DEPARTMENT PROFILE:
The Reliable Software Team

NEW AT RELIABLE:
Partnership, Building, and More!

www.reliablecontrols.com

RUNtime

The Official Quarterly Newsletter of Reliable Controls® Corporation

Q3 - 2018

OFFICIAL RELEASE

RCStudio® 3.6

The Ultimate All-In-One Engineering Tool

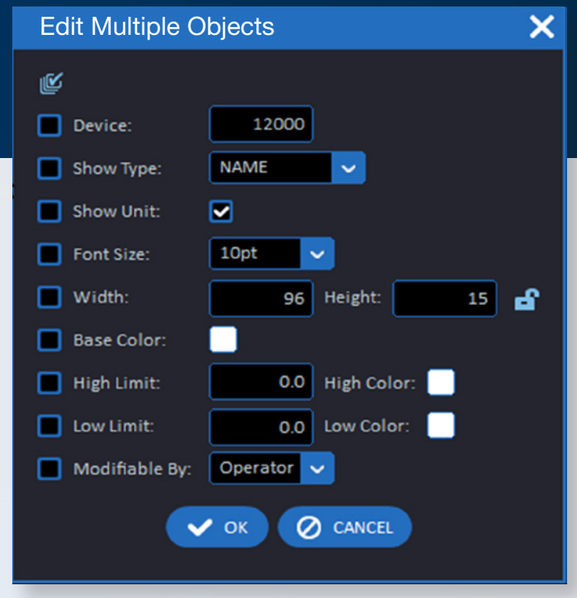
Introducing RC-Studio® 3.6

The Ultimate All-In-One Engineering Tool

Fully program your MACH-Series controllers and create dynamic graphical interfaces to third party BACnet® devices. RC-Studio meets or exceeds the BACnet Advanced Workstation (B-AWS) profile and is the ultimate all-in-one engineering tool for the MACH-System™.

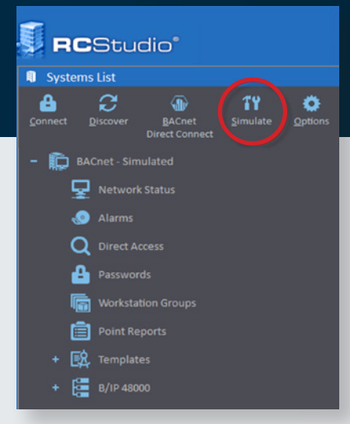
New Capabilities

- NEW Features in Simulator Mode include fully functional templates, update and restore functions.
- NEW Capability to add Multiple Simulated Devices at once using the Add Simulated Device dialog box.
- NEW dialog box added for editing multiple objects in a System Group.
- NEW Template Features: Network Status Worksheet, SMART-Sensor™ Support, and MACH-ProView™ VIEWS Setup Dialog Box Support.
- NEW MACH-ProView Icon (with no display screen) and MACH-ProView LCD now labeled “MPV-L”.
- NEW improvements to performance, the user interface, and licensing options.
- NEW localized languages: Spanish, Italian, Portuguese, and German, in addition to English, French, and simplified Chinese.



Select and edit multiple objects in a System Group with a new dialog box. Select the multiple objects in the System Group, right click, and select Edit from the shortcut menu to open the Edit Multiple Objects dialog box. Drag a square over the objects and/or hold CTRL+Click the objects you would like to edit.

Options that are common between all selections are displayed based on the objects selected and functions similarly to the Edit Object dialog box.



Simulate Mode allows you to program an entire system offline without the need for controller hardware and is now equipped with several new features that include fully functional Templates like the update and restore functions.

The Color Picker dialog box has been substantially improved and updated to provide a consistent and effective user experience allowing users to:

- Define up to 30 custom colors.
- Specify colors by entering RGB values manually and Hex values.
- Specify colors by clicking in a gradient square.
- Use a slider to modify the Hue and RGB values.
- Define multiple colors for options like Replace Color or High/Low/Normal without having to close the Color Picker dialog box.
- Choose from a variety of predefined color themes.
- System Group animations are stored as RGB and are not limited to the custom or predefined colors.

All-In-One Engineering

Recognized as the ultimate all-in-one engineering tool, RC-Studio from Reliable Controls provides a multi-vendor, multi-protocol integration solution for database, alarming, scheduling, trending, sequence of operation programming, and much, much more.

Partnership with St. Lawrence College

Preparing Future Professionals for Success

Reliable Controls is pleased to announce a partnership with St. Lawrence College. Students in the college's Energy Systems Engineering Technology (ESET) program will be learning on Reliable Controls cutting-edge equipment for the next ten years.

This partnership will ensure students will continue to learn on the industry-standard equipment for which Reliable Controls is recognized. The faculty and technologists will have access to the company's state-of-the-art training and technology upgrades to ensure students are prepared for their careers in the rapidly evolving energy system management field.

