A3200 iPC Intelligent Industrial PC

Revision 2.00

GLOBAL TECHNICAL SUPPORT

Go to https://support.aerotech.com/servicedesk/customer/portal/1 for information and support about your Aerotech, Inc. products. The website supplies software, product manuals, Help files, training schedules, and PC-to-PC remote technical support. If necessary, you can complete Product Return (RMA) forms and get information about repairs and spare or replacement parts. To get help immediately, contact a service office or your sales representative. Include your customer order number in your email or have it available before you call.

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EU Declaration of Conformity

Manufacturer	Aerotech, Inc.
Address	101 Zeta Drive
	Pittsburgh, PA 15238-2811
	USA
Product	A3200 iPC
Model/Types	Control Cabinet PCs: -CC02, -CC03
	Desktop PC: -DT01
	1U Rack Mounted PC: -R013 (Legacy: -R102, -R101)
	4U Rack Mounted PC: -R402 (Legacy: -R401)

This is to certify that the aforementioned product is in accordance with the applicable requirements of the following Directive(s):

2014/30/EU	Electromagnetic Compatibility (EMC)
2014/35/EU	Low Voltage Directive
EU 2015/863	Directive, Restricted Substances

and has been designed to be in conformity with the applicable requirements of the following Standard(s) when installed and used in accordance with the manufacturer's supplied installation instructions.

-CC02/-CC03 (Control Cabinet PCs)
EN 55011: 2009 +A1: 2010 (Group 1, Class A)
EN 55032: 2015 +AC: 2016 (Class A)
CISPR 32: 2015 +COR1: 2016 (Class A)
EN 61000-6-4: 2007 +A1:2011
EN 61000-3-2: 2014 (Class D) / EN 61000-3-3:2013
EN 55024: 2010 +A1: 2015 / EN 61000-6-2: 2005 +AC:2005
EN 61000-4-2:2009 / EN 61000-4-3: 2006 +A1: 2008 +A2: 2010
EN 61000-4-4:2012 / EN 61000-4-5: 2014 / EN 61000-4-6: 2014 +AC:2015
EN 61000-4-8:2010 / EN 61000-4-11:2004

-DT01 (Desktop PC)
EN 55011: 2009 +A1: 2010 (Group 1, Class A)
EN 55032: 2015 +AC: 2016 (Class A)
EN 61000-6-4: 2007 +A1:2011
CISPR 32: 2015 +COR1: 2016 (Class A)
EN 61000-3-2: 2014 (Class A) / EN 61000-3-3:2013
EN 55024: 2010 +A1: 2015 / EN 61000-6-2: 2005 +AC:2005
EN 61000-4-2:2009 / EN 61000-4-3: 2006 +A1: 2008 +A2: 2010
EN 61000-4-4:2012 / EN 61000-4-5: 2014 / EN 61000-4-6: 2014 +AC:2015
EN 61000-4-8:2010 / EN 61000-4-11: 2004 +A1:2017

-R103 (1U Rack Mounted PC), -R402 (4U Rack Mounted PC)
EN 55011: 2009 +A1: 2010 (Group 1, Class A) EN 55032: 2015 +AC: 2016 (Class A) EN 61000-6-4: 2007 +A1:2011 EN 61000-3-2: 2014 (Class D) / EN 61000-3-3:2013 EN 55024: 2010 +A1: 2015 / EN 61000-6-2: 2005 +AC:2005 EN 61000-4-2:2009 / EN 61000-4-3: 2006 +A1: 2008 +A2: 2010 EN 61000-4-4:2012 / EN 61000-4-5: 2014 / EN 61000-4-6: 2014 +AC:2015 EN 61000-4-8:2010 / EN 61000-4-11:2004
-R101/-R102 (Legacy 1U Rack Mounted PC)
EN 55022-2010 EN 55024:2010 EN 61000-3-2:2006 EN 61000-3-3:2008 IEC 60950-1:2005 EN 60950-1:2006 /A11:2009 UL 60950-1 CSA/CAN-C22.2 /NO. 60950-1-07FCC PART 15 AS/NZS CISPR 22/24 VCCI V-3
-R401 (Legacy 4U Rack Mounted PC)
EN 55022-2010 +AC:2011,Class A EN 61000-3-2:2006 +A1:2009+A2:2009 EN 61000-3-3:2013 EN 55024:2010 IEC 61000-4-2:2008 IEC 61000-4-3:2008 IEC 61000-4-4:2012 IEC 61000-4-5:2005 IEC 61000-4-6:2013 IEC 61000-4-8:2009 IEC 61000-4-11:2004

Authorized Representative: Simon Smith, European Director
Address: Aerotech Ltd
The Old Brick Kiln, Ramsdell, Tadley
Hampshire RG26 5PR
UK

Name   / Alex Weibel
Position   Engineer Verifying Compliance
Location   Pittsburgh, PA
Date   7/24/2020

CE

Agency Approvals

Manufacturer	Aerotech, Inc.
Address	101 Zeta Drive
	Pittsburgh, PA 15238-2811
	USA
Product	A3200 iPC
Model/Types	Control Cabinet PCs: -CC02, -CC03
	Desktop PC: -DT01
	1U Rack Mounted PC: -R013
	4U Rack Mounted PC: -R402

This is to certify that the aforementioned product(s) is in accordance with the applicable requirements of the following Standard(s):
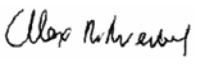
FCC Part 15, Subpart B

ANSI C63.4-2014

ICES-003 Issue 6: 2016

CISPR 22: 2008

CAN/CSA-CISPR 22-10

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Chapter 1: A3200 iPC

> **IMPORTANT**: All specifications and illustrations are for reference only and were complete and accurate as of the release of this manual. To find the newest information about this product, refer to www.aerotech.com.

