inside
ZE = 15.0" with Intel® Haswell ULT, i5-4300U inside
ZF = 12.1" with Intel® Haswell ULT, i5-4300U inside
ZG = 10.4" with Intel® Haswell ULT, i5-4300U inside
ZJ = 23.8" with Intel® Haswell ULT, i5-4300U inside

Option variant with Intel® Braswell CPU Intel® Broadwell on request, ask for it at our sales department

Display Size/CPU

Y1 = 10.4" with Intel® Apollo Lake Pentium® N4200 inside
Y2 = 12.1" with Intel® Apollo Lake Pentium® N4200 inside
Y3 = 15.0" with Intel® Apollo Lake Pentium® N4200 inside
Y4 = 15.6" with Intel® Apollo Lake Pentium® N4200 inside
Y5 = 17.0" with Intel® Apollo Lake Pentium® N4200 inside
Y6 = 18.5" with Intel® Apollo Lake Pentium® N4200 inside
Y7 = 19.0" with Intel® Apollo Lake Pentium® N4200 inside
Y8 = 21.5" with Intel® Apollo Lake Pentium® N4200 inside
YH = 23.8" with Intel® Apollo Lake Pentium® N4200 inside

Y9 = 15.6" with Intel® Skylake ULT, Core™ i5-6300U inside
YA = 17.0" with Intel® Skylake ULT, Core™ i5-6300U inside
YB = 18.5" with Intel® Skylake ULT, Core™ i5-6300U inside
YC = 19.0" with Intel® Skylake ULT, Core™ i5-6300U inside
YD = 21.5" with Intel® Skylake ULT, Core™ i5-6300U inside
YE = 15.0" with Intel® Skylake ULT, Core™ i5-6300U inside
YF = 12.1" with Intel® Skylake ULT, Core™ i5-6300U inside
YG = 10.4" with Intel® Skylake ULT, Core™ i5-6300U inside
YJ = 23.8" with Intel® Skylake ULT, Core™ i5-6300U inside

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Display Size/CPU

X9 = 15.6" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XA = 17.0" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XB = 18.5" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XC = 19.0" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XD = 21.5" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XE = 15.0" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XF = 12.1" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XG = 10.4" with Intel® Kaby Lake ULT, Core™ i5-7300U inside
XJ = 23.8" with Intel® Kaby Lake ULT, Core™ i5-7300U inside

③ - Touch Technology:

- 0 = with protection glass
- 1 = Touch resistive
- 2 = Touch PCAP
- 3 = with protection glass and stainless steel front
- 4 = Touch resistive and stainless steel front
- 5 = Touch PCAP and stainless steel front
- 6 = Touch PCAP V2
- 7 = with protection glass V2

④ - Mounting Variant:

- 1 = PPC full metal
- 2 = PPC built-in-mounting

⑤ - Options:

counted on demand, possible options are

- 8GB RAM
- CF/SD Card Adapter
- SD Card 8GB – 16GB – 32GB – 64GB
- CF Card 8GB – 16GB – 32GB
- Up to 2x COM (RS232, RS422, RS485)
- mSATA SSD 32GB – 64GB – 128GB – 256GB – 512GB
- M.2 SSD 64GB, 128GB, 256GB, 512GB
- Audio with amplifier (2x 3W)
- WiFi
- RFID
- Display-Option (full HD; XGA; ...)

⑥ - Internal Code (Revision)

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5.4 CE Directives and Standards CE Directives

Low Voltage Directive (Electrical Safety)	2014/35/EU
EMC Directive	2004/108/EC
RoHS II Directives	2011/65/EU
Minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields)	2013/35/EU
Electromagnetic compatibility (EMC), Part 6-2:Generic Standards – Immunity for industrial environments + CENELEC- Cor.:2005	EN 61000-6-2:2005 + Cor.:2005
Information technology equipment, Radio disturbance characteristics, Limits and methods of measurement (CISPR 22:2008, modified)	EN 55022 :2010
Information technology equipment, Immunity characteristics, Limits and methods of measurement	EN 55024 :2010
Safety for information technology equipment including electrical business equipment	EN 60950-1 :2006 +A11 :2009 +A1 :2010 +A12 :2011 +A2 :2013

6 Scope of Delivery (options)

This chapter describes the components which can be optionally ordered and delivered:

	Qty	Part#	Description
	1	EE04-100001-01	Phoenix Power Subcon w/ housing
	1	840-0059	EU-Powercord 1,8m
	1	ER40-100001-01	Set Power supply 24VDC /w Phoenix Connector
	1	PR22-100004-01	Adapter Kabel HDMI - Displayport, 20cm, 4K aktiv, Delock: 62607
	1	PR22-100005-01	Adapter HDMI - Displayport 1.2, 4K aktiv, Delock: 65573
	1	PR22-100006-01	Adapter DVI-D - Displayport 1.1, Delock: 65257
	1	PR22-100007-01	Adapter VGA - Displayport 1.1, Delock: 65567
	1	PR22-100008-01	Adapter DVI-I – HDMI, Delock: 65467

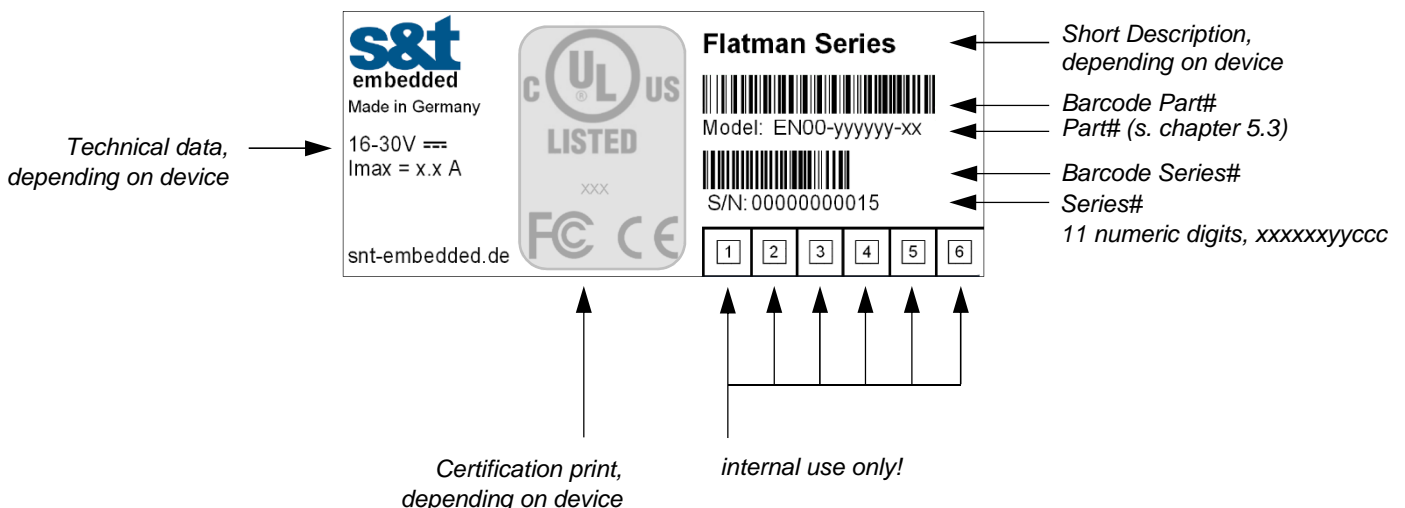
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	1	840-0758	Display-Port-cable 1,8m
	1	840-0759	DP Kabel 3m
	1	840-0760	DP Kabel 5m
	1	840-0598	Adapter VGA / DVI
	1	840-0039	VGA/SVGA cable 1,8m/2,0m
	1	840-0273	USB-cable 1,8m, Type A – Type B
	1	840-0134	DVI-cable 2m

