LIQUID CONTROLS

Simply the Best™

LectroCount LCR Electronic Registers For Load Rack Applications

Application Brochure: E200-20

Premier products, premier performance

Liquid Controls is recognized throughout the world for its highly accurate and reliable flow meters and electronic registers. As a proven leader in the field of liquid measurement, our engineering, manufacturing and application expertise allow us to provide you with complete integrated solutions that work, regardless of your choice of flow meter technology; Positive Displacement, Turbine, Electro-Magnetic, Mass, etc.

Liquid Controls electronic registration equipment has been widely used in the fluid measurement and control industries for over two decades. Continuous improvements in electronic technology have allowed LC to merge the benefits of increased productivity, improved accuracy and error reduction with products that are now also smaller, more durable, flexible and cost effective.

Applications

Terminal Loading/Unloading

- Road Tanker
- Railcar
- Barge
- Ship

Bulk Plant

Petroleum Processing

- Wellhead
- Refinery

LectroCount LCR for Bulk Plant and Terminal Applications

The LectroCount LCR is an electronic register that replaces the mechanical counter, calibration gears and adjuster mechanism of a traditional mechanical recording system. LCR utilizes Weights & Measures approved hardware and software. The LCR is available with our internal or external pulser and accepts direct pulse input from PD, amplified turbine, electro-magnetic and mass flow meters. The LCR offers standard scaled pulse output, RS-232 and RS-485 communications and heavy duty transistor switches for switching external loads. All programmable configuration and calibration data is stored in non-volatile flash memory. The system is designed to interface to an external computer at any time.

Features and Benefits

LectroCount LCR provides numerous features that make it an ideal flow computer for load rack and bulk terminal applications. Special features include the following:

LCR Electronic Register

Features

- Weights and Measures approved
- Operator-friendly controls
- High visibility display

Environmental

- -40°F to 158°F
- NEMA 4X enclosure

Safety

- Class I, Div 1, Groups C & D

Multi - Point Calibration

Virtually eliminates deviations in accuracy caused by variations in flow rate. Increases accuracy by improving meter linearity over entire flow range.

Multi - Product Calibration

Changes in fluid characteristics (i.e. multiple fluids, variable viscosities, differences in lubricity, etc.) can produce variations in meter accuracy. Multi-product calibration capability increases the accuracy of a flow meter on multiple fluids over the entire flow range.

Electronic Temperature Volume Compensation to API Tables

Accurately corrects volume measured to a base temperature. ETVC utilizes an RTD for measuring temperature and is 100 times more responsive than a traditional mechanical temperature compensator.

Presetting & Flow Rate Display

Software included with LCR provides the ability to meter preset deliveries and to check flowrate at any time during the delivery.

Increased Security of Metrologically Significant Data

LectroCount LCR systems have OIML, NIST and Canadian Weights & Measures approved dispensing, recording, printing, calibration and audit trail software and hardware.

Increased Security of Transaction Record

LectroCount LCR controls the printing of the ticket/receipt/report irrespective of other peripherals including third party PC hand held computers, PLC, Card Lock, or other interface devices.

Increased Security of Delivery System

LectroCount LCR controls a variety of fail-safe system components which prevent unauthorized delivery or system bypass minimizing potential for fraudulent activity.

Modular Designs with RS 232 and/or 485 Communication Capability

No planned obsolescence, adapts to your system requirements today and in the future, with upgrade capabilities at minimum cost.

Increased Reliability

Highest quality components, state-of-the art manufacturing and ISO 9001 accreditation result in longer MTBF (Mean Time Between Failure) and extended service life for all LC electronic products.

Optional Equipment

Features

- Offers alpha / numeric output for various print formats.
- Stand-alone design allows for easy upgrade or replacement as advancements in technology dictate.
- Photo electric eye for ticket/paper sensing.
- Includes power and communication cables for flexibility of mounting.
- Operating temperature range -40°F to 158°F (-40°C to 70°C)

Slip Printer

Roll Printer

Ticket Printer

Epson™ printers offered with LectroCount LCR systems are industry standards for nearly all mobile and stationary applications. Printer generates an imprinted record of the transaction which is legal for use in resale applications.

Features

- Field programmable for base temperature, coefficient of expansion or API table providing easy field calibration to customer or Weights & Measures standards.
- Platinum RTD probe is accurate to within 0.45°F (0.25°C) over temperature range.
- With a -40°F (-40°C) to +158°F (70°C) operating range the RTD probe provides accuracy over broadest product temperature range.

Temperature Volume Compensator

Electronic Temperature Volume Compensator

Electronically compensates for changes in product volume based on product temperature. Automatically corrects measured volume to a standard base temperature of 60°F (15°C).

Features

- Large, tactile feel, easy to operate alpha/numeric keyboard.
- Dual-line prompting display (40 characters per line) is backlit for easy viewing. Prompting function provides operator assistance when needed.
- Umbilical cable permits operation within 9 ft. radius of connection point.

Lap Pad

Presetting (lap pad)

VT-100 terminal emulator that programs and displays all operational functions of LCR Electronic Register.

Features

- NEMA 4X enclosure.
- Explosion-proof (when installed with approved conduit).
- 100 pulses per encoder revolution (unscaled).
- Temperature range: -40°F to 185°F
- Pulse transmission up to 5,000 ft.

Pod Pulser

Pulse Output Device

Weights and Measures approved, provides a high resolution, unscaled pulse stream. The meter rotor is magnetically coupled to an optical encoder that has a signal which is directly proportional to the liquid flow through the meter. No dynamic seals to fail or leak. Easily adapts to most remote totalizers, batch controllers, computers and other scalable pulse receiving devices.

Adapters - For Retrofit of LCR to other Meters

A selection of drive shaft couplings and mounting brackets are offered by Liquid Controls to support LCR Electronic Register applications with other manufacturers' meters as shown below.

Drive Shaft Couplings for LCR with Integral Pulsers

To Smith Meter

To Daniel/Tolkheim Meter

To Brooks Meter

To Neptune Meter

For Custody Transfer Applications

Weights & Measures approved electronic systems provide basic resettable counter, totalizer, valve control and rate of flow display. Optional features include electronic temperature volume compensation, ticket printing and more.

More than just a viable alternative to mechanical registration, Liquid Controls Electronic Products truly represent a step forward in flow measurement and control instrumentation. Whether you choose to enhance your present system with new LC electronic components or select one of our fully integrated Electronic Systems, Liquid Controls is your direct connection to a full complement of outstanding features and benefits as well as to a world of possibilities.