

SEL-3360



Rugged, versatile computing platform for utility and industrial applications

- Configurable as a Blueframe® application platform or an industrial computer running a Microsoft Windows or Linux OS.
- Powerful and compact surface-mount model with an Intel Xeon quad-core 2.0 GHz or 2.8 GHz processor.
- Durable design and broad operating temperature ranges from -40°C to $+75^{\circ}\text{C}$ (-40°F to $+175^{\circ}\text{F}$), depending upon the model.
- High-quality single-level cell (SLC) SSDs and error-correcting code (ECC) memory.
- Worldwide ten-year warranty, local technical support, and no-charge diagnostic and repair services.





Compact Design, Powerful Computation

Not every work environment has ideal conditions. Your equipment might endure anything from electro-magnetic interference, shock, and vibration to extremely hot or cold temperatures.

That's why we designed the SEL-3360—a powerful computing platform with an Intel Xeon quad-core processor that operates reliably in the harshest conditions.

Broad operating temperature ranges ensure the SEL-3360 will survive where other computers fail. The fanless design provides passive cooling with two mounting options. The standard chassis option passes heat to the ambient air through aluminum fins. For installations inside metal enclosures, the conduction-

cooled mounting option conducts heat directly to the wall of the enclosure, which is cooled by the outside air.

The compact size allows you to install the SEL-3360 in tight spaces. Between the two models, the SEL-3360S provides a smaller footprint, while the SEL-3360E offers room for expansion with a larger chassis, supporting up to two additional adapter cards and an internal power supply.

With exceptional reliability, SEL computing platforms operate with little or no maintenance, making them ideal for unattended operation. The SEL-3360 is a computer you can depend on to operate with the highest reliability in critical industrial processes.



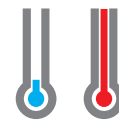
NO MOVING
PARTS



ECC RAM



SHOCK/
VIBRATION
RESISTANCE



BROAD OPERATING
TEMPERATURE
RANGE



SLC SSD
STORAGE



CONFORMAL
COATING



ESD
RESISTANCE

Reliable, Available, and Serviceable

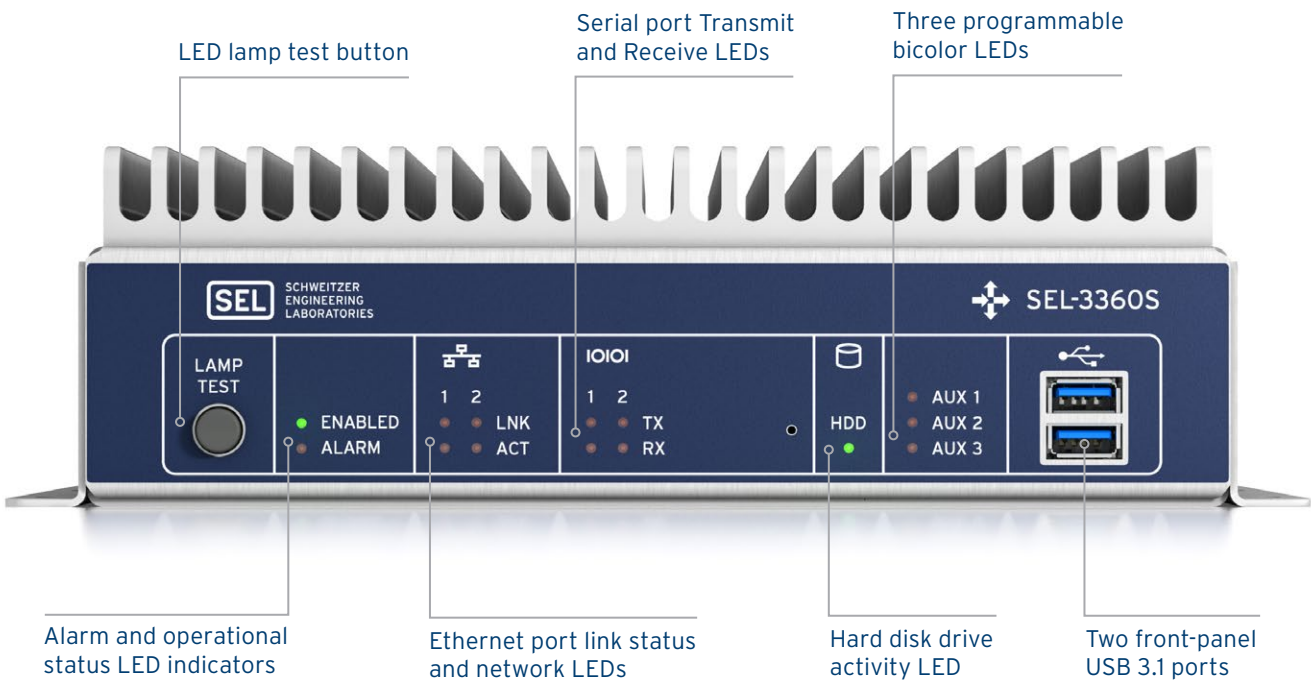
SEL computing platforms are similar to server-class computers with respect to RAS—reliability, availability, and serviceability. Industrial computer systems need to always be available and easy to service when necessary. SEL computing platforms satisfy these requirements in the following ways.

