» Kontron User's Guide «

OmniView
HMI-OV215/-OV185/-OV156

User's Guide (Version 1)
0-0096-22514

Table of Contents

1. Introduction

The information contained in this manual may be subject to technical alteration, particularly as a result of the constant upgrading of Kontron products. The attached documentation does not entail any guarantee on the part of Kontron with respect to technical processes described in the manual or any product characteristics set out in the manual. Kontron does not accept liability for printing errors or other inaccuracies in the manual unless it can be proven that Kontron is aware of such errors or inaccuracies or that Kontron is unaware of these as a result of gross negligence and Kontron has failed to eliminate these errors or inaccuracies for this reason. Kontron expressly informs the user that this manual only contains a general description of technical processes and instructions which may not be applicable in every individual case. In cases of doubt, please contact Kontron.

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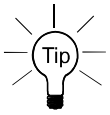
1.1. Symbols used in this Guide

Symbol	Meaning
	This symbol indicates the danger of injury to the user or the risk of damage to the product if the corresponding warning notices are not observed.
	This symbol indicates that the product or parts thereof may be damaged if the corresponding warning notices are not observed.
	This symbol indicates general information about the product and the user manual.
	This symbol indicates detailed information about the specific product configuration.
	This symbol precedes helpful hints and tips for daily use.

2. Important Instructions

This chapter contains safety instructions which must be observed when using the OmniView.

The manufacturer's instructions provide useful information on your OmniView.

2.1. 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 batteries and to the display backlighting, for example.

2.2. Exclusion of Accident Liability Obligation

Kontron shall be exempted from the statutory accident liability obligation if the user fails to observe the safety instructions.

2.3. Liability Limitation / Exemption from the Warranty Obligation

In the event of damage to the device caused by failure to observe the hints in this manual and eventually on the device Kontron shall not be required to honor the warranty even during the warranty period and shall be exempted from the statutory accident liability obligation.

3. General Safety Instructions for IT Equipment

Please read this chapter carefully and observe the instructions for your own safety and to ensure correct use of the device.

The chapter also contains information on approval and interference suppression of your device.

The device has been built and tested by Kontron in accordance with UL/IEC 60950-1 and left the premises in a perfectly safe condition.

In order to maintain the safe condition and ensure safe operation, the user must observe the instructions and warnings on the device and in the 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.

Do not use a power cable in sockets shared by a number of other power consumers. Do not use an extension cable.

- **For DC power connection:** 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.
- 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 UL/IEC 60950-1 may be connected to the interfaces of the system.
- All plugs on the connection cables must be screwed or locked to the housing wherever possible.
- The device is designed to be mounted and operated only in the position described in this document. The proper mounting is a vertical (or close to) position with the interfaces downwards.
- This device generates heat during operation. Make sure it is adequately ventilated. Do not cover the ventilation holes in the display housing.
- Maintenance or repair on the open device may only be done by qualified personnel authorized by Kontron, who is aware of the associated dangers.
- The device has no components internally that requires access or any set up by Kontron personnel. If the unit malfunctions or a situation is encountered that requires that the unit be opened, then return to Kontron for maintenance.
- Only approved original accessories (optional parts) approved by Kontron may be used.

- The DC-input must fulfill SELV requirements of UL/IEC 60950-1 standard.
- Safe operation is no longer possible when:
    - the device has visible damage
    - the device no longer functions

In these cases the device must be shut down and secured against unintentional operation.

3.1. 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:

1. Transport boards in ESD-safe containers such as boxes or bags.
2. Keep electrostatic sensitive parts in their containers until they arrive at the ESD-safe workplace.
3. Always be properly grounded when touching a sensitive board, component, or assembly.
4. Store electrostatic-sensitive boards in protective packaging or on antistatic mats.

3.1.1. Grounding Methods

By adhering to the guidelines below, electrostatic damage to the device can be avoided:

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

4. Electromagnetic Compatibility (Class A Device)

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 the prerequisites for the CE conformity declaration (safety requirements) may no longer apply.

Generic standards - Emission standard for residential, commercial and light-industrial environments (Emission): EN 61000-6-3

Emission of Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement: EN 55022/A

ITE - Immunity characteristics - Limits and methods of measurement: EN 55024.

4.2. FCC Statement (USA)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

4.3. EMC Compliance (Canada)

The method of compliance is self-declaration to Canadian standard ICES-003.

(English): This Class A digital apparatus complies with the Canadian ICES-003.

(French): Cet appareil numérique de la class A est conforme à la norme NMB-003 du Canada.

5. Scope of Delivery

Please check that your package is complete, and contains the items below (according to the ordered unit configuration). If you discover damaged or missing items, please contact your dealer.

	OmniView in the configuration ordered: • OmniView 156 (15.6") • OmniView 185 (18.5") • OmniView 215 (21.5")
	6x Mounting Clamp with Screws
	General Safety Instruction for IT Equipment
	Power Supply

5.1. Optional Parts

Included with your OmniView is the following optional accessory.