"As a college, we are committed to preparing our students for success in their future careers," said Glenn Vollebregt, President and CEO of St. Lawrence College. "Through our partnerships... we can ensure the relevance of our ESET students' education in a rapidly evolving field."

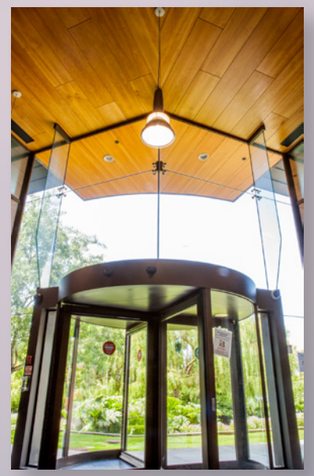
Ottawa-based Reliable Controls Authorized Dealer, REL Controls, answered the call of a St. Lawrence College faculty member in search of parts to repair existing controls, and subsequently, the idea of a full-scale partnership evolved. Reliable Controls provided over $200,000 in equipment and committed to ensuring the lab remains up to date with future innovations. In addition, faculty and staff will have access to industry training, and Reliable Controls and REL Controls personnel will provide work placement opportunities and on-campus recruiting of graduating students.

"Reliable Controls is pleased to continue its commitment to education through this, our first formal partnership with a Canadian college," said Executive Vice President, Sales & Marketing, Thomas Zaban, P.Eng. "The need for highly skilled building controls professionals is great, and the beauty of our BACnet® open protocol software means these students will be well-equipped to work on any BACnet system they may encounter upon graduation."

Reliable Controls Adds a Second Office

Houses Software & Tech. Support

Due to continued growth, Reliable Controls expanded its footprint by leasing a 1, 156 m^2 (12, 375 ft^2) space located at #401 Garbally Rd. in Victoria, just a few minutes drive from corporate headquarters. In June of this year the Software department, the QA department, and several other Research & Development (R&D) personnel moved to the new facility.



The move happened in two separate stages, one for the Software department, DevOps team, and part of QA, and the other for the Tech Support team. Back in the headquarters building, the Human Resources and TechCom departments relocated to the area vacated by the software department. Logistics for the move was a challenge, and outfitting the new facility involved the efforts of many Reliable Controls personnel.

Although the new leased space has a competitor's HVAC control system, the company still managed to install a MACH-System™ that fully controls the lighting and also monitors temperature and air quality. A full ASHRAE 90.1 (2016) compliant low voltage lighting control system was installed using the new MACH-ProLight™ controller. The timing of the move was perfect for giving the lighting controls a real-life, in-house test prior to the Beta release.

Also installed, were 18 SMART-Sensor EPD (SS3-E) sensors that monitor temperature, CO2, and humidity, to ensure that the landlord maintains building comfort conditions for the employees!

RC-RemoteAccess®, RC-WebView®, RC-Archive®, and RC-Reporter® were connected to the new MACH-System, enabling Reliable Controls facilities staff to securely communicate, monitor, and report on the operation of the new space.

Welcome to New Dealers

New Reliable Controls Authorized Dealers

DGCon Systems
Marousi, Attica, Greece

Honeycom Automation & Security PVT, Ltd.
Dhaka, Bangladesh

Intelligence Carbon Zero
Zapote, Costa Rica

Johnson Barrow Inc.
Seattle, WA, USA

Luminex (Pvt), Ltd.
Moratuwa, Sri Lanka

Mefa, UAB
Vilnius, Lithuania

N-Demand Test and Balance, LLC
Albuquerque, NM, USA

Trade Shows

Visit Reliable Controls at these Upcoming Trade Shows

AIRAH - DARWIN
July 18, 2018
Sky City Casino
Mindil Beach, Gilruth Avenue
Darwin City NT, Australia

Mostra Convegno Expocomfort (MCE) Asia
September 5-7, 2018
Sands Expo & Convention Center
Marina Bay Sands, Singapore
Booth #F23

Grow Up Conference & Expo
September 7-8, 2018
Scotiabank Convention Centre
Niagara Falls, ON, Canada
Booth #532

38th Annual Conference of the Canadian Healthcare Engineering Society
September 16-18, 2018
St. John's Convention Centre
St. John's Newfoundland, Canada

Airport Conference
September 27-28, 2018
Frankfurt Airport
Frankfurt, Germany

People You Can Rely On

Research & Development: Software Department

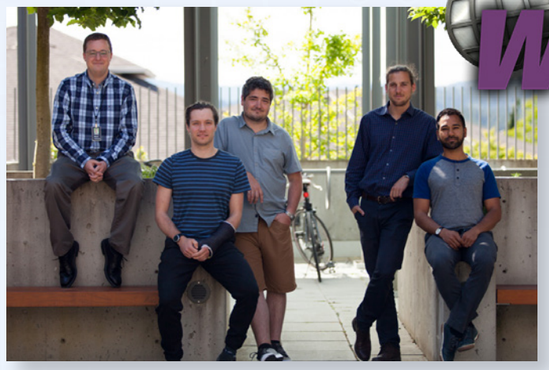
The Reliable Controls software team is composed of both project and service teams to satisfy feature requests and service the needs of our customers. Currently, we have four project teams developing new features and maintaining our software products, and three service teams focusing respectively on user interfaces, DevOps, and Software Support.

