

DISPLAY SYSTEMS | SIGNAL CONDITIONING
DENSITY | LEVEL | WEIGHT | RADIOMETRICS



Your Global Partner in Process
Monitoring and Measurement

www.ronan.com



RONAN ENGINEERING, founded in 1959, is a privately held corporation with the exclusive purpose of manufacturing leading edge instrumentation that provides real-time monitoring of critical alarm points and measurements for process control in severe service environments. Fifty years of customer-focused research and development has enabled Ronan to provide industry-changing instrumentation that makes industrial plant operations safer and more efficient.

Over our 50-year history, we've expanded our reach by adding Representative Companies around the world, and established manufacturing, sales and service facilities in Valencia, California and Florence, Kentucky and regional sales and support center in New Castle, United Kingdom. A worldwide network of dealers, 24-hour factory certified Field Service Engineers and an experienced staff of Applications Engineers are ready to assist you with your process monitoring and measurement needs.

Ronan's Industry Presence

RONAN's products enhance safety and enable more efficient plant operations in industries including:

- Power Industry
(Fossil fuel, renewable, and nuclear)
- Mining and Aggregates
- Refining Oil & Gas
- Chemical and Petrochemical
- Metal Processing
- Pulp and Paper
- Dredging
- Cement
- Food and Beverage
- Specialized, Commercial Applications



ALARM DISPLAY

DATA ACQUISITION | ALARM STATUS DISPLAYS | SIGNAL SYSTEMS FOR HAZARDOUS AREAS

RONAN manufactured the first solid-state integrated circuit-type annunciator on the market, assuring virtually unlimited system life. Continuous research and development have added the following outstanding products to the Ronan line.

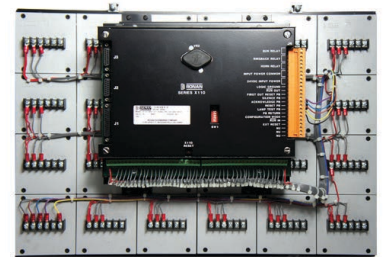
LED Light Boxes

Ronan's LED light boxes are the clear choice for fixed window application. Rear terminal screws allow direct external connection or factory wiring to multipin connectors. Redundant window capability is available. Systems are available with 1 to 4 windows and various LED color arrays.



X110 Serial Input Visual Annunciator

With the X110, plant distributed process contacts are multiplexed and the status information transferred via serial link to the X110 controllers. This approach eliminates long runs of multiconductor cables from the field contacts to the annunciator logic and displays.



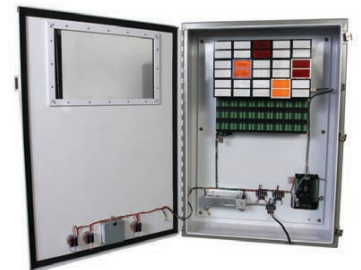
X11CB Event Recording Annunciator

The X11CB Event Recording Annunciator is an advanced integral display system that handles local and remote networking with multiplexing and event time stamping.



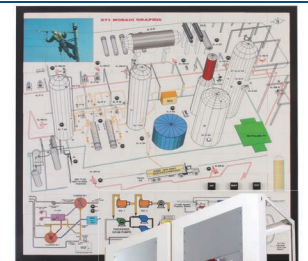
X11CA Computer Annunciator

The X11CA Computer Annunciator has the same capabilities as all Ronan legacy annunciators with the addition of software-based configuration and ability to communicate with an external host device. The X11CA meets the IEEE and ATEX design requirements.



X71 Mosaic Graphic Display

Ronan's Series X71 Mosaic Graphic System is ideally suited for display of industrial processes, power distribution networks, security and fire alarm networks.



X500F Events Recorder

Ronan's X500F Sequence of Events Recorder (SER) is a special purpose multi-microprocessor based contact status acquisition system. These systems monitor the status at electrical power generation, distribution systems and industrial process systems.