  AC(US) AC(EU)	AC Power cable to be used in conjunction with the supplied Power Supply unit.

5.2. Type Label and Product Identification

The type label with the corresponding Kontron product part and serial number is located on the rear side of the display bezel. Figure 1 depicts the type of label for a DC supply OmniView. There are three primary model numbers of the OmniView based on the screen size. The "-xxxx" suffix in the model number identifies the ordered configuration.

System Type	Model No.	Product Identification
OmniView 156	HMI-OV156-xxxx	15.6" display OmniView
OmniView 185	HMI-OV185-xxxx	18.5" display OmniView
OmniView 215	HMI-OV215-xxxx	21.5" display OmniView

Figure 1. OmniView Label

6. Product Description

Before you begin using your OmniView, you should take a few minutes to learn about the various connectors that are part of your OmniView.

The OmniView is a touch-screen monitor designed for demanding industrial applications. The OmniView is an integrated touch screen display. The system is designed to be mounted in the user's application by either of the following methods:

- Installation in an instrument panel or other cabinets (preferred mounting method)
- Installation by a heavy duty VESA® 100 compliant mounting system

All versions are suitable for installation in an instrument panel or other cabinet.

OmniView monitor must be mounted in an instrument panel or other cabinets using the corresponding supplied mounting clamps.

Installation using the VESA® 100 mounting system must be properly designed to support the complete load of the OmniView.

The OmniView is very flexible and can be customized to meet the requirements of many demanding applications. The rugged design offers excellent mechanical stability suitable for operation in harsh industrial environments.

The OmniView is a touch monitor. The touch monitor base includes a display and touch screen. The following sections detail each of these components and their function in the OmniView.

6.1. OmniView Touch Monitor Base

The touch-monitor base is configurable during ordering as a 15.6", 18.5" or 21.5" display size. Each touch-monitor base is equipped with a color TFT-LCD screen and multi-point projected capacitive touch screen (PCAP). The OmniView is fanless; cooling of the display is through the surface of the display bezel and air openings located on the top and bottom on the rear of the display bezel. The tables below detail the technical specifications of the touch-monitor available options.

☞ When operating the OmniView, make sure the air openings on the rear of the display bezel are unobstructed.

☞ The OmniView Touch Monitor is designed to comply with IP65 protection class at the front side.

Table 1. Display Specifications

Specification / Model	HMI-OV156-xxxx	HMI-OV185-xxxx	HMI-OV215-xxxx
Viewable image size (diagonal)	39.6cm (15.6")	47.01cm (18.51")	54.6cm (21.5")
Active Area	344.232mm (H) x 193.536mm (V)	409.8mm (H) x 230.4mm (V)	476.64mm (H) x 268.11mm (V)
Maximum Resolution	1366 x 768	1366 x 768	1920 x 1080
Pixel Pitch	252 x 252	300 x 300	0.248 x 0.248mm
Brightness	300 cd/m^2 (typical)	300 cd/m^2 (typical)	300 cd/m^2 (typical)
Color Depth	16.7 million colors	16.7 million colors	16.7 million colors
Contrast Ratio	500 (typical)	1000 (typical)	5,000:1 (typical)
Response Time	8 ms (typical)	5 ms (typical)	16ms (typical)
Panel Backlight	LED	LED	LED

Table 2. Touch Specifications

Specification / Model	HMI-OV156-xxxx	HMI-OV185-xxxx	HMI-OV215-xxxx
Touch Technology	Projected capacitive system	Projected capacitive system	Projected capacitive system
Sensor stack thickness	1.1mm	1.1mm	1.1mm
Cover glass thickness	1.1 +/-0.2mm	1.1 +/-0.2mm	1.1 +/-0.2mm
Touch Method	Fingers and thin gloves	Fingers and thin gloves	Fingers and thin gloves
Touch Point	6 touches	6 touches	6 touches
Response Time	25ms	25ms	25ms
Interface	USB 2.0	USB 2.0	USB 2.0

6.2. Product Images OmniView 21.5" AC PSU (other units similar)

Fig. 1: Bottom view

Fig. 2: Right view

Fig. 3: Front view

Fig. 4: Left view

Fig. 5: Top view

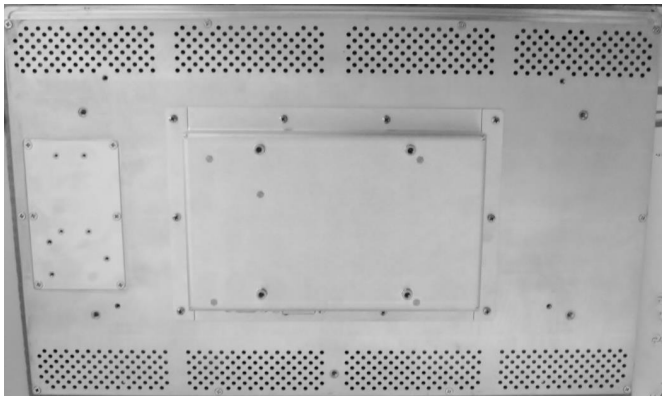


Fig. 6: Rear view

6.3. Front View

Fig. 7: Front view of the OmniView

1 TFT display with touch screen 2 Front border

6.3.1. Display with Touch Screen

Depending on the OmniView ordered, the built-in display is a 15.6"/18.5"/21.5" size TFT display with corresponding Projected Capacitive touch screen. The touch screen is USB connected.