Table 1-1:   Ordering Options

Hardware	
-CC02	Control cabinet iPC; i5 processor; SSD; A3200 iPC 6.03 minimum
-CC03	Control cabinet iPC; i7 processor; SSD; A3200 iPC 6.03 minimum
-R402	4U 19" rack mount iPC; i7 processor; SSD; A3200 iPC 6.03 minimum
-R103	1U 19" rack mount iPC; i7 processor; SSD; A3200 iPC 6.03 minimum
-DT01	Desktop tower IPC; i7 processor; SSD; A3200 iPC 6.03 minimum
Software	
-SW01	A3200 iPC software installed as per A3200 iPC line item (default)
-SW00	No A3200 iPC software installed
Operating System (Required)	
-OS03	Windows 10 64-bit operating system (default)
Motion Bus Hardware	
-MB03	HyperWire motion bus via PCIe interface card
-MB02	FireWire motion bus via PCI interface card
-MB01	FireWire motion bus via PCIe interface card (default)
Automation Bus Hardware	
-AB03[3]	EtherCAT/PROFINET interface card and Ethernet expansion card
-AB02	EtherCAT/PROFINET interface card
-AB01[3]	Ethernet expansion card
-AB00	No EtherCAT/PROFINET interface card or Ethernet expansion cards (default)
(3) Ethernet expansion card can be used for PC Modbus connections	
HMI Package	
-HMI04	17" LED monitor, USB keyboard with integral touch pad
-HMI03	17" LED monitor, USB keyboard, and mouse
-HMI02	USB keyboard with integral touch pad
-HMI01	USB keyboard and mouse
-HMI00	No HMI package (default)
Line Cord	
-LC0	No line cord (default)
-LC1	US 115 VAC line cord
-LC2	US 230 VAC line cord
-LC3	UK compatible line cord
-LC5	Israel compatible line cord
-LC6	India compatible line cord
-LC7	Australia compatible line cord

Table 1-2:   Legacy Hardware Ordering Options

Hardware	
-R401	Legacy 4U 19" rack mount iPC; i7 processor; HDD; A3200 iPC
-R101	Legacy 1U 19" rack mount iPC; i7 processor. HDD; A3200 iPC
-R102	Legacy 1U 19" rack mount iPC; i7 processor; SSD; A3200 iPC
Software	
-SW01	A3200 iPC software installed as per A3200 iPC line item (default)
-SW00	No A3200 iPC software installed
Operating System (Required)	
-OS03	Windows 10 64-bit operating system (default)
-OS02[1]	Windows 8.1 (minimum) 64-bit operating system (legacy systems only)
-OS01[1]	Windows 7 64-bit operating system (legacy systems only)
(1) Not available with -CC02, -CC03, -R103, -R402, or DT01 hardware	
Motion Bus Hardware	
-MB02	FireWire motion bus via PCI interface card
-MB01	FireWire motion bus via PCIe interface card (default)
Automation Bus Hardware	
-AB03[3]	EtherCAT/PROFINET interface card and Ethernet expansion card
-AB02	EtherCAT/PROFINET interface card
-AB01[3]	Ethernet expansion card
-AB00	No EtherCAT/PROFINET interface card or Ethernet expansion cards (default)
(3) Ethernet expansion card can be used for PC Modbus connections	
HMI Package	
-HMI04	17" LED monitor, USB keyboard with integral touch pad
-HMI03	17" LED monitor, USB keyboard, and mouse
-HMI02	USB keyboard with integral touch pad
-HMI01	USB keyboard and mouse
-HMI00	No HMI package (default)
Line Cord	
-LC0	No line cord (default)
-LC1	US 115 VAC line cord
-LC2	US 230 VAC line cord
-LC3	UK compatible line cord
-LC5	Israel compatible line cord
-LC6	India compatible line cord
-LC7	Australia compatible line cord

1.1. Specifications

> **IMPORTANT**: PC specifications subject to change without notice. Please contact factory for most up to date information. Refer to your third-party motherboard documentation to determine your current specifications.

Table 1-3:   Automation Motion Server Specifications (Control Cabinet / Desktop PC)

	-CC03	-CC02	-DT01
Description	Control cabinet PC	Control cabinet PC	Desktop PC
A3200 Version	6.x and above	6.x and above	6.x and above
Processor	Intel i7-7700	Intel i5-7500	Intel i7-7700
RAM	16 GB	16 GB	16 GB
Operating System[1]	Windows 10 LTSB	Windows 10 LTSB	Windows 10 64-bit
Hard Disk Space	256 GB SSD	128 GB SSD	512 GB SSD
USB 3.0 Connections	4	4	4
USB 2.0 Connections	N/A	N/A	N/A
Input Power	100-240 V, 2-4 A, 50-60 Hz	100-240 V, 2-4 A, 50-60 Hz	100-240 V, 2-4 A, 50-60 Hz
Display Connections	DVI-D	DVI-D	VGA DVI-D[2]
Available PCI/PCIe Expansion Slots [3]	N/A	N/A	1 x PCIe x16 2 x PCIe x4 3x PCI
DVD Drive	Yes	Yes	Yes
Drive Interface	FireWire or HyperWire	FireWire or HyperWire	FireWire or HyperWire
LAN (Qty. 2)	10/100/1000 Mbit	10/100/1000 Mbit	10/100/1000 Mbit
Modbus Support	Yes, via Ethernet	Yes, via Ethernet	Yes, via Ethernet
EtherCAT/PROFINET Support	Available	Available	Available
Power Supply	180 W	180 W	180 W

(1) To avoid machine disruption, Aerotech disables automatic updates on Windows PCs that are shipped from Aerotech. To customize your update settings, refer to Microsoft's Windows documentation or Aerotech's User Guide to Windows 10 Updates.
(2) Refer to Section 1.5. for configuration details.
(3) After the HyperWire or FireWire card is installed.

Table 1-4:   Automation Motion Server Specifications (Rack Mount PCs)

	-R103	-R102	-R101	-R402	-R401
Description	1U rack mount	Legacy 1U rack mount	Legacy 1U rack mount	4U rack mount	Legacy 4U rack mount
A3200 Version	6.x and above	Legacy 4.x / 5.x	Legacy 4.x / 5.x	6.x and above	Legacy 4.x / 5.x
Processor	Intel i7-7700	Intel i5-4590S	Intel i5-4590S	Intel i7-7700	Intel i5-4590S
RAM	16 GB	8 GB	8 GB	16 GB	8 GB
Operating System[1]	Windows 10 64 bit	• Windows 7 64-bit SP1 • Windows 8.1 (minimum) 64-bit • Windows 10 64-bit	• Windows 7 64-bit SP1 • Windows 8.1 (minimum) 64-bit • Windows 10 64 bit	Windows 10 64 bit	• Windows 7 64-bit SP1 • Windows 8.1 (minimum) 64-bit • Windows 10 64 bit
Hard Disk Space	256 GB SSD	120 GB SSD	320 GB	512 GB SSD	1 TB
USB 3.0 Connections	4	2	2	4	2
USB 2.0 Connections	N/A	4	4	N/A	4
Input Power	100-240 V, 2-4 A, 50-60 Hz	85-230 VAC	85-230 VAC	100-240 V, 2-4 A, 50-60 Hz	85-230 VAC
Display Connections	• VGA • DVI-D[2]	• VGA • HDMI • DVI	• VGA • HDMI • DVI	• VGA • DVI-D[2]	• VGA • HDMI • DVI
Available PCI/PCIe Expansion Slots [3]	• 1 x PCIe x16 • 2 x PCIe x4 • 3 x PCI	N/A	N/A	• 1 x PCIe x16 • 2 x PCIe x4 • 3 x PCI	• 1 x PCIe x16 • 1 x PCIe x4 • 4 x PCI
DVD Drive	Yes	Yes	Yes	Yes	Yes
Drive Interface	FireWire or HyperWire	FireWire	FireWire	FireWire or HyperWire	FireWire
LAN (Qty. 2)	10/100/1000 Mbit	GB LAN	GB LAN	10/100/1000 Mbit	GB LAN
Modbus Support	N/A	N/A	N/A	Yes (Ethernet)	Yes (Ethernet)
EtherCAT/PROFINET Support	N/A	N/A	N/A	Available	Available
Power Supply	350 W	260 W	260 W	400 W	180 W
(1) To avoid machine disruption, Aerotech disables automatic updates on Windows PCs that are shipped from Aerotech. To customize your update settings, refer to Microsoft's Windows documentation or Aerotech's User Guide to Windows 10 Updates. (2) Refer to Section 1.5. for configuration details. (3) After the HyperWire or FireWire card is installed.					