SIGNAL CONDITIONING

SAFE AREA ISOLATION BARRIERS | TEMPERATURE AND VIBRATION MONITORING |
PRESSURE TRANSDUCERS | MOTION DETECTION | PROCESS SIGNAL CALIBRATION

Ronan's signal conditioning products provide plant operators with engineering solutions to applications where accuracy of signals and robust design is essential to keeping process equipment on line with trouble-free maintenance.

Process signal inputs that are typically supported by Ronan products include DC and AC voltage, frequency and sensor inputs.

X57 Intrinsic Safety Barriers



X55 Pressure Transducers

Explosion Proof



Weather Proof



General Purpose



X54 Loop-Powered Indicator



X25 Loss of Motion Detector

A Ronan best seller, the Loss of Motion Detector X25 can save you money in operation's cost that are critical to material movement by quickly detecting the loss or reduction of motion.



X87 Transmitter

Features continuous monitoring of temperature, vibration, displacement and engineering unit parameters.



X88 Calibrator

The lightweight portable X88 Calibrator provides the accuracy needed for a laboratory-grade-type standard calibration. The X88 is equipped with the same stability as previous calibrators while giving the user additional pre-set memory functions.



LEAK DETECTION

HYDROSTATIC TESTING | CHEMICAL/FUEL SUPERVISION | OIL/WATER SENSING

RONAN's Leak Detection line includes high accuracy level sensors with proprietary software that allow for continuous real-time leak detection and high accuracy for custody transfer and inventory management.

X76CTM Continuous Tank Monitoring System

Ronan's X76CTM provides state-of-the-art and highly reliable supervision for hydrocarbon fuels, chemicals and other liquids stored in underground tanks (USTs) and above ground tanks (ASTs).

Probes and Sensors

- Inventory Gauging
- Oil/water level sensor
- Pressure/vacuum sensor
- Hydrostatic reservoir sensor

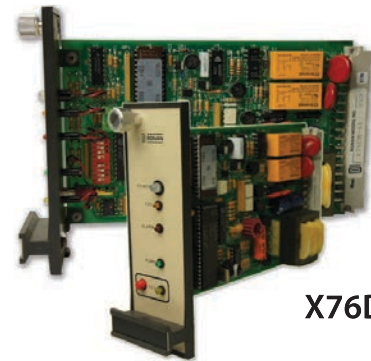


Line Leak Input Module

Ronan's JT-H2 is used in conjunction with the X76DM-4B and does not require the use of a mechanical flow regulator. Together, the products eliminate the "slow flow" condition commonly associated with mechanical leak detectors in cold temperatures.



JT-H2



X76DM-4B

Vertical Liquid Sensors

Ronan's vertical liquid sensors are designed to detect changes in liquid level within reservoirs or the intrusion of liquid in dry containment zones and caisson compartments.



RADIOMETRICS

CONTINUOUS LEVEL | POINT LEVEL | DENSITY | MASS FLOW | CONTINUOUS WEIGHT

Ronan Measurement products are focused on helping you solve your most complex process measurement challenges. Ronan is a leader in the industry with leading-edge systems that provide non-contact measurement solutions.

X96S Density System

Each system consists of a gamma source, detector and microprocessor. The detector measures the level of energy being emitted from the source and sends a proportional signal to the microprocessor. The entire system is mounted external to the pipe via clamps and can be easily installed while the process is running.

Microprocessor



Source and Source Holders

All gauges meet ALARA guidelines and are customizable depending on vessel and process parameters. Ronan is the only manufacturer to offer the revolutionary Radiation Low Level (RLL) source holder.

RLL Low Level Source Holder



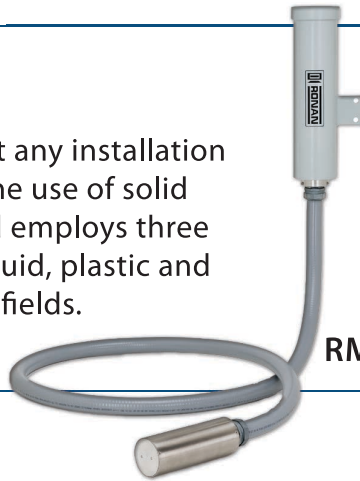
More Ronan Source Holders



Detectors

Wide variety of detectors to meet any installation requirement. Ronan pioneered the use of solid crystal scintillation detectors and employs three types of scintillation crystals: fill fluid, plastic and sodium iodide for ultra low-level fields.

