



Industrial Communications

DIN railed Series for Renewable Energy and Industrial Automation



Selection Guide



LEC-3 Series		LEC-3000A	LEC-3010	LEC-3012	LEC-3012-A
Processor Options		VIA Eden ULV 1 Ghz	Intel® Atom™ N450 (1.66 GHz)	Intel® Atom™ N455 (1.66 GHz)	Intel® Atom™ N455 (1.66 GHz)
Chipset		VIA VX800	Intel ICH8M	Intel ICH8M	Intel ICH8M
BIOS		AMI Flash BIOS	AMI 8 Mbit SPI Flash ROM BIOS	AMI 8 Mbit SPI Flash ROM BIOS	AMI 8 Mbit SPI Flash ROM BIOS
System Memory	Sockets	1 x 200-pin DDR2 SODIMM	1 x 200-pin DDR2 SODIMM	1 x 204-pin DDR3 SODIMM	1 x 204-pin DDR3 SODIMM
	Technology	DDR2 SODIMM x1	DDR2 SODIMM x1	DDR3 SODIMM x1	DDR3 SODIMM x1
	Max. Capacity	2 GB	2 GB	2 GB	2 GB
USB		USB 2.0 compliant hosts x 4, Type A connector, internal pin-connector x 2	USB 2.0 compliant hosts x 2, Type A connector, internal pin-connector x 2	USB 2.0 compliant hosts x 2, Type A connector, internal pin-connector x 2	USB 2.0 compliant hosts x 2, Type A connector, internal pin-connector x 2
OS Support		Window XP Embedded, Linux	Window XP Embedded, Linux	Window XP Embedded, Linux	Window XP Embedded, Linux
Networking	LAN	2 x 10/100/1000 Mbps, Autosensing, RJ45	4 x 10/100/1000 Mbps, Autosensing, RJ45	2 x 10/100/1000 Mbps, Autosensing, RJ45	2 or 4 x 10/100/1000Mbps, Autosensing, RJ45
	Magnetic Isolation Protection	1.5 KV built-in	1.5 KV built-in	1.5 KV built-in	1.5 KV built-in
Serial Interface	Serial Standard	2 x 10 pin terminal block for 4 x RS-232/422/485	1 x 10, 2 x 10 pin terminal block for 6 x RS-232/422/485	1 x DB9 for RS-232, 2 x 10pin terminal block for 4 x RS-232/422/485	1 or 2 x 10 pin terminal block for 4, 6 or 8 x RS-232/422/485
	ESD Protection	None	15 KV for all signals	15 KV for all signals	15 KV for all signals
	Isolation Protect	None	None	2 KV Optically isolation	None
Digital I/O	Digital Input	4 x DI	4 x DI	4 x 2KV Optically isolation	None
	Digital Output	4 x DO	4 x DO	4 x 2KV Optically isolation	None
Display	Display Interface	DB15 x 1 for VGA (2048 x 1536)	DB15 x 1 for VGA (2048 x 1536)	DB15 x 1 for VGA (2048 x 1536)	DB15 x 1 for VGA (2048 x 1536)
Weight		1 kg	1.7 kg	1.7 kg	1.7 kg
Dimensions (W x H x D)		60 x 165 x 126 mm	60 x 165 x 127 mm	69 x 169.5 x 127 mm	69 x 170 x 127 mm
Environment	Operating Temperature	-10~55°C/14~131°F	-10~55°C/14~131°F	-10~55°C/14~131°F	-20~55°C/4~131°F
	Storage Temperature	-20~80°C	-20~80°C	-40~80°C	-40~80°C
Power	Input Voltage	+12~36 V DC	+12~36 V DC	+12~36 V DC	+12~36 V DC
Reliability	Alter tool	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup
	Automatic Reboot Trigger	Watchdog Timer 1~255 level time interval system reset, software programmable	Watchdog Timer 1~255 level time interval system reset, software programmable	Watchdog Timer 1~255 level time interval system reset, software programmable	Watchdog Timer 1~255 level programmable
Ordering Information		LEC-3000A	LEC-3010	LEC-3012	LEC-3012-A4/A6/A8



