
PXle-8822/ 8842/8862 Specifications

2025-12-11



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PXIe-8822/8842/8862 Specifications

These specifications apply to the PXIe-8822, PXIe-8842, and PXIe-8862 controllers.



Note Specifications are subject to change without notice.



Caution Using the PXIe-8822/8842/8862 controller in a manner not described in this document can impair the protection the controller provides.

Revision History

Version	Date changed	Description
378928C-01	October 2025	Added front panels for variants without GPIB ports.
378928B-01	August 2025	Updated memory specification, added front panels.
378928A-01	October 2022	Initial release.

Looking For Something Else?

For information not found in the specifications for your product, such as operating instructions, browse ***Related Information***.

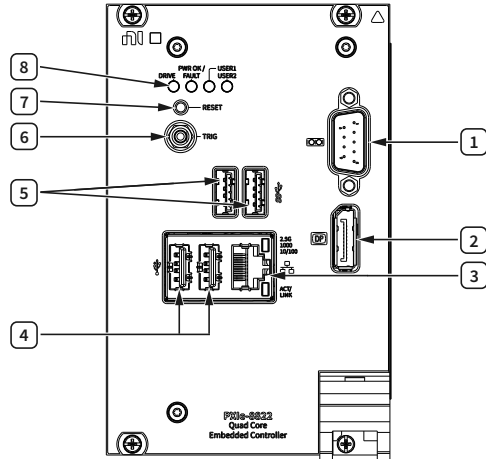
Related information:

- [PXIe-8822/42/62 Getting Started](#)
- [PXIe-8822, PXIe-8842, PXIe-8862 Letter of Volatility](#)
- [Dimensional Drawings](#)
- [Product Certifications](#)
- [Discussion Forums](#)
- [NI Learning Center](#)

PXIe-8822/8842/8862 Front Panel

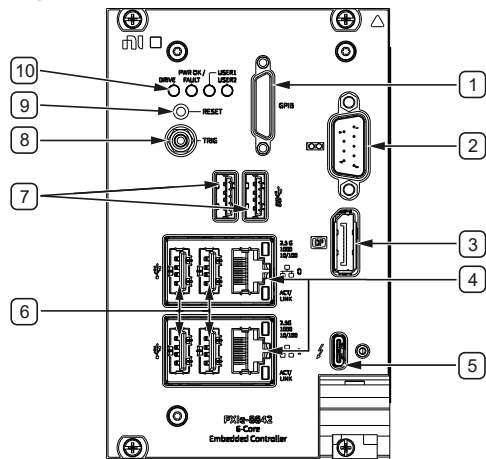
The following figures show the PXIe-8822/8842/8862 front panel layouts.