6.1 Type Label and Product Identification

Product and Package Label, size 85 x 35mm, polyester matt silver

fig. 1: Type Label



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7 Product Description

7.1 Product view

7.1.1 Front View Description

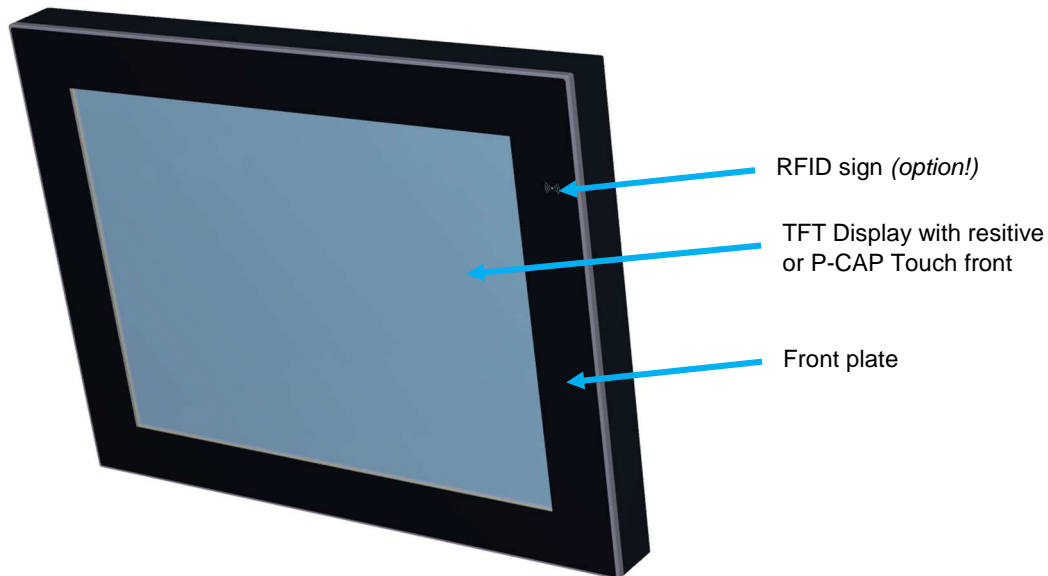


fig. 2: Front view

7.1.2 Rear View Description – full metal-variant

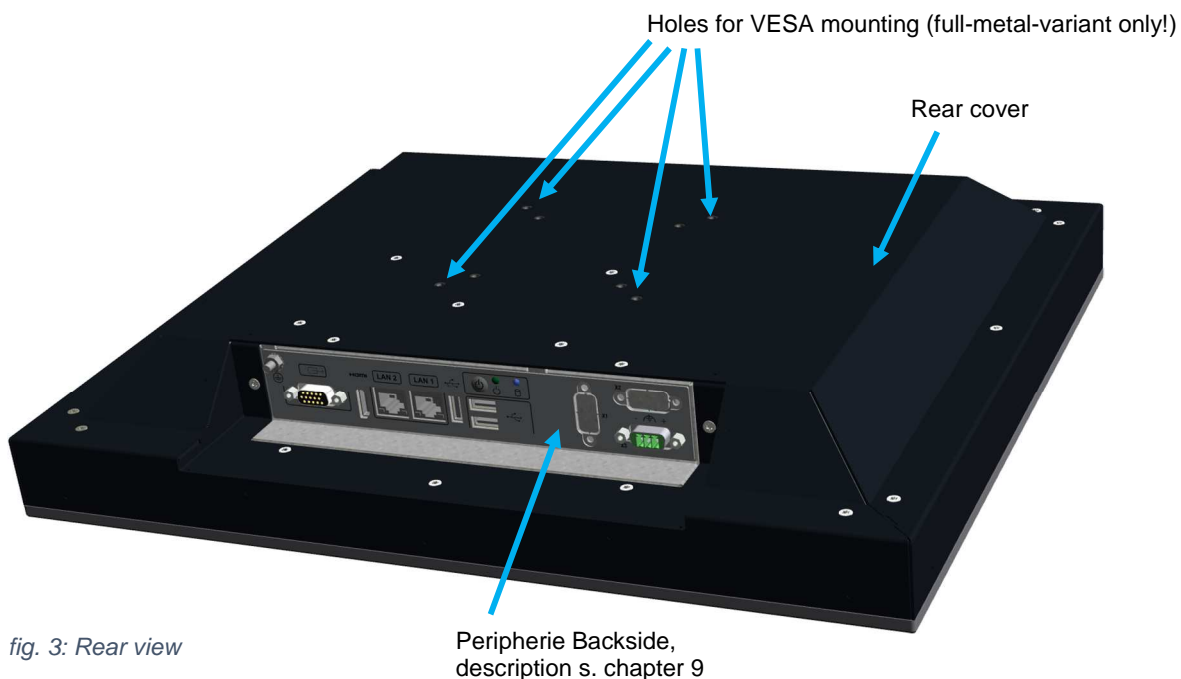


fig. 3: Rear view

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7.1.3 Rear View Description – built-in-variant

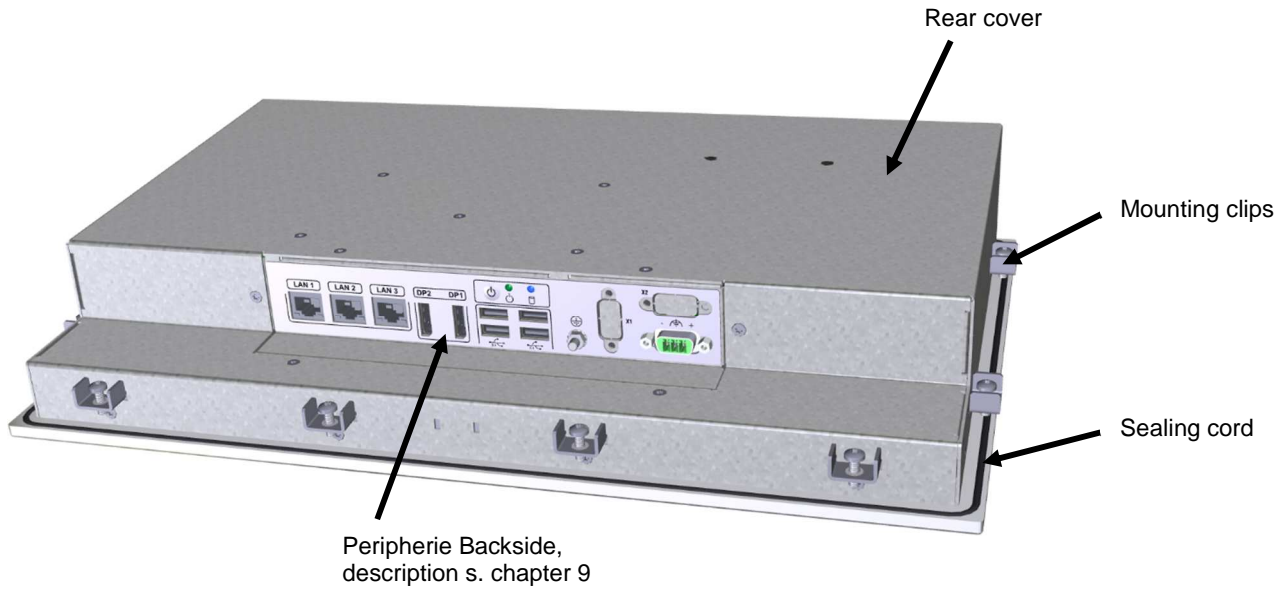


fig. 4: Rear view Built-in-variant

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8 Mechanical Specifications

8.1 Dimension Drawing

8.1.1 10.4" built-in-variant

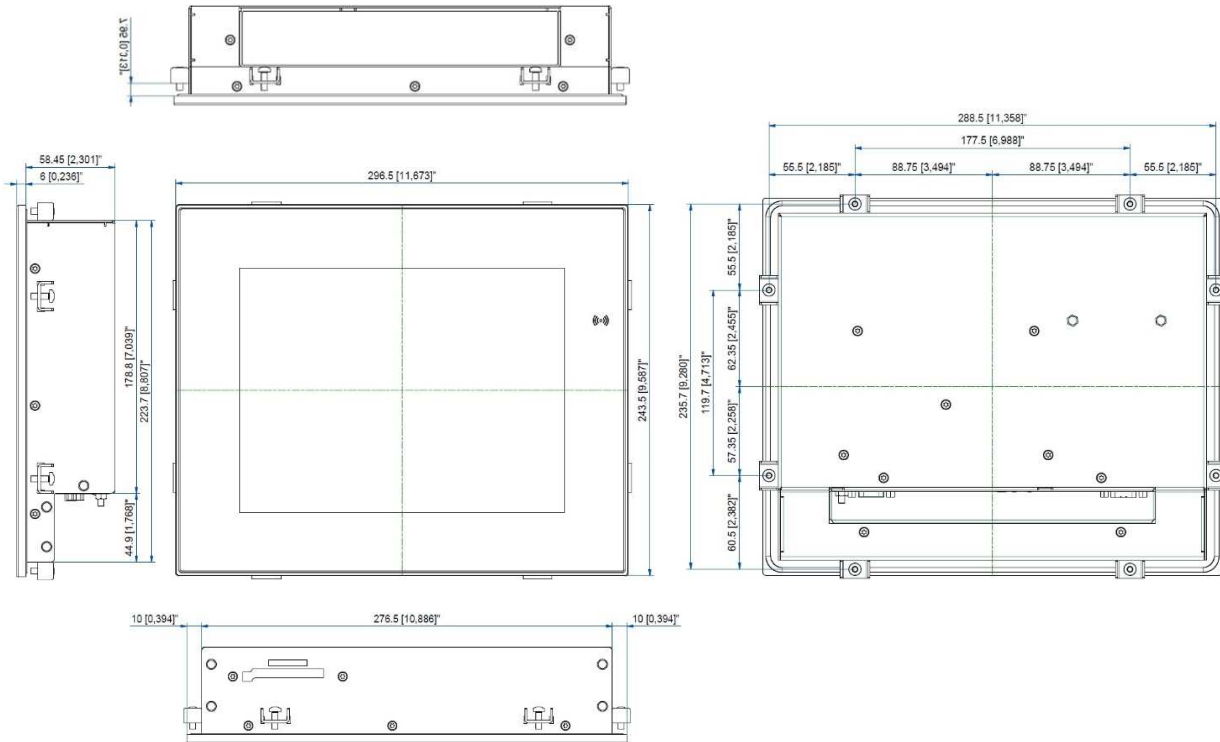


fig. 5: Dimension drawing 10,4" built-in

8.1.2 10.4" full metal

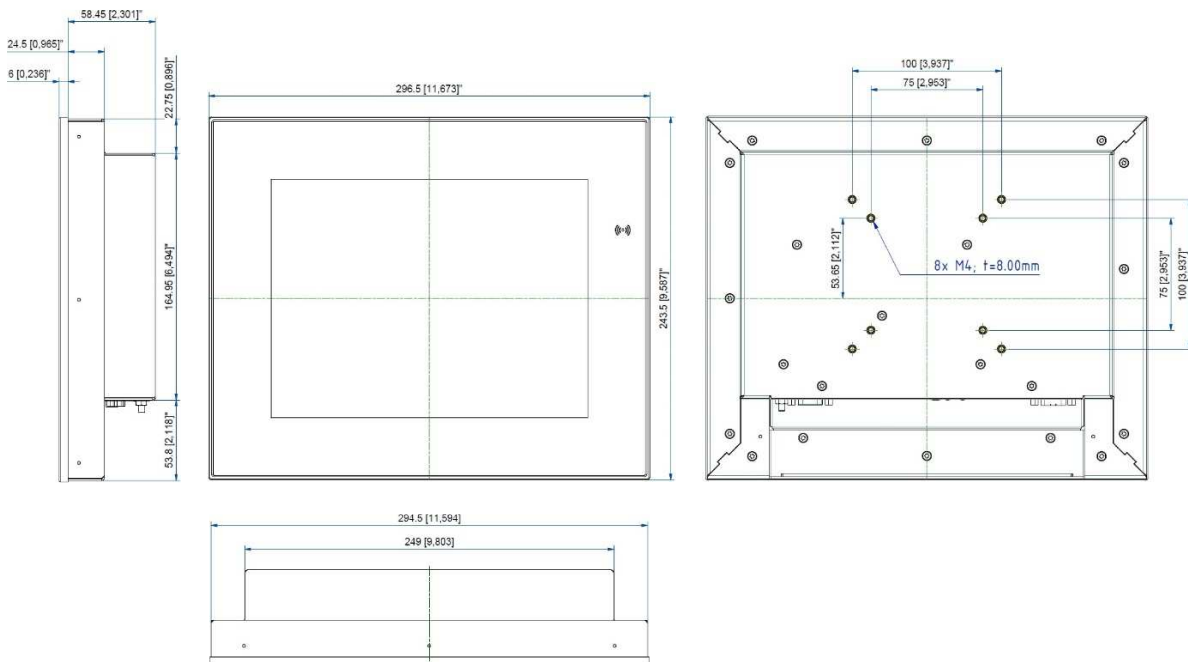


fig. 6: Dimension drawing 10,4" full metal

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8.1.3 12.1" built-in-variant

