

THE **trend**

THE OFFICIAL QUARTERLY NEWSLETTER OF RELIABLE CONTROLS[®] CORPORATION



The Polar Shelf



The Polar Shelf

In a barren land at the top of the world where the seasons oscillate between 24-hour winter darkness and 24-hour summer sunlight, the Inuit village of Resolute sits anchored into the rough gravel, ringing the northern edge of Resolute Bay. Taking its name from the legendary 19th century arctic barque tasked with finding the ill-fated Franklin Expedition, Resolute's three hundred inhabitants stand as one of Canada's northern-most communities. Resolute is also one of the coldest inhabited places in the world, with an average yearly temperature of -16.4°C (2.5°F). Since the dawn of the aptly-titled Cold War, Resolute has been an important hub for military and scientific expeditions and today serves as a starting point for arctic research, offering access to the north pole, the north magnetic pole, and the polar continental shelf.

In the summer of 2010, a six million dollar upgrade was delivered to the Polar Continental Shelf Project's facilities in Resolute Bay, home to Canadian and world scientists for arctic and polar research. Construction CEG and Concept Mat, two companies based in Matane, Quebec built the facility on the shores of the St. Lawrence River and then separated the project into 32 modules that were later shipped via container ship through the Northwest Passage to their permanent home in Nunavut territory. These multi-purpose buildings house state-of-the-art laboratories, a complete kitchen, dining room, living room, and 35 rooms designated for sleeping quarters.

The original controls contract for the Polar Continental Shelf Project's facility upgrade was awarded to Controles Electrique RK, a Matane, Quebec controls company specializing in industrial controls and wind power. With little or no expertise in building controls, Controles Electrique RK called on the services of Reliable Controls® Authorized Dealer, Les Controles AC of Quebec City. While Controles RK were in charge of the installation on the job site, Les Controles AC provided engineering programming, control panels, components, and start up in partnership with Controles RK before shipping the modules to Resolute Bay.

After the facility was reconstructed in Resolute Bay, both control companies travelled in February of 2011 to the great white north to finalize commissioning and start-up of the building automation system. To date, most controls projects in Resolute Bay have been for electrical control, but with the Polar Continental Shelf Project's BAS installation a new chapter of building control had begun in a harsh environment.

To understand how unique the Polar Continental Shelf Project's facility is, consider that all drinking water is delivered by truck to the facility and all sewage is removed from the facility by truck (not the same truck), with both systems closely

monitored for leak detection, and all electricity provided by diesel generators. All accommodation buildings at the Polar Continental Shelf Project's facility are attached, but for the scientists the commute to work is a quick jump outside to the self-contained laboratory – it's just not a good idea to linger outside for too long considering none of the settlement's hotels allow their guests to "go outside" because of periodic white-outs and threats of polar bear attacks.

The Reliable Controls® MACH-System installed at the Polar Shelf facility covers three distinct areas: accommodation; recreation; and laboratory. Each area has unique requirements, but because of the versatility of the Reliable Controls® MACH-System, each area received a similar installation with a combination of a MACH-ProSys™ connected to MACH-ProPoint™ (except for the lab) and MACH-Stat™ controllers. In the accommodation area, the controlled mechanical equipment included one Air Handling Unit for the rooms (AHU-1), a heat reclaim unit (air exchanger