Figure 1. PXIe-8822 Front Panel Layout



1. RS-232 Serial
2. DisplayPort 1.4
3. Ethernet
4. USB 2.0
5. USB 3.2
6. Trigger
7. Reset Button
8. LEDs

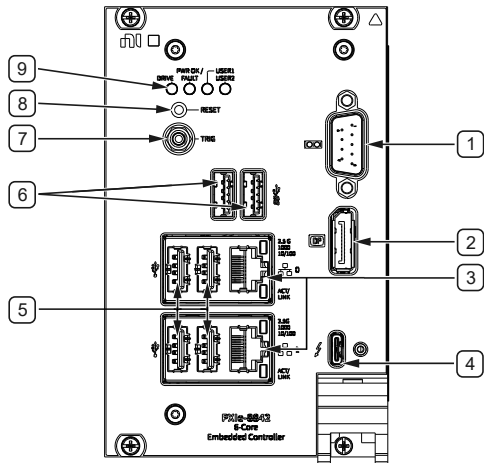
Figure 2. PXIe-8842 Front Panel Layout



1. GPIB

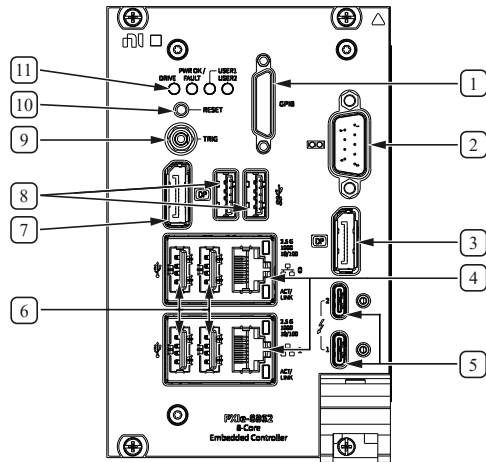
2. RS-232 Serial
3. DisplayPort 1.4
4. Ethernet
5. Thunderbolt 4
6. USB 2.0
7. USB 3.2
8. Trigger
9. Reset Button
10. LEDs

Figure 3. PXIe-8842 Without GPIB Front Panel Layout



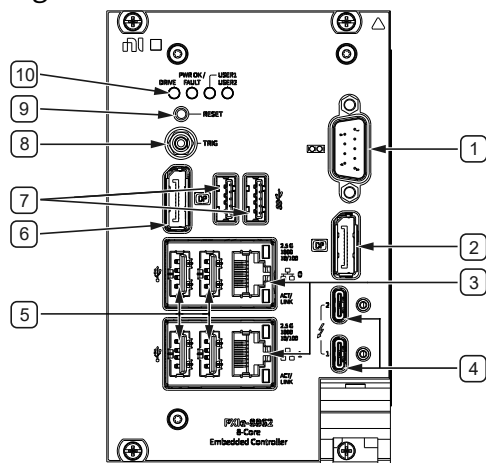
1. RS-232 Serial
2. DisplayPort 1.4
3. Ethernet
4. Thunderbolt 4
5. USB 2.0
6. USB 3.2
7. Trigger
8. Reset Button
9. LEDs

Figure 4. PXIe-8862 Front Panel Layout



1. GPIB
2. RS-232 Serial
3. DisplayPort 1.4
4. Ethernet
5. Thunderbolt 4
6. USB 2.0
7. DisplayPort 1.4
8. USB 3.2
9. Trigger
10. Reset Button
11. LEDs

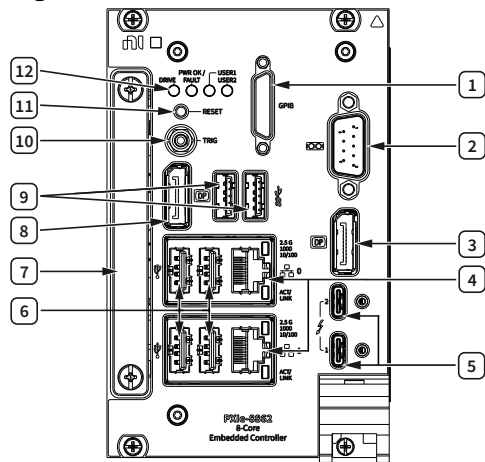
Figure 5. PXIe-8862 Without GPIB Front Panel Layout



1. RS-232 Serial
2. DisplayPort 1.4

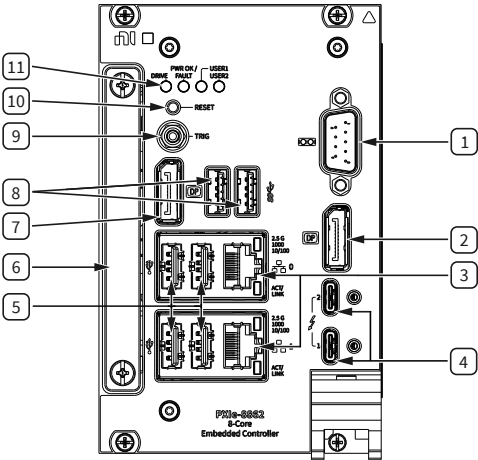
3. Ethernet
4. Thunderbolt 4
5. USB 2.0
6. DisplayPort 1.4
7. USB 3.2
8. Trigger
9. Reset Button
10. LEDs

