

# PUBLIC UTILITIES REQUISITION REQUEST FORM

**Select Type**

<input checked="" type="checkbox"/>	Sole Source (Vendor Letter & complete Sole Source section)
	\$1,000 - \$2,499.99 Purchasing a Fixed Asset (Quote for equipment)
	\$2,500 - \$50,000 (3 Quotes)
	\$50,000 - \$99,999 (Formal Bid)
	\$100,000 (Agenda City Council Approval)

**Note:** Certificate of insurance is required for vendor on City property or working on City asset

DATE	4/24/2019
VENDOR	INSTRUMENT SPECIALTIES, INC.
AMOUNT	\$6,385.00
SHIP TO	RO1
VENDOR EMAIL	MIKEP@ISISALES.COM MIKE PARNELL
EMPLOYEE	KERVIN ST.AIMIE
ACCT CODE	3217321-562800-96764 REFERENCE PROJECT# 17-0041-UT

## SOLE SOURCE SECTION

What are we buying? RACO CATALYST AUTODIALER
How do you intend to use the product/service? PART OF THE RO1 PLCS UPGRADE
Estimated cost/timeframe? \$6,385.00
What is the benefit for the agency/city/public? THIS EQUIPMENT IS A CRITICAL FUNCTION IN THE PLANT AUTOMATION AND FOR PRODUCING DRINKING WATER.
What about this vendor makes them a single source? ISI (INSTRUMENT SPECIALIST) IS THE SOLE SOURCE VENDOR FOR RACO PRODUCTS.
What is unique about the product? REPLACING OLDER OUTDATED RACO AUTODIALER TO ACCOMMODATE ADDITIONAL ALARM CALLOUT.
Is there an alternative available? No
If so, why is not acceptable?

# QUOTE



## Address your Order to:

Raco c/o Instrument Specialties  
 3885 St. John's Parkway  
 Sanford, FL 32771  
 Tel: 407-324-7800  
 Fax: 407-324-1104  
[www.isisales.com](http://www.isisales.com)

Quotation #: 152334

Please refer to this number when ordering

To: Joseph Haddad  
 City of Clearwater

Date: 4/9/2019

1605 Harbor Drive  
 Clearwater, FL 33755

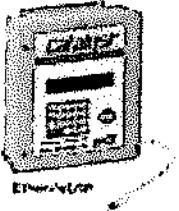
Expiration Date: 6/10/2019

Phone:

Fax:

Email: Joseph.Haddad@myclearwater.com

SALESPERSON	FOB	EST. LEAD TIME	PAYMENT TERMS	SHIPPING METHOD	SHIPPING TERMS
Todd Abbott	Origin	7-8 Weeks	Net 30	UPS Ground	Prepaid and Add

Line	Vendor	Part Number	Description	QTY	Unit Price	Total Price
1		706C10-2-020-1450ET	Raco Catalyst Autodialer with 4 UI and 256 channels with EtherNet/IP  	1	\$5,995.00	\$5,995.00
2		999ACPC	120VAC Power Conditioner	1	\$146.00	\$146.00
3		999TPC	Analog Telephone Line Surge Protector	1	\$146.00	\$146.00

Best Regards,

*Mike Parnell*

Project Supervisor

E-mail: [MikeP@isisales.com](mailto:MikeP@isisales.com)

Thank you for your inquiry!

Subtotal	\$6,287.00
Taxable Subtotal	\$6,287.00
Sales Tax	
Estimated Shipping & Handling	\$98.00
Grand Total	\$6,385.00

*All Orders Subject to ISI and/or Vendor Terms & Conditions*



---

RACO Manufacturing and Engineering Co., 1400 62nd St., Emeryville, CA 94608 800-722-6999 FAX 510-658-3153 [www.racoman.com](http://www.racoman.com)

January 21, 2019

Re: RACO Products

To Whom It May Concern:

This letter hereby certifies that ISI, is the sole source sales and service supplier of the items offered, and is therefore the only source for this product.

RACO Manufacturing and Engineering Co. has a network of manufacturer's representatives through which you can order these products, however, they too will order these products through the factory. Your RACO Manufacturing and Engineering Co. representative is:

Instrument Specialties Inc.  
3885 St. Johns Parkway  
Sanford, FL 32771  
Phone: 407-324-7800  
Fax: 407-324-1104  
Email: [offices@isisales.com](mailto:offices@isisales.com)

If you have any further questions, please contact us at (800) 722-6999.