1.2. Remote Server Operation

If you ordered the -SW01 software package with the -Remote option and it was installed and configured at the factory, the software installed on the A3200 iPC will be configured for remote server operation. In this configuration, only one of the available Ethernet ports will be configured for use with the remote server. Refer to the figures below to determine which port you should use for each A3200 iPC hardware configuration.

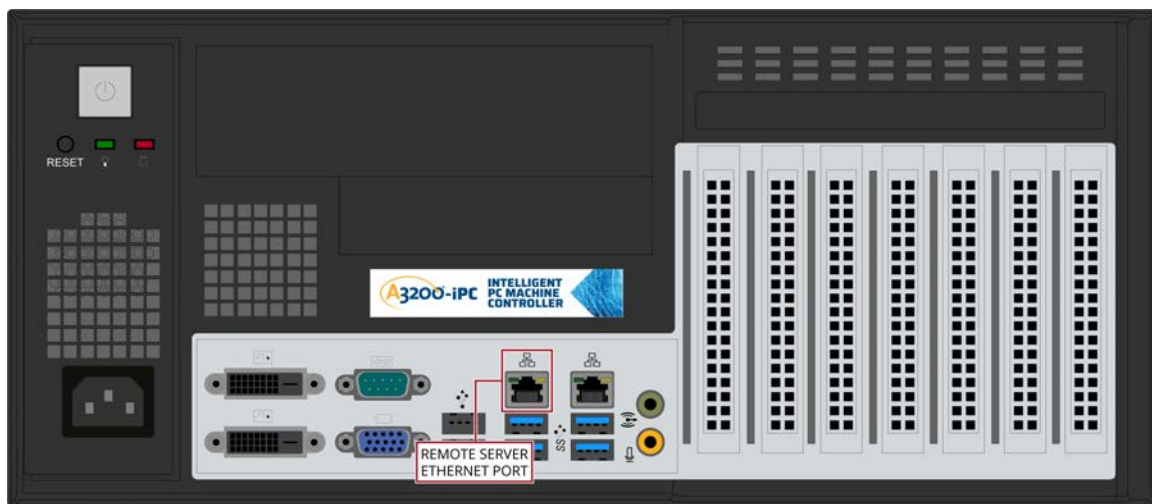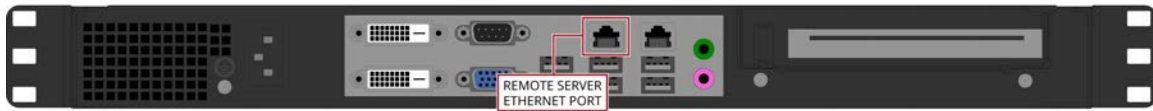**Figure 1-1:   -CC02/-CC03 Connector View (typical)**

Figure 1-2:   -DT01 Connector View (typical)
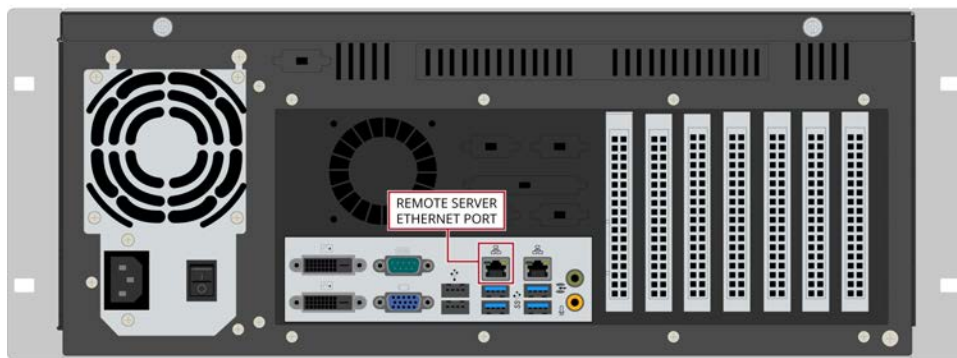
FRONT VIEW (cover panel removed)

REAR VIEW

Figure 1-3:   -R103 Connector View (typical)

FRONT VIEW (Panel Open)

REAR VIEW

Figure 1-4:   -R402 Connector View (typical)

1.3. Dimensions

> **IMPORTANT**: Aerotech continually improves its product offerings; listed options may be superseded at any time. All drawings and illustrations are for reference only and were complete and accurate as of this manual's release. Refer to www.aerotech.com for the most up-to-date information.