Figure 6. PXIe-8862 With Removable Hard Drive Front Panel Layout



1. GPIB
2. RS-232 Serial
3. DisplayPort 1.4
4. Ethernet
5. Thunderbolt 4
6. USB 2.0
7. Removable Hard Drive
8. DisplayPort 1.4
9. USB 3.2
10. Trigger
11. Reset Button
12. LEDs

Figure 7. PXle-8862 With Removable Hard Drive and Without GPIB Front Panel Layout



- 1. RS-232 Serial
- 2. DisplayPort 1.4
- 3. Ethernet
- 4. Thunderbolt 4
- 5. USB 2.0
- 6. Removable Hard Drive
- 7. DisplayPort 1.4
- 8. USB 3.2
- 9. Trigger
- 10. Reset Button
- 11. LEDs

Front Panel Connectors

The following table lists various peripherals and their corresponding PXle-8822/8842/8862 external connectors, bus interfaces, and functions.

Peripheral	External Connector	Description
Video (DisplayPort 1.4)	DisplayPort	Intel HD Graphics
Thunderbolt 4	USB Type C (2 ports)	Thunderbolt 4 compliant, supports USB, PCI Express, and DisplayPort
Serial	COM1 (9-pin DSUB)	RS-232 serial port
Ethernet Port 0	LAN (RJ45)	10M/100M/1000M/2.5G

Peripheral	External Connector	Description
		Ethernet connection Intel I225 Wake on LAN supported
Ethernet Port 1	LAN (RJ45)	10M/100M/1000M/2.5G Ethernet connection Intel I225 Wake on LAN supported
USB 2.0	USB 4-pin Series A stacked receptacle (4 ports)	Hi-Speed USB 2.0
USB 3.2 Gen 1	USB 9-pin Series A stacked receptacle (2 ports)	SuperSpeed USB, backwards compatible with USB 2.0
PXI trigger	Trigger (SMB)	Routing PXI triggers to or from the backplane trigger bus
GPIB	GPIB (25-pin Micro D)	General-Purpose Interface Bus, IEEE 488.2

Controller Features and Characteristics

Table 1. PXIe-8822/8842/8862 Features

Feature	PXIe-8822	PXIe-8842	PXIe-8862	PXIe-8862 with Removable Drive
CPU	Intel® Core™ i3-11100HE	Intel® Core™ i5-11500HE	Intel® Core™ i7-11850HE	
Cache	8 MB Smart Cache	12 MB Smart Cache	24 MB Smart Cache	
Memory	8 GB standard (16 GB maximum), single channel DDR4-3200 MHz, non-ECC SODIMM		2 x 8 GB standard (2 x 16 GB maximum), dual channel DDR4-3200 MHz, non-ECC SODIMM	

Feature	PXle-8822	PXle-8842	PXle-8862	PXle-8862 with Removable Drive
Storage	512 GB (or greater) M.2, NVMe SSD			960 GB U.2, NVMe SSD
Video	1 DisplayPort 1.4		2 DisplayPort 1.4	
Ethernet	1 i225 port, 1588, 10M/100M/1000M/2.5G Base-T	2 i225 port, 1588, 10M/100M/1000M/2.5G Base-T		
PCI Express Link Speed	2.5 GT/s	5.0 GT/s	8.0 GT/s	
PXI Express 4 Link Configuration	x4, x4, x4, x4			
PXI Express 2 Link Configuration	x8, x8			
GPIB (IEEE 488 Controller)	N/A	1 mini-GPIB (optional)		
Serial Port (RS-232)	1 DB-9			
Thunderbolt 4 Ports	N/A	1 Type-C	2 Type-C	
Hi-Speed USB (2.0) Ports	2 Type-A	4 Type-A		
SuperSpeed USB (3.0) Ports	2 Type-A			
PXI Trigger Bus Input/Output	1 SMB			
Installed Operating System	Windows 10 IOT, Windows 11 IOT, or Linux RT			
Trusted Platform Module	Optional TPM 2.0 (Infineon/ST TPM for global market, NationsTech TPM for China market)			

Electrical



Notice These specifications do not include any attached devices.