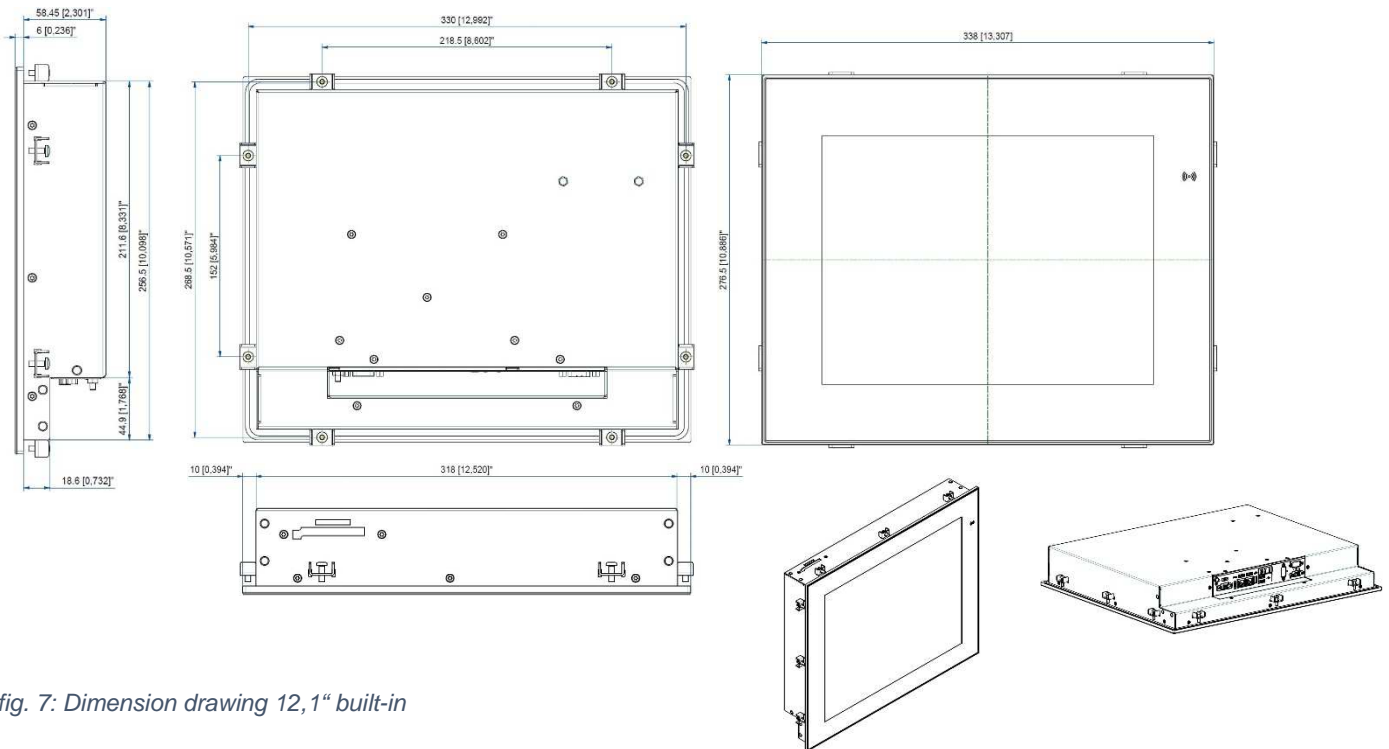


fig. 7: Dimension drawing 12,1" built-in

8.1.4 12.1" full metal

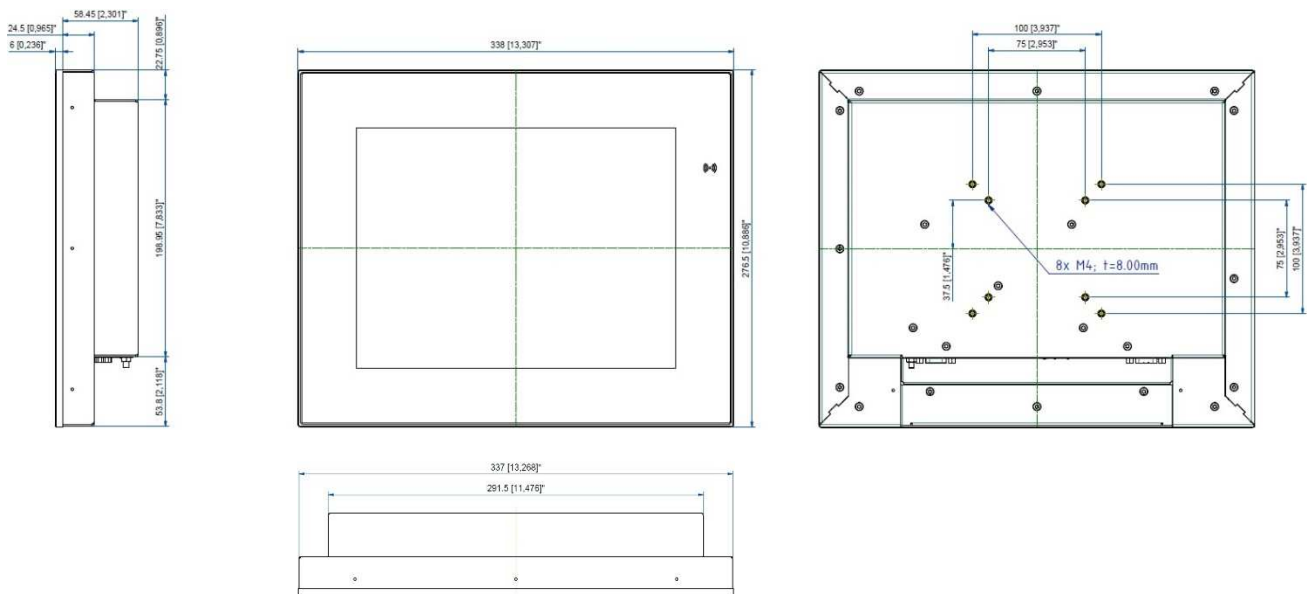


fig. 8: Dimension drawing 12,1" full metal

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8.1.5 15.0" built-in-variant

