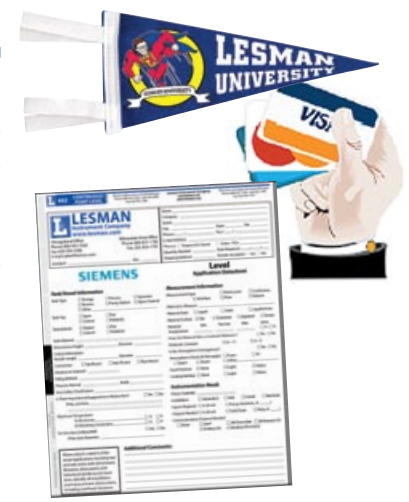


We know that it takes more than a good product to keep our customers happy. So, we strive to bring you the services and support you need to keep your instrumentation in working order, and keep your process running at top efficiency. Read more here, and learn even more online at [Lesman.com](http://www.lesman.com).

Looking for products from RAECO, our partner for industrial hygiene, safety, and environmental instrumentation? Just flip this book over for their most popular portable and fixed instruments.



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Looking for application datasheets? Want to learn more? Visit us online at www.Lesman.com

Terms and Conditions

Disclaimer of Warranty and Limitation of Liability

All assistance or data are rendered by Lesman gratis. Information of this nature is based upon technical data which Lesman believes reliable. It is intended for use only by persons having skill and know-how, at their own risk. As a distributor for the products described, Lesman warrants that to the extent that manufacturers have made representations concerning products in this catalog to Lesman, the statements in this catalog reflect accurately those representations.

Goods are warranted only to the extent of the express warranty of the manufacturer represented thereof and to the extent such is enforced by the seller. No warranty either expressed or implied is made by seller as to the fitness, merchantability, condition, capacity, or efficiency of any good sold, and no claims for labor or consequential damages will be allowed.

At Lesman's option, the sole and exclusive remedy of purchasers hereunder shall be replacement of nonconforming products or payment in an amount not to exceed the purchase price of the product(s) for which damages are claimed.

Prices

Prices listed in this catalog are in effect at the time of publication and are subject to change without notice. The prices of goods sold are those in effect at the time of the sale. Please contact our sales department for current prices. We will be pleased to furnish quotations on request by mail, phone, fax, or e-mail.

Remittance Terms

Our terms are Net 30 days. Accounts that are over 45 days old are past due and put on hold. If there is some reason why you can't remain current, please call our accounts receivable manager to discuss the reason for the delay.

Credit Card Security

We accept Visa, MasterCard, and American Express. We do not charge for any item until it is ready to ship. You may send your credit card information via phone, fax, U.S. Postal Service mail, or our encrypted Internet ordering center.

Design Changes

Design changes are made from time to time. Some items may differ slightly from catalog illustrations or descriptions.

Tax Charges

Taxes will be applied at order processing for orders shipped into Illinois, Indiana, Iowa, Michigan, Missouri, and Wisconsin customers only. (Wisconsin and Missouri customers, please include your county, as taxes vary by location.) If your company is tax exempt, please note on your order. Tax-exempt companies must provide current state tax exemption certificates with their first Lesman orders.

Delivery

All items are F.O.B. (E.X.W.) shipping point (Bensenville, IL or Butler, WI). Unless otherwise specified, all domestic orders are shipped via UPS Ground service. Customers who have their own UPS accounts may request shipping via their account number to avoid freight charges being added to the Lesman invoice. These shipments will be subject to a nominal handling charge. International customers can ship direct using DHL, or via the U.S. freight forwarder of their choice. Unless otherwise specified, all international orders will ship complete. Freight charges will be prepaid and added to the invoice.

Returns

To help us adjust your account quickly, please obtain return authorization from our purchasing department. Give us the reason for return, purchase date, and your purchase order number.

Privacy Policy

Your information will remain confidential, and be used only to support you in your business with Lesman Instrument Company or its subsidiaries. We do not, under any circumstances, sell or trade our customers' personal information. The Lesman mailing list is managed on an opt-out basis. If, at any time, you wish to stop receiving literature from us, just let us know by sending us an e-mail.



Lesman University Training Courses

At Lesman, our goal is to make sure you get the right product, understand how it works, make sure it's installed properly, and get the most out of it. To help you with that, we've created a set of classes to teach you what you need to know about the instrumentation you buy from us.