Reliability—We design, manufacture, and test every SEL computing platform in house. Our computing systems are exceptionally reliable. In addition, SEL computing platforms are backed by a ten-year, no-questions-asked warranty.

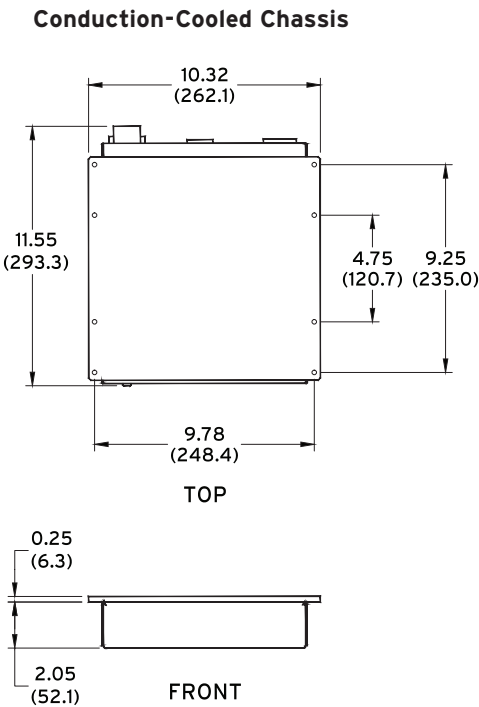
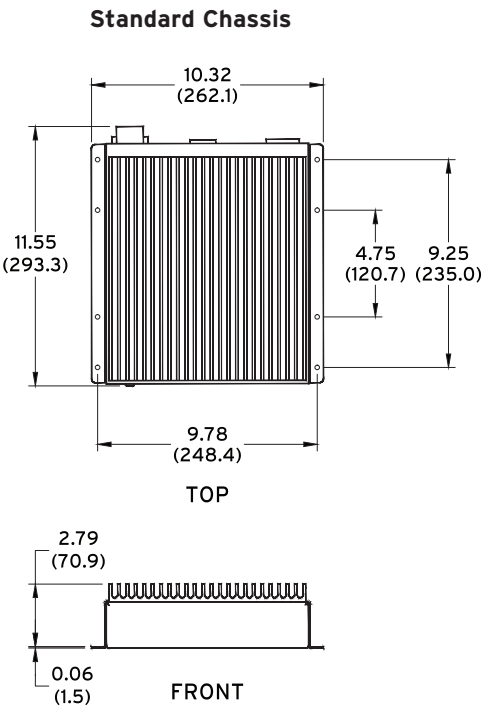
Availability—Intel vPro Active Management Technology (AMT) maximizes system availability and minimizes operational outages in the event of a system failure. Our computing platforms also feature SEL SysMon software and a watchdog timer to attempt automatic recovery when a failure occurs.

Serviceability—AMT lets you view diagnostic logs for evaluation and service even when the OS is shut down. You can restart into another OS for diagnostics or to batch install software and then bring the system back online, all remotely. Additionally, SysMon logs computing platform events specific to the installed system to aid in faster recovery. AMT's KVM-over-IP feature can provide hands-on help and guidance from an expert back at the central office, which can speed up serviceability.