Sincerely,

James Brown  
VP Sales / Marketing  
P 510-658-6713 x222  
F 510-658-3153  
<mailto:jbrown@racoman.com>  
<http://www.racoman.com>



**ISI** TECHNICAL  
GROUP

Instrument Specialties Inc.  
3885 St. Johns Pkwy., Sanford, FL 32771  
Tel: (407) 324-7800, Fax (407) 324-1104  
offices@isi.group

Your Source for Instrumentation & Control Solutions since 1986

**Acromag**

Signal Conditioning, Distributed I/O  
Ethernet-Modbus-Profibus

**KROHNE**

Pressure - Gauge & Differential Transmitters  
Level - Radar, Ultrasonic, TDR Guided, Point  
Analyzers - pH, ORP, Conductivity, D.O., Turbidity  
Flowmeters - Magnetic, Vortex, Coriolis  
Temperature - Thermocouples & RTD's

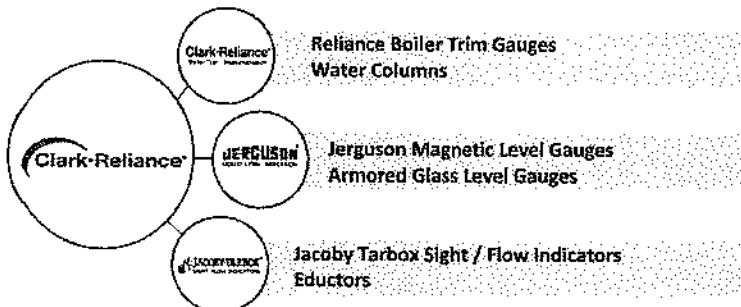
**auma**

Solutions for a world in motion

Electric Actuators; Multi-turn, Part-turn  
Gearboxes; Multi-turn, Part-turn, Bevel, Spur  
Linear Actuators, Integrated Remote Controls

**MSA**  
The Safety Company

Gas Analyzers & Transmitters  
Flame & Combustible Detectors



**NELSON**  
HEAT TRACE

Heat Tracing - Products & Design  
Turnkey Installation

**ONYX VALVE**

Isolation Rings, Pressure Sensors, Expansion Joints  
Pinch Valves - Automatic & Manual  
Duckbill & Wafer Valves

**Crispini**

AWWA Valves  
Plug, Gate, Air Release, Check, Butterfly  
Valve Automation

**RACO**  
REMOTE ALARMS AND CONTROLS

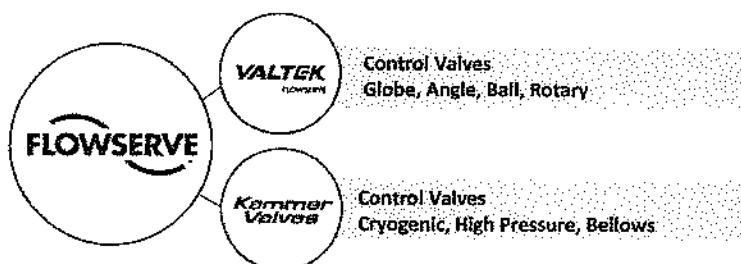
Alarm Autodialers & Voice Announciators  
Wireless Data Communication Systems

**FAIRCHILD**  
INDUSTRIAL PRODUCTS COMPANY

Pressure Regulators, Volume Boosters  
Transducers - I/P, E/P, P/I

**Seametrics**

Insertion Magmeters, Insertion Paddle Meters  
Turbine Flow Meters, Plastic Magmeters  
Environmental Monitoring



**SIEMENS**  
INROBICON

Variable Frequency Drives (VFD's)  
Perfect Harmony Medium & Low Voltage  
Medium Voltage Motors

**SOR**  
SOLARIS OPTICAL CORPORATION

Pressure & Temperature Switches  
Pressure Transmitters

**ISCO**  
TELEDYNE

Automatic Samplers - Refrigerated, Portable  
Flowmeters - Open Channel, LASER, AV, Bubbler  
Flowlink - Data Analysis Software & Hosting