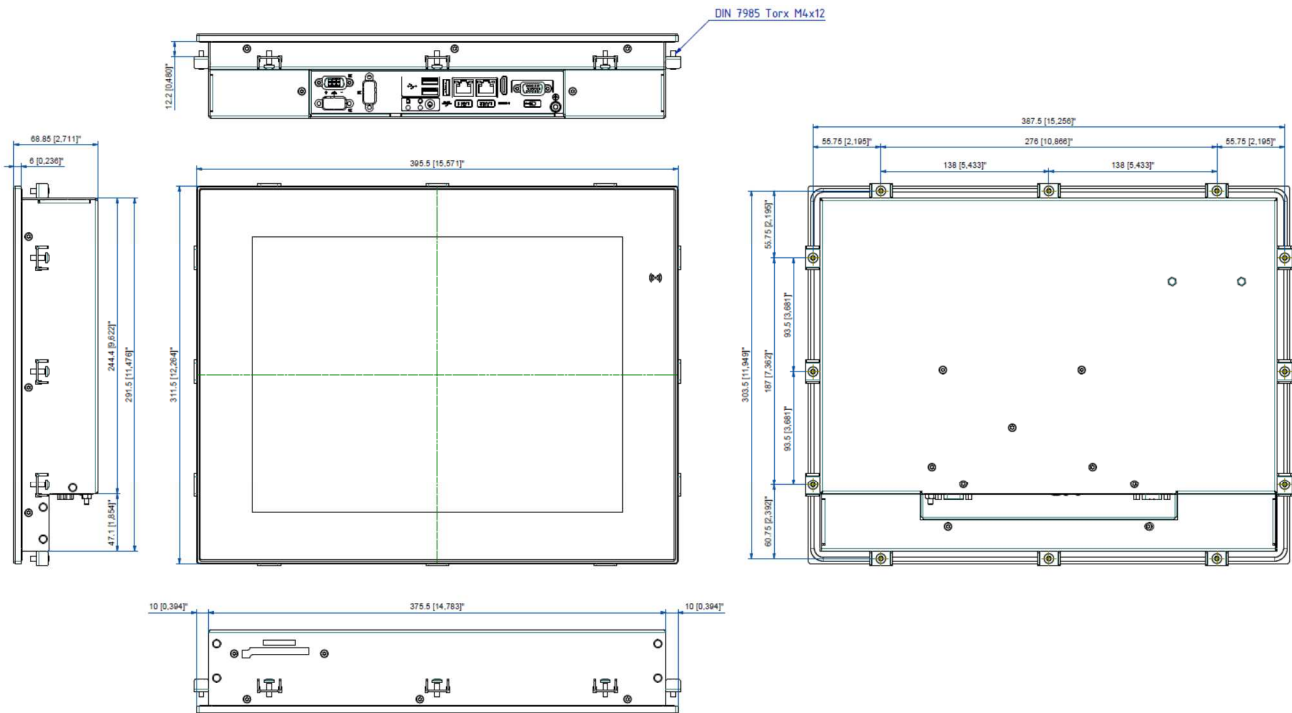


fig. 9: Dimension drawing 15,0" built-in

8.1.6 15.0" full metal

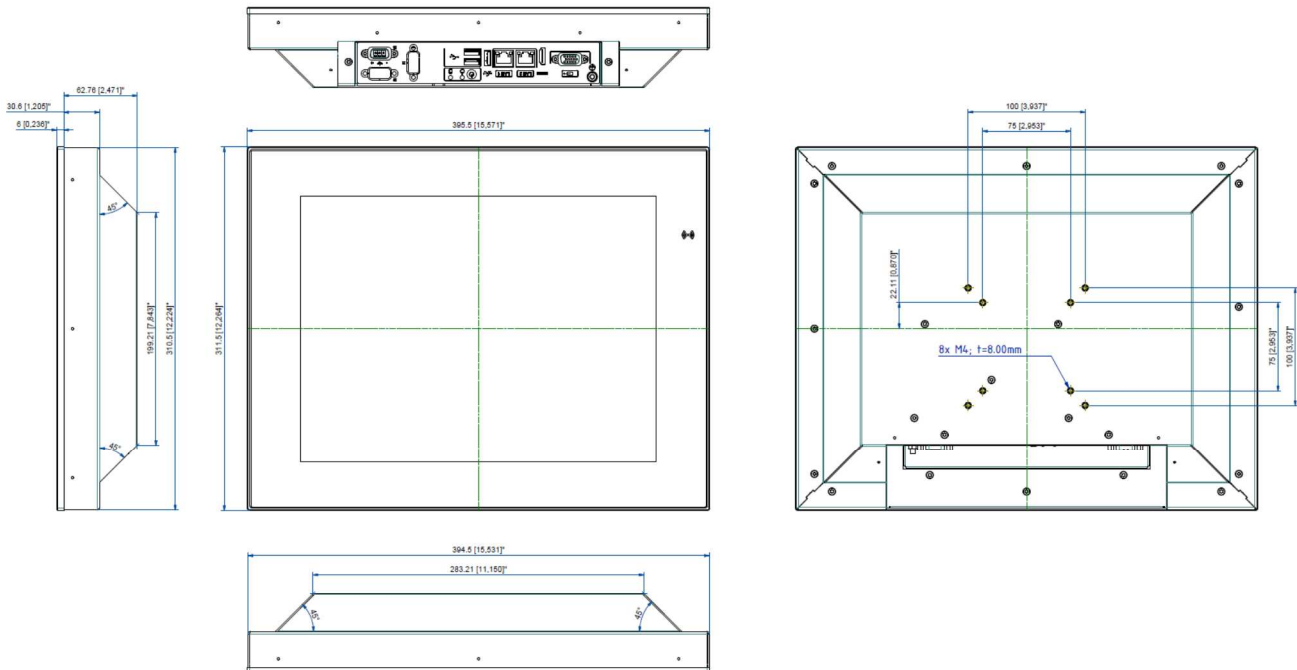


fig. 10: Dimension drawing 15,0" full metal

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8.1.7 15.6" built-in-variant

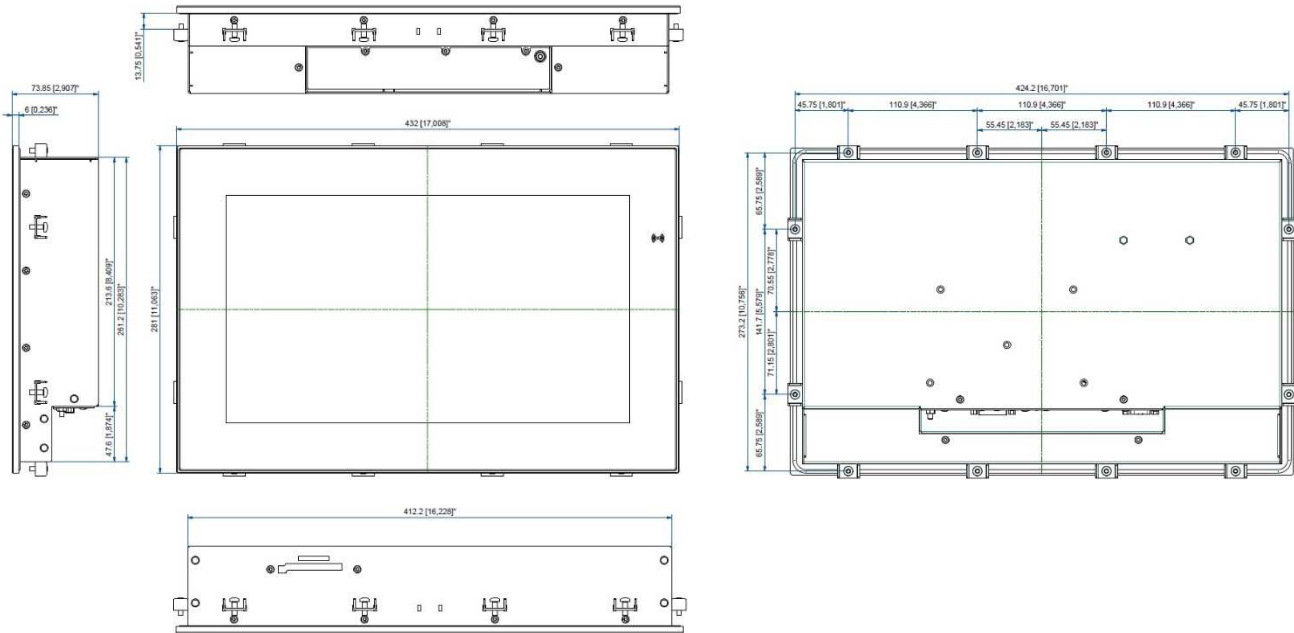


fig. 11: Dimension drawing 15,6" built-in

8.1.8 15.6" full metal

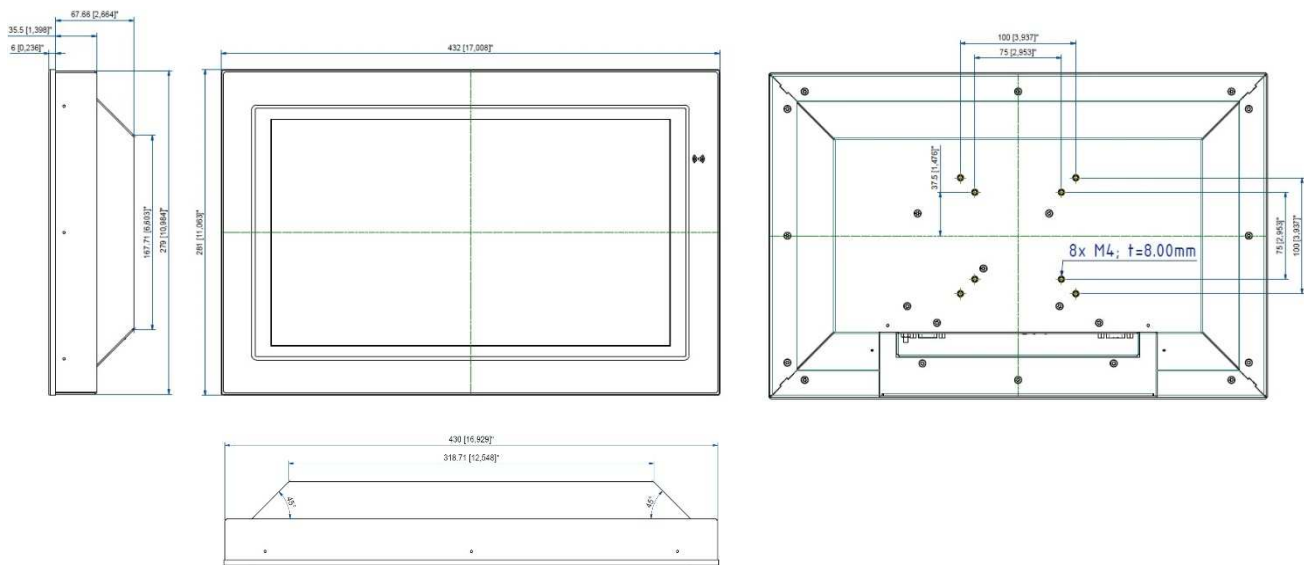


fig. 12: Dimension drawing 15,6" full metal

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8.1.9 17.0" built-in-variant