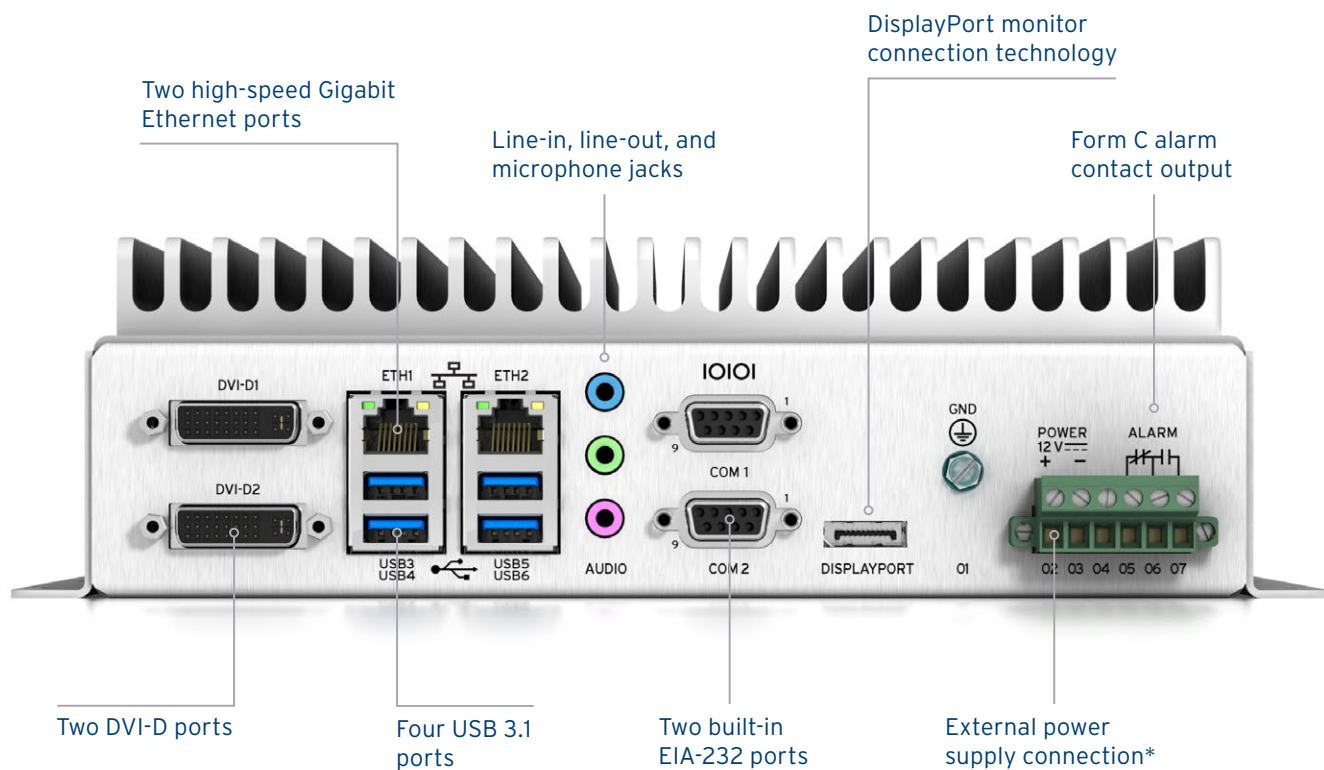
SEL-3360S Overview



Product Physical Dimensions



LEGEND
in
(mm)