**SUPERIOR**

Gas Chlorinators, Free/Total Chlorine Analyzers  
Gas Sulfonators  
Gas Ammoniators

**K-PATENTS**  
PROCESS INSTRUMENTS

Process Refractometers  
Inline Concentration Measurement  
Brix, Dissolved Solids

**TRACOM**  
FIBERGLASS PRODUCTS

Flumes, Weir Boxes, Metering Manholes  
Buildings, Instrument Enclosures

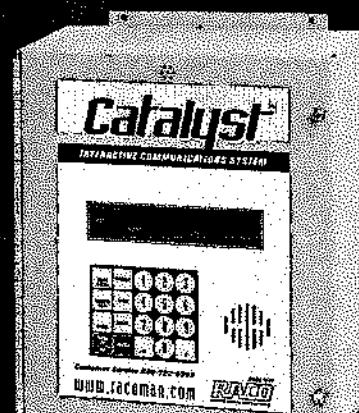
**isi**

Instrument Calibration & Startup  
Instrument Service & Repair  
Valve Automation, Actuator Authorized Service

Orlando Jacksonville Tampa Lakeland Ft. Myers Miami

# Catalyst®

Your all-in-one data logging  
and remote monitoring solution



**RACO**  
REMOTE ALARMS AND CONTROL



# Manage all your critical systems from anywhere, anytime.

Only Catalyst® handles data logging, alarm notification and status checking in a single-package solution, all backed by RACO's legendary reliability. Catalyst integrates with existing controllers in water/wastewater, energy and other critical environments, using standard communication protocols — no extra service contracts or plug-ins required! Just install, configure and enjoy these benefits:

## Peace of Mind

Depend on Catalyst's fail-safe design to maintain constant communication with your controllers and ensure every alarm gets resolved as soon as possible.

- Communication failure, power loss or violation of alarm criteria will trigger alarms.
- System contacts up to 96 user destinations during an alarm, calling at programmed intervals until acknowledged.
- Backup batteries last 10 hours and stay charged via precision voltage charging.

Rest assured that Catalyst is completely secure, so you never have to worry about tampering.

- Four levels of PIN passwords ensure protection (read-only, acknowledge, change configuration settings and administrator).
- Modem-to-modem communication ensures data is never exposed to the Internet.

## Flexible Functionality

Configure Catalyst to monitor exactly what matters to you — no need to filter through data you don't want.

- Catalyst integrates with PLCs to monitor equipment and processes.
- Any type of data can be monitored, including digital and analog inputs and outputs.
- Four standard internal inputs, plus up to 256 remote channel inputs.
- RTU communicates via mobile device, landline, pager or fax.

Get all the field data you need to fully analyze all your operations on your desktop computer.

- System collects up to 740,000 data samples at a minimum of 10-second intervals.
- Reports sent to your computer or fax machine.
- The free companion software, Alarmware® 2.0, downloads data to your computer for analysis.

## Superior Efficiency

Configure your channels quickly and easily — both now and as your needs change over time.

- Alarmware 2.0 software allows for programming via your computer instead of the unit keypad, saving time and money.
- System programming and alarm messages can be archived for quick system restoration if needed.
- Saved configurations can be transferred to other units for fast commissioning.

Do more with less effort.

- Fail-proof alarm notification ensures quick resolution, improving uptime.
- Ability to monitor remotely minimizes the need to visit equipment sites.
- Less time spent on monitoring means more time to focus on your work.

## Seamless Integration

Catalyst fully integrates with Allen-Bradley® and other popular controllers. It can monitor a single PLC, control system or entire network.