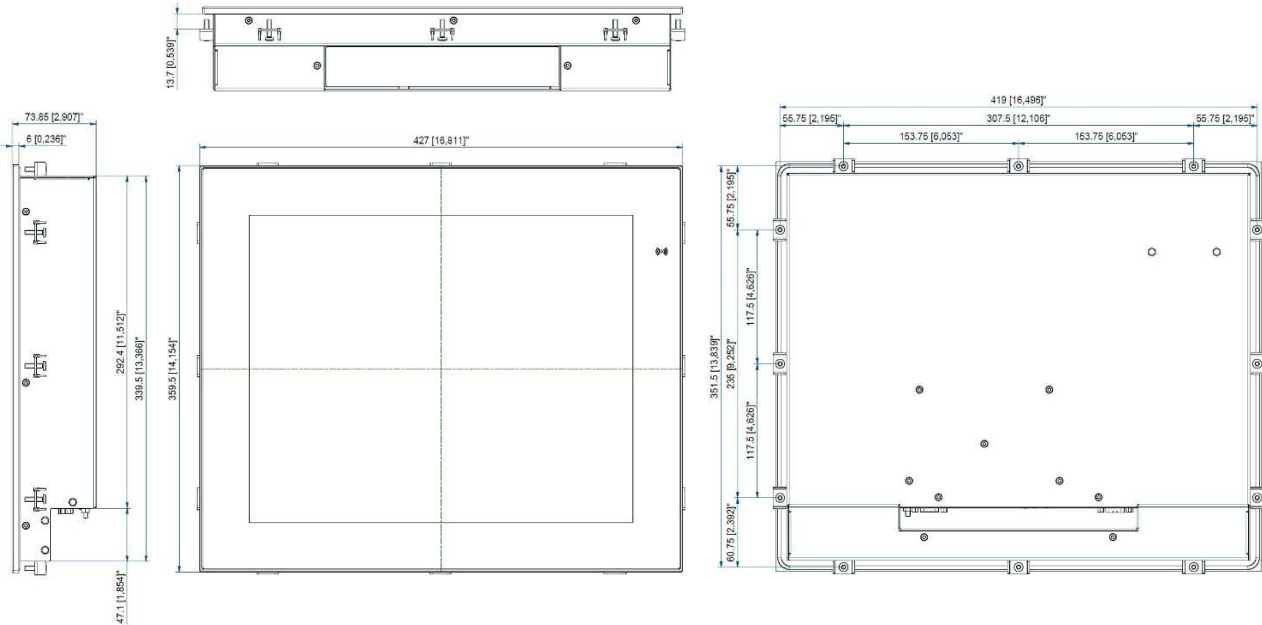


fig. 13: Dimension drawing 17,0" built-in

8.1.10 17.0" full metal

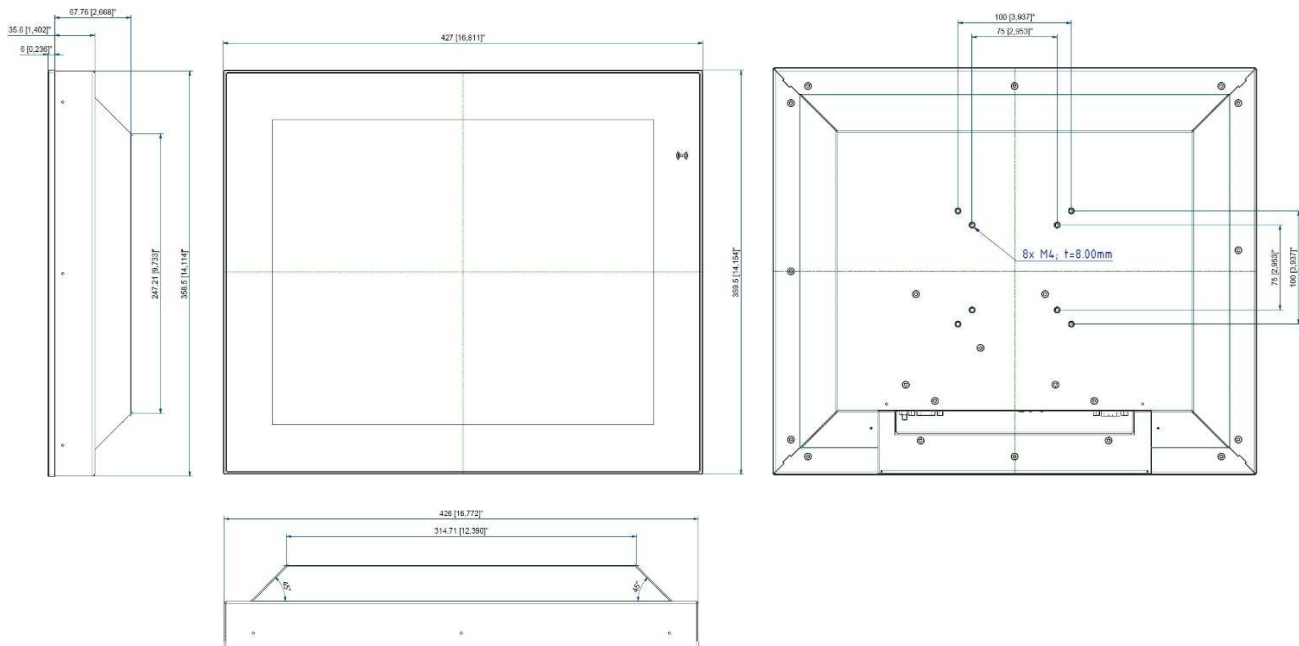


fig. 14: Dimension drawing 17,0" full metal

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8.1.11 18.5" built-in-variant

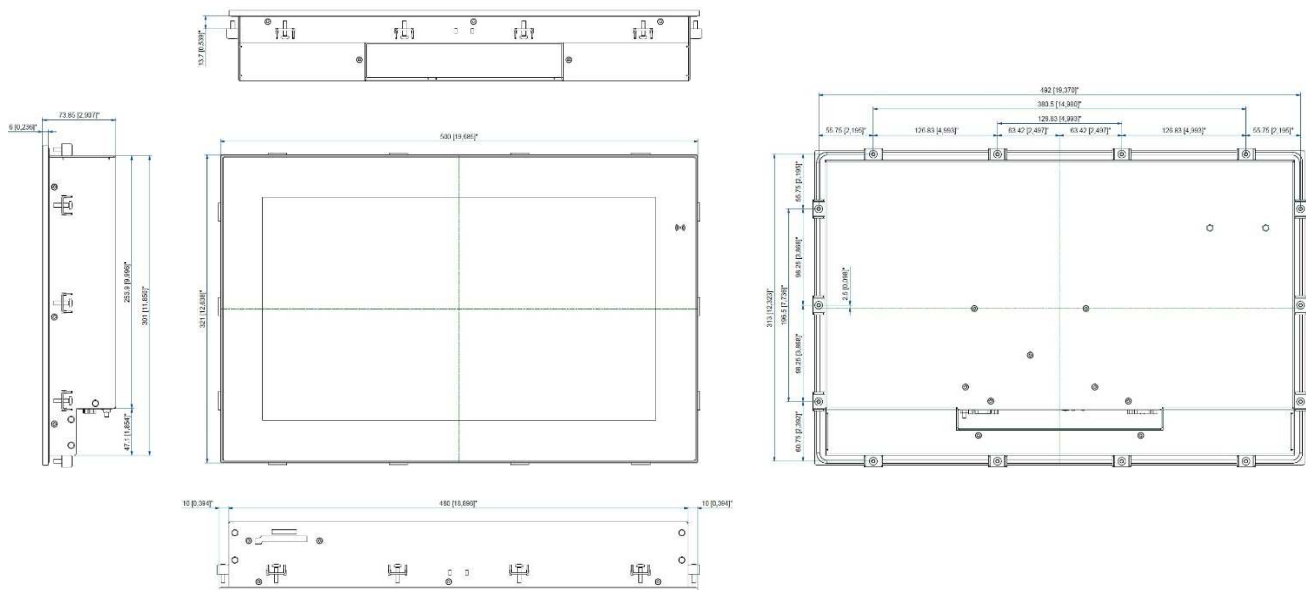


fig. 15: Dimension drawing 18,5" built-in

8.1.12 18.5" full metal

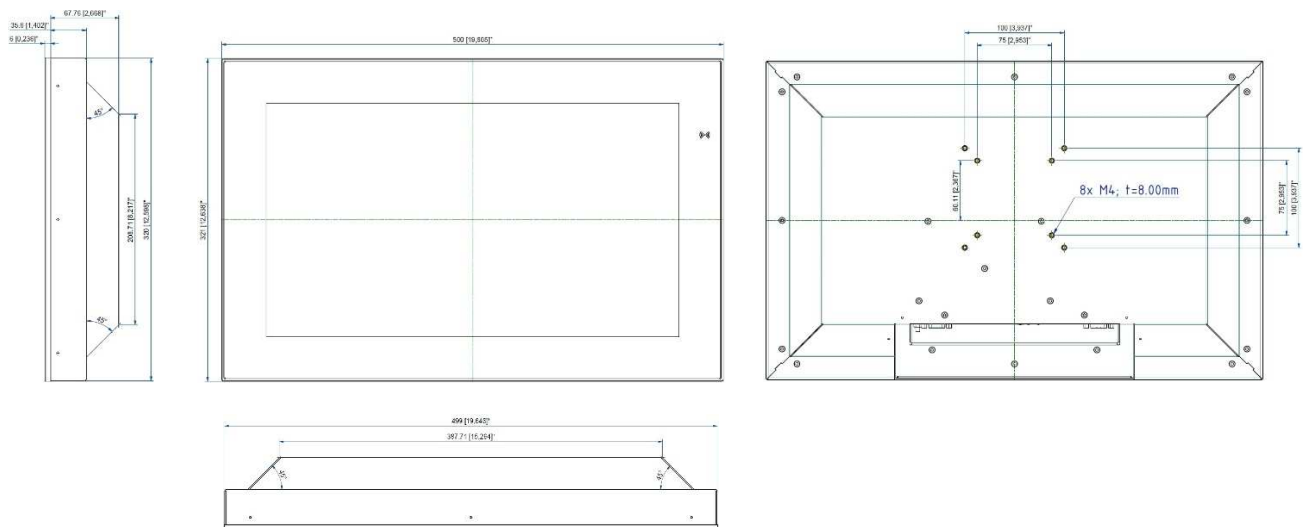


fig. 16: Dimension drawing 18,5" full metal

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8.1.13 19.0" built-in-variant