RM Flex



RM Scintillator



Transmitter

Ronan's X96SI/R Transmitter is compatible with all Ronan scintillation detectors. The integrally mounted transmitter includes a patented optical coupling that allows the transmitter and detector electronics assembly to be easily mounted to any detector configuration.

Compatible with any I/O including:

- Ethernet
- HART
- Fieldbus
- USB Port
- 4-20 mA or 0-10 vdc
- Relay(s) Output

RM Transmitter



INDICATORS AND LAMP CABINET ACCESSORIES

X1D3 Trilight

The very first Ronan product, the Tri-Colored Indicators combine craftsmanship with convenience to be quickly and easily applied to your specific needs such as production testing, process instrumentation, control panels, alarm indicators, graphic displays and more.



X18 Indicators

Models X18 Compact Indicators are full voltage and have dual lamp indicators. There is no need for resistors or transformers on 115 VAC services. Both models are suitable for mounting in groups either vertically or horizontally.



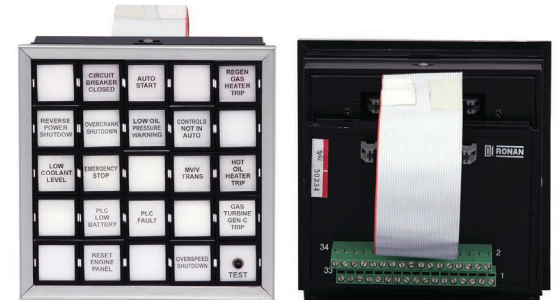
LB1, LB2, LB3, LB4 LED Displays

These models are single cabinet module indicators based on the popular Ronan Lamp Box Series.



LB-5500 LED Display Cabinet

The LB-5500 is available in multiples of the basic 5 windows high and 5 windows wide arrays. The basic assembly provides test facilities and ribbon cable extension for remote termination.



X36 Horns

The X36 Horn is a high-volume horn with various adjustable sounds, GP and NEMA 4, 80 db.



X17 Field Terminal Assemblies

Ronan Field Terminal Assemblies (FTA) are screw compression terminals for fast connect. These are available with Elco connectors and disconnect isolation switches.



LEGACY PRODUCTS

X3 Relay Alarm System

This relay logic based alarm annunciator system is preferred in applications where extreme environmental conditions are encountered.



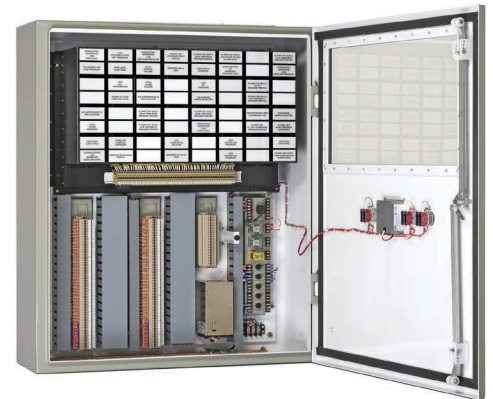
X9 Explosion Proof Alarm System

Ronan Explosion Proof Alarm Systems provide maximum flexibility for use under specified operating conditions, supplying single point as well as multipoint units handling up to 20 individual points for hazardous locations.



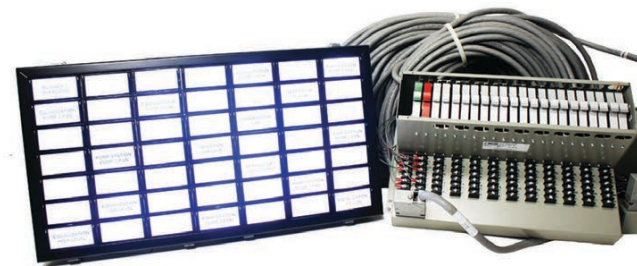
X11SN Solid State Annunciator

The X11SN is designed for the process and power industries' basic requirements, providing the most economical approach while maintaining Ronan's high quality and performance standards.