LEC-3 / 6 Series		LEC-3013	LEC-3020A	LEC-6020A	LEC-6020B
Processor Options		Intel® Atom™ N270 (1.6 GHz)	Intel® Atom™ N2600 (1.6 GHz)	Intel® Atom™ N2600 (1.6 GHz)	Intel® Atom™ N2600 (1.6 GHz)
Chipset		Intel ICH8M	Intel NM10	Intel NM10	Intel NM10
BIOS		AMI Flash BIOS	AMI Flash BIOS	AMI Flash BIOS	AMI Flash BIOS
System Memory	Sockets	1 x 204-pin DDR2 SO-DIMM	1 x 204-pin DDR3 SO-DIMM	1 x 204-pin DDR3 SO-DIMM	1 x 204-pin DDR3 SO-DIMM
	Technology	DDR2 SO-DIMM x1	DDR3 SO-DIMM x1	DDR3 SO-DIMM x1	DDR3 SO-DIMM x1
	Max. Capacity	2 GB	2 GB	2 GB	2 GB
USB		USB 2.0 compliant hosts x 4, Type A connector, internal pin-connector x 2	USB2.0 compliant, 2 x Type A connector, 1 x internal Type A connector, 2 x internal pin header	USB 2.0 compliant hosts x 3, Type A connector, internal pin-connector x 1	USB 2.0 compliant hosts x 3, Type A connector, internal pin-connector x 1
Expansion Bus		None	Mini-PCIe	Mini-PCIe	None
OS Support		Window 7, XP Embedded, Linux	Window 7, XP Embedded, Linux	Window 7, XP Embedded, Linux	Window 7, XP Embedded, Linux
Networking	LAN	2 or 4 x 10/100/1000 Mbps Autosensing, RJ45	3 x 10/100/1000 Mbps, Autosensing, RJ45	3 x 10/100/1000 Mbps, Autosensing, RJ45	5 x 10/100/1000 Mbps, Autosensing, RJ45
	Magnetic Isolation Protection	1.5 KV built-in	1.5 KV built-in	1.5 KV built-in	1.5 KV built-in
Serial Interface	Serial Standard	1 or 2 x 10 pin terminal block for 4, 6 or 8 x RS-232/422/485	2 x 10 pin terminal block for 4 x RS-232/422/485	2 x 10 pin terminal block for 4 x RS-232/422/485, 1 x internal header (RS232 only)	None
	ESD Protection	15 KV for all signals	15 KV for all signals	15 KV for all signals	15 KV for all signals
	Isolation Protect	None	None	None	None
Digital I/O	Digital Input	None	None	None	None
	Digital Output	None	None	None	None
Display	Display Interface	DB15 x 1 for VGA (2048 x 1536)	Internal pinheader	Internal pinheader	Internal pinheader
Weight		1.7 kg	1 kg	1 kg	1 kg
Dimensions (W x H x D)		69 x 170 x 127 mm	65 x 146 x 127 mm	65 x 146 x 127 mm	65 x 146 x 127 mm
Environment	Operating Temperature	-20~55°C	-40~75°C	-40~75°C	-40~75°C
	Storage Temperature	-40~80°C	-40~85°C	-40~85°C	-40~85°C
Power	Input Voltage	12~36 V DC	12~36 V DC	12~36 V DC	Dual Power Input 12~36 V DC
Reliability	Alter tool	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup	Built-in buzzer and RTC (real-time clock) with lithium battery backup
	Automatic Reboot Trigger	Watchdog Timer 1~255 level	Watchdog Timer 1~255 level	Watchdog Timer 1~255 level	Watchdog Timer 1~255 level
Ordering Information		LEC-3013-A4/A6/A8	LEC-3020A	LEC-6020A	LEC-6020B