Each role, working together, provides for the quality of our products.

The RC-Studio Team (left to right): James Knappett, Steve Bennett, Kerem Gurses (Product Owner), Roland Laird, Jianming Tu, Doug MacLean, Chris Howard, Jeremiah Wilbur, and Bryn Groves (Scrum Master)

Project teams are composed of three-seven developers, Quality Assurance (QA), a Scrum Master, and a Product Owner, with support from the User Interface/User Experience (UI/UX) team, Technical Communications, and other departments. The Product Owner is the “voice of the customer” and is responsible for translating feature requests into fully realized features and for prioritizing the work.

The Scrum Master oversees the process of developing these features, ensuring best practices are observed, and that nothing is overlooked. The developers design and implement the features in code and QA verifies that the code satisfies the feature requirements.



The RC-WebView Team (left to right): Mark Hatherly (Product Owner), Ian Brown, Steven Chester (Scrum Master), Parker Atkins, and Amandeep Singh

The squad Team: Raymond Lee and Damian Mann

The squad is a flexible team wearing many hats and assigned to a variety of projects over multiple product lines, including RC-Toolkit® and RC-RemoteAccess®.

Department Profile

The UI/UX Team: Sarah Sorenson and Andrew Macklin with assistance from Shaun Aiken in QA (below)

Our UI/UX team provides value to the project teams by defining the user experience for all our products. This includes the look and feel, with care for consistency both within and between products, as well as more subtle decisions ensuring the most used features are easily accessible, the options and menus are clean and concise, and the suitable help text is available when required.

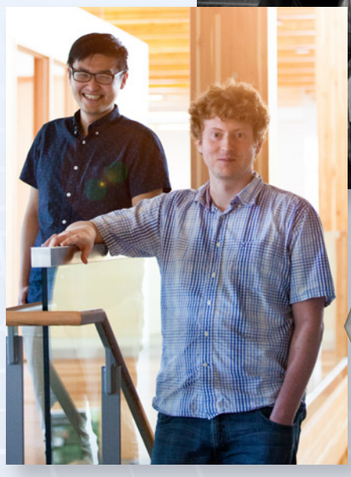
Our software development and operations (DevOps) team helps to unify the other teams by automating and managing configuration, installation, deployment tools, and scripts.

Finally, our Software Support team provides 3rd-tier customer service to resolve issues and questions that are escalated from our tech support group.

The RC-Reporter Team (left to right): Keith Fowler, Simon Griffith, Paul Hendry, Paul Skilton, Rick Wolf (Scrum Master), James Parry (Product Owner), and Hao Lu

The DevOps Team (from top to bottom): Simon Griffith, Damian Mann, James Knappett, and Steven Chester

The Software Support Team: Hao Lu and Jeremiah Wilber



Department Profile

Producing quality code is a challenging and complex task. At Reliable Controls we use industry-proven best practices combined with an inspective continuous improvement process, which means we consistently evaluate how we operate and look for opportunities to do better. The definition of “ready” guides us to what must be done before writing any new code. This ensures the requirements and designs have been properly defined and vetted and the processes have been properly followed.

What are best practices? Software architecture provides a structure ensuring that features are implemented with the entire system in mind, and that the software is maintainable and robust as new code is continuously added. Code reviews ensure that developers use efficient and effective design principles, data structures, and algorithms, and that the code is comprised of modular components. Unit tests ensure that each modular component does exactly what is intended. Integration tests ensure that when components are combined, the resulting code functions as expected. Functional stress tests ensure that features operate satisfactorily under negative conditions. System tests ensure that the software works as expected as part of the full MACH-System deployment.

Due to the success of our authorized dealers, Reliable Controls continues to thrive and grow, and the software department has grown with it, from 17 employees a year ago to 26 today. This growth, along with good management and continually improving processes, will enable the software team to complete more features while reducing bugs, and planning for future technologies and opportunities. The future is bright for software!