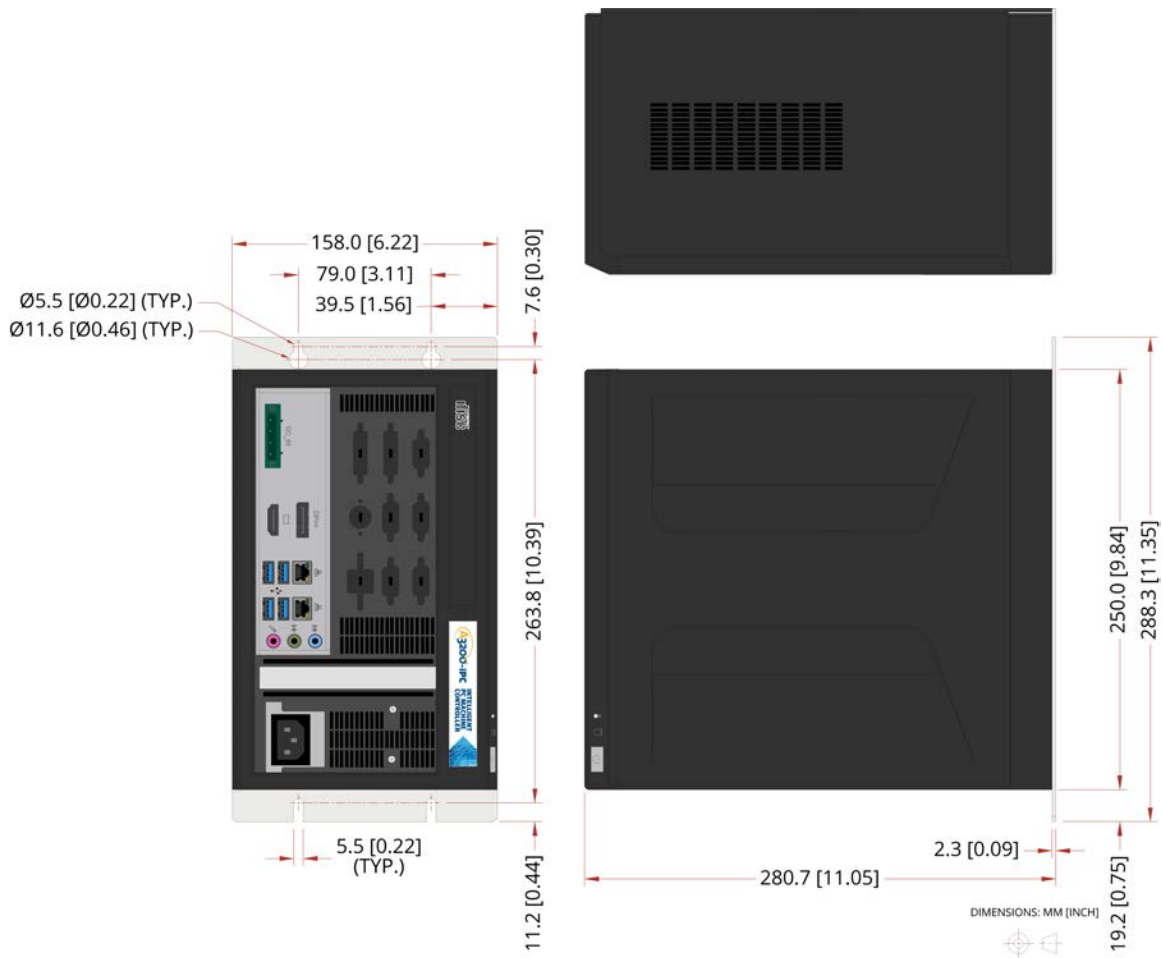**Figure 1-5:   Desktop Computer Dimensions (-DT01)**
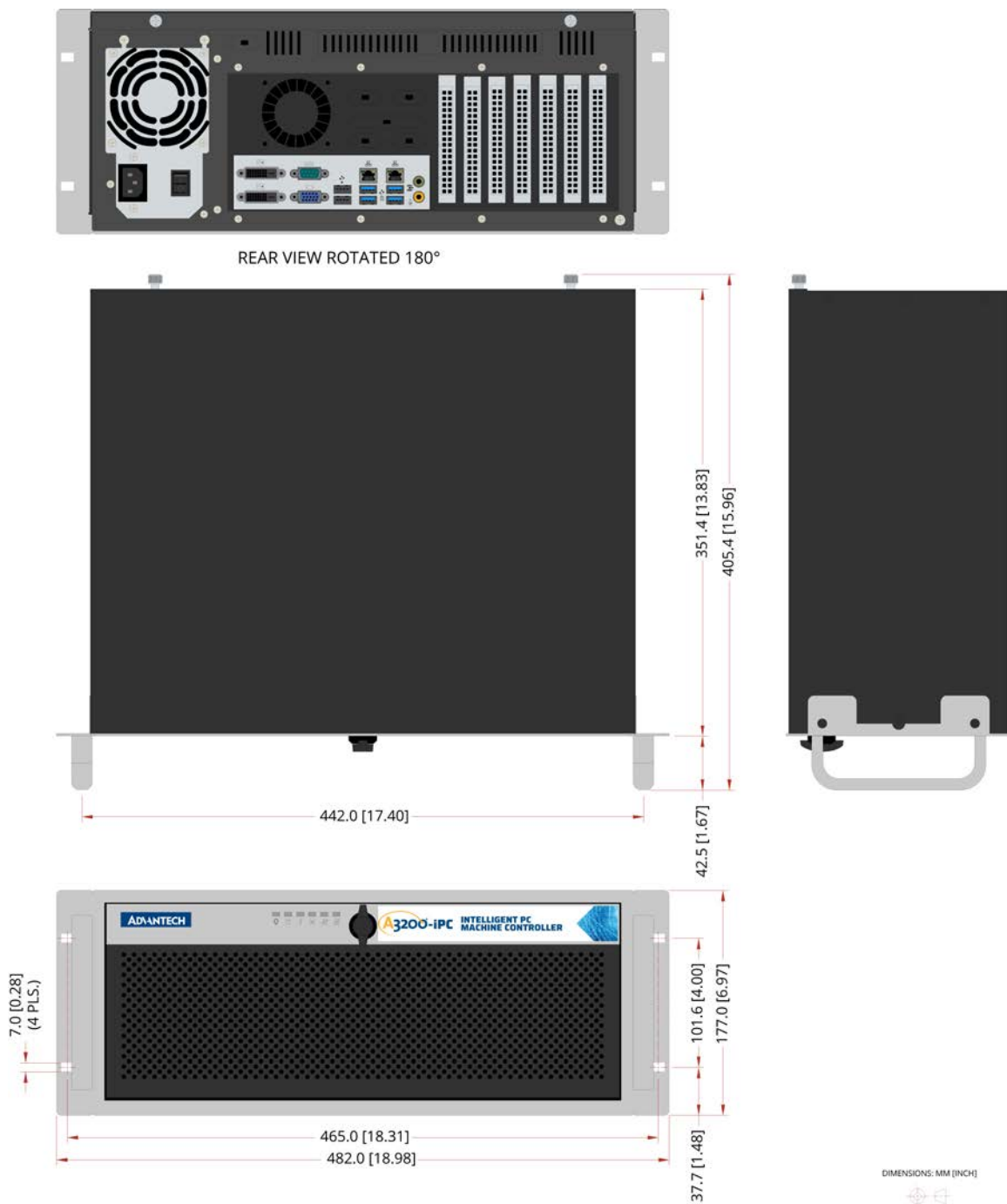
Figure 1-6:   Control Cabinet Dimensions (-CC02/-CC03)

REAR VIEW ROTATED 180°

351.4 [13.83]
405.4 [15.96]

442.0 [17.40]

42.5 [1.67]

7.0 [0.28]
(4 PLS.)

101.6 [4.00]
177.0 [6.97]

465.0 [18.31]
482.0 [18.98]

37.7 [1.48]

DIMENSIONS: MM [INCH]

Figure 1-7:   4U Rack Mount Chassis Dimensions (-R402)

REAR VIEW ROTATED 180°

426.0 [16.77]

500.0 [19.69]

43.4 [1.71]

6.4 [0.25]
(6 PLS.)