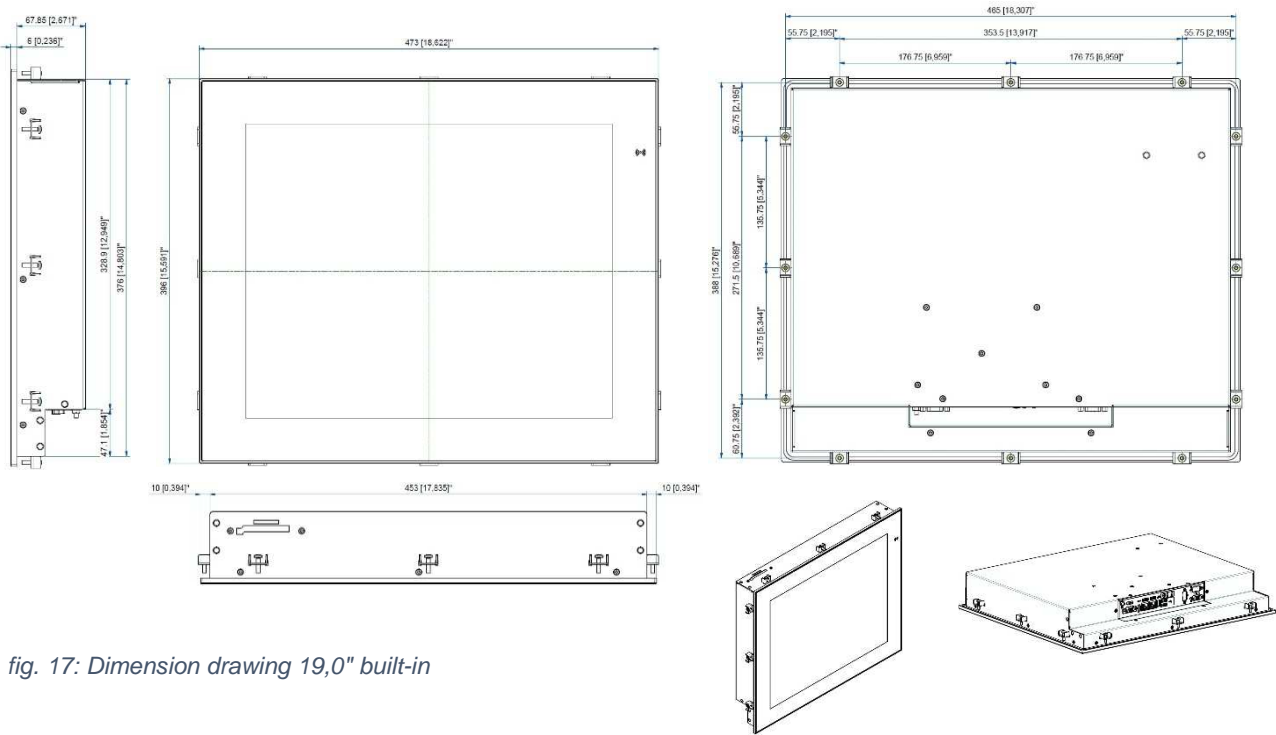


fig. 17: Dimension drawing 19,0" built-in

8.1.14 19.0" full metal

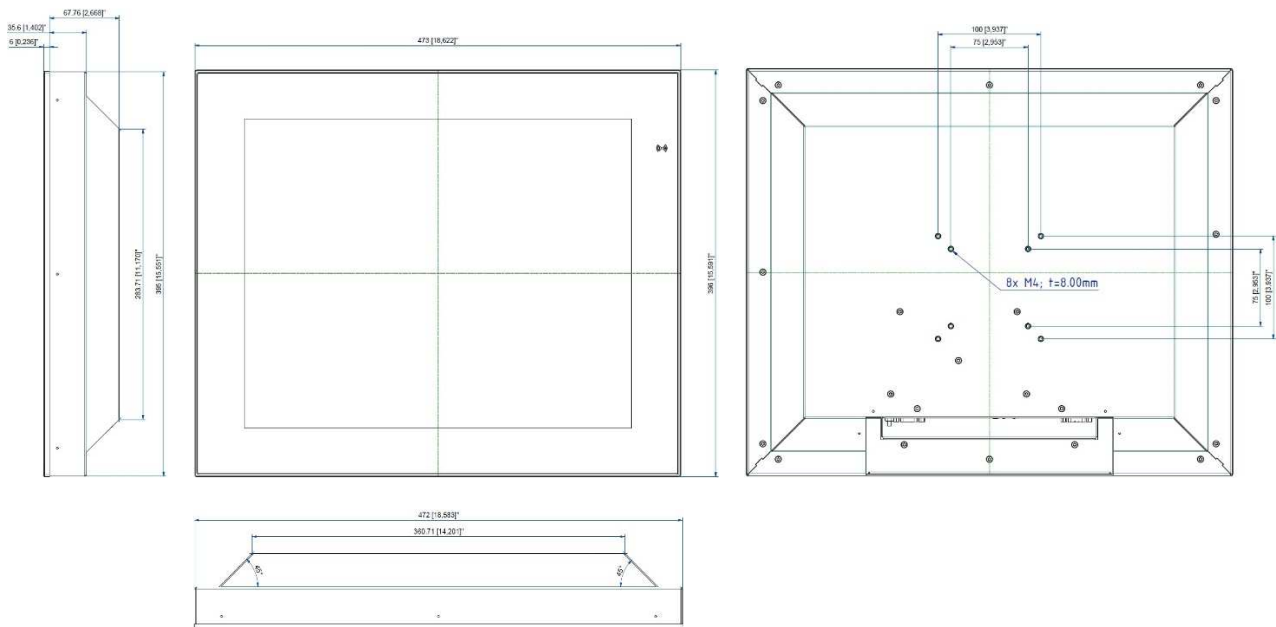


fig. 18: Dimension drawing 19,0" full metal

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8.1.15 21.5" built-in-variant

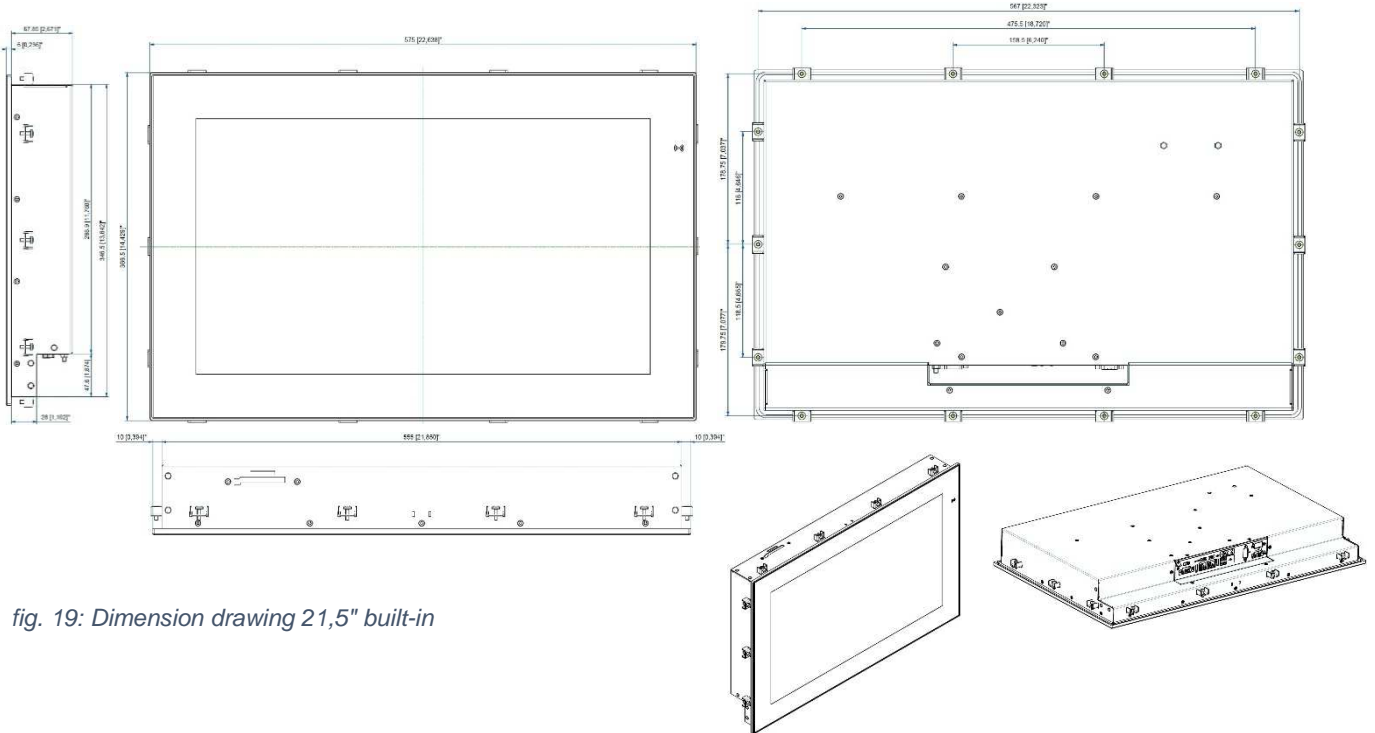


fig. 19: Dimension drawing 21,5" built-in

8.1.16 21.5" full metal

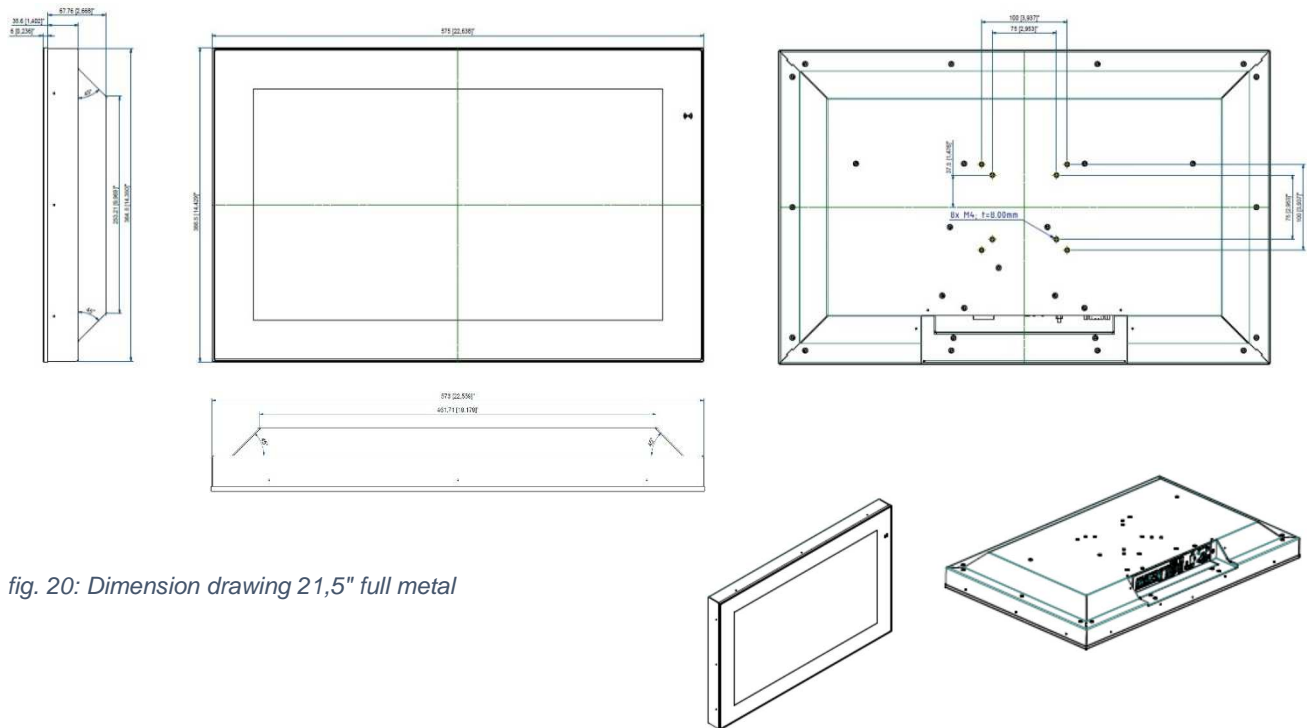


fig. 20: Dimension drawing 21,5" full metal

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8.1.17 23.8" built-in-variant