Ports

Video

Intel HD Graphics P530 Controller

Independent display outputs: 3

DVI-D maximum resolution: 1920 × 1200 @ 60 Hz

DisplayPort 1.2 maximum resolution: 4096 × 2160 @ 60 Hz

Audio

IDT 92HD91 HD Audio Codec

3 analog 3.5 mm TRS jacks: line input, line/headphone output, microphone input

Intel Display Audio

DVI-D and DisplayPort connectors; digital audio bitstream output

USB

4 rear-panel, 2 front-panel ports

USB 3.1-compliant; 2,000 mA current limit each

Ethernet

2 rear-panel copper RJ45 ports

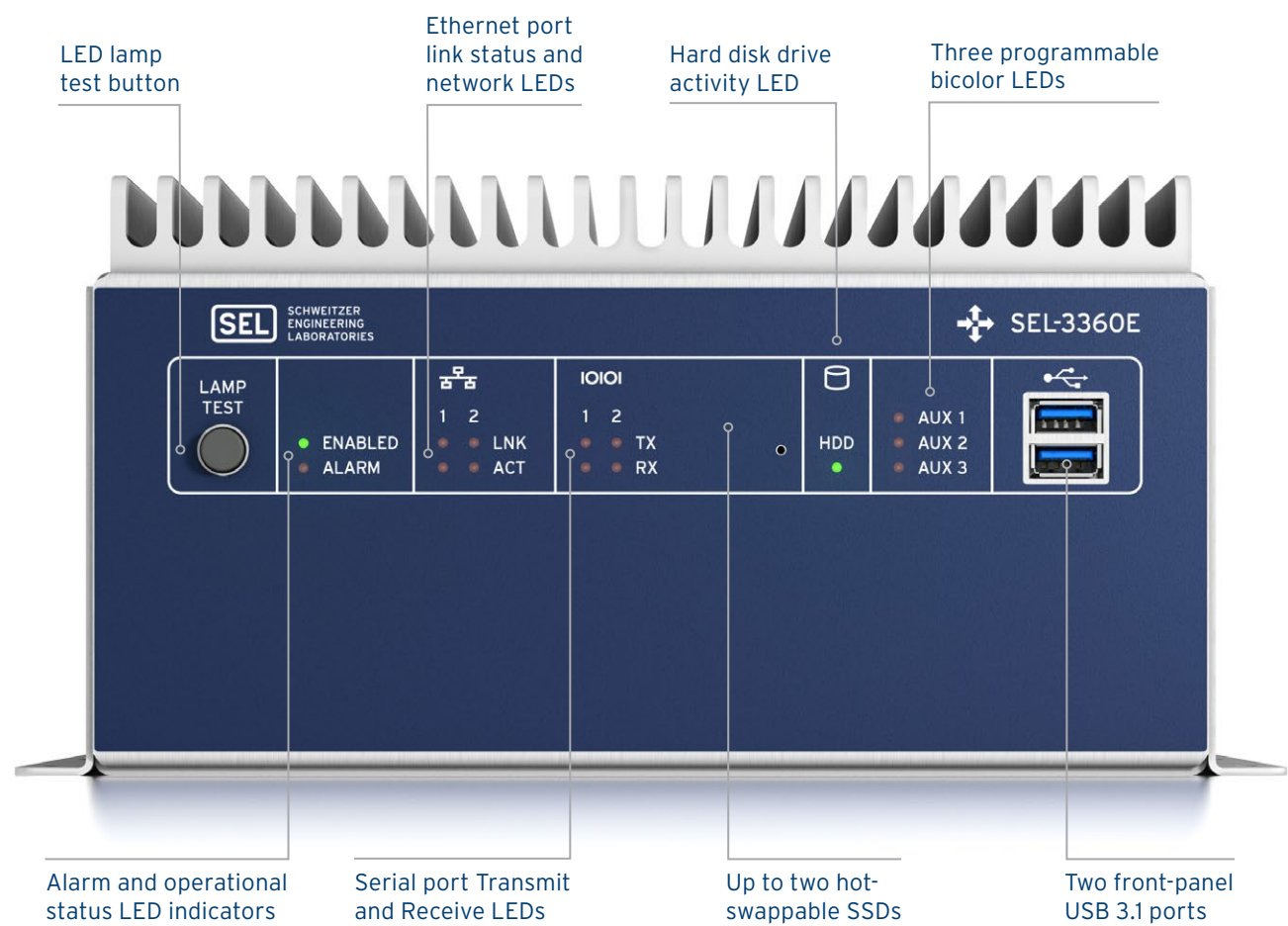
ETH1: Intel WGI219LM, 10/100/1000 Mbps

ETH2: Intel WGI210IT, 10/100/1000 Mbps

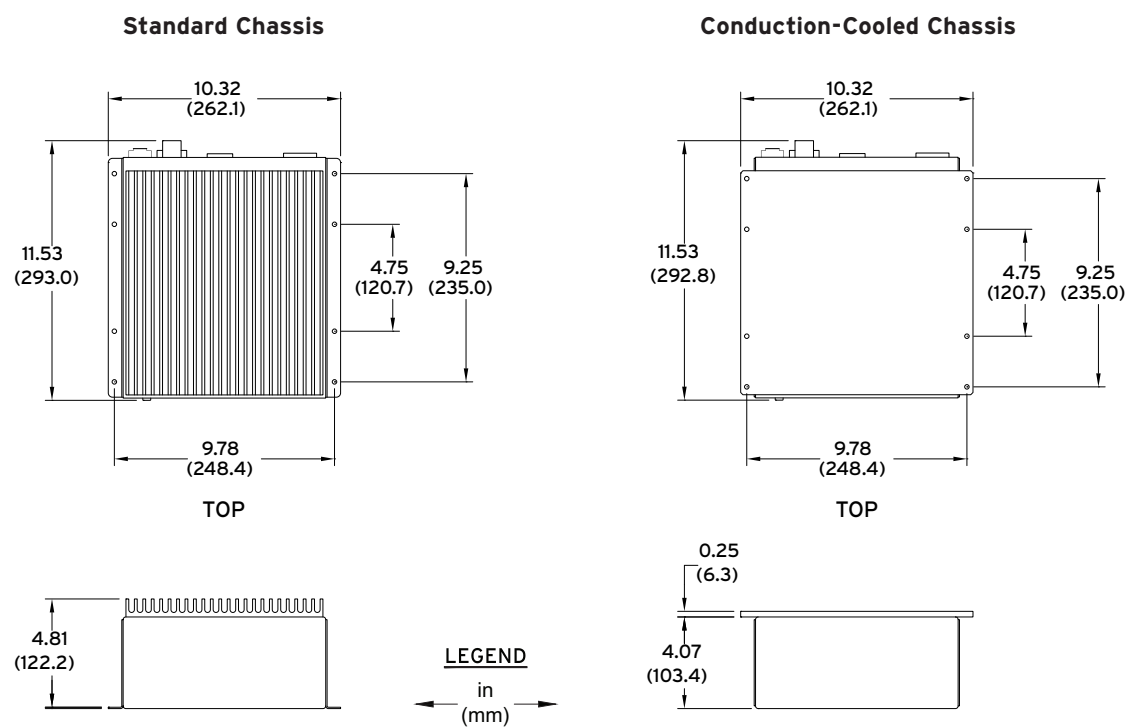
Serial

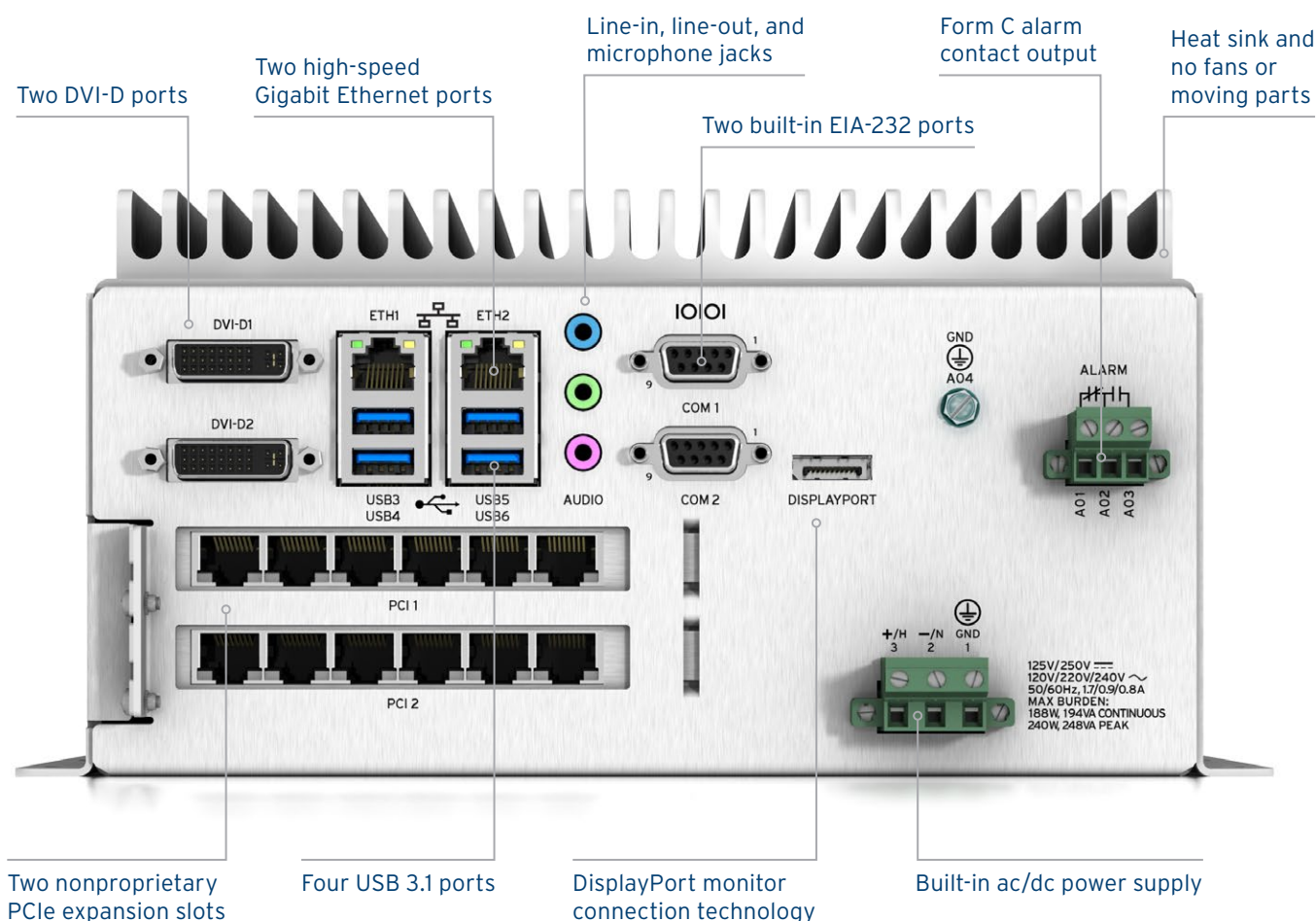
2 EIA-232 ports, DB-9 connectors, 300 to 115,200 bps; 5 V port power, 500 mA available on Pin 1