EtherNet/IP™



Monitoring a single PLC with peer-to-peer communication via EtherNet/IP™ protocol

CATALYST

EtherNet/IP

PLC

NETWORK OF PLCs OR OTHER DEVICES

Monitoring a system with a compatible protocol

CATALYST

Supported Protocol

DAS, SCADA or DCS SYSTEM

Monitoring a PLC network via Modbus® RTU protocol

CATALYST

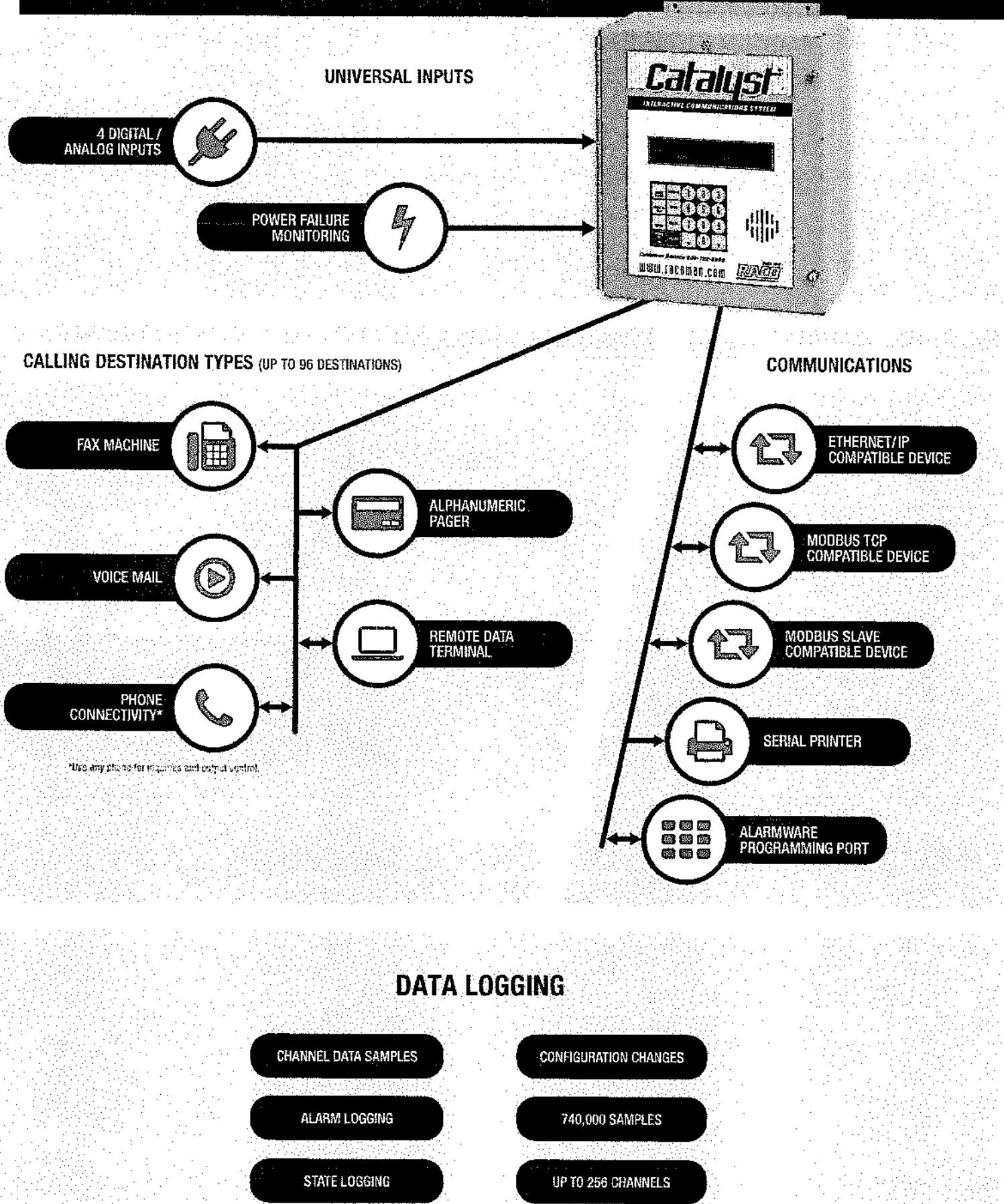
Modbus RTU

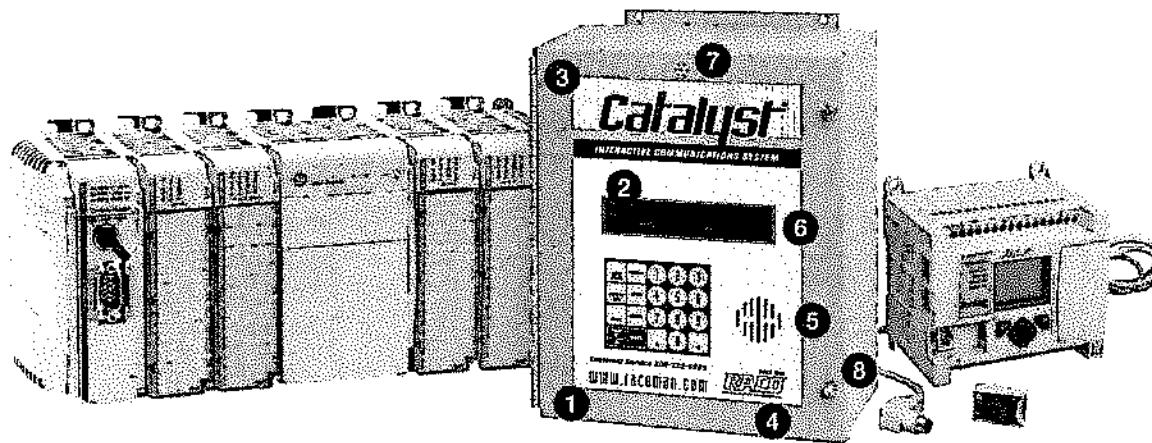
NETWORK OF PLCs OR OTHER DEVICES

NETWORK OF PLCs OR OTHER DEVICES

NETWORK OF PLCs OR OTHER DEVICES

## How Catalyst Works





## Primary Features

- 1 Continuously monitors up to 256 PLC addresses.
- 2 Collects up to 740,000 data samples at 10-second minimum intervals.
- 3 Digitally records user messages up to 45 minutes of recording time.
- 4 Easily configured via Alarmware 2.0 software.
- 5 Verbally reported status checking.
- 6 Visual display of channel status.
- 7 Built-in microphone allows listening to local sounds from remote locations.
- 8 10-hour battery backup.

### Other Features

- All programming included; configuration and voice messages managed and archived by Alarmware 2.0 software.
- Network monitoring supported by a robust set of diagnostic, status and alarm capabilities.
- User-recorded alarm and normal messages for each monitored point.
- Extensive surge protection.
- Built-in speakerphone permits operator to place phone calls and communicate with remote callers.



*Catalyst delivers clear voice messages via mobile device, landline, pager or PA systems.*



*Serial printer port is provided for local data logging.*



*Serial port enables local connection with Alarmware 2.0 software.*

## Programmable Features

### Alarm Call Grouping

- Alarm calls to up to 96 phone number groups.

### Alarm Criteria

- Alarm on open circuit.
- Alarm on closed circuit.
- Status only.
- High/low setpoint.

### Alarm Reset

- On/off.