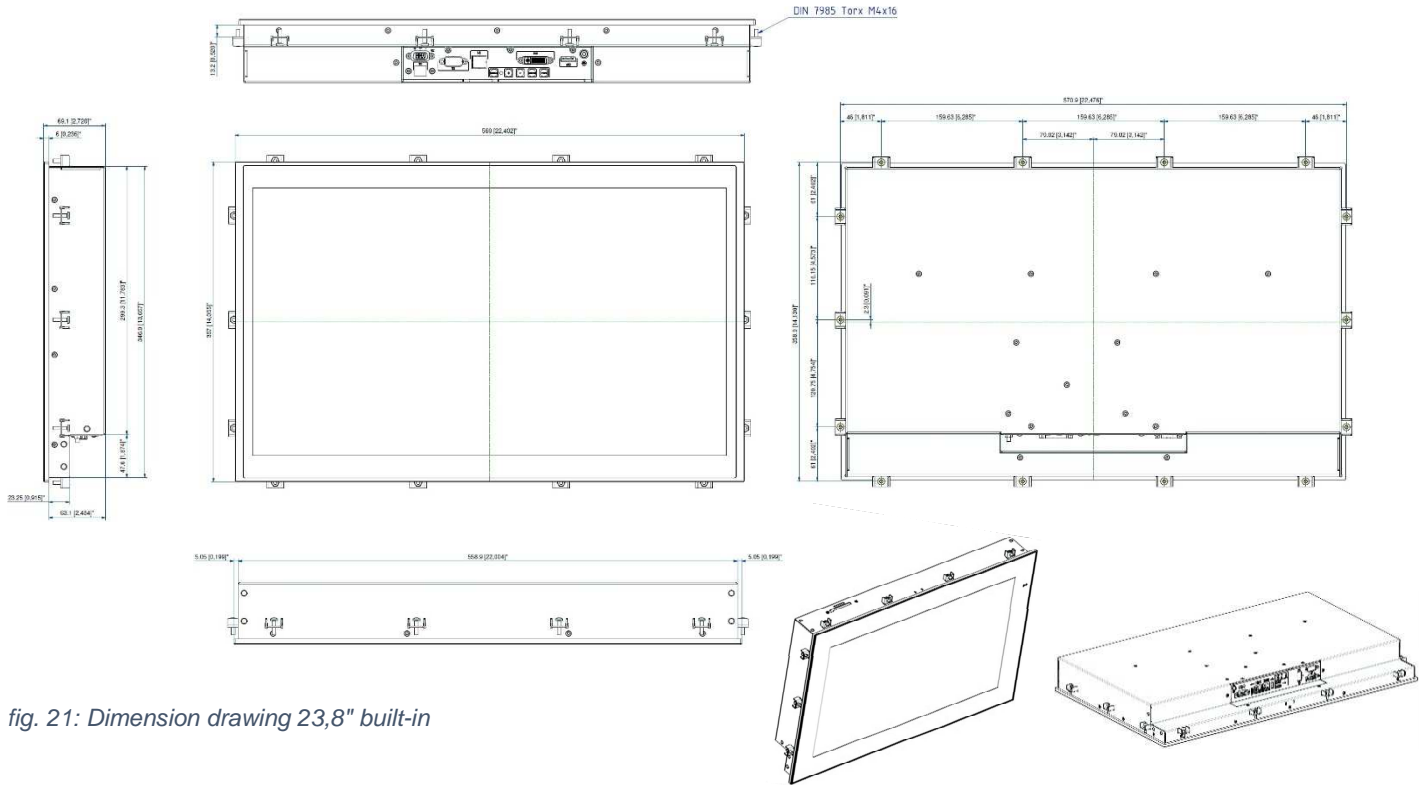


fig. 21: Dimension drawing 23,8" built-in

8.1.18 23.8" full metal

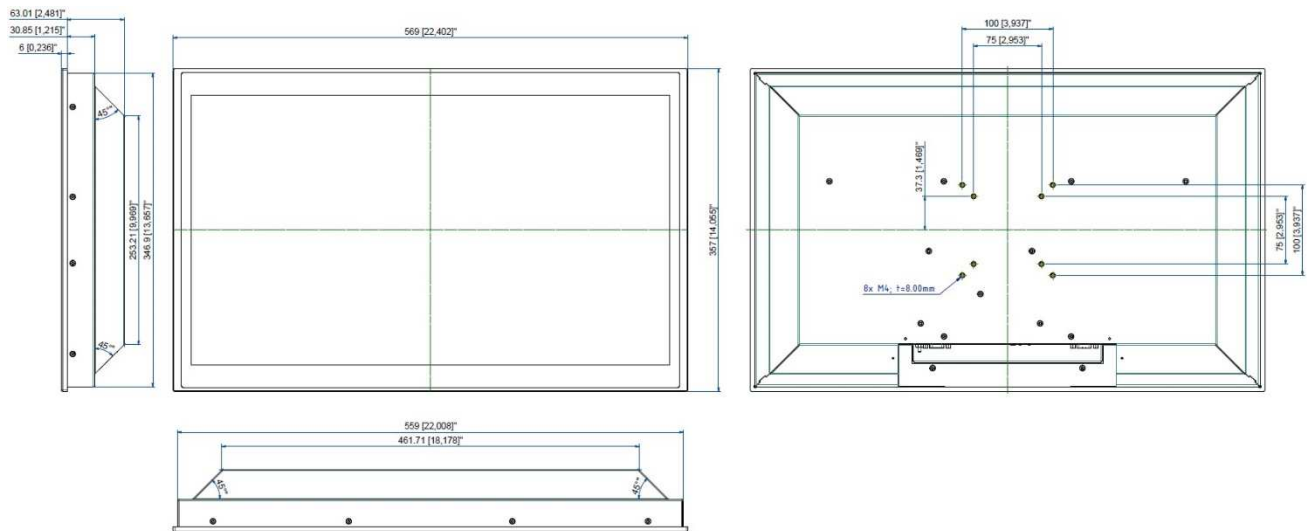


fig. 22: Dimension drawing 23,8" full metal

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9 Connectors

9.1 Panel PC BayTrail variant



fig. 23: Peripherie Panel BayTrail variant

9.2 Panel PC Haswell variant



fig. 24: Peripherie Panel Haswell variant

9.3 Panel PC Apollo Lake variant

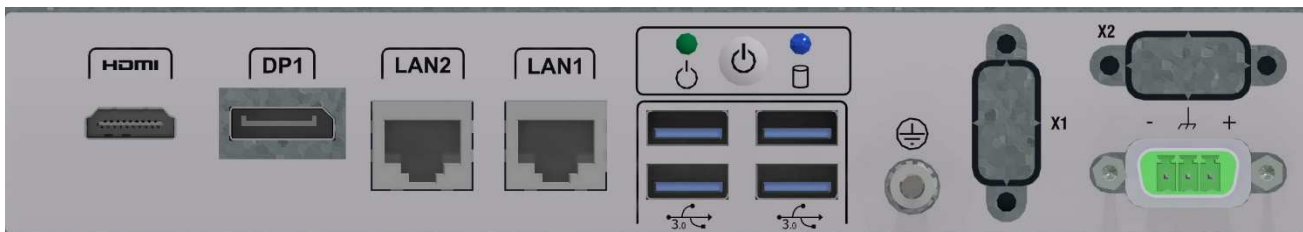


fig. 25: Peripherie Panel Apollo Lake variant

9.4 Panel PC Skylake / Kaby Lake variant



fig. 26: Peripherie Panel Skylake variant

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9.5 PWR: Input Power Connector

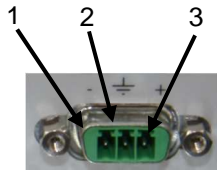


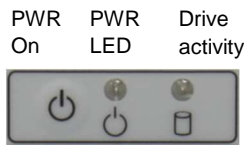
fig. 27: Power Connector

Pin	Signal
1	GND
2	Shield
3	VCC

Mating connector
Phoenix Contact PSC 1,5/ 3-F Order# 1841909



See also General Safety Instructions chapter 3 (page 6).