464.8 [18.30]

479.9 [18.89]

5.5 [0.22]
15.9 [0.63]
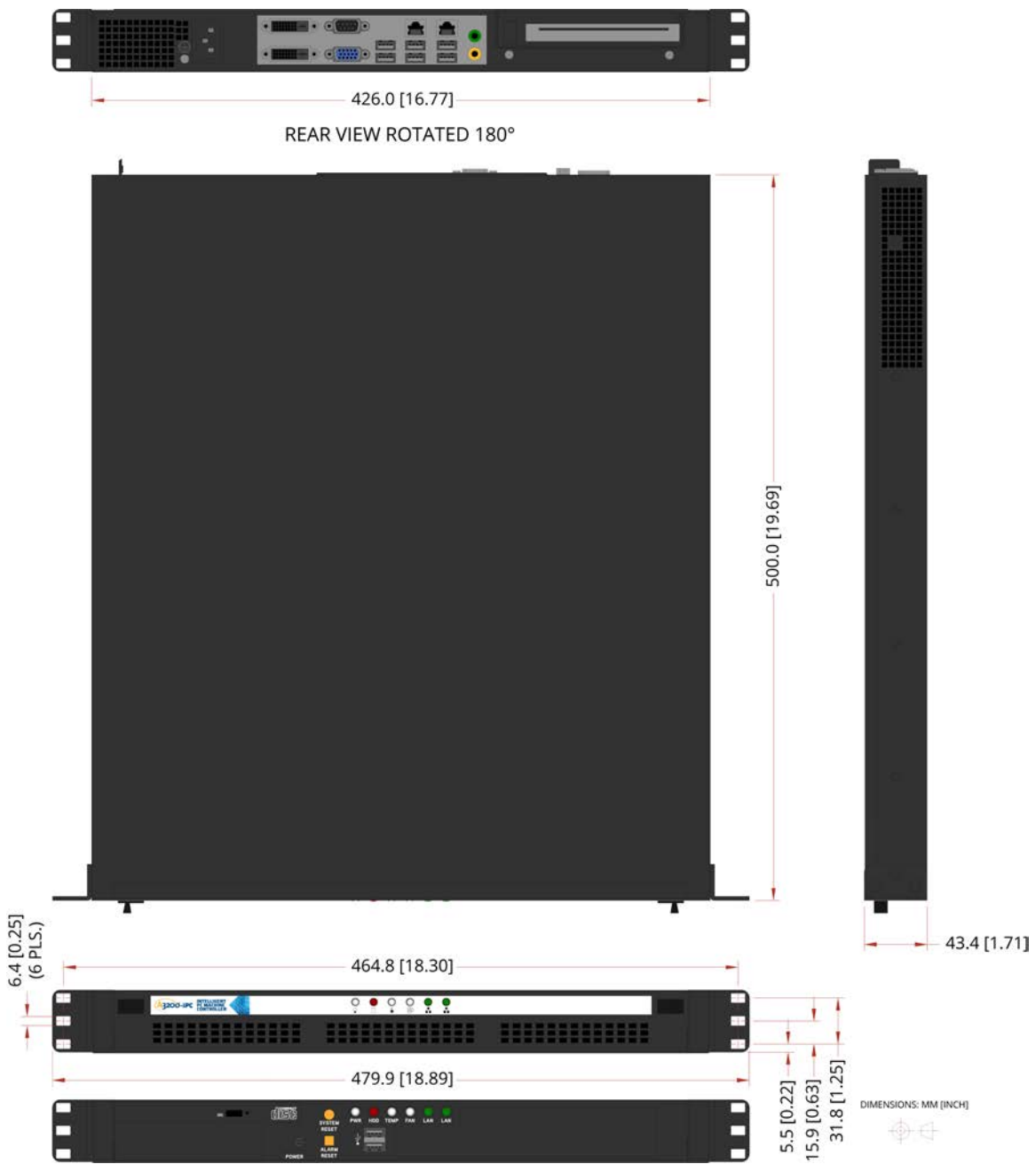31.8 [1.25]

DIMENSIONS: MM [INCH]

Figure 1-8:   1U Rack Mount Chassis Dimensions (-R103)
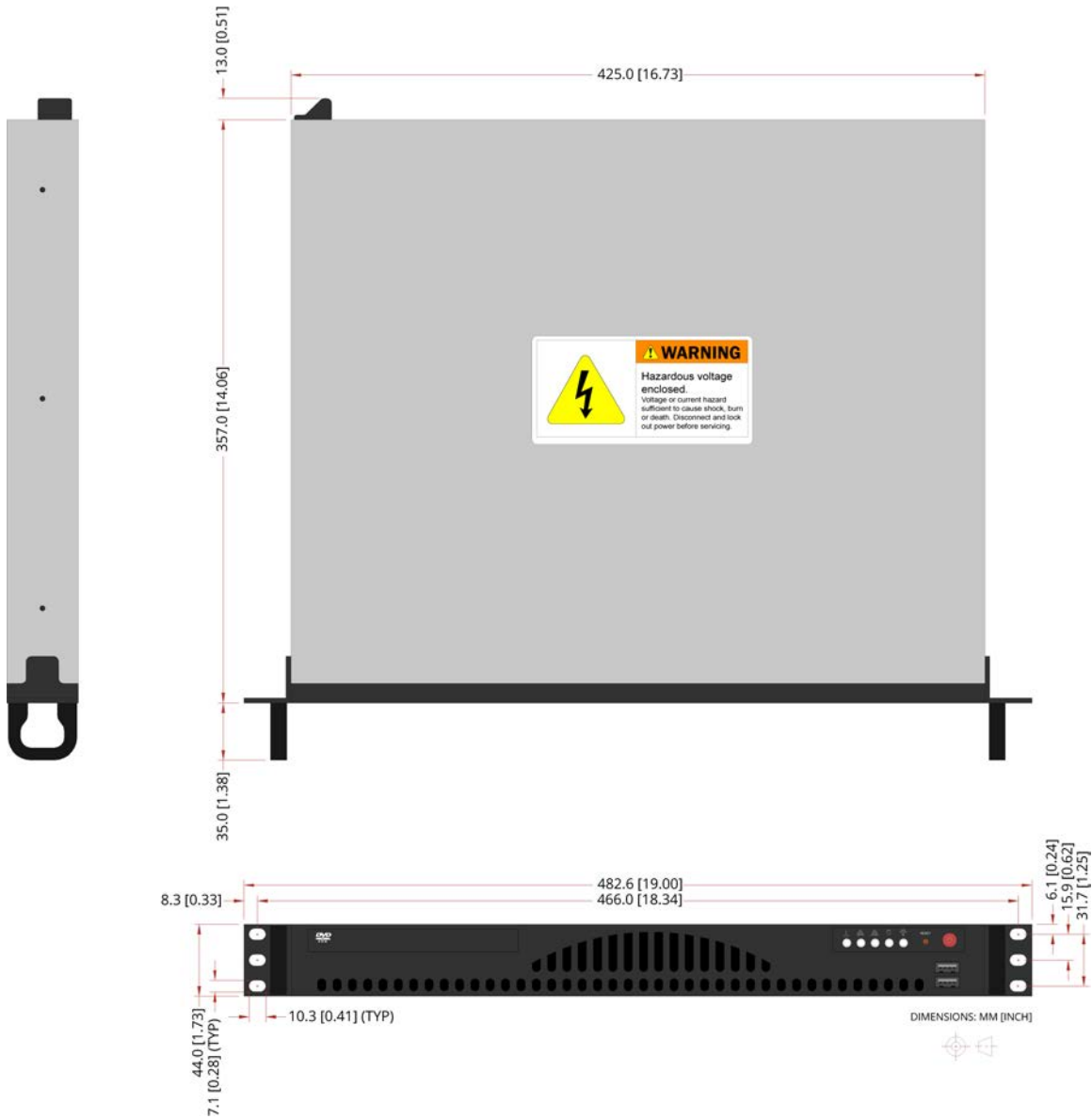
Legacy Devices:

