

THE OFFICIAL QUARTERLY NEWSLETTER OF RELIABLE CONTROLS® CORPORATION



The logo for BTL Testing Laboratory is a circular emblem. The outer ring contains the text "BACnet®" at the top and "TESTING LABORATORY" at the bottom. In the center, the letters "BTL" are prominently displayed in a large, bold, sans-serif font. Below "BTL", there is a stylized graphic consisting of three vertical lines of varying heights, resembling a simplified ladder or a set of test points.

THE **MACH-ProWeb™**

Field Controller. Web Server. Workstation.

Publish your building automation system to the Web quickly and easily with the Reliable Controls® MACH-ProWeb™, a fully programmable BACnet® Building Controller (B-BC) with a built-in Web server and operator interface. The MACH-ProWeb™ is designed to meet and exceed the requirements of a BACnet® Operator Workstation (B-OWS).

The Reliable Controls® MACH-ProWeb™ combines the field controller, configurable Web server, and browser driven workstation into a single device which is simple to use, flexible to engineer, and highly economical.

FIELD CONTROLLER

Program the MACH-ProWeb™ point database, Control-BASIC sequence, and graphics just as you would for any other Reliable Controls® product. The MACH-ProWeb™ is a fully functional BACnet Building Controller (B-BC).

5000INS MACH-ProWeb - Inputs

	Input Name	Value	Auto/Man	Range	Calibration	Average	D	Alarm	Label	Object
1	ACB SAT	20.0 °C	Auto	10K -40 +120	0.10000164				A01	
2	ACB MAT	22.2 °C	Auto	10K -40 +120	0.30000164				A02	
3	ACB RAT	24.9 °C	Auto	10K -40 +120	0.10000164				A03	
4	ACB SFA	8.9 Amps	Auto	0.0 +100	0.00164				A04	
5	ACB RFA	7.9 Amps	Auto	0.0 +100	0.00164				A05	
6	ACB SPARE	0.0	Auto	Unused	0.00164				A06	
7	ACB SAT	21.1 °C	Auto	10K -40 +120	0.10000164				A07	
8	ACB MAT	22.7 °C	Auto	10K -40 +120	0.20000164				A08	
9	ACB RAT	24.5 °C	Auto	10K -40 +120	0.20000164				A09	
10	ACB SFA	6.4 Amps	Auto	0.0 +100	0.00164				A10	
11	ACB RFA	4.7 Amps	Auto	0.0 +100	0.00164				A11	
12	ACB SPARE	0.0	Auto	Unused	0.00164				A12	
13										

5000OUTS MACH-ProWeb - Outputs

	Output Name	Value	Auto/Man	Switch	Range	0% 100% Delay	Min On	Min Off	S	D	Alarm	Label	Program	In Service	Obj
1	HTG P1	Start	Auto	Auto	Stop/Start					0		B01		Yes	B01
2	HTG P2	Stop	Auto	Auto	Stop/Start					0		B02		Yes	B02
3	HTG P3	Start	Auto	Auto	Stop/Start					0		B03		Yes	B03
4	HTG P4	Start	Auto	Auto	Stop/Start					0		B04		Yes	B04
5	HTG P5	Enabled	Manual	Auto	Disabled/Enable					0		B05		Yes	B05
6	HTG P6	Enabled	Manual	Auto	Disabled/Enable					0		B06		Yes	B06
7	HTG P7	11.1	Auto	Auto	0.0 +100%	0.001 10.00				0		B07		Yes	B07

5000PRGS MACH-ProWeb - Control-BASIC

	Program Name	Run	Auto/Man	Times	Time	Last	Size	Est	Label
1	CALLS	Yes	Auto	Enabled		2472	No		
2	CALLS	Yes	Auto	Enabled		1285	No		
3	CALLS	Yes	Auto	Enabled		109	No		

Right-click to access
MACH-ProWeb Tools

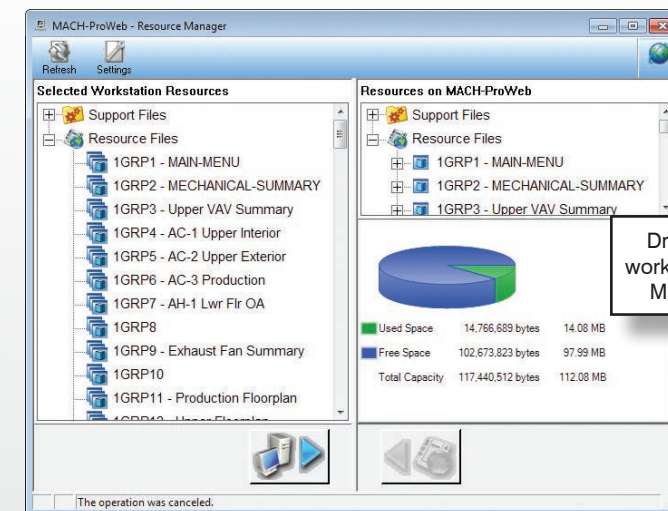
System Tree

- MACH-ProSys (2000)
- MACH-ProWeb (5000)
 - Object List
 - System Groups
 - Inputs
 - Outputs
 - Variables
 - PID-Loops
 - Schedules
 - Calendars
 - Multi-point Trend Logs
 - Single-point Trend Logs
 - Notification Classes
 - Programs
 - RCP Weekly Schedules
 - RCP Trend Logs
 - RCP Runtime Logs
 - Arrays
 - Tables
 - SMART-Sensors
 - MACH-Stat (5001)
 - MACH-Stat (5002)
 - MACH-Stat (5003)
 - MACH-Air (5004)
 - MACH-Air (5006)
 - MACH-Air (5007)
 - MACH-Air (5008)
 - MACH-Air (5009)
 - MACH-Air (5010)
- BACnet

- ✓ Large Icons
- ✓ Show Icons
- Font Options
- ✓ Allow docking
- Hide
- Refresh System
- Panel File
- Sign-On Log
- Sort
- ReInitialize Device
- Load Descriptors
- Manual Points Report
- Initialize Point Sharing
- MACH-ProWeb Tools
 - Resource Manager
 - Web Users
 - Tree Builder
- BACnet Advanced Properties..