For technical specification of the built-in display refer to chapter 9 "Technical Data".

The display is equipped with a Projected Capacitive touch screen. The touch screen offers the same degree of user comfort as the mouse buttons.

The surface of the display is also mechanically protected through the touch screen. The touch screen (USB connected) registers contacts of a finger and allows moving the mouse pointer. This functions only under integration of the necessary software. The corresponding touch screen driver for your operating system is installed on your OmniView monitor.

☞ Do not use a hard or a pointed object (like screw drivers) to operate the touch screen; doing so may damage the touch screen surface.
The touch screen is covered with a glass panel and care should be taken when cleaning it (see the section 8.1 "Touch Screen Care and Cleaning").

6.3.2. Front Plate

The OmniView is suitable for installation in an instrument panel or other cabinet. At the front side of the system, an aluminum front plate (bezel) with integrated anti-glare glass plate and capacitive touch is located.

For the outline dimensions of the touch monitor base refer to section 10.2 "Mechanical Specifications."

6.3.3. Calibrating the Touch Screen

Unlike resistive touch displays, the capacitive touch screen needs no further calibration after factory calibration. Only special, conductive styluses (not included) work with capacitive touch screens.

The capacitive touch screen is factory-calibrated and needs no recalibration.

When using a stylus, make sure to use a special conductive stylus that works with capacitive touch screens.

6.3.4. Power and Grounding

6.3.4.1. DC power Input

The OmniView is supplied by a 24VDC external power supply. This can be connected to the mains power by either option of the US power cord or the EU power cord.
Electrical power disconnect: The unit can be disconnected from the electrical supply by either unplugging the 4 pin power connector on the OmniView I/O panel, or by disconnecting the power supply from the wall supply. The power cord(s) is considered the mains disconnect for the server and must be readily accessible (either at the wall or on the unit) when installed.

Grounding the system: To avoid an electrical shock hazard, you must ensure the system has proper grounding. The OmniView power cord includes the safety ground conductor and provides proper grounding only for the OmniView. You must ensure proper grounding is provided for the entire system into which the OmniView is embedded. You must provide additional, proper grounding for the OmniView and the host equipment.

Overcurrent protection: There is no Over Current protection built into the OmniView. The external power supply is designed to handle input 100-240 VAC 1.3A, 50-60Hz, and output 24VDC 1.67A max. If overcurrent protection is required beyond the limits of the supplied power supply, you must provide supplemental protection for the OmniView.

WARNING: Do not attempt to modify the supplied power supply or use an unapproved power cord set that is not the exact type required. You must use a power cord set that meets the following criteria:

- Rating: In the U.S. and Canada, cords must be UL (Underwriters Laboratories, Inc.) Listed/CSA (Canadian Standards Organization) Certified type SJT, 18-3 AWG (American Wire Gauge). Outside of the U.S. and Canada, cords must be flexible harmonized (<HAR>) or VDE (Verbena Deutscher Electrotechniker, German Institute of Electrical Engineers) certified cord with 3x 0.75 mm conductors rated 250 VAC.
- Connector, wall outlet end: Cords must be terminated in grounding-type male plug designed for use in your region. The connector must have certification marks showing certification by an agency acceptable in your region and for U.S. must be listed and rated for 125% of the overall current rating of the server.
- Connector, OmniView end: The connector that plugs into the DC power receptacle on the I/O panel of the OmniView must be an approved power connector approved by Kontron, America, Molex, power series 5539.
- Cord length and flexibility: Cords must be less than 4.5 meters (14.8 feet) long.

The system is only completely disconnected from the main power supply by disconnecting the power from the unit or from the wall supply.

6.3.5. Interfaces

6.3.5.1. USB 2.0 Connector

The system is equipped at the bottom side with 1x USB 2.0 type B interface connector. This connector provides connection from the touch screen to the required CPU/Computer. This cord is available as an option, and only required if the touch screen function is required.

6.3.5.2. DVI-D Video Connector

The DVI-D supports both digital and analog connections. Digital devices can be connected directly to this interface of the OmniView. Analog devices should be connected to this interface via a DVI to VGA adapter (not included).

6.3.5.3. DisplayPort Video Connector

One Display Port (DP) connector comply with Display Port 1.1a specification.