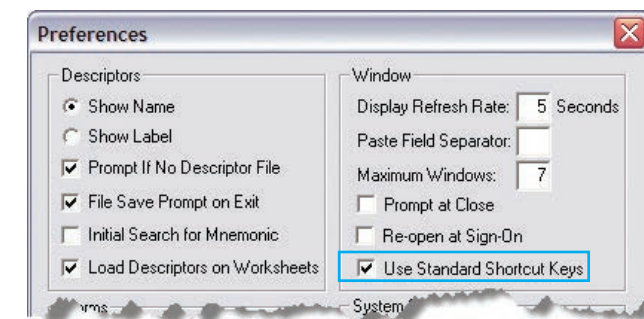
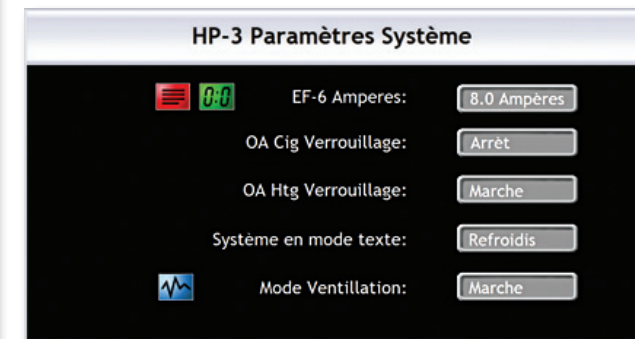
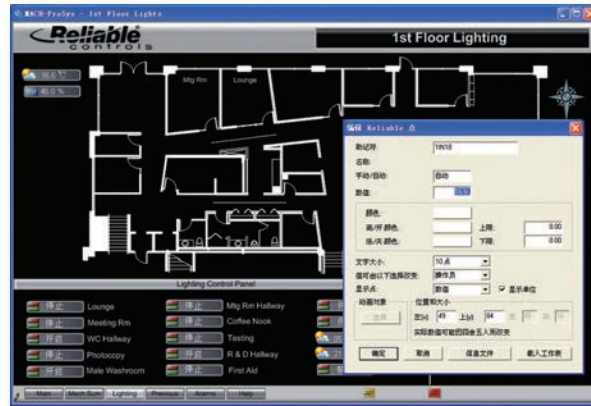
for AHU-1, 2, and 3), sewage tanks, and leak detection. In the recreation area controlled equipment included AHU-2, a condensing unit (heat reclaim), kitchen range hood/air make up, heating (boilers), indirect water heaters (domestic hot water supply), drives for pumps (pressure controls heating systems), unit heaters, radiant heaters, water tanks and leak detection, level and pumping controls. In the lab, equipment included condensing unit, indirect water heaters, boiler, pumps, sewage and water tanks, and leak detection. The entire system used a combination of EIA-485, Ethernet, and IP to have the accommodation and recreation tied together, and have the lab be a standalone entity. Beyond the extremely low temperatures, unique aspects of this project included sewage overflow protection and preassembly of the modules requiring a proven simulation mode. Above all, the most critical task of the system was to offer 24/7 monitoring of the mechanical system and alarm management because in the frozen expanse of the Canadian high arctic, you cannot afford to lose control of a building.



RC-STUDIO 2.0 UPDATE 1.62 RELEASED



The latest update of RC-Studio® 2.0 was recently released. Jam-packed with improvements and fixes, update 1.62 features some significant highlights, most notably improved language support. Extensive support has been added for the Chinese language (both simplified and traditional). This is only seen when installing RC-Studio® 2.0 on a PC running the Chinese version of Microsoft Windows. Improvements were also made to the French language support, including better French keyboard handling.



One of the more fundamental changes in update 1.62 is the addition of standard shortcut keys, and perhaps most significant of all to legacy users, standard shortcuts have been enabled by default. For example, Ctrl+C will copy selected text and Ctrl+V will paste from the clipboard. This preference can be disabled and enabled with the Use Standard Shortcut Keys field in the Preferences dialog box.

MACH-ProWeb support has also been improved – in update 1.62 descriptors can be copied from an MPW to a local workstation. On large networks, this is much faster than the Load Descriptor function when viewing System Groups. To copy descriptors from the MPW to the workstation, use the Resource Manager and either drag and drop from the Resources on MPW pane to the Selected Workstation Resources pane, or select Descriptors in the Resources on MPW pane and click the download button.

MACH-STAT REV D - NEW CONNECTORS

A new revision of the MACH-Stat™ is now shipping. The revision D board (Rev D) improves the ease of wiring through a relocation of the input/output connectors from the backplate to the main printed circuit board. This change allows the controller to be removed from the backplate while maintaining virtually all the I/O, power, and network wiring. The only items that experience interruption are the onboard thermistor connection, the setpoint slider connection, and the SMART-Net connection. Since these items maintain their last known values in memory, upon open circuit the controller can still be removed temporarily for service without any practical concerns.