Courses are done in a lecture style with question/answer periods. Where necessary, they include some hands on examples. Classes can be held at your plant or in a Lesman Training Center.

Each unit can be ordered in whole, or can be customized to focus only on the subjects most important to you or for specific instrumentation.

Lessons within each course unit run an average of an hour each. As some units have more than seven lessons, you may need to schedule multiple training days to complete the course.

We recommend scheduling no more than four course lessons in a single sitting, so students have time to absorb the information without being overwhelmed by too much new technology.

Unit 1 - Basic Concepts of Process Control

This course teaches the very basics of what someone will find in a continuous or batch environment. It is intended for those that are brand new to a plant, and have not had experience around a process.

Lesson 1 - Process Basics (8 Hours)

- Defining basic terms
- Automatic vs. manual control
- Basics of control loops
- Basics of measurement: Pressure, Temperature, Level, Flow, Mass, Weighing (solids vs. liquids)
- Drawings and Symbols
- What is PID and what does "tuning" do?
(Intended to give people an understanding of PID, not the ability to troubleshoot or tune a control loops tuning parameters. There is a "hands-on" portion to this section to see the impact of different tuning parameters.)
- Final control elements (valves/motors/burners)

Unit 2 - Combustion Systems

Lesson 1: When is Flame Safety Required?

- Types of applications
- Basics of flame detection
- Basics of systems and terminology
- Main functions of flame safety controls
- A fully implemented burner system



Lesson 2: Burner Controls

- Four categories: Flame switches, primary controls, programmers, microprocessor control systems
- Functions of flame safety systems: System checks, burner system sequencing, supervisory functions and shutdown

Lesson 3: Advanced Flame Safety Control Programmers

- System components
- System functions and applications

Lesson 4: Advanced Flame Safety Concepts

- Valve proving systems
- Linkageless control systems (Honeywell ControLinks™)
- Energy savings with pulse firing

Lesson 5: Gas Trains and Valves

Unit 3 - Honeywell UDC Controllers

Targeted at Engineers and Technicians that have interface with Honeywell UDC ¼ DIN Controllers. This session has a significant amount of hands on interface with the controllers to build familiarity throughout the training session.



Lesson 1 - Honeywell UDC Controllers

- Comparison of current models to older models
- Overview of Control Loops
- Familiarity – How to read the display and use the keypad
- Wiring
- Configuration — Local and via handheld programming tools
- Auto-tuning
- Communications

Unit 4 - Paperless (Video) Recorders

Lesson 1 - Getting Started (2 Hours)

- How to wire
- Connecting the recorder to the network
- Documenting before you "Do"
- Who needs to be involved for a successful implementation
- Screen memory vs. storage memory
- Batch recording
- Understanding and selecting "credits"



Lesson 2 - Getting the Most Value Out of Your X-Series Recorder (2 Hours)

- Multiple screens and the power of different formats
- Data on the desktop ... browse the recorder from your desk
- How to use the TrendServer Pro database
- How to make notes on the chart
- Printing charts
- Thermocouple health
- How the tools built into X-Series can maximize your data's value
- Digital input flexibility

Lesson 3 - Configuring X-Series [Some Hands-On] (4 Hours)

- | | | |
|-----------------------|-----------------------|--------------|
| Analog inputs | Batch recording | Credits |
| Screens | Network configuration | Pens |
| Basic security | Printer configuration | Basic events |
| Browsing the recorder | | Localization |

Lesson 4 - Advanced X-Series – Customer-Specific

- Routine plant maintenance
- Configuring Microsoft DCOM
- Calibration
- Trendserver Pro Software
- Real-Time data acquisition
- Creating and saving custom graphs
- Extended security (for 21CFR Part 11 compliance)
- Finding/Searching for historical data
- Client-Server configuration for TrendServer Pro software
- Database management and the tools available
- How to view data with multiple recorders on a network
- Configuring network printers

Unit 5 - Level Instrumentation

Designed to give an overview of technologies and their applications. After this session you will understand the plus and minuses of each technology and where they should be applied and why. With over 10,000 installed level points, we've have the experience to make sure your applications are successful.