6.3.5.4. VGA input

VGA input is obtained by connecting to a standard 15-pin D-sub female connector via a standard VGA style cable (not supplied).

6.4. I/O Panel View

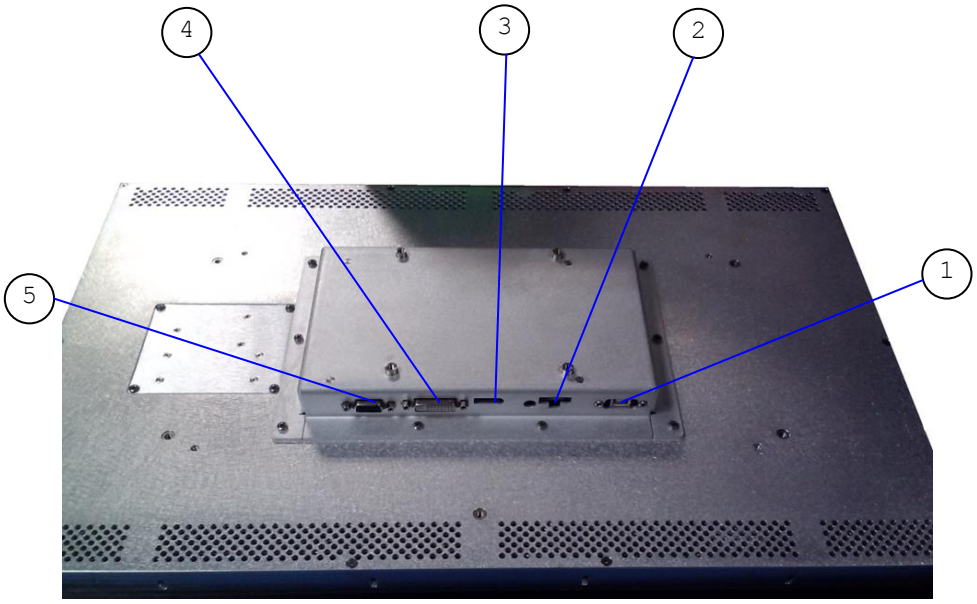


Fig. 8: I/O panel of OmniView

1 USB-B style connector for touch panel functionality.
2 DC power in connector
3 Display Port input
4 DVI-D female connector
5 VGA input, 15-pin HD-Sub, female

☞ When powering on the OmniView, make sure that the air intake and exhaust openings are not obstructed.