Lanner's Full Range of DIN-railed Industrial Automation Platforms

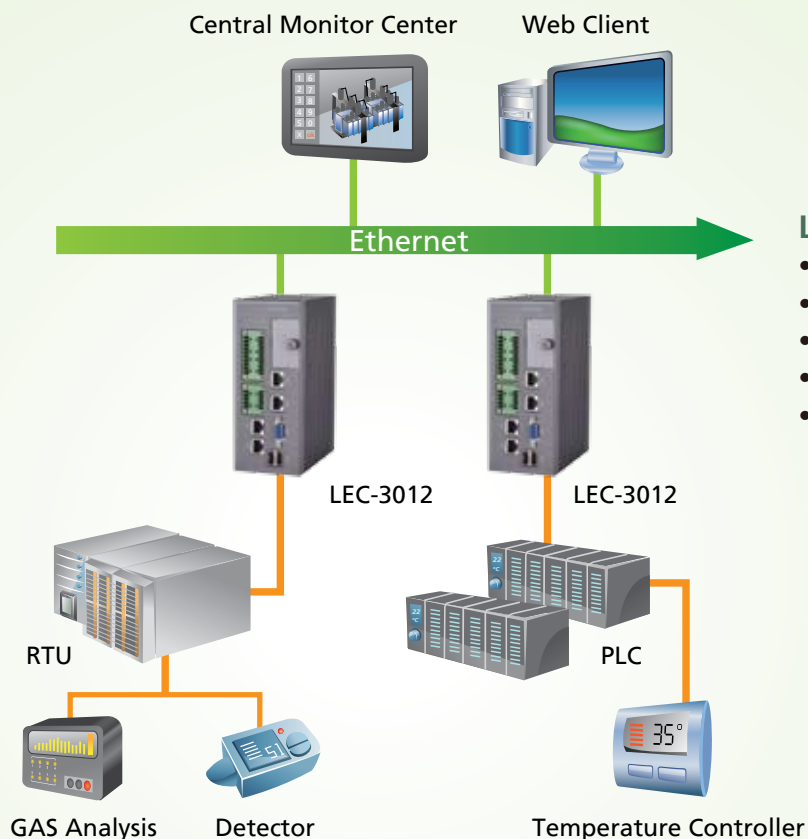
LEC-3000 Series

Lanner's LEC-3000 series is the answer to the increasing demand for extremely robust and power-efficient hardware designed and manufactured specifically for industrial automation. This series includes both DIN-railed and rack-mount platforms; and the DIN-railed models are the LEC-3000, the LEC-3010, the LEC-3012 (4 SKUs), the LEC-3013 (3 SKUs) and the LEC-3020 (2 SKUs), all positioned as complete solutions for applications in power and energy, transportation and environmental facility management system.

Industrial Automation Gateway



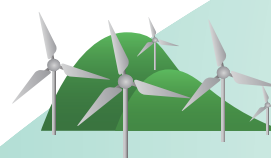
The LEC-3012 gateway is a perfect gatekeeper for Facility Management and Control Systems (FMCS). The LEC-3012 will alert the Central Monitor Center and Web Client station immediately when critical events occur. It is also a protocol translator for environmental sensors and controllers, for example gas detectors or temperature controllers. The LEC-3012 also provides advanced protection including isolated serial port and I/O, 15 KV ESD protection for all signals and 2 KV EFT or surge protection for power.



LEC-3012 Features

- Critical events alert
- Protocol transfer
- Isolated serial port & I/O
- 15 KV ESD protection for all signals
- 2 KV EFT/surge protection for Power

- Wind Power



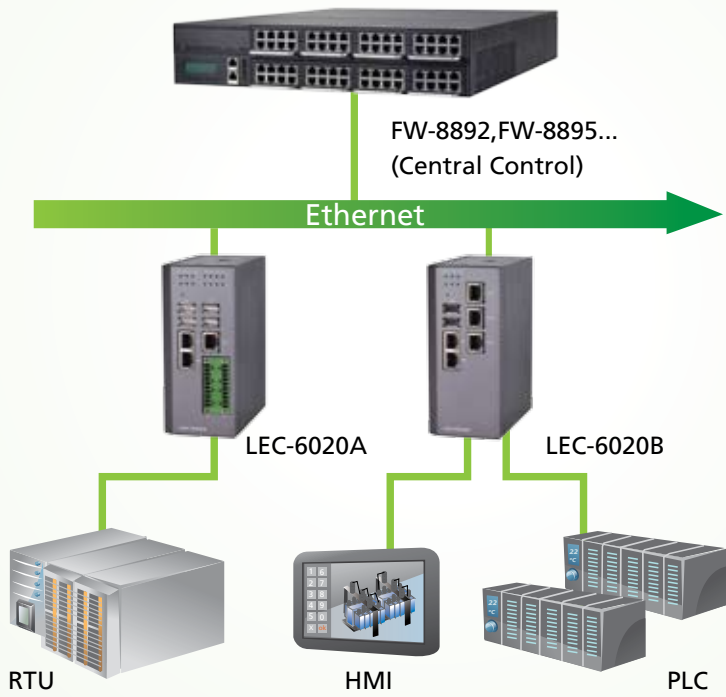
LEC-6000 Series

Combining Lanner's core competence in network security with extensive experience in industrial automation, the LEC-6000 Series is the perfect choice to provide network security protection for industrial automation or power communication application. This series is a Fanless DIN Rail Industrial Security Platform with Intel® Atom™ N2600 CPU. It includes 3 or 5 GbE ports with 1 or 2 pairs of ports equipped with LAN Bypass, 4 COM ports (LEC-6020A only) and 4 or 2 USB ports.