Richard Mosher (Software Manager) with the Software Team

people & technology
you can rely on™

Reliable Controls Receives Recognition

Wins Awards for Top Employer and Greenest Employer

Now in its 5th year, Canada’s Top Small & Medium Employers is an editorial competition that recognizes the small and medium enterprises (SMEs) with the nation’s best workplaces and forward-thinking human resources policies. Employers were evaluated by the editors at Canada’s Top 100 Employers using the same criteria as the national competition: (1) Physical Workplace; (2) Work Atmosphere & Social; (3) Health, Financial & Family Benefits; (4) Vacation & Time Off; (5) Employee Communications; (6) Performance Management; (7) Training & Skills Development; and (8) Community Involvement. Employers are compared to other organizations in their industry to determine which offer the most progressive and forward-thinking programs. The annual competition is open to any employer with its head office or principle place of business in Canada. Employers must have less than 500 employees worldwide, including employees at affiliates, and be a commercial, for-profit enterprise.

Here are some of the reasons why Reliable Controls Corporation was selected in 2018:

- Reliable Controls supports ongoing employee education with tuition subsidies for courses directly and indirectly related to an employees’ role, up to $2,000 per year.
- Along with helping employees save for the future, Reliable Controls Corporation offers phased-in work options to help those nearing retirement make the transition.
- Reliable Controls Corporation supports local and national charitable organizations each year and encourages employees to give back with paid time off to volunteer and matching employee donations.

2018 SME CANADA’S TOP SMALL & MEDIUM EMPLOYERS

2018 CANADA’S GREENEST EMPLOYERS

Now in its 11th year, Canada’s Greenest Employers is an editorial competition that recognizes employers that lead the nation in creating a culture of environmental awareness. Winning employers, selected by the editors of Canada’s Top 100 Employers, are evaluated using four main criteria: (1) the unique environmental initiatives or programs they have developed; (2) whether they have been successful in reducing their own environmental footprint; (3) whether their employees are involved in these programs and contribute any unique skills; and (4) whether their environmental initiatives have become linked to the employer’s public identity, attracting new employees and customers.

Here are a couple of reasons why Reliable Controls was selected in 2018 as one of Canada’s Greenest Employers:

- In keeping with its line of business, Reliable Controls Corporation’s head office is a LEED Platinum certified building with many impressive green features, including a storm water management system that directs water to a series of vegetated bioswales and rain gardens, unique daylight harvesting controls to enhance lighting, and use of collected rainwater for toilet flushing.
- In support of the annual Bike to Work Week, Reliable Controls Corporation employees volunteer to host a bicycle repair clinic one week prior to the event and offers free diagnostics and tune-ups to help colleagues prepare for the week -- the company also encourages non-cycling employees to participate with raffles and prizes for the top three riders who cycle the greatest distances.

VeroBlue Aquaculture

Webster City, IA, USA

Agriculture

Overview

This project started out with a vision to create an innovative aquaculture system that is favorable to both fish and the environment, based in America's heartland. This proprietary, leading-edge process uses the natural elements of air, water, and care with several premium species of fish. The fish grown in this aquaculture system allows VeroBlue to offer the most wholesome eating experience to fish lovers worldwide.

Project Details

Reliable Controls Authorized Dealer FM Controls, Inc., completed this unique, new construction project for VeroBlue—the first urban fish farm of this scale ever built.

The facility consists of five barns, each containing 48, 10,000 gallon tanks. Each barn has a heating water system, ventilation system, aeration system, filtration equipment, water supply system for the fish tanks, and a power metering system. Each barn also includes a standalone mechanical system with redundant equipment (pumps, fans, etc.) and a 300 kW emergency backup generator. In addition to the mechanical systems for the barns, a 100,000 gallon water treatment plant is controlled and monitored.

The redundant backup equipment is designed to maintain water and aeration to sustain the fish health in event of equipment failure. Equipment failures of greater than 15 minutes put the fish health in jeopardy and the sustainable losses would be financially catastrophic.

The Reliable Controls equipment installed includes nine MACH-ProComs, one MACH-ProWeb, 74 MACH-ProPoints, 16 MACH-ProViews, and five SMART-Space Controllers. BACnet® integration includes nine Modbus interfaces with generators, six BACnet power meters, two BACnet interfaces to gas detection, and two BACnet chillers.

Because this project was the first of it's kind on this scale, it presented multiple challenges during construction. The tropical operating environment of the equipment and controls required many special sensors and monitors to effectively operate the facility. After substantial testing of five barns, the owner's intention is to build an additional 10 more barns in the future.

To learn more about projects using Reliable Controls® visit
www.reliablecontrols.com/projects/overview

Project Type:
New Construction

Installation Type:
Boiler, Chiller, HVAC, Laboratory, Lighting, Power, Water Monitoring

Total Area:
25,084 m^2 (270,000 ft^2)

Network:
BACnet, Ethernet

Points:
1,200

Equipment Installed:
9 MACH-ProCom™
1 MACH-ProWeb™
74 MACH-ProPoint™
16 MACH-ProView™
5 SMART-Space Controller™

Reliable Controls® Dealer:
FM Controls, Inc.

www.reliablecontrols.com

BACnet