6.5. Rear Side

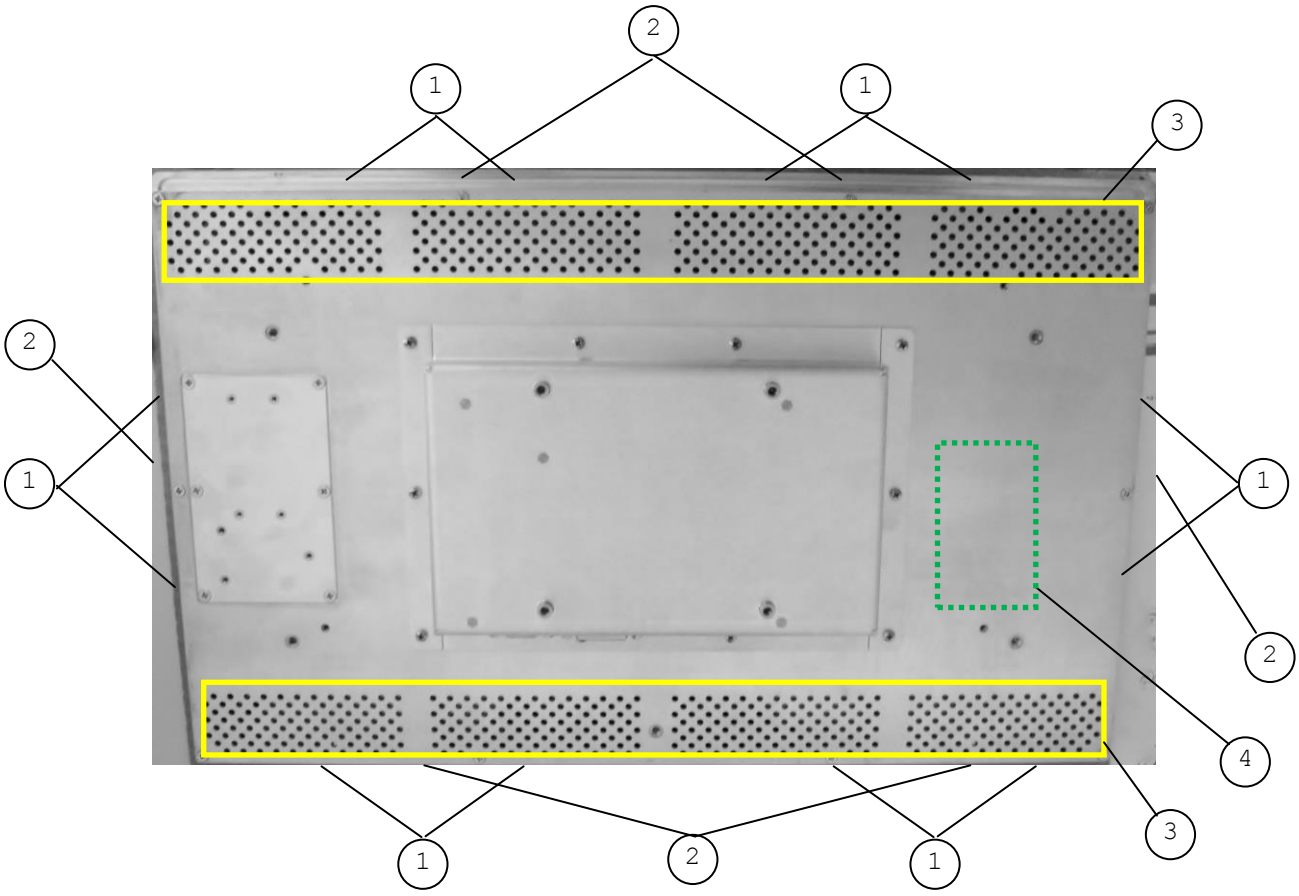


Fig. 9: Rear side of OmniView

1 Slots to attaché mounting clamps for securing the system to an Instrument panel (2 slots per clamp)

2 Mounting clamps (6x)

3 Touch Monitor Base air vents

4 Product Identification label area

Note for mounting clamps:

The OmniView 15.6"/18.5"/21.5" will be secured into an instrument panel or cabinet with two mounting clamps on the top and bottom surfaces and one on each the left and right surfaces as shown in fig15, position 2.

Please observe the safety instruction for handling assemblies with static sensitive device.
Failure to take heed of this warning instruction can result in damage to the device.

7. Installation Instructions

The OmniView should be installed and operated only by trained and qualified personnel.

The unit must be placed such that there is sufficient space for connecting the cables to the I/O interface connectors.

The voltage feeds must not be overloaded. Adjust the cabling and the external overload protection to correspond with the rated voltage range indicated on the type label.

The type label is located on the right side of the system.

The rear access panel must be secured by the supplied screws during operation.

The mount clamps with screws (supplied), allow the easy and fast mounting of the OmniView-156/185/215. Refer to the appropriate unit outline and mounting drawing for the correct dimensions of cut-outs and air gap clearances required for mounting the unit into a wall or panel. The OmniView outline and mounting drawing can be found on our web site www.kontron.com

Dimension for: OmniClient	**156**	**185**	**215**
Cut-Out for Mounting into a Panel [mm] (W x H)	394 x 245	462 x 283	527 x 325
Requirements for Mounting			
Metal mounting panel thickness for proper mounting	1.5 – 6	1.5 – 6	1.5 – 9
Used clamps with screws for mounting the OmniClient to a panel	6x 		
Required Tool	#2 Phillips Screw Driver		
Proper Torque	Tighten the screws with a torque of 0.5 Nm		
Mounting Position	Ensure the vertical and horizontal alignment of the system/display box.		

Table 2: Requirements for OmniView mounting into a subframe/panel

In order to ensure IP65 front sealing against dust and water, ***mount the system on a non-textured surface.*** Before you install the OmniView system into a panel or a subframe for industrial cabinet, verify the perfect condition of the seal at the rear of the front plate. The seal has to be in place without surface imperfections/defects and dirt.

8. Maintenance and Prevention

Kontron systems require minimal maintenance and care to keep them operating correctly.

- Occasionally wipe the system with a soft dry cloth.
- You should only remove persistent dirt by use of a soft, slightly damp cloth (use only a mild detergent).

8.1. Touch Screen Care and Cleaning

☞ The front panel and the touch screen are covered by a plastic overlay and care should be taken when cleaning it.

Mild detergent and water is recommended for cleaning. Use of strong solvents, which could attack paint or plastic, should be avoided.
The plastic overlay or the touch screen surface is subject to burning and scaring from direct heat sources such as cigarettes. The display front is sealed against dust, liquids, etc.

The front surface of the touch screen is a flexible plastic foil, so care should be used to avoid using sharp objects such as knife, pen or pencil tips. Sharp objects can permanently damage the functionality of the touch screen.