### Alarm Reset Time

- 0.1–99.9 hours.

### Redial Attempts

- 1–5 redial attempts.

### Alarm System Enable/Disable

- Local and remote enable or disable.

### Alarm Trip Delay

- 0.1–999.9 seconds.

### Time Between Alarm Calls

- 0.1–60 minutes.

### Ring Delay

- 1–20 rings.

### Autocall Test

- On/off.

### Autocall Time Interval

- 0.1–2,376 hours.

### Number of Message Repetitions

- Unlimited repetitions.

### Station ID & Message Recording Time

- User variable.

### Phone Numbers

- 96 phone numbers up to 255 digits each.

### Dialing Format

- Touch-tone or rotary pulse.

### Data Logging

- Number of channels: 1–256.
- Frequency intervals: 10 seconds–24 hours.
- Number of samples: Up to 740,000.

### Data Download

- Automatic data download based on available memory or user-defined schedule.

### Read/Write Data Registers

- Any discrete or integer data register.

# Standard Specifications

## PLC COMMUNICATIONS

- **Fully Compatible:** Requires no modifications to existing network configuration, PLC writing or programs.
- **Remote Data Table Access:** Monitor or alter any data table location on demand via Alarmware 2.0 software, front panel or telephone.
- **System Security:** Access protected by security codes.
- **Alarm Monitoring:** Continuously monitors 56, 96 or 256 PLC addresses.
- **I/O Export:** Able to continuously transfer internal I/O and alarm data to PLCs.
- **Supported Protocols:** Modbus RTU Master, Modbus TCP and Allen-Bradley EtherNet/IP. Contact factory for others.
- **Latency:** Depends on configuration and other network traffic. Typical range of 1-10 seconds.
- **Memory:** Up to 5 MB of memory for user speech and data log file.
- **Channel Grouping:** May assign channels to different destination groups for responsible personnel targeted calling.
- **Configuring:** Programmed via front panel, remote telephone or Alarmware 2.0 software.