Security System



The LEC-6020 is designed for cyber security in industrial control systems. It performs as an industrial firewall, provides a whitelisting function, and alerts the system administrator when abnormal network events occur. It also functions just like a gateway to pass data from remote sites to a control center. In addition, the LEC-6020A has a Mini-PCIe expansion slot which can connect RTUs and facility networks as a gateway controller. The LEC-6020B supports dual power inputs which allows connection to HMI and PLC as a gateway controller.



LEC-6020 Features

- Fanless Industrial PC
- Compact DIN rail form factor
- One or two pairs LAN bypass
- Wide operating temperature from -40~75°C
- Dual power inputs (LEC-6020B)
- Mini-PCIe expansion (LEC-6020A)
- Advanced protection, ESD & surge protection for industrial applications



• Solar Energy

• Building Automation

• Greenhouse Industry

• Industrial Automation

• Machine Control

• Freeway Automation

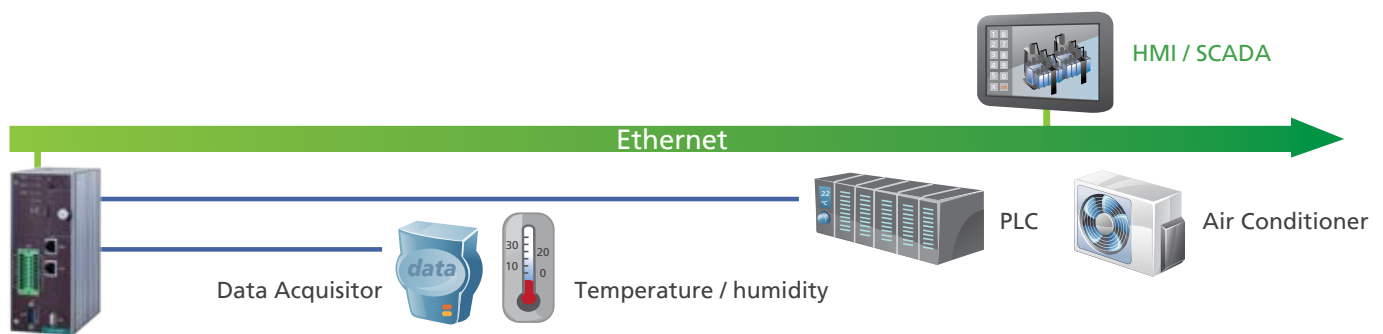
Application Stories

Lanner's Communication Platform in a Greenhouse Monitoring System

Appropriate environmental conditions are necessary for optimum plant growth, improved crop yields, and efficient use of water and other resources. Today, advances in sensors, actuators, data acquisition modules and gateway technology, both in hardware and software, have enabled distributed implementation of sensor and control action over sensor/actuator networks. By automating the data acquisition process of the variables that govern plant growth, greenhouse monitoring can be performed efficiently and with minimal human intervention.

Modern greenhouse automation includes many subsystems, e.g. climate management, fertilization management, waste water treatment systems and so on. These systems are not only designed to help growers maximize crop yields, but also help with water conservation and energy savings. The LEC-301x series, with a rugged fanless design, clear LED indicators, and robust wiring, provides stable and reliable connectivity between local sensors, actuators and remote or central control systems.