X16 Split Architecture Annunciator

The Visual Annunciator System architecture, configured where the electronic modules are remote from the window display, is ideally suited for large systems in power plants and process plant control rooms.



X15 Explosion Proof Alarm System

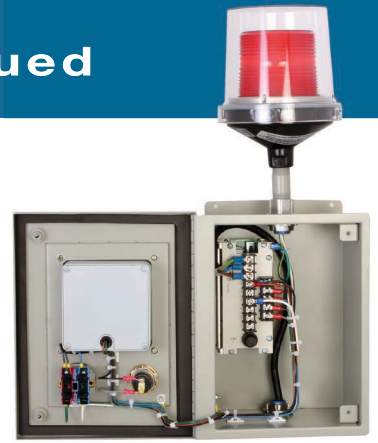
The Explosion Proof X15 Self-Contained Alarm unit provides complete annunciation capability for Class I, Division 1, Group C & D – Explosion Proof Applications.



LEGACY PRODUCTS continued

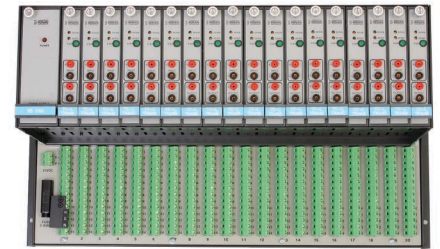
X19 Self-Contained Alarm Unit

The X19 units provide complete annunciation capability for NEMA 4X or NEMA 12 applications. Each alarm unit contains the necessary logic, status indicator and pushbutton switch for single point monitoring of normally open or normally closed field contacts.



X51N Signal Conditioner

Ronan's X51N Series is suitable for today's space-limited control rooms. The product design offers an ultra-high density combination of transmitter and alarm trip contained in the same module.



FROM START TO FINISH

All Ronan Engineering facilities are fully equipped with the most advanced machinery and equipment, including their own engineering, design and production capabilities. From start to finish, Ronan's all IN-HOUSE team of designers, engineers and production staff are working together to bring our customers a carefully crafted product. Ronan Engineering does not outsource. All of our capabilities are literally at our fingertips.

Ronan Products have been independently tested for product safety. Through continuous product improvement, new and legacy products offer complete compliance with industry standards.

ISO 9001:2008 Registered Company

Since 1980, Ronan has implemented a system that has met these top quality system standards: 10CFR50APPB, ANSI45.2 and Z299.3

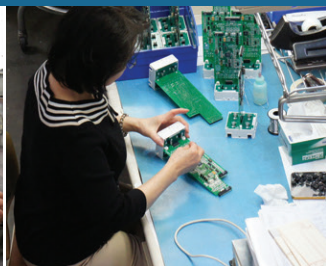
Ronan products are UL, CSA, FM and ATEX approved. Consult factory on product approvals.