## DATA LOGGING

- **Frequency Interval:** 10 seconds-24 hours.
- **Number of Samples:** Up to 740,000.
- **Number of Channels:** Up to 256.
- **Internal Log File:** Collects periodically sampled channel data, alarms, state and configuration changes. Log file transfers to faxes, data collection stations and Alarmware 2.0 software.

## CONNECTIVITY

- **Modbus Port:**  
RS232 9-pin D Sub male.  
RS485 9-pin D Sub male.
- **Ethernet Port:** RJ45.
- **Alarmware Programming Port:**  
RS232C 9-pin D Sub male.
- **Serial Printer Port:** RJ45 modular connector.

## ELECTRICAL

- **Power Requirements:** 105-135 V AC, 50/60 Hz, 15 watts maximum or 8-14 V DC at 500 mA maximum.
- **Battery Charging:** Precision voltage controlled, including automatic rapid recharge after drain.
- **Battery Backup:** 10 hours.
- **Current Draw:**  
Standby: 420 mA.  
Active: 450 mA.
- **Internal Input Sensing:**  
*Digital:* Unpowered contact inputs. Open contacts see 5 V DC; closed see 10 mA DC.  
*Analog:* 4-20 mA current loop, scalable in engineering units; resolution: 0.1%, accuracy: 10 bits.

## PHYSICAL

- **Surge Protection:** Integral gas tube and solid-state protectors on all phone, power and signal lines.
- **Rugged metal indoor enclosure.**
- **Weight:** 8 lbs. (3.6 kg)
- **Dimensions:** 11 7/8" H x 9" W x 5" D.
- **Mounting Centers:** 11 3/4" vertical x 6" horizontal.

## ENVIRONMENTAL

- **Temperature Range:** 20-130° F.
- **Humidity:** 0-95%, noncondensing.

## TELEPHONE

- **Rotary pulse or touch-tone dialing, keyboard selectable.**
- **Dials up to 96 different numbers, each up to 255 digits long.**
- **Allows programming of multiple PBX delays in 1-second increments.**
- **FCC Registered Part 68, "Ringer Equivalence": 0.3 A.**
- **Alarm acknowledgment is by touch-tone key, Alarmware 2.0 software or by calling back.**
- **Built-in speakerphone allows for two-way conversation.**
- **Compatible with most cellular telephone systems.**
- **Destination Types:** Mobile device, landline, numeric and alphanumeric pagers, fax machines, data log collection stations, Alarmware 2.0 software and PA systems.

## SPEECH MESSAGES

- **Users record up to 45 minutes of their own messages.** Also includes resident vocabulary for programming guidance and for default "alarm/normal" speech if no user messages are recorded.

## WARRANTY

- **5-year parts and labor warranty.** See our separate warranty card for details.

## PHYSICAL UNIVERSAL INPUTS

- **Standard 4 physical universal inputs.**

## FACTORY OPTIONS

- **Power Supply:** UL approved, CSA/UL approved.
- **Enclosure:** System available in NEMA 4X enclosure, which is corrosion-proof and sealed against 12' of water.
- **Environmental:** Heater with thermostat control.
- **4 MB Memory:** 4 MB memory upgrade for the following models: C10-S-020-1450 and C10-S-020-1450ET.

## ■ Additional Cables:

- Serial Printer Cable:* 6' Catalyst-to-serial-printer cable.
- Modbus Cable:* 6' Catalyst-to-Modbus cable.
- Alarmware Cable:* 6' Catalyst-to-computer cable.

## ■ Cellular™ Cellular Communication System

## ALARMWARE 2.0

- Locally or remotely configures units, collects log files and maintains configurations for multiple units.
- **Firmware Upgrades:** Use Alarmware 2.0 software to upgrade unit without changing hardware or returning unit to factory.