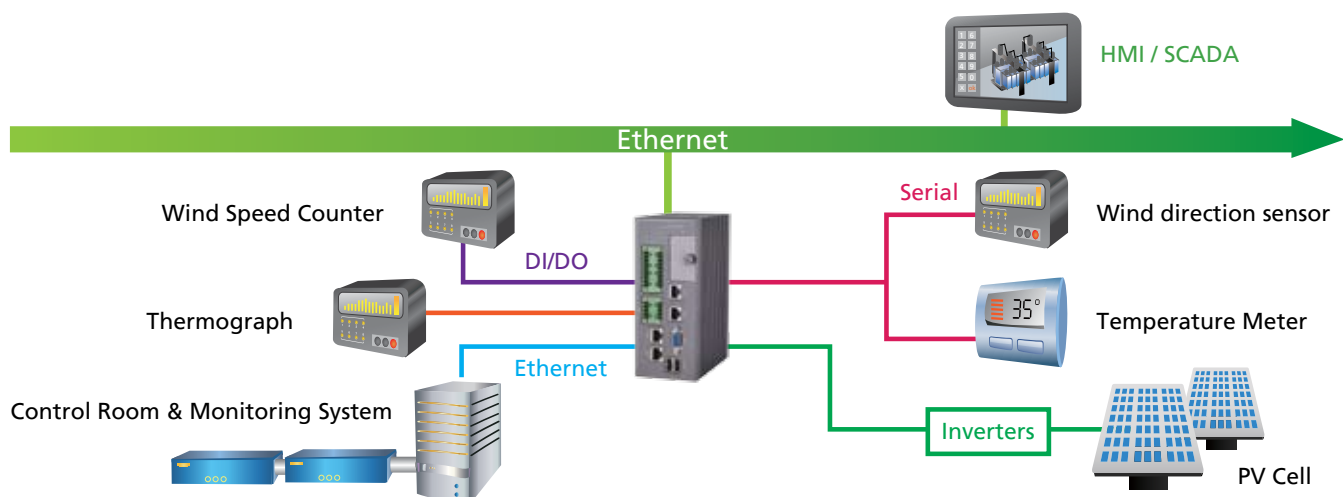
Lanner's LEC-3012-A6 provides up to 6 serial ports with ESD and surge protection and up to 4 Gigabit Ethernet ports with magnetic isolation protection to connect various devices and controllers, and collect and transfer their data to a remote control center. The process parameters, data display, remote control, system testing, event alert and system configuration can all be controlled using a standard Web browser or SCADA software on a remote workstation.



The Deployment of Lanner's Communication Platform in a Solar Farm Monitoring System

As energy demands around the world increase, the need for a renewable energy source that will not harm the environment has never been greater. Some projections indicate that global energy demand will almost triple by 2050. Using photovoltaic (PV) cells is one way to meet this need, converting sunlight directly into electricity with no moving parts and no harmful pollution. There are lots of sub-systems and components, including wide range inverters, control and monitoring systems; all of which need to be designed to endure harsh environmental conditions.

The product offerings of Lanner's Industrial Communications division pass serious EMC regulation, IEC-61850-3 and China's Electronic Power Level 4 certification. LEC-3012 leverages the design concept and knowledge of these power and energy applications and provides outstanding protection. The built-in optical isolation, 4 x RS-232/485 ports, 4 x Digital I/O, and 4 x magnetically isolated Gigabit Ethernet ports can connect to sensors, actuators, data acquisition modules and calculate the local data and transfer these back to control room and monitor center. DIN rail-mountable, able to operate under a wide range of temperatures, and robustly built, the LEC-3012 is ideal for solar power monitoring.



Why Lanner?

Wide Selection of Industrial PCs

Lanner Engineers have used their wealth of experience in creating a broad line of IPCs that can be stand alone products in harsh industrial as well as commercial settings. The clever chassis design gives enough heat dissipation to cool most Lanner IPCs, while the hinged bottom chassis and externally accessible CF sockets are often praised by our customers. With a wide selection of IPCs, we have products for many niche applications, including: in-vehicle computing, video surveillance, SCADA communication relays, factory automation, machine vision, digital signage, DVRs, and many more.



Strong Allies

Intel

Lanner Electronics is an Associate Member of the Intel Embedded Alliance. This alliance is committed to developing modular standard driven solutions based on technologies, processors, products, and services from Intel. Intel provides standard Intel-based industry building blocks to help create better quality systems. These modular blocks allow members of the Alliance to produce products with enhanced performance, greater scalability, and maximum flexibility. Intel helps the Embedded Alliance Partners by offering profitable new communications services and lower infrastructure costs.



Microsoft

As a Windows Embedded Partner, Lanner is given early access to product plans, Microsoft information events and the latest embedded developments. In 2011 and 2012, Lanner was awarded the Windows Embedded Partner of the Year.

Lanner

More Information



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