Lesson 1 - Overview of Level Instrumentation (2 Hours)

Contact Technologies

Point Level

- Rotating paddles (Bindicators)
- Floats
- Optical
- Tuning fork (ultrasonic)
- Capacitance

Continuous Level Technologies

- Bypass sight glass technology
- Capacitance
- Magnetostrictive
- TDR (Radar on a rope)
- Differential pressure and bubblers
- Submersible head pressure



Non-Contact Technologies

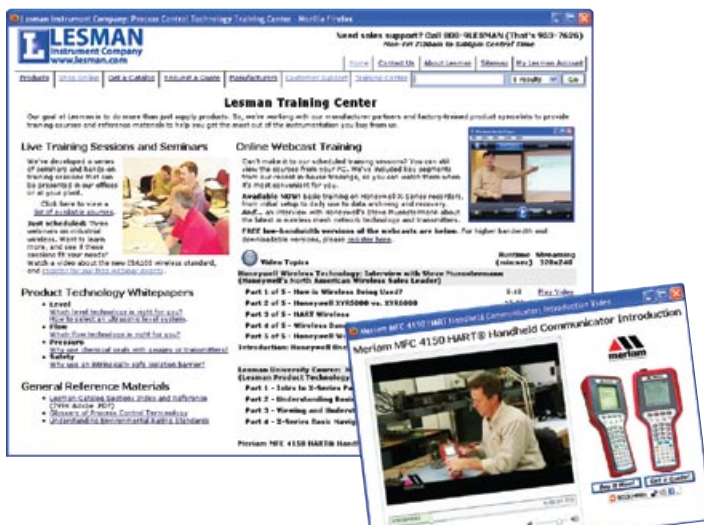
Point Level: Ultrasonic

Continuous Level: Ultrasonic, Radar, Laser, Nuclear, Level by weight

Unit 6 - Industrial Communication Basics

Lesson 1 - Basics of Industrial Communications (4 Hours)

Difference between physical layer and protocol:
RS232, RS485, Ethernet, Fiber Optic, Modbus, HART®, OPC (OLE for Process Control)



No time for on-site training? Check out our online training center! View past training sessions and how-to videos at www.Lesman.com/train

Meet Dan...

Dan Weise, Lesman product specialist, is an instructor for training classes on process instrumentation hardware and software.

Dan's most recent course topics include Honeywell UDC controllers, Trendview and X-Series paperless recorders, and Siemens SIMATIC PDM HART software. Other course curricula include basics of instrumentation (temperature, pressure, level, and flow) and basics of Modbus protocol.

Dan has been involved in all facets of data acquisition and process instrumentation, from sales and commissioning to service and product support since 1978. He's a long-time member of ISA, and has been with Lesman since 1988.

In his words, Dan is the guy "who reads all the manuals nobody else reads." In our customers' words, he's the trainer to call if you want to "cut to the SO WHAT of instrumentation," so it's easy to understand.



Unit 7 - Wireless Instrumentation

Designed to give anyone who is interested in implementing wireless applications in an industrial environment the knowledge to have a successful installation.

Lesson 1: Intro to Industrial Wireless

- RF fundamentals
- Signal propagation (line-of-sight, attenuation)
- Evaluating differences between spread spectrum technologies
- Antenna selection and placement
- Practices to avoid signal loss
- Performance zones
- Wireless system selection criteria
- Security issues

Lesson 2: Wireless Installation and Maintenance

- Selection of proper radio unit
- Radio, cable and antenna maintenance
- Antennae locations for installers

Lesson 3: Honeywell XYR Software Functionality

- XYR6000 security setup
- I/O configuration
- Node commissioning
- XYR5000 I/O configuration and monitoring



Standard Pricing for Courses

Course Materials (per Person)	\$50.00
Two-Hour Minimum Charge	350.00
Half-Day Training (Four Hours)	550.00
Full-Day Training (Eight Hours)	950.00

Travel expenses outside Chicago vicinity will apply.

Call 800-953-7626 to schedule your Lesman U wireless training!

Doing Business with Lesman

We're committed to working with our customers to discover ways of improving their business results, continuing to provide higher-quality products in less time while saving money and providing safe working environments for their employees. Over the past few years, we've expanded our customer services to include inventory reduction, vendor reduction, cost analyses, ISO-9000 compliance, and simpler ordering, billing, and shipping methods.