Figure 1-9:   1U Rack Mount Chassis Dimensions (-R101/-R102)
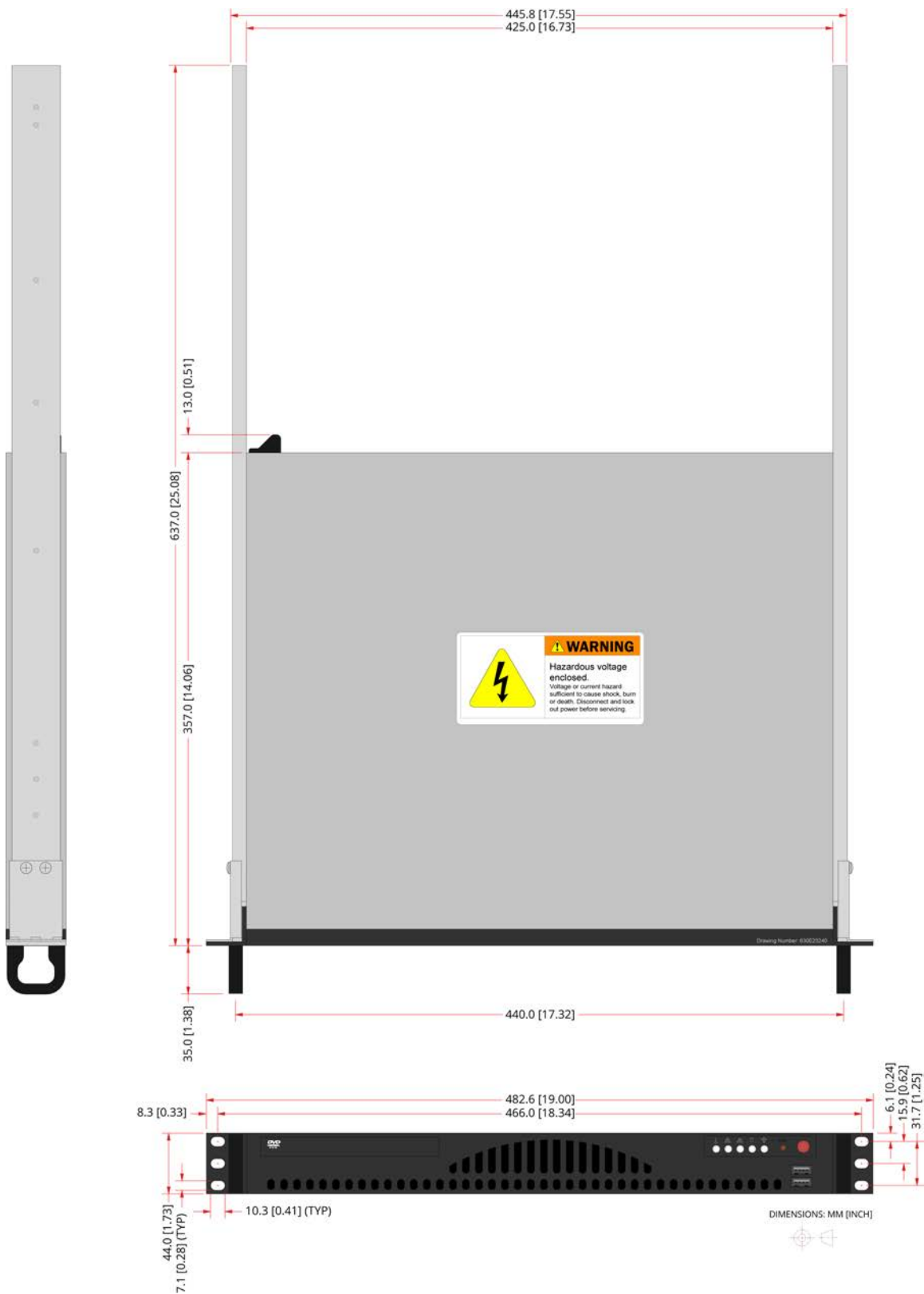
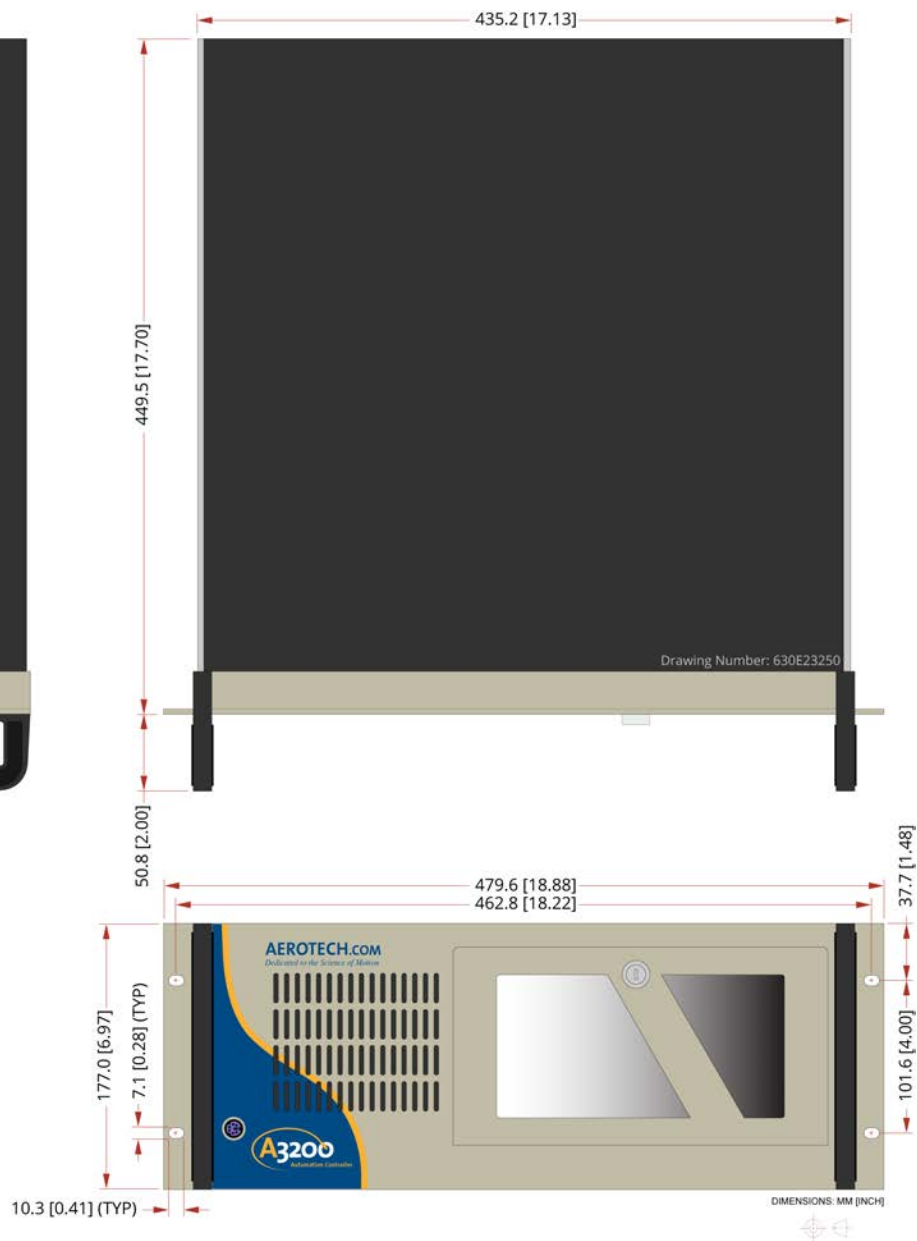**Figure 1-10:   1U Rack Mount Chassis with Slides Dimensions (-R101/-R102)**