9. Technical Data

OmniView		OmniView 156	OmniView 185	OmniView 215
TFT LCD Display	Screen size Active area (H x V) [mm]	15.6" 344.2 x 193.5	18.5" 409.8 x 230	21.5" 476.6 x 268.1
	Resolution (H x V) [pixel]	1366 x 768 (SVGA)	1366 x 768 (XGA)	1920 x 1080 (SXGA)
	Pixel Pitch (H x V) [mm]	252 x 252	300 x 300	248 x 248
	Colour depth	16.7M	16.7M	16.7 M
	Backlight	LED	LED	LED
	Brightness cd/m^2	400	350	300
	Control signal	1x 6bit LVDS	1x 6bit LVDS	2x 8bit LVDS
	Viewing angle (°) (r / l / u / d)	70/70/50/60	70/70/65/60	89/89/89/89
	Contrast ratio	500:1	1000:1	5000:1
Touch Screen		Projected Capacitive	Projected Capacitive	Projected Capacitive
DC IN Power Plug		On the bottom side		
Power		DC: external 24 V power source (limited power source) AC: via the optional external AC/DC adapter (limited power source)		
VESA 75/100 compliant		Rear side		
Protection Class		IP65 Front (IP20 rear)		

9.1. Electrical Specifications

System Type	Input voltage	Input current
OmniView DC	24 VDC +/- 20%	A: max. 1.25 A
OmniViewAC	115-220 VAC +/-20%	A: max. 1A

Hint for DC power connection:
The OmniView must be connected only to a LPS (**L**imited **P**ower **S**upply) DC mains power supply complying with the requirements of UL/IEC 60950-1.

Hint for Using the Supplied AC power connection:
Use only a LPS (**L**imited **P**ower **S**upply) power supply complying with the requirements of UL/IEC 60950-1 to connect the OmniView to an AC power source.

9.2. Mechanical Specifications

OmniView	156	185	215
Height	261 mm (10.29")	313 mm (12.34")	341 mm (13.46")
Width	410 mm (16.14")	481 mm (18.94")	544 mm (21.43")
Depth (total)	66.5 mm (2.62")	66.5 mm (2.62")	66.5 mm (2.62")
Depth (from rear surface of display)	56.9 mm (2.24")	56.9 mm (2.24")	56.9 mm (2.24")
Weight	4.2 kg	4.5 kg	4.7 kg
Front Panel	Aluminum front plate with glass touch panel		
Housing	Chemical coated Aluminum casting		

9.3. Environmental Specifications

Thermal Management	passive cooling
Operating Temperature	0 … +50 °C
Storage / Transit Temp.	-20 … +60 °C
Relative Humidity	Operating: 20 % to 90 % non condensing Storage / transit: 5 % to 90 % non-condensing
Max. Operating Altitude	up to 3,048 m (10,000 ft)
Max. Storage / Transit Altitude	up to 4,622 m (15,000 ft)
Operating Shock	15 g, 11 ms duration, half sine
Storage / Transit Shock	50 g, 11 ms duration, half sine
Operating Vibration	10 – 500 Hz, 1.0 g/ 3 axis
Storage / Transit Vibration	10 – 500 Hz, 2.0 g / 3 axis
Protection class	IP20 Front IP65

10. Regulatory and Certification Information

10.1. Product Regulatory Compliance

10.1.1. Product Safety Compliance

The OmniView monitor complies with the following safety requirements:

- UL60950-1 / CSA 60950-1 (USA/Canada)
- IEC60950-1 (International), CB Certificate & Report including all international deviations
- CE – Low Voltage Directive 2006/95/EC (Europe)

10.1.2. Product EMC Compliance – Class A Compliance

The OmniView monitor has been tested and verified to copmply with following electromagnetic compatibility (EMC) regulations.

- FCC/ICES-003 – Emissions (USA/Canada)
- CISPR 22 – Emissions (International)
- EN55022 – Emissions (Europe)
- EN55024 – Immunity (Europe)
- EN6100-3-2 – Harmonics (Europe)
- EN6100-3-3 – Voltage Flicker (Europe)
- CE-EMC Directive 2004/108/EEC (Europe)

10.1.3. Certifications/Registrations/Declarations

- UL Listing (US/Canada)
- CE Declaration of Conformity (Europe)
- FCC/ICES-003 Class A Verification Report (USA/Canada)

11. Technical Appendix - Interfaces

The following tables contain the plug assignments for the external connections of the OmniView.

Low-active signals are indicated by a minus sign.

11.1. Power Connector – DC Power Supply

The external power supply is connected to the wall power out let by either the optional USA or EU AC power cable, and uses a standard IEC-60320-C13 power cord (See section 5.1 for details).

WARNING:
Do not attempt to modify or use an AC power cord set that is not the exact type required. You must use a power cord set that meets the following criteria:

- Rating: In the U.S. and Canada, cords must be UL (Underwriters Laboratories, Inc.) Listed/CSA (Canadian Standards Organization) Certified type SJT, 18-3 AWG (American Wire Gauge). Outside of the U.S. and Canada, cords must be flexible harmonized (<HAR>) or VDE (Verbena Deutscher Electrotechniker, German Institute of Electrical Engineers) certified cord with 3x 0.75 mm conductors rated 250 VAC.
- Connector, wall outlet end: Cords must be terminated in grounding-type male plug designed for use in your region. The connector must have certification marks showing certification by an agency acceptable in your region and for U.S. must be listed and rated for 125% of the overall current rating of the server.
- Connector, OmniView end: The connector that plugs into the DC power receptacle on the I/O panel of the OmniView must be an approved power connector approved by Kontron, America, Molex, power series 5539.
- Cord length and flexibility: Cords must be less than 4.5 meters (14.8 feet) long.
- See section 5.1 for details of cords approved by Kontron.