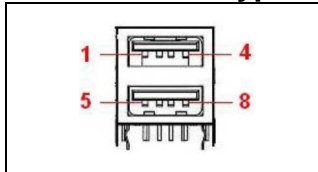


left LED: Power	
off	No Power
green	active
Green blinking	Standby

right LED: Drive activity	
off	No drive inside
Green blinking	Drive active

fig. 28: PWR on LED

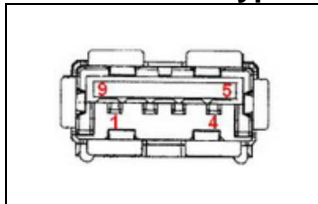
9.6 USB2.0 Type-A Connector



Pin	Signal Name	Pin	Signal Name
1	+USB_VCC	5	+USB_VCC
2	USBA_A-	6	USBB_B-
3	USBA_A+	7	USBB_B+
4	GND	8	GND

fig. 29: USB2.0 Type-A connector

9.7 USB3.0 Type-A Connector

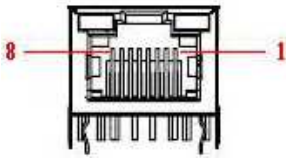


Pin	Signal Name	Pin	Signal Name
1	+USB_VCC	5	USB_RX-
2	USB_D-	6	USB_RX+
3	USB_D+	7	GND
4	GND	8	USB_TX-
		9	USB_TX+

fig. 30: USB3.0 Type-A connector

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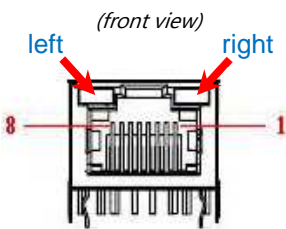
9.8 LAN: GbE RJ-45 Connector



Pin	Signal Name	Pin	Signal Name
1	TX1+	5	TX3-
2	TX1-	6	TX2-
3	TX2+	7	TX4+
4	TX3+	8	TX4-

fig. 31: GbE RJ45 Connector

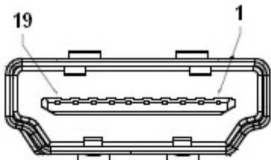
9.8.1 LED Diagram of LAN Connectors:



left LED: activity / link	
off	No LAN connectivity
yellow	link
blinking	activity

right LED: 10/100/1000	
off	10 Mbit
green	100 Mbit
orange	1 GbE

9.9 HDMI Connector

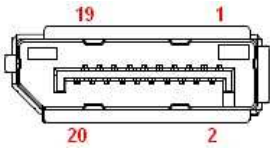


Pin	Signal Name
1	TMDS Data2+
2	GND
3	TMDS Data2-
4	TMDS Data1+
5	GND
6	TMDS Data1-
7	TMDS Data0+
8	GND
9	TMDS Data0-
10	TMDS Clock+
11	GND
12	TMDS Clock-
13	Reserved
14	Reserved
15	DDC_CLK
16	DDC_DATA
17	GND
18	+5 V Power
19	Hot Plug Detect

fig. 32: HDMI connector

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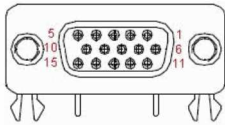
9.10 DP Connector



Pin	Signal	Pin	Signal
1	TX0+	11	GND
2	GND	12	TX3-
3	TX0-	13	GND
4	TX1+	14	GND
5	GND	15	AUX+
6	TX1-	16	GND
7	TX2+	17	AUX-
8	GND	18	HPD
9	TX2-	19	GND
10	TX3+	20	PWR

fig. 33: Display Port connector

9.11 DB15 VGA Connector

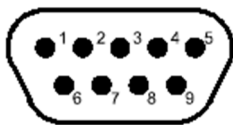


Pin	Signal Name	Pin	Signal Name
1	Red	2	Green
3	Blue	4	n.c.
5	GND	6	GND
7	GND	8	GND
9	VCC	10	GND
11	n.c.	12	DDC Data
13	Hsync	14	Vsync
15	DDC Clock		

fig. 34: VGA connector

9.12 Option: COM1 RS-232/422/485 (via internal cable connection to ECX-Board)

9.13 Option: COM2 RS-232/422/485 (via internal cable connection to ECX-Board)



Pin	RS-232	RS-422	Half Duplex RS-485	Full Duplex RS-485
1	DCD	Tx-	DATA-	Tx-
2	RxD	Tx+	DATA+	Tx-
3	TxD	Rx+	-	Rx+
4	DTR	Rx-	-	Rx-
5	GND	GND	GND	GND
6	DSR	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-
9	RI	-	-	-

fig. 35: COM (RS232) connector

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10 Startup Procedure

To activate your Flatman Panel PC connect the power supply to power connector on the Flatman back side. Alternative use the mating power connector for connecting your power cable. The LED “PWR” gives a green light now.



If there is no power on the device, push the button “PWR”.

Don't hesitate to ask for support:

e-mail: support@snt-embedded.de

Phone: +49 (0)89 37 00 58 - 0

10.1 Drivers

Any essential drivers you'll find on our homepage
www.snt-embedded.de

11 Warranty

There is a protection label on your Flatman Panel PC.
If you open the device, the warranty is lost!

12 Technical Support

For technical support, please contact our Technical Support department:

e-mail: support@snt-embedded.de
Phone: +49 (0)89 37 00 58 - 0

Make sure you have the following information on hand when you call:

- the unit part id number (PN)
- the serial number (SN) of the unit;
(the serial number can be found on the type label, placed on the rear side of the system)

Be ready to explain the nature of your problem to the service technician.

12.1 Returning Defective Merchandise

Please follow these steps before you return any merchandise to S&T Embedded GmbH:

1. See information on our website:
<http://www.snt-embedded.de/support/88436.de.php>

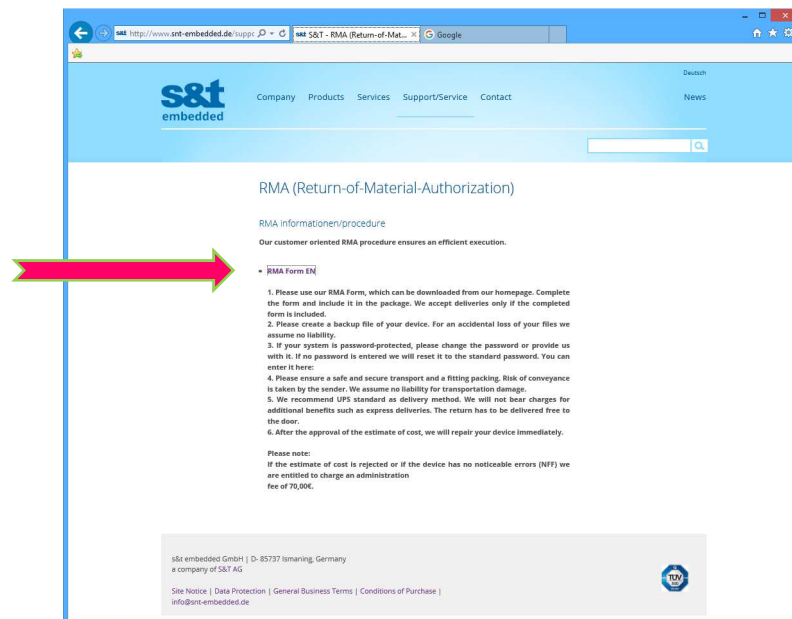


fig. 36: S&T webpage: RMA

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2. Download the RMA corresponding form and fill it out, describe the fault that has occurred.

s&t
embedded

Service / RMA Form

Return to: s&t embedded GmbH - RMA Service - Gutenbergstraße 2 DE - 85737 Ismaning		Please complete this document, sign it and enclose it with the returning package. Please deliver the product free to the door and if possible in the original packaging. Contact: Phone: +49 (0) 89 37 00 58 0 Fax: +49 (0) 89 37 00 06 89	
Company		Department	
Street		Reference person	
Zip code, Place		Email	
Country		Unit type / article #	
Phone number		Serial number	
Fax		Warranty	Yes <input type="checkbox"/> No <input type="checkbox"/>

Failure description:

Failure pattern:
 always sporadic after min at °C in application

Date Signature

You will receive your RMA number with the receipt confirmation.

Repair processing

1. Please use our RMA Form, which can be downloaded from our homepage. Complete the form and include it in the package. We accept deliveries only if the completed form is included.
2. Please create a backup file of your device. For a loss of your files we assume no liability.
3. If your system is password-protected, please provide us with the password. If no password is entered we will reset it to the standard password. You can enter it here:
4. Please ensure a safe and secure transport and a fitting packing. Risk of conveyance is taken by the sender. We assume no liability for transportation damage.
5. We recommend UPS standard as delivery method. We will not bear charges for additional benefits such as express deliveries. The return has to be delivered free to the door. Within one week you will receive a confirmation of receipt. If you don't get any news from us, please verify the delivery.
6. In case of chargeable repairs you will receive a quote for the repair. After its approval, we will repair your device.

Please note:
If the estimate of cost is rejected or if the device has no noticeable errors (NFF) we are entitled to charge an administration fee of 70,00€.

This will be filled out by s&t

Mitgeliefertes Zubehör	Originalverpackung <input type="checkbox"/> Ja <input type="checkbox"/> Nein
<input type="checkbox"/> Netzteil <input type="checkbox"/> RS232 Kabel	Gerätezustand <input type="checkbox"/> Neuwertig <input type="checkbox"/> Benutzt
<input type="checkbox"/> Netzkabel <input type="checkbox"/> CD	Stark benutzt
<input type="checkbox"/> VGA Kabel <input type="checkbox"/> Handbuch	Garantiesiegel <input type="checkbox"/> OK <input type="checkbox"/> Fehlt
<input type="checkbox"/> DVI Kabel	<input type="checkbox"/> Beschädigt
<input type="checkbox"/> FBAS Kabel	Transportschaden <input type="checkbox"/> Ja <input type="checkbox"/> Nein

RMA-Nummer:

10.03.2016 Our general terms of business apply. You can find them here: <http://www.snt-embedded.de/>

fig. 37: S&T RMA form

3. When returning a device:
 - Pack it securely in its original box.
 - Enclose RMA form with the consignment.

4. Sent the device to the following address:

s&t embedded GmbH
RMA support
Gutenbergstr. 2
D- 85737 Ismaning

(If you send more than one device in a package fill out a form for each device!)

5. After receiving your device at s&t you will get a confirmation of the order via email to the address which is above-named on the form. This order number is your RMA number.

13 Appendix

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