Table 2. PXIe-8822 Electrical

Voltage (V)	Current (Amps) Typical	Current (Amps) Maximum
+3.3 V	1.2 A	2.6 A
+5 V	0.5 A	2.5 A
+12 V	4.5 A	7 A
+5 Vaux	0.3 A	0.6 A

Table 3. PXIe-8842 Electrical

Voltage (V)	Current (Amps) Typical	Current (Amps) Maximum
+3.3 V	1.2 A	2.6 A
+5 V	0.9 A	3 A
+12 V	5.1 A	7.1 A
+5 Vaux	0.4 A	0.7 A

Table 4. PXIe-8862 Electrical

Voltage (V)	Current (Amps) Typical	Current (Amps) Maximum
+3.3 V	1.4 A	3.3 A
+5 V	1.2 A	3 A
+12 V	7.1 A	8.5 A
+5 Vaux	0.4 A	0.9 A

Table 5. PXIe-8862 with Removable Drive Electrical

Voltage (V)	Current (Amps) Typical	Current (Amps) Maximum
+3.3 V	0.7 A	1.7 A
+5 V	1.2 A	3 A
+12 V	7.7 A	8.5 A

Voltage (V)	Current (Amps) Typical	Current (Amps) Maximum
+5 Vaux	0.4 A	0.9 A



Notice Power delivered to external loads through USB and Thunderbolt 4 ports should be included in system power budgets that include this controller module and peripheral modules.

Physical Characteristics

Table 6. Dimensions, Slot Requirements, Compatibility

Board dimensions	Four-wide 3U PXI Express module
Slot requirements	One system slot plus three controller expansion slots
Compatibility	Fully compatible with PXI Express Specification 1.0

Table 7. Weight

PXIe-8822	728 g (1.60 lb) typical
PXIe-8842	753 g (1.66 lb) typical
PXIe-8862	783 g (1.73 lb) typical
PXIe-8862 with removable drive	906 g (2.00 lb) typical

Front Panel Dimensions

The following figures show the front panel layout and dimensions of the PXIe-8822/8842/8862. Dimensions are in inches (millimeters).