SEL-3360E Overview



Product Physical Dimensions

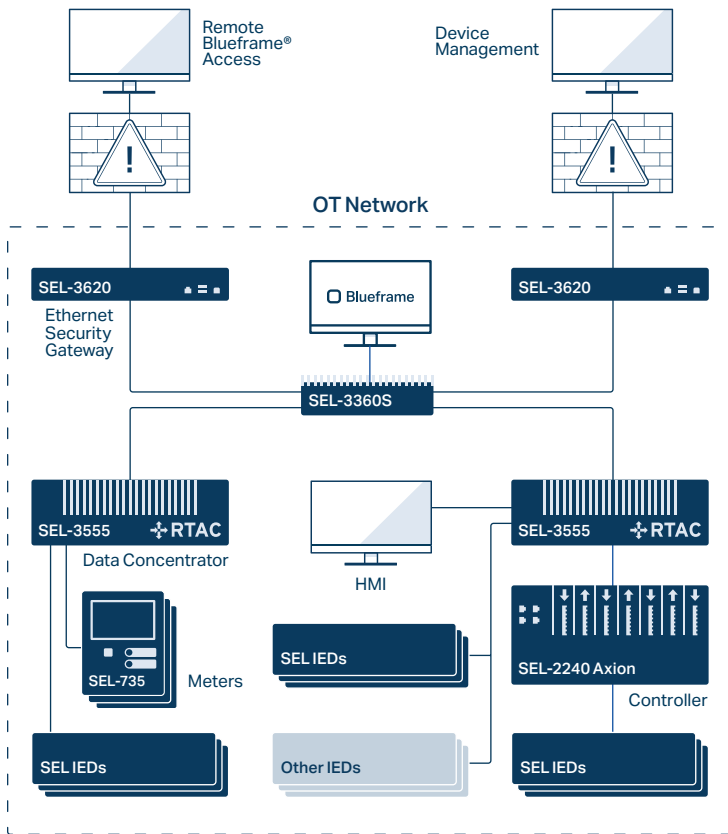




Ports

Video	Intel HD Graphics P530 Controller Independent display outputs: 3 DVI-D maximum resolution: 1920 × 1200 @ 60 Hz DisplayPort 1.2 maximum resolution: 4096 × 2160 @ 60 Hz
Audio	IDT 92HD91 HD Audio Codec 3 analog 3.5 mm TRS jacks: line input, line/headphone output, microphone input Intel Display Audio DVI-D and DisplayPort connectors; digital audio bitstream output
USB	4 rear-panel, 2 front-panel ports USB 3.1-compliant; 2,000 mA current limit each
Ethernet	2 rear-panel copper RJ45 ports ETH 1: Intel WGI219LM, 10/100/1000 Mbps ETH2: Intel WGI210IT, 10/100/1000 Mbps
Serial	2 EIA-232 ports, DB-9 connectors, 300 to 115,200 bps; 5 V port power, 500 mA available on Pin 1
Integrated Power Supply	125–250 Vdc or 120–240 Vac high-voltage input, or 48 Vdc low-voltage input
Expansion	Two PCI/PCIe expansion slots, enabling you to customize the system I/O to meet your application needs. Choose from a selection of SEL PCI/PCIe cards, or install a third-party expansion card.

Applications

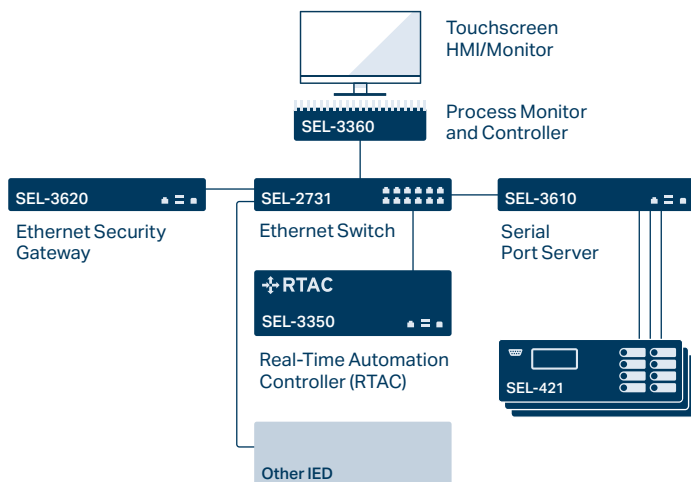


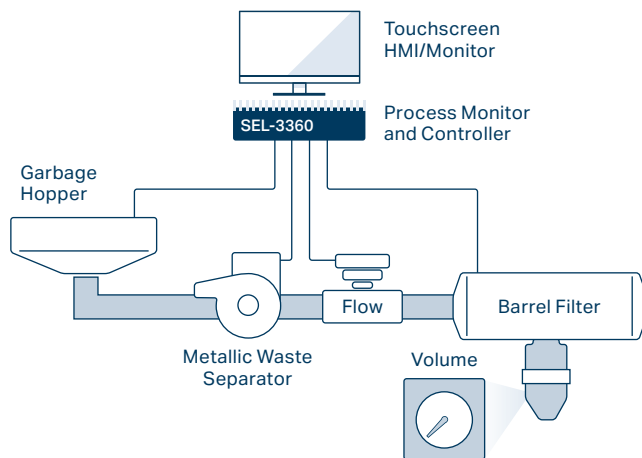
Blueframe

Improve your power system operational technology (OT) network management, simplify security patches, and ensure availability using the SEL Blueframe application platform. You can configure SEL computing platforms (SEL-3350, SEL-3355, and SEL-3360) with Blueframe to manage and operate SEL containerized applications, like Data Management and Automation (DMA) applications.