# Catalyst Models

## Modbus Compatible

### C10-S-020-1450

Monitors 56 total channels, including 4 internal digital/analog inputs, 1 MB memory, 120 V AC power source.

### C10-1-020-1450

Monitors 96 total channels, including 4 internal digital/analog inputs, 5 MB memory, 120 V AC power source.

### C10-2-020-1450

Monitors 256 total channels, including 4 internal digital/analog inputs, 5 MB memory, 120 V AC power source.

## EtherNet/IP & Modbus Compatible

### C10-S-020-1450ET

Monitors 56 total channels, including 4 internal digital/analog inputs, 1 MB memory, 120 V AC power source.

### C10-1-020-1450ET

Monitors 96 total channels, including 4 internal digital/analog inputs, 5 MB memory, 120 V AC power source.

### C10-2-020-1450ET

Monitors 256 total channels, including 4 internal digital/analog inputs, 5 MB memory, 120 V AC power source.



#### GO TO RACOMAN.COM/CATALYST FOR:

- Product Info
- Online Ordering
- Operating Manuals
- Tech Support

#### FOLLOW US

- [facebook.com/RACOmann](https://www.facebook.com/RACOmann)
- [linkedin.com/company/raco-manufacturing-&-engineering](https://www.linkedin.com/company/raco-manufacturing-&-engineering)
- [twitter.com/RACOmann](https://www.twitter.com/RACOmann)
- [youtube.com/RACOmann](https://www.youtube.com/RACOmann)
- [autodialer-info.racoman.com](https://autodialer-info.racoman.com)

## Why RACO?

Since 1948, RACO has built a reputation for reliability, innovation and customer service. We look for the latest breakthroughs and insist that they meet our standards before introducing them to our customers.

Catalyst, your all-in-one data logging and remote monitoring solution, is just one product in a complete family of alarm detection and notification systems designed for a variety of applications. From the latest innovations to the trusted industry standards, RACO has a solution to fit your needs.

SINCE 1948

**RACO**<sup>®</sup>

REMOTE ALARMS AND CONTROLS

1400 62nd St. Emeryville, CA 94608  
Fax: (510) 658-3153  
Tel: (510) 658-6713  
Toll Free: (800) 722-6999  
[sales@racoman.com](mailto:sales@racoman.com)  
[racoman.com](http://racoman.com)

© 2014 RACO Manufacturing and Engineering Co.  
IM 9/14. Printed in U.S.A.  
Specifications subject to change without notice.  
#183



1365 Hamlet Ave. Clearwater, FL 33756 (727) 442-7196

## WORK ORDER INITIATION FORM for the CITY OF CLEARWATER

Date:	November 1, 2018
Consultant Project Number:	160358
City Project Number:	17-0041-UT
City Plan Set Number:	2017020

### 1. PROJECT TITLE:

WTP No. 1 SCADA System PLC Upgrades

### 2. SCOPE OF SERVICES:

The City of Clearwater's Water Treatment Plant (WTP) No. 1 control system includes programmable logic controller equipment (PLC) that is being phased out of standard production by the manufacturer (Allen Bradley/Rockwell Automation SLC 500). The City has recognized the obsolescence of this PLC equipment and the importance it serves for the monitoring and control of City facilities. The City therefore desires to perform upgrades to Water Treatment Plant No. 1, including PLC equipment, remote I/O devices and network communications for the plant control system.

The City has requested that McKim & Creed provide equipment selection assistance as well as software implementation and conversion services for upgrading the existing controller-related systems from the older Allen Bradley platforms to current technology CompactLogix/ControlLogix series units with similar input/output components. All upgrades, including related communications equipment, will support the upgraded PLCs with all communications over Ethernet.

McKim & Creed will assist the City in selecting components and provide drawing documentation indicating the communication connections, an upgraded network diagram, the PLC component layout and the I/O module signal termination points. The City will procure all equipment and perform all equipment installation, communications cabling and field wiring/terminations. On completion of the City's installation work, McKim & Creed will test the PLC software programs and confirm the interface to the plant SCADA computer systems.

Upgrades will include the following locations and activities:

- Electrical Room PLC system
  - Convert CP-100 PLC from SLC 5/05 to a CompactLogix L33ER
  - Include a third-party Modbus serial module to maintain communications to the switchgear and MCC power monitors