Figure 8. PXle-8822 Front Panel Layout and Dimensions

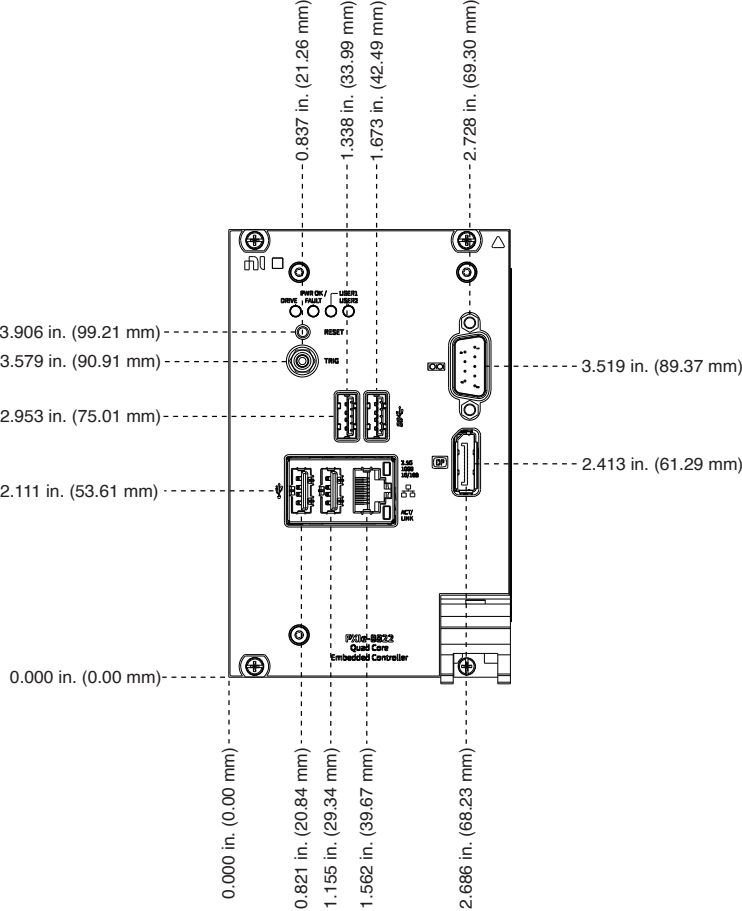


Figure 9. PXle-8842 Front Panel Layout and Dimensions

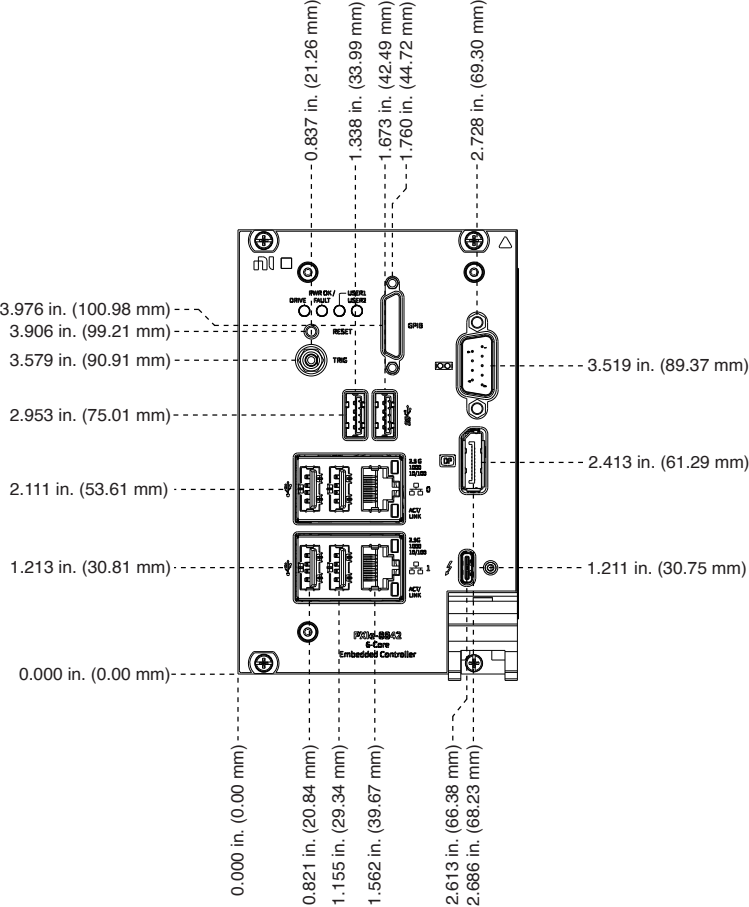


Figure 10. PXle-8842 Without GPIB Front Panel Layout and Dimensions

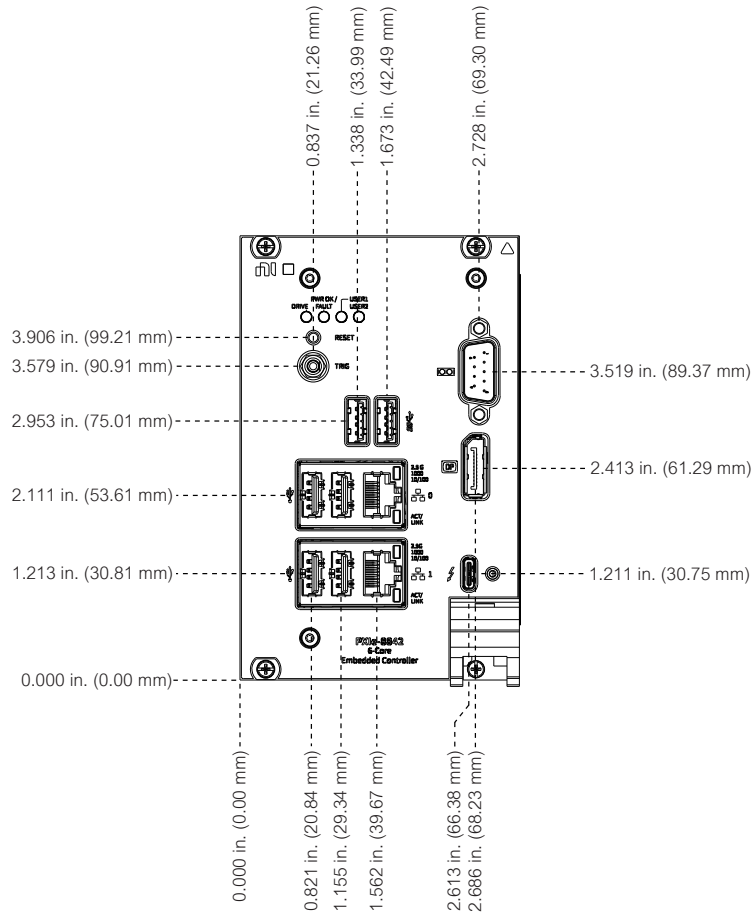


Figure 11. PXle-8862 Front Panel Layout and Dimensions

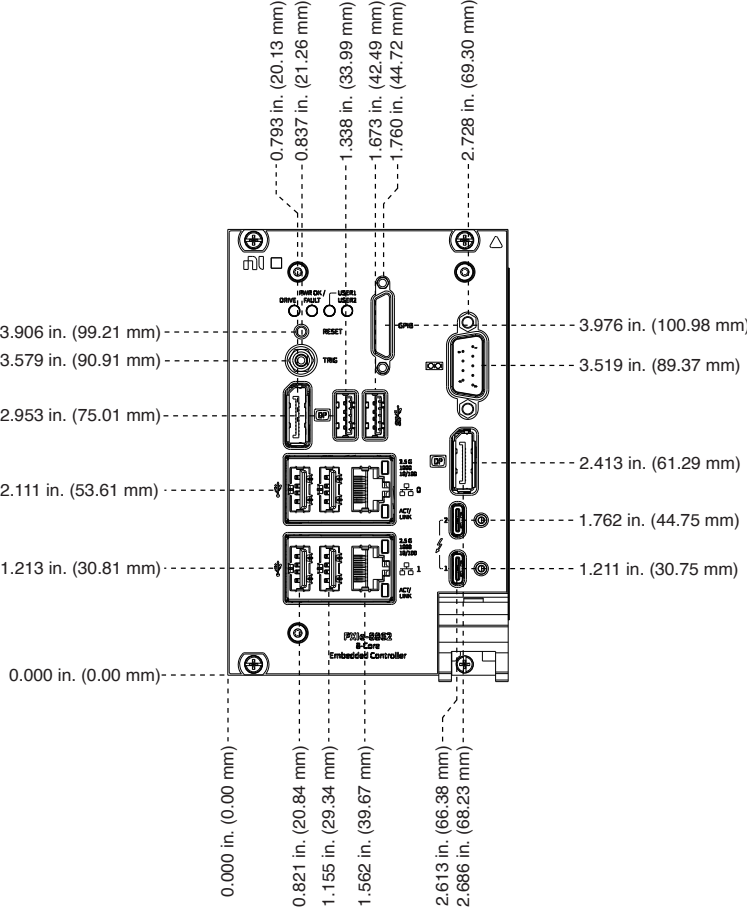


Figure 12. PXIe-8862 Without GPIB Front Panel Layout and Dimensions

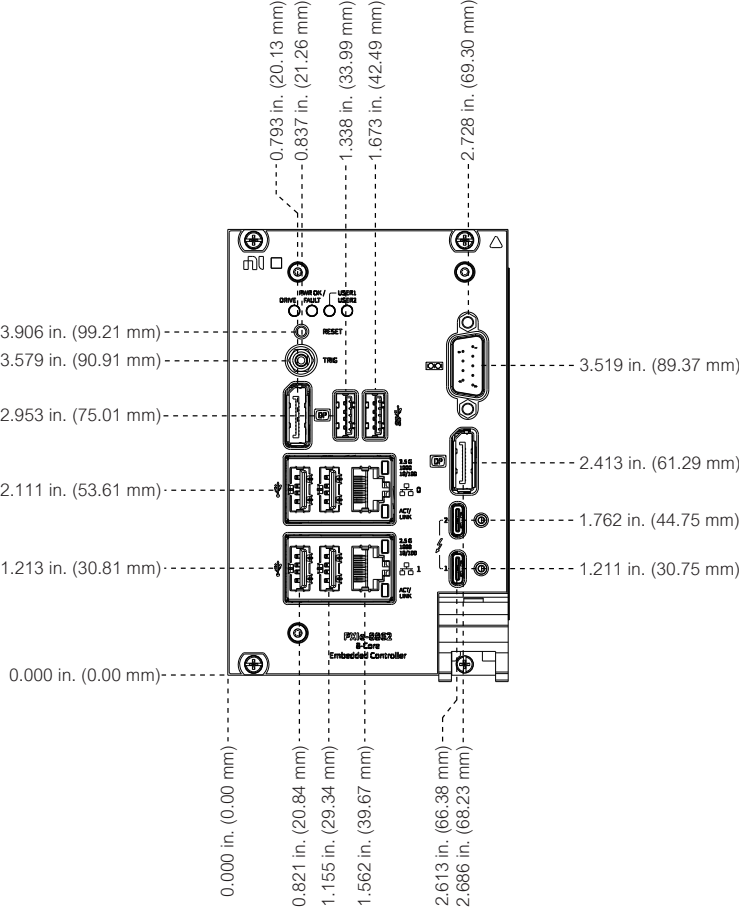