11.2. DVI Input Connector

Connector: CN100 - DVI-D24P

Pin No.	SIGNAL	DESCRIPTION
1	TMDS DATA2-	TMDS DATA2 Differential negative signal
2	TMDS DATA2+	TMDS DATA2 Differential positive signal
3	TMDS DATA2 Shield	Shield for TMDS channel 2
4	NC	Not connected
5	NC	Not connected
6	DDC Clock	Clock DDC Interface
7	DDC Data	Data DDC Interface
8	NC	Not connected
9	TMDS DATA1-	TMDS DATA1 Differential negative signal
10	TMDS DATA1+	TMDS DATA1 Differential positive signal
11	TMDS DATA1 Shield	Shield for TMDS channel 1
12	NC	Not connected
13	NC	Not connected
14	+5V Power	+5V for EDID (un-powered monitor)
15	GND (for +5V)	Ground
16	HPD	Hot Plug Detect
17	TMDS DATA0-	TMDS DATA0 Differential negative signal
18	TMDS DATA0+	TMDS DATA0 Differential positive signal
19	TMDS DATA0 Shield	Shield for TMDS channel 0
20	NC	Not connected
21	NC	Not connected
22	TMDS Clock Shield	Shield for TMDS clock
23	TMDS CLOCK+	TMDS Clock Differential positive signal
24	TMDS CLOCK-	TMDS Clock Differential negative signal

11.3. DVI Connector (DVI-I)

The DVI-I connector support DVI Digital output and DVI analog output.

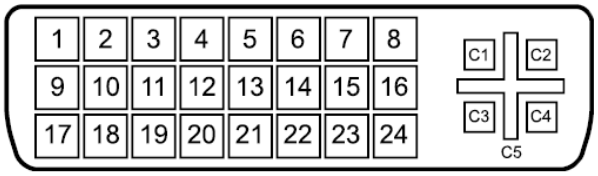


Figure 2. DVI-I Female socket, front view

Signal Description – DVI-I connector:

Pin No.	Signal	Description	Type	Pull U/D
1	TMDS Data 2-	Digital Red – (Link 1)	LVDS OUT	
2	TMDS Data 2+	Digital Red + (Link 1)	LVDS OUT	
3	TMDS Data 2/4 Shield		PWR	
4	NC		NC	
5	NC		NC	
6	DDC Clock	DDC Clock	IO	2K2
7	DDC Data	DDC Data	IO	2K2
8	NC		NC	
9	TMDS Data 1-	Digital Green – (Link 1)	LVDS OUT	
10	TMDS Data 1+	Digital Green + (Link 1)	LVDS OUT	
11	TMDS Data 1/3 Shield		PWR	
12	NC		NC	
13	NC		NC	
14	+5V	Power for monitor when in standby	PWR	
15	GND		PWR	
16	Hot Plug Detect	Hot Plug Detect	I	
17	TMDS Data 0-	Digital Blue – (Link 1) / Digital sync	LVDS OUT	
18	TMDS Data 0+	Digital Blue + (Link 1) / Digital sync	LVDS OUT	
19	TMDS Data 0/5 Shield		PWR	
20	NC		NC	
21	NC		NC	
22	TMDS Clock Shield		PWR	
23	TMDS Clock+	Digital clock + (Link 1)	LVDS OUT	
24	TMDS Clock-	Digital clock - (Link 1)	LVDS OUT	
C1	ANALOG RED	Analog output carrying the red color signal	O	/75R

C2	ANALOG GREEN	Analog output carrying the green color signal	O	/75R
C3	ANALOG BLUE	Analog output carrying the blue color signal	O	/75R
C4	ANALOG HSYNC	CRT horizontal synchronization output.	O	
C5	ANALOG GND	Ground reference for RED, GREEN, and BLUE	PWR	
C6	ANALOG GND	Ground reference for RED, GREEN, and BLUE	PWR	

11.4. DisplayPort Input Connector

Conn: CB102 – W+P: 8470-2-2-1-80-TR

Pin No.	Signal	Description
1	ML_L3N	Main Link Ch. 3 Differential Input negative
2	GND	Ground
3	ML_L3P	Main Link Ch. 3 Differential Input positive
4	ML_L2N	Main Link Ch. 2 Differential Input negative
5	GND	Ground
6	ML_L2P	Main Link Ch. 2 Differential Input positive
7	ML_L1N	Main Link Ch. 1 Differential Input negative
8	GND	Ground
9	ML_LN1P	Main Link Ch. 1 Differential Input positive
10	ML_LN0N	Main Link Ch. 0 Differential Input negative
11	GND	Ground
12	ML_LNOP	Main Link Ch. 0 Differential Input positive
13	Config1	Config Pin1, connect to GND with 1M
14	Config2	Config Pin2, connect to GND with 1M
15	AUXP	Auxiliary Ch. Differential Input positive
16	GND	Ground
17	AUXN	Auxiliary Ch. Differential Input negative
18	HPD	Hot Plug Detect
19	POR	Connected to Ground
20	PO	Not Connected to internal circuits

11.5. DP Connectors (DP0/DP1)

The DP (Display Port) is based on standard DP type Foxconn 3VD51203-H7JJ-7H or Similar.