Figure 1-11:   4U Rack Mount Chassis Dimensions (-R401)
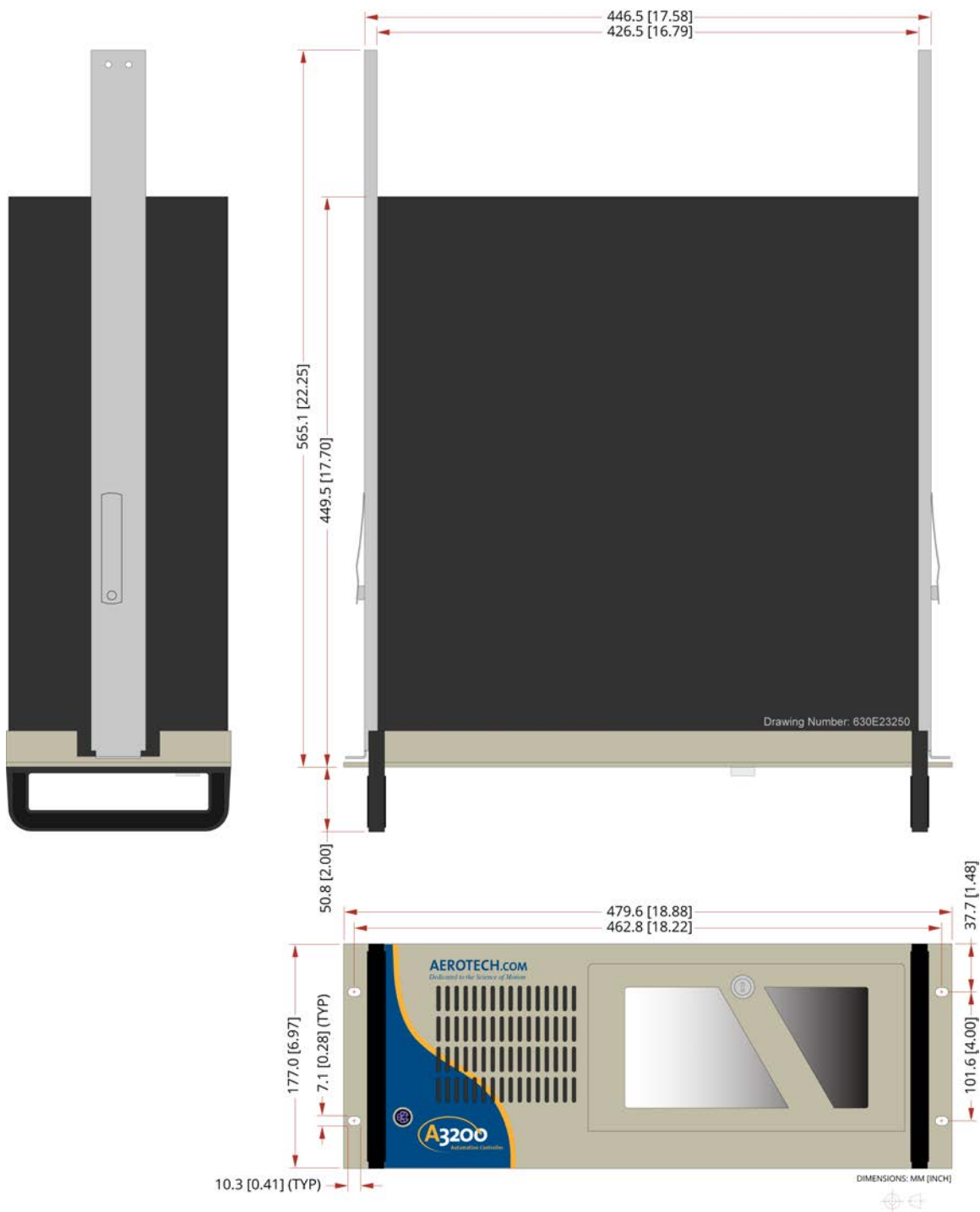
Figure 1-12:   4U Rack Mount Chassis with Slides Dimensions (-R401)

1.4. AC Power Setting

You can change the BIOS setting on the PC so that, in the event of a power failure, you will not need to access the PC to manually turn the PC back on. Use this item to select AC power state when power is re-applied after a power failure.