Figure 13. PXle-8862 with Removable Drive Front Panel Layout and Dimensions

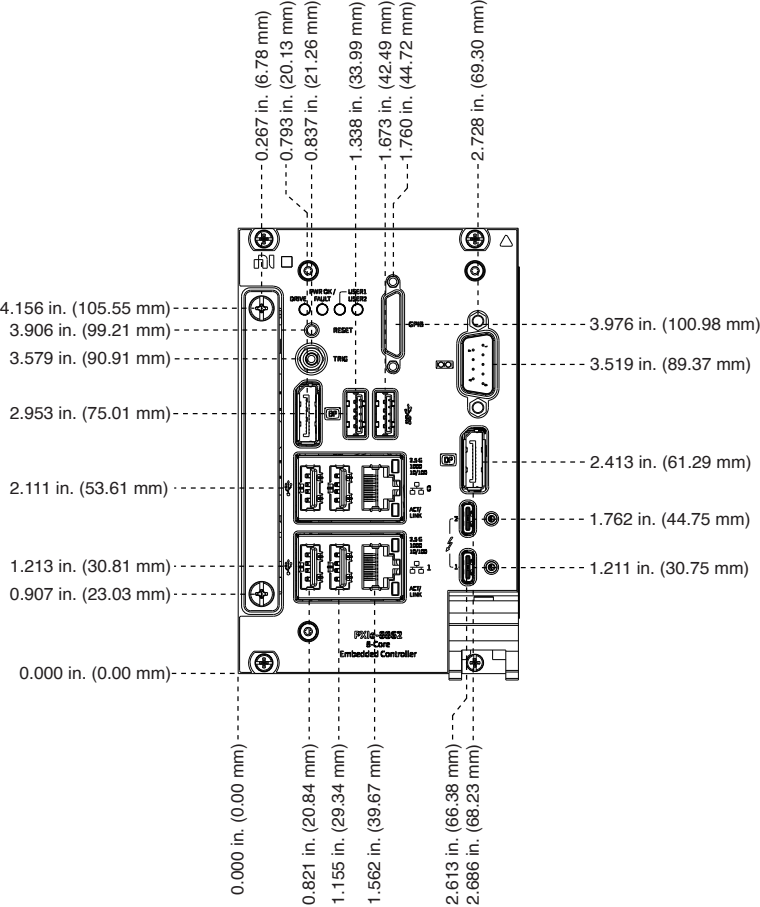
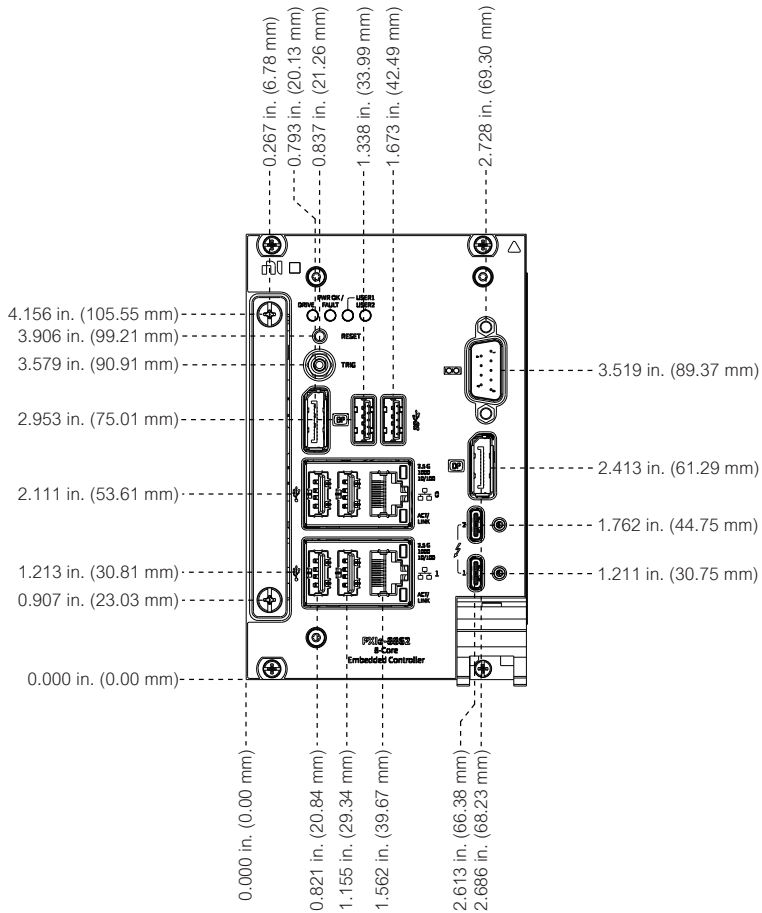


Figure 14. PXle-8862 with Removable Hard Drive and Without GPIB Front Panel Layout and

Dimensions



Environmental

Table 8. Environmental Characteristics

Maximum altitude	4,600 m (570 mbar) (at 25°C ambient) with chassis fans on high
Pollution Degree	2
Indoor use only.	

Operating Environment



Caution The operating temperature must not be exceeded, even when used in a chassis with a higher temperature range.

Table 9. Operating Environment

Ambient temperature	0 °C to 55 °C
---------------------	---------------

range	
Relative humidity range	10% to 90%, noncondensing

Storage Environment

Table 10. Storage Environment

Ambient temperature range ¹	-40 °C to 71 °C
Relative humidity range	5% to 95%, noncondensing

Shock and Vibration

Table 11. Shock and Vibration

Operating shock	30 g peak, half-sine, 11 ms pulse
Random vibration, operating	5 Hz to 500 Hz, 0.3 g _{rms} (with solid-state hard drive)
Random vibration, nonoperating ²	5 Hz to 500 Hz, 2.4 g _{rms}

1. CPU performance may decrease for some workloads if a unit is stored at the extreme ambient temperature range and then subjected to max nonoperating random vibration limits.
2. CPU performance may decrease for some workloads if a unit is stored at the extreme ambient temperature range and then subjected to max nonoperating random vibration limits.