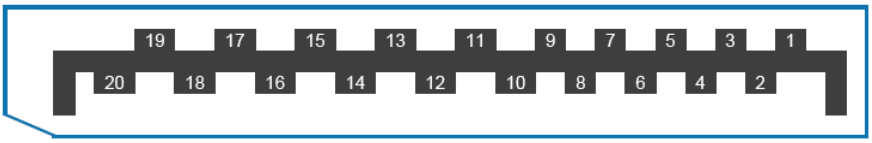


Figure 3. DP Connector, front view

Pin No.	Signal	Description	Type	Note
1	Lane 0 (p)		LVDS	
2	GND		PWR	
3	Lane 0 (n)		LVDS	
4	Lane 1 (p)		LVDS	
5	GND		PWR	
6	Lane 1 (n)		LVDS	
7	Lane 2 (p)		LVDS	
8	GND		PWR	
9	Lane 2 (n)		LVDS	
10	Lane 3 (p)		LVDS	
11	GND		PWR	
12	Lane 3 (n)		LVDS	
13	Config1	Aux or DDC selection	I	
14	Config2	(Not used)	O	
15	Aux Ch (p)	Aux Channel (+) or DDC Clk		AUX (+) channel used by DP DDC Clk used by HDMI
16	GND		PWR	
17	Aux Ch (n)	Aux Channel (-) or DDC Data		AUX (-) channel used by DP DDC Data used by HDMI
18	Hot Plug		I	Internally pull down (100Kohm).
19	Return		PWR	Same as GND
20	3.3V		PWR	Fused by 1.5A resetable PTC fuse, common for DP0 and DP1

11.6. Power Connectors

The OmniView supports three power connector types.

Connector: CN104 – MOLEX 0039303045

Pin No	Signal	Description
1	GND	Ground
2	GND	Ground
3	+12V / +24V DC	VDD / max 4A per pin
4	+12V / +24V DC	VDD / max 4A per pin

Connector: J101 – 2.5mm DC Jack

Pin No	Signal	Description
1	+12V / +24V	VDD / max 5A
2	GND	Ground

Connector: CN116 – JST S8B-EH

Pin No	Signal	Description
1	GND	Ground
2	GND	Ground
3	GND	Ground
4	GND	Ground
5	+12V / +24V DC	VDD / max 3A per pin
6	+12V / +24V DC	VDD / max 3A per pin
7	+12V / +24V DC	VDD / max 3A per pin
8	+12V / +24V DC	VDD / max 3A per pin

11.7. VGA Input Connector

Connector: CN101 – 15pin HD-Sub, female

Pin No	Signal	Description
1	Red	Red analog input
2	Green	Green analog input
3	Blue	Blue analog input
4	NC	Not connected (GND)
5	GND (red)	Ground
6	GND (green)	Ground
7	GND (blue)	Ground
8	GND	Ground
9	VGA 5V	+5V DC
10	GND	Ground
11	NC	Not connected
12	SD	Serial Data Line for DDC
13	HSYNC	Horizontal Sync
14	VSYNC	Vertical Sync
15	SCL	Serial clock input for DDC

12. Technical Support

For technical support, please contact our Technical Support department:

Tel: +49 (8341) 803-333
e-mail: support@kontron.com
Web: http://www.kontron.com/support

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 right side of the unit.

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

If you have questions about Kontron or our products and services, you can reach us by the above-mentioned telephone number and on e-mail address or at: www.kontron.com.

12.1. Returning Defective Merchandise

Please follow these steps before you return any merchandise to Kontron:

1. Download the corresponding form for returning a device with an RMA No. (Return of Material Authorization)] from our website www.kontron.com / Support / RMA Information.
   You also can contact our Customer Service department to obtain an RMA No.:
   e-Mail: service@kontron.com
2. Ensure that you have received an RMA number from Kontron Customer Services before returning any device. Write this number clearly on the outside of the package.
3. Describe the fault that has occurred.
4. Please provide the name and telephone number of a person we can contact to obtain more information, where necessary. Where possible, please enclose all the necessary customs documents and invoices.
5. When returning a device:
   - Pack it securely in its original box.
   - Enclose a copy of the RMA form with the consignment.

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