Table 1-5:   BIOS Settings

PC Type	BIOS Category	Settings
-CC02 -CC03	State after G3	Power On
-R103	Restore AC Power Loss	S0 State
-R402	Restore AC Power Loss	S0 State
-DT01	Restore AC Power Loss	S0 State
Legacy: -R101 -R102	AC Power Loss	• Power Off • **Power On [our default]** • Last State
Legacy: -R401	Restore AC Power Loss	• Power Off • **Power On [our default]** • Last State

1.5. DVI Monitor Configuration (-R103, -R402, -DT01 PC Options)

To let the Windows OS operate without a monitor connected, both the AIMB-785 motherboard and the standard Advantech-provided BIOS are configured to report to the Windows OS that a VGA monitor is always connected as the default primary display. If you connect a single DVI monitor to one of the rack mount (-R103 or -R402) or desktop (-DT01) computers, the BIOS will continue to report to Windows that the VGA monitor is also connected. You will need to update the Windows Display settings to get the system to correctly identify the DVI monitor. Either duplicate the Windows desktop to both monitors or identify and set the DVI monitor as the primary display.

1.6. Environmental Specifications

Table 1-6:   Environmental Specifications

Ambient Temperature	Operating: 0° to 40°C
	Storage: -30° to 85°C
Humidity Non-condensing	The maximum relative humidity is 80% for temperatures that are less than 31°C and decreases linearly to 50% relative humidity at 40°C.
Operating Altitude	0 m to 2,000 m above sea level. If you must operate this product above 2,000 m or below sea level, contact Aerotech, Inc.
Pollution	Pollution Degree 2 Typically only nonconductive pollution occurs.
Operation	Use only indoors

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Appendix A: Warranty and Field Service

Aerotech, Inc. warrants its products to be free from harmful defects caused by faulty materials or poor workmanship for a minimum period of one year from date of shipment from Aerotech. Aerotech's liability is limited to replacing, repairing or issuing credit, at its option, for any products that are returned by the original purchaser during the warranty period. Aerotech makes no warranty that its products are fit for the use or purpose to which they may be put by the buyer, whether or not such use or purpose has been disclosed to Aerotech in specifications or drawings previously or subsequently provided, or whether or not Aerotech's products are specifically designed and/or manufactured for buyer's use or purpose. Aerotech's liability on any claim for loss or damage arising out of the sale, resale, or use of any of its products shall in no event exceed the selling price of the unit.

THE EXPRESS WARRANTY SET FORTH HEREIN IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE. IN NO EVENT SHALL AEROTECH BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

Return Products Procedure

Claims for shipment damage (evident or concealed) must be filed with the carrier by the buyer. Aerotech must be notified within thirty (30) days of shipment of incorrect material. No product may be returned, whether in warranty or out of warranty, without first obtaining approval from Aerotech. No credit will be given nor repairs made for products returned without such approval. A "Return Materials Authorization (RMA)" number must accompany any returned product(s). The RMA number may be obtained by calling an Aerotech service center or by submitting the appropriate request available on our website (www.aerotech.com). Products must be returned, prepaid, to an Aerotech service center (no C.O.D. or Collect Freight accepted). The status of any product returned later than thirty (30) days after the issuance of a return authorization number will be subject to review.

Visit https://www.aerotech.com/global-technical-support.aspx for the location of your nearest Aerotech Service center.

Returned Product Warranty Determination

After Aerotech's examination, warranty or out-of-warranty status will be determined. If upon Aerotech's examination a warranted defect exists, then the product(s) will be repaired at no charge and shipped, prepaid, back to the buyer. If the buyer desires an expedited method of return, the product(s) will be shipped collect. Warranty repairs do not extend the original warranty period.

Fixed Fee Repairs - Products having fixed-fee pricing will require a valid purchase order or credit card particulars before any service work can begin.

All Other Repairs - After Aerotech's evaluation, the buyer shall be notified of the repair cost. At such time the buyer must issue a valid purchase order to cover the cost of the repair and freight, or authorize the product(s) to be shipped back as is, at the buyer's expense. Failure to obtain a purchase order number or approval within thirty (30) days of notification will result in the product(s) being returned as is, at the buyer's expense.

Repair work is warranted for ninety (90) days from date of shipment. Replacement components are warranted for one year from date of shipment.

Rush Service

At times, the buyer may desire to expedite a repair. Regardless of warranty or out-of-warranty status, the buyer must issue a valid purchase order to cover the added rush service cost. Rush service is subject to Aerotech's approval.

On-site Warranty Repair

If an Aerotech product cannot be made functional by telephone assistance or by sending and having the customer install replacement parts, and cannot be returned to the Aerotech service center for repair, and if Aerotech determines the problem could be warranty-related, then the following policy applies:

Aerotech will provide an on-site Field Service Representative in a reasonable amount of time, provided that the customer issues a valid purchase order to Aerotech covering all transportation and subsistence costs. For warranty field repairs, the customer will not be charged for the cost of labor and material. If service is rendered at times other than normal work periods, then special rates apply.

If during the on-site repair it is determined the problem is not warranty related, then the terms and conditions stated in the following "On-Site Non-Warranty Repair" section apply.

On-site Non-Warranty Repair

If any Aerotech product cannot be made functional by telephone assistance or purchased replacement parts, and cannot be returned to the Aerotech service center for repair, then the following field service policy applies:

Aerotech will provide an on-site Field Service Representative in a reasonable amount of time, provided that the customer issues a valid purchase order to Aerotech covering all transportation and subsistence costs and the prevailing labor cost, including travel time, necessary to complete the repair.

Service Locations

http://www.aerotech.com/contact-sales.aspx?mapState=showMap

USA, CANADA, MEXICO
Aerotech, Inc.
Global Headquarters
Phone: +1-412-967-6440
Fax: +1-412-967-6870

CHINA
Aerotech China
Full-Service Subsidiary
Phone: +86 (21) 5508 6731

GERMANY
Aerotech Germany
Full-Service Subsidiary
Phone: +49 (0)911 967 9370
Fax: +49 (0)911 967 93720

TAIWAN
Aerotech Taiwan
Full-Service Subsidiary
Phone: +886 (0)2 8751 6690

UNITED KINGDOM
Aerotech United Kingdom
Full-Service Subsidiary
Phone: +44 (0)1256 855055
Fax: +44 (0)1256 855649

Have your customer order number ready before calling.

Appendix B: Revision History

Revision	Description
2.00	General update
1.07	The following sections have been updated: • Section 1.1. Specifications • Section 1.2. Remote Server Operation • Section 1.3. Dimensions • Added Section 1.5. DVI Monitor Configuration (-R103, -R402, -DT01 PC Options)
1.06	
1.05	
1.04	
1.03	Revision changes have been archived. If you need a copy of this revision, contact Aero-techGlobal Technical Support.
1.02	
1.01	
1.00	

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