Design/Engineering



Metal Shop



Quality Control



Sales/Order Entry



Assembly

Ronan Engineering Client Sample List

3M Company
A3IM, Inc
ABB Automation
ABB Power Generation
AECL/Candu
AIMS International
Air Liquide
Air Products & Chemicals, Inc
Alabama Power
Alaska Instrument Company
Alstom
American Combustion
American Electric Power
American Steamship
Arab Potash Co Ltd
Aramco Overseas
Arcelormittal Inc
Areva NP, Inc.
Arizona Public Service
Army Corps of Engineers
ASCO Power Technologies
Ashgrove Cement
Babcock & Wilcox
Back & Vetch
BAE Systems
BASF
Basler Electric Company
Bayer Healthcare LLC.
Bechtel Power
Bergen County PUD
BP Amoco Chemical Co.
British Petroleum
Bruce Power
Buckeye Florida, L.P.
Cargill Incorporated
Carlton-Bates
Caterpillar Global Mining
Cegelec Corporation
CH2M Hill
Chevron chemical
Cimec Ingenieros - Peru
Citgo Petroleum
CMC Steel
CNX Marine Terminals
Cole-Parmer
Comision Federal de Electricidad
Con Edison
Conoco Phillips
Consolidated Edison
Constellation Energy
Covanta Energy
Curtiss-Wright Flow Control Company
Denison Mines
Diavik Diamond Mines, Inc.
Dominion
Dow Chemical
Dubai Natural Gas
Duke Energy
DuPont
Eastman Chemical
Eaton Corporation
Emerson Network Power
Englobal Government Services
Entergy
Entergy River Bend
Equistar Chemicals, LP
Evergreen Packaging
Exelon
ExxonMobil - Chalmette Refining, Inc
Exxonmobil Chemical Company
Fairbanks Gold Mining
Federal Aviation Administration
First Energy Corp
Florida Power & Light
Fluor
Formosa Plastics
Foster Wheeler
G.E. Nuclear Energy
Georgia Pacific
Gerdau Ameristeel-Manitoba
Global Brass & Copper, Inc
Grant County Public Utilities
GSTEC, Inc.
Hatch Ltd.
Honeywell International
Hood Industries
Hydra Air Pacific
Hyundai Oil
Illinois Power
Indiana University of Pennsylvania
Intermountain Power
International Paper
Interplastic Corporation
Invensys
Israel Electric Corporation
Jacobs Engineering Group
Jasper Engineering & Equipment Co.
Jelly Belly
Johnson Controls
Kaiser Commercial Petroleum
Kennecott Utah Copper
Keystone Electric
Korea Hydro Nuclear Power
Lackland Air Force Base
Lamb Weston/Conagra Foods
Louisiana-Pacific Corp.
Lyondell Basell
Marathon Petroleum Co.
Marsh Instrumentation Ltd.
Mecatronica S.A. de C.V.
Metso Minerals
Mississippi Lime
Montgomery Water Work & Sewer
Mosaic Potash Colonsay
Motiva Convent Refinery
MTS Systems Corp
National Grid
Nebraska Public Power District
Newmont Mining Corp.
Northwest Pump & Equipment
Nucor Steel Birmingham
Nutherm International, Inc.
Occidental Chemical
Oil Ministry of Iraq
Omaha Public Power District
Pacific Gas & Electric (PG&E)
Parsons
PDVSA
Pemex
Powell Service Division
Prairie Island Nuclear Gen Plant
Puerto Rico Electric Power Authority
Qatar Steel
Rochester Gas & Electric
Sabah Gas
Saudi Aramco
Saudi Electric Power
Shell Refining Co.
Shields, Harper & Co
Siderperu / Empresa
Siemens
SK Energy/ Korea
Somincor
Southern California Edison
Southern Nuclear
Southern Power Co-Georgia Power
Springfield Electric
St Jude Medical
Stone & Webster
STP Nuclear Operating Generation
Suncor Energy
Surface Combustion, Inc.
Telemetry & Process Controls, Inc.
Tennessee Valley Authority
Tesoro Alaska
Texas Municipal Power
The Lubrizol Corporation
Tinker Support Services
Toyo
Tristate Valves and Controls (Trivaco)
Union Carbide Corp.
Union Electric Company
US Steel
Valero
Virginia Electric Supply
Washington Savannah River Company
Westinghouse
Westlake Polymers LLC

Ronan Engineering is well known for its manufacturing prowess and ability to adapt our products and systems to the custom needs and requirements of Ronan's customers.

The combination of advanced machinery with the latest technology and top-notch technical staff allows us to achieve a wide array of manufacturing capabilities including: PC board assembly, panel wiring and cabling, industrial printing, plastics and metal fabrication, surface cutting, installation of surface-mount chips and much more.

Manufacturing Excellence



WORLDWIDE NETWORK OF REPRESENTATIVES

Ronan has a qualified pool of representatives in the U.S. and around the world. Our knowledgeable team of Ronan Reps can assist you in learning more about Ronan's products, applications, or answering questions, providing brochures and fulfilling quote requests.

To find a Representative in your area visit our website at www.ronan.com or call (800) 327-6626.



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ISO 9001:2008 Certified