Remote Engineering Workstation

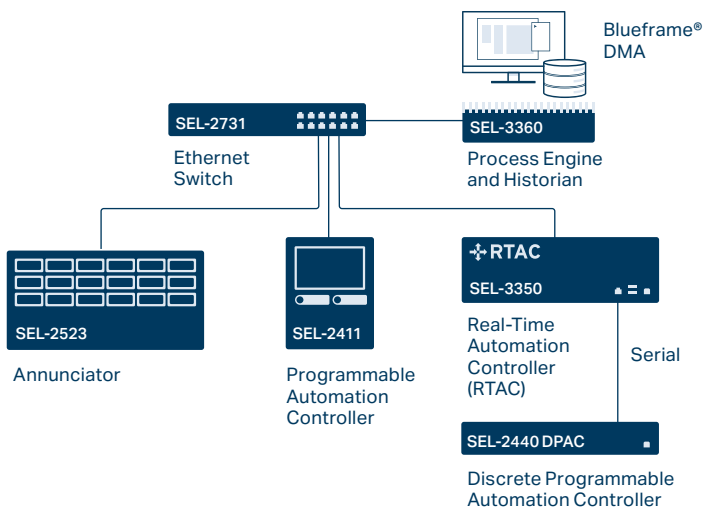
Choose an SEL computing platform as your engineering workstation, and get a reliable and robust system suitable for the harshest environments. You can view and change IED settings, view report and event data, and gain easy access to diagram drawings and documents onsite. With the Microsoft Windows Remote Desktop tool or Secure Shell (SSH), you can access the engineering workstation remotely and securely. For out-of-band access, you can use the AMT KVM-over-IP feature.





Industrial Process Control Platform

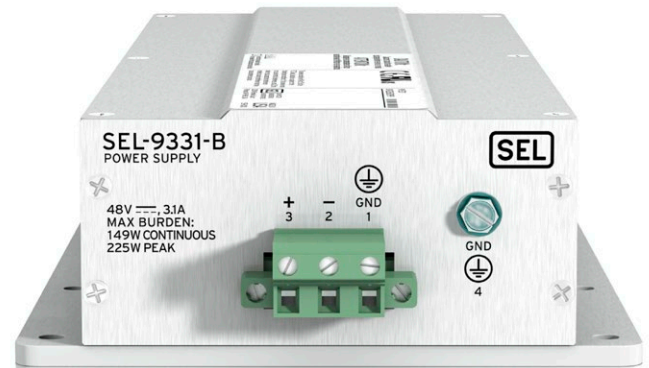
SEL computing platforms are perfect candidates for any industrial control system requiring the power of a rugged, reliable, highly available computer. SEL computing platforms allow you to implement a control system with your choice of SCADA software. With ample communications ports (serial or Ethernet), the SEL-3360 is also ideal for distributed control systems.



Data Archiver

Leverage the RAID capabilities of the SEL-3360 to store and access your critical data. You can host your favorite historian software for large data analysis projects or use an SEL computing platform with the DMA application suite to create a disturbance recording and monitoring system.

Accessories



Power Supplies

The SEL-9331 Power Supply is a high-output +12 Vdc power supply designed for SEL computing platforms and powerful enough to meet the needs of many other applications. Capable of producing 11 A of continuous current from -40° to $+85^{\circ}\text{C}$ and 17 A of maximum current, the SEL-9331 can provide ample power in environments where many supplies cannot.

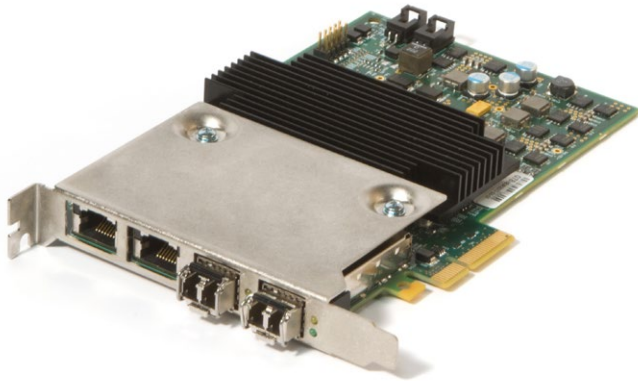
The SEL-3360E integrates one SEL-9331 internally. You can order the supply with either three-terminal Euro-style or C14 coupler input connectors. Three mounting options are available: panel-mount plate, horizontal DIN rail, and vertical DIN rail.



SSDs and Mounting Sled

SLC SSDs provide the most robust and reliable storage. With no moving parts and the highest write cycle count of any mass solid-state storage media, they provide more uptime and a higher return on investment. Wide operating temperature ranges ensure that these drives will continue to work in the harshest environments. All SLC drives are covered by the SEL ten-year worldwide warranty. All pSLC and 3D TLC SSDs are covered by a five-year warranty.

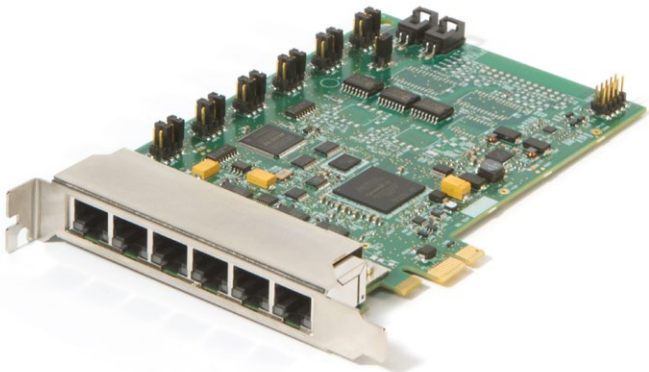
The drives come with mounting sleds already installed for easy insertion into the SEL-3360. You can also purchase spare mounting sleds. The sleds are compatible with 2.5-inch SATA hard-drive mounting holes.