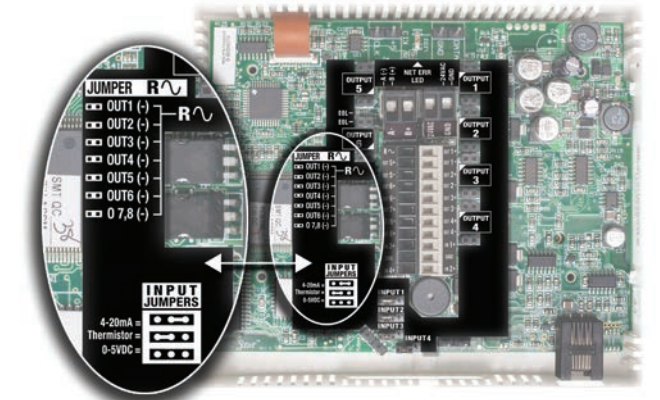
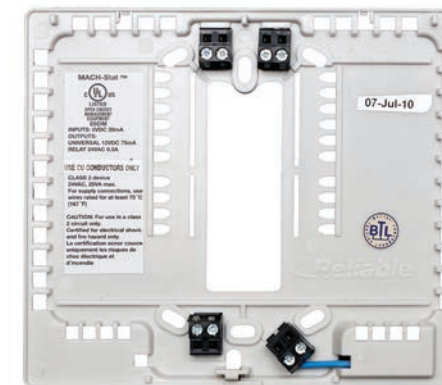
The onboard thermistor and slider have a 15-minute hold time. After 15 minutes of interruption, the onboard thermistor and slider will read full scale, enabling detection of a failed connection. Another big Rev D addition is that individual jumpers have been added for each output providing 24 VAC to each TRIAC module.

The Rev D will improve your installation and service times by providing;

- Ease of wiring,
- Ease of service, and
- Ease of supplying 24 VAC to TRIACs.



Removable connectors now onboard instead of on the backplate.



Jumpers supply 24 VAC directly to TRIAC output

New Dealers

Tieche Engineering Systems

Woodland Hills, CA
United States

Mechco

Jackson, WY
United States

GEW Mechanical

Albuquerque, NM
United States

Quality Control Systems

Sparks, NV
United States

Environmental Automation – VIC

Port Melbourne, VIC
Australia

Environmental Automation - NSW

Stanmore, NSW
Australia

Ao Ke Sheng Da Ke

Chao Yang District, Beijing
China

HVAC Solutions

Colorado Springs, CO
United States



2011 VIATeC TECHNOLOGY AWARDS SHOW



VIATeC EMPLOYER OF THE YEAR

Over 500 Tectorians recently gathered at the VIATeC Technology Awards to applaud the technology community's success for making Greater Victoria a leader in advanced technology in Canada. With a late night TV talk show theme, complete with props and sidekicks, the night was filled with entertaining commentary, videos, and live music. For Reliable Controls® it was a banner night, winning the **"Employer of the Year"** category. Roland Laird was on hand to collect the hardware and thank the extended Reliable Controls® family for making our company a winning success.



A collection of Reliable employee quotes...

"For me, as a newcomer to Canada, the relationship between management and the employees and the company's atmosphere is simply "too good to be true". Very friendly & full of respect. By coming to "Reliable Controls" I expand my family!"

"I've worked for several of Victoria's high tech companies over the last 20 years and have never been treated so well. Reliable Controls management has always been honest, respectful and considerate in dealing with me individually and with the staff as a whole. Also, a leader in environmental initiatives (LEEDs) and a good community supporter. At Reliable, it's about the people."

"I knew there was something different about Reliable from the very moment that I received a call from the receptionist to come in for an interview - there was a relaxed and friendly demeanor in her voice. The interview clinched it - it wasn't the standard 'questions by rote' that I had become used to. Once again, it was relaxed, friendly and informative. Now, 1 1/2 years later, I am still as comfortable working at Reliable as I was that first day. It is truly a pleasure and a privilege to be able to work for this company."

"Reliable Controls has given me the opportunity to work from home, giving me more time for my family and more flexibility with cost of living."

"Among many positives, I appreciate most the employee-centered view and the flexibility and openness in dealing with peer requests. There are no bureaucratic, stone-cast hierarchies, focusing more on tasks than on conventions."