We strive to help our customers by providing the service and business technology packages they are most comfortable using to do business with us. Throughout this website you'll find examples of how we've expanded our services to make business easier for our customers.

Our philosophy is simple. Our customers aren't satisfied until they are getting everything they expected, and a little more from the products they buy from Lesman.

New Customer Accounts

We want to put you on open account ASAP, so we make it easy! We'll be glad to extend \$500.00 credit on your first order, no questions asked. If you would like more credit, all we require is three (3) trade references of current suppliers and their fax numbers.

Credit Cards and Corporate Procurement Cards

If you're a new customer and want your product shipped immediately, use your VISA, MasterCard, or American Express card. It's that easy! Just give our inside sales people your card number, cardholder's name, and the card's expiration date and security code, and you're all set.



Placing an Order

Our customer service people are trained to assist you in the selection of our products. You are not limited to trying to fit the products shown in the catalog to your needs. Our people will help you get the product you need to solve your problem.

If you are ordering items shown in the catalog, we can process your order faster if you provide us with the following information:

- | | |
|---|--------------------------|
| 1. Catalog number | 5. Purchase order number |
| 2. Brief item description | 6. Billing address |
| 3. Quantity | 7. Shipping address |
| 4. Name and telephone number of the requisitioner | |

Place your order before 3:00 p.m. (Central Time) and all in-stock material will ship the same day. After 3:00 p.m., it will go out the next day. Use any form of communication that's easiest for you!

Customers in Illinois, Indiana, Iowa and Missouri
Lesman Instrument Company
135 Bernice Drive
Bensenville, IL 60106
Local Phone (630) 595-8400
Toll Free (800) 953-7626
By Fax (630) 595-2386
sales@lesman.com

Customers in Wisconsin and Upper Peninsula Michigan
Lesman Instrument Company
5160 North 125th Street
Butler, WI 53007
Local Phone (262) 923-1790
Toll Free (800) 837-1700
By Fax (262) 923-1797
wisales@lesman.com

We're also available to all Electronic Data Interchange (EDI) customers through the Di-Central Corporation. If you would like to transmit your orders by EDI, contact Mike Heatherly, Lesman controller, at 800-953-7626 or by e-mail (edi@lesman.com).

Learn more about Lesman's services to support our customers by visiting us online at www.Lesman.com.



Your Orders Are Covered by our Service Guarantee!

- Guarantee #1:** If the material you receive doesn't match the Lesman packing slip, we'll give you a coupon for \$25 off your next invoice.
- Guarantee #2:** If you place your order using our catalog numbers, we guarantee complete error-free order processing. If you don't receive exactly what you ordered, we'll give you a coupon for \$25.00 off your next invoice.
- Guarantee #3:** *Your satisfaction is 100% guaranteed!* If you're not completely satisfied with the material you receive, we'll issue immediate return authorization. All we ask is that you return the material in its original packaging in resalable condition.

Additional Discounts

- Quantity Discounts:** We'll be happy to extend additional discounts for quantities over and above the price schedules published in the catalog and for those products that do not have discounts listed. If you help us buy better, we'll be glad to pass the savings on to you.
- Estimated Annual Usage Discounts:** If you can help us make our business more predictable by giving us estimated annual usage figures or blanket orders with scheduled releases, you may qualify for an additional discount.

Managing Sales Tax Exempt Orders

In order to comply with state tax codes, Lesman is required to keep complete tax information on file for any customers in Illinois, Indiana, Iowa, Michigan, Missouri, and Wisconsin who request Tax Exempt status.

Current tax exemption forms are available for download from the Lesman website: www.lesman.com/AR/exemption_forms.htm, and must accompany any individual tax exempt order, or your first order, if all orders with Lesman will be exempt from state sales tax.

If you have further questions, please contact the Lesman accounting department at 800-953-7626.

Electronic Invoicing — Lesman Goes Green!

In an effort to reduce paper waste, and provide you with a more traceable record of your order invoices, Lesman has moved to a paperless invoicing system.

Visit www.lesman.com/AR, and fill out the form there. You can specify whether you'd like invoices faxed or e-mailed to you. Our accounting department will verify the information you provide, and start sending invoices to you via e-mail or fax right away.

Place your order for in-stock items before 3:00 pm central time, and it'll ship the same day!