SEL-3390E4 Ethernet Network Adapter Card

Compatible with the SEL-3360E, the SEL-3390E4 is a 10/100/1000 Mbps PCIe expansion card that is designed, built, and tested for use in harsh industrial and substation environments. The SEL-3390E4 provides a wide operating temperature range and immunity to ESD, shock, and vibration. You can also order it with conformal coating for corrosion immunity. The SEL-3390E4 complies with the PCIe form factor and works with other PCIe-compliant computers and controllers.

Choose one SEL-3390E4 PCIe x4 industrial PCIe Ethernet card for four additional independent Gb ports. You can select all copper, all LC fiber, or a mix of two copper and two fiber ports. The fiber ports use small form-factor pluggable (SFP) modules to support either single-mode or multimode operation at various transmit power levels on a per-port basis.



SEL-3390S8 Serial Adapter Card

Compatible with the SEL-3360E, the SEL-3390S8 is a PCIe-compliant expansion card that makes use of RJ45 ports instead of DB-9 ports for maximum serial I/O density. You can choose up to two SEL-3390S8 Cards for an additional twelve EIA-232/485 serial ports. The SEL-3390S8 supports IRIG-B input and output.



SEL-3390T Time and Ethernet Adapter Card

Compatible with the SEL-3360E, the SEL-3390T is a PCIe expansion card that adds precise time synchronization and distribution functionality to SEL computing platforms. The SEL-3390T allows these devices to directly synchronize with IRIG-B sources or over Ethernet using the hardware time-stamped Precision Time Protocol (PTP). It provides two Ethernet ports, one BNC input, and one BNC output for IRIG-B so you can source time from IRIG-B and Ethernet devices. The SEL-3390T complies with the PCIe form-factor and can also be installed in other PCIe-compliant computers and controllers.

SEL-3360 Specifications

General			
Supported Operating Systems	SEL OSs: RTAC [†] Blueframe*	System Operating Temperature Range	SEL-3360S With E3-1505L CPU: –40° to +75°C (–40° to +167°F) With E31505M CPU: –40° to +60°C (–40° to +140°F)
	Supported Third-Party OSs: Microsoft Windows 10* Microsoft Windows 11* Microsoft Windows Server* Red Hat Enterprise Linux (RHEL) CentOS Linux Ubuntu LTS Linux SUSE Linux VMware ESXi	Time-Code Input/Output	Base IRIG-B input on COM1 Optional SEL-3390S8 Serial Adapter Card RJ45 serial port; demodulated IRIG-B (TTL-compatible); output generated from IRIG-B input or SEL-3355 clock SEL-3390T Time and Ethernet Adapter Card Synchronize with IRIG-B sources or over Ethernet using the hardware time-stamped PTP. Provides one BNC input, one BNC output for IRIG-B, and two Ethernet ports.
CPU	SEL-3360E and SEL-3360S Intel Xeon E3-1505L Quad-Core Speed: 2.0 GHz base, 2.8 GHz turbo Cache: 1 MB L2, 8 MB L3 SEL-3360S Only Intel Xeon E3-1505M Quad-Core Speed: 2.8 GHz base, 3.7 GHz turbo Cache: 1 MB L2, 8 MB L3		
RAM	Xeon E3: 4, 8, 16, 32, or 64 GB DDR4 ECC PC4-17000 (2,133 MHz)		
Chipset	Intel CM236 Express Chipset		
Mass Storage	1 internal drive bay with up to two 2.5" SSDs, 32–7,680 GB each SATA II 3.0 Gb/s; RAID level 0, 1; hot-swap support		
Adapter Card Slots	Two PCIe expansion slots. PCI 1: x1 slot; PCI 2: x4 slot (SEL-3360E only)		
Real-Time Clock/Calendar	Battery type: IEC No. BR2335 Lithium 10 years with power (2 years without power)		
BIOS	AMI UEFI		
Trusted Platform Module (TPM)	Infineon SLB 9670AQ TPM 2.0		
Intel AMT		Intel AMT 11.0	
Input Power		SEL-3360S Input: 12 Vdc Voltage range: 10–16.6 Vdc Typical burden: 25 W Max. burden: 144 W (cold startup) Peak inrush: 15 A SEL-9331: External (optional) SEL-3360E Input: 125–250 Vdc, 120–240 Vac, or 48 Vdc Typical burden: 48 W Max. burden: 157 W (cold startup) Peak inrush: 15 A SEL-9331: Internal	
Certifications		ISO 9001: Designed, manufactured RoHS CE: CE Mark EMC Directive, Low-Voltage Directive UL, cUL: 61010-1, C22.2 No. 61010-1 RCM FCC: 47 CFR 15B, Class A UKCA	

[†]Available via SEL-3533 RTAC Conversion Kit.

*Orderable as a factory-installed option.



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