"Unlike many companies, Reliable is willing to be flexible with our hours so we're able to get to appointments, work around school schedules, etc."

"Respect!"



Reliable Controls® was also the recipient of the Camosun College School of Trades and Technology **"Co-op Employer of the Year"** award given to the company that shines above all others in co-op work term feedback. James Puritch and Laszlo Orban were on hand to receive the award.





2010 Award Winners

Regional recognition and appreciation of...

...highest sales contribution

...sustained new growth

...excellence achieved in all aspects of business

TOP SALES

ENTREPRENEUR

MVP

EASTERN CANADA



WESTERN CANADA



EASTERN USA



MIDWEST USA



WESTERN USA



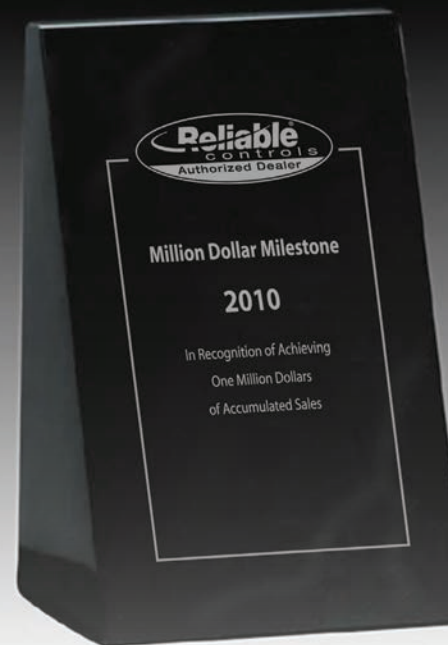
AUSTRAL-ASIA



INTERNATIONAL



CHINA



Automated Building Concepts
www.abchvac.com



Congratulations to Automated Building Concepts, BAS Technologies, Jade Logic Building Technologies, and Techno Controls for achieving over \$1,000,000.00 in historical purchases with Reliable Controls®. This very significant milestone recognizes a dealer's strong and long-lasting commitment to customer service and dedication to the controls industry.

Congratulations to Les Controles AC of St. Renald, Quebec in being awarded the 2010 Dealer of the Year. The award is very significant in that it recognizes a single dealer with the highest sales for the year in all the regions of the Authorized Dealer network. Les Controles AC has been a dealer of excellence with Reliable Controls® since 1998.

LINK SHOPPING CENTERS

HONG KONG, CHINA

RETAIL

SHOPPING ONLINE

Link Real Estate Investment Trust (REIT) is one of the world's largest REITs with assets in the neighborhood of US\$3.3 billion. With over 180 properties, primarily shopping malls and carparks in the greater Hong Kong area, Link's portfolio consists of approximately 1,022,000 m² (11 million ft²) of retail space and 80,000 carpark spaces.

PROJECT DETAILS

Reliable Controls® Authorized Dealer, System Mart, was tasked with replacing the chillers at 18 Link Shopping Centres in the greater Hong Kong area. The scope of work involved programming for the control and monitoring of air and water cooled chillers. Monitoring included the chiller and temperature sensors, valve actuators, flow switches, pumps, and cooling towers. The system information is sent back to an installation of RC-Studio® 2.0 that is housed in a centralized Control and Monitoring Center.

For most of the shopping centers, MACH-ProSys™ controllers were installed as Modbus slaves to communicate with a PC acting as the Modbus master. And taking advantage of the true versatility of MACH-Pro series controllers, those same MACH-ProSys™ controllers use BACnet® to communicate with a remote desktop that uses RC-Studio® 2.0.

System Mart estimates that their chiller program will save the Link Shopping Centres approximately US\$100,000.00 a year.

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



PROJECT TYPE:

Retrofit

INSTALLATION TYPE:

Chiller

TOTAL AREA:

5,000 m² (53,800 ft²)

EQUIPMENT INSTALLED:

**18 MACH-ProSys™
26 MACH-ProPoint™ Input
48 MACH-ProPoint™**

NETWORK:

Ethernet, EIA-485

INTEGRATION:

BACnet, Modbus

TOTAL SYSTEM POINTS:

2000 points

RELIABLE CONTROLS® DEALER:

System Mart

www.reliablecontrols.com