WEB SERVER

Using the MACH-ProWeb Tools in RC-Studio® 2.0, it is extremely simple to select and post resource files to the MPW and manage future changes.



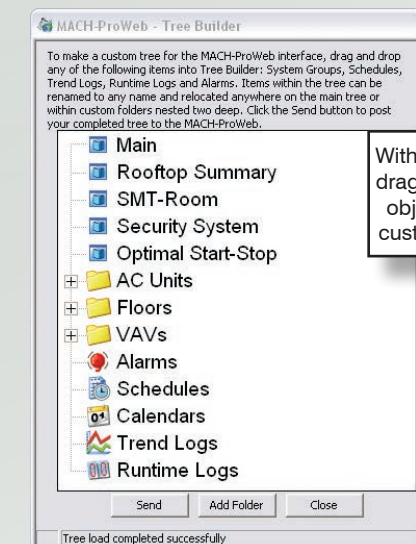
5000MPWPWDS MACH-ProWeb - Web Users

	User Name	Password	Level	Group	Permissions	Enable
1	Public	*****	3	MAIN-MENU	Permissions	<input type="checkbox"/>
2	Bob	*****	3	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
3	Doug	*****	6	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
4	Tom	*****	6	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
5	Roland	*****	7	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
6	Robin	*****	6	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
7	Levi	*****	6	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
8	Kant	*****	1	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
9	Richard	*****	6	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
10	Robert	*****	9	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>
11			3	MAIN-MENU	Permissions	<input checked="" type="checkbox"/>

User Permissions

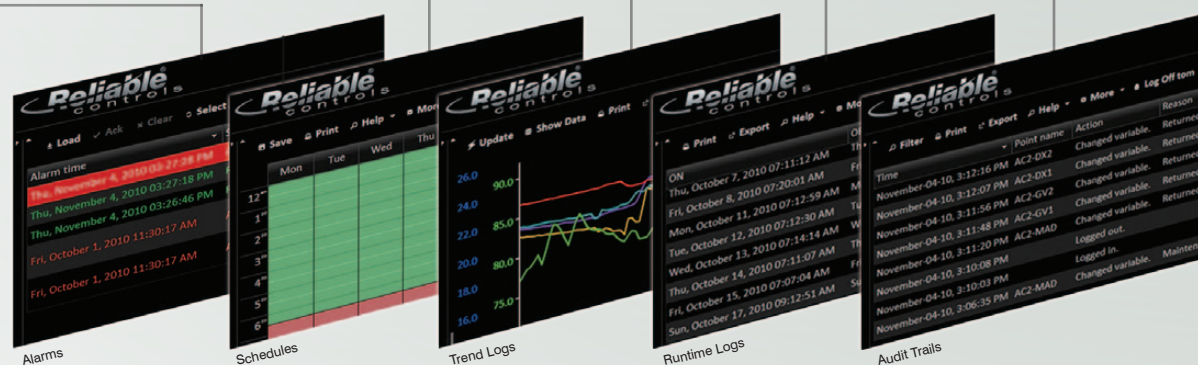
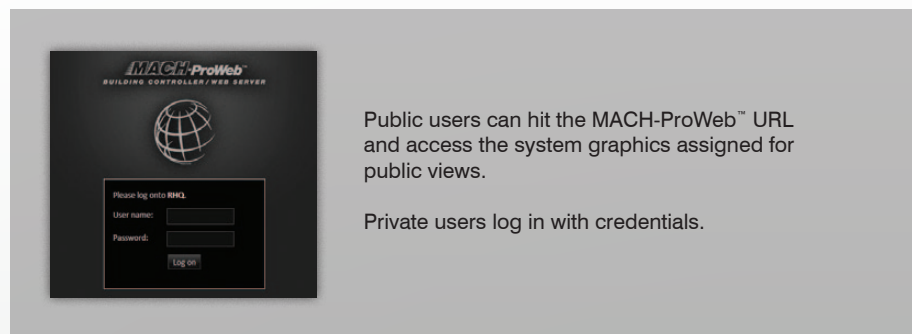
- ✓ Change End-User Va
- ✓ Change Operator Va
- ✓ Change Auto/Manua
- ✓ Change Inputs
- ✓ Change Outputs
- ✓ Change Variables
- ✓ Change PID Loops
- ✓ Change Weekly Schedules
- ✓ Change Special Events
- ✓ Change Calendars
- ✓ Auto Log Off 15 min.
- ✓ Acknowledge Alarms
- ✓ View Alarms

With the MPW Web Users tool, assign public and private Web users with complete permission control.



WORKSTATION

The MPW interface provides total functionality required for day-to-day building operations and is designed to meet or exceed the BACnet Operator Workstation (B-OWS) profile. Using a standard browser (IE 8, Firefox 3, Chrome 5, Safari 5, or higher) on a PC or Mac, enter the URL of the MACH-ProWeb™ and navigate through the system to access and print point values, alarms, schedules, trend logs, runtime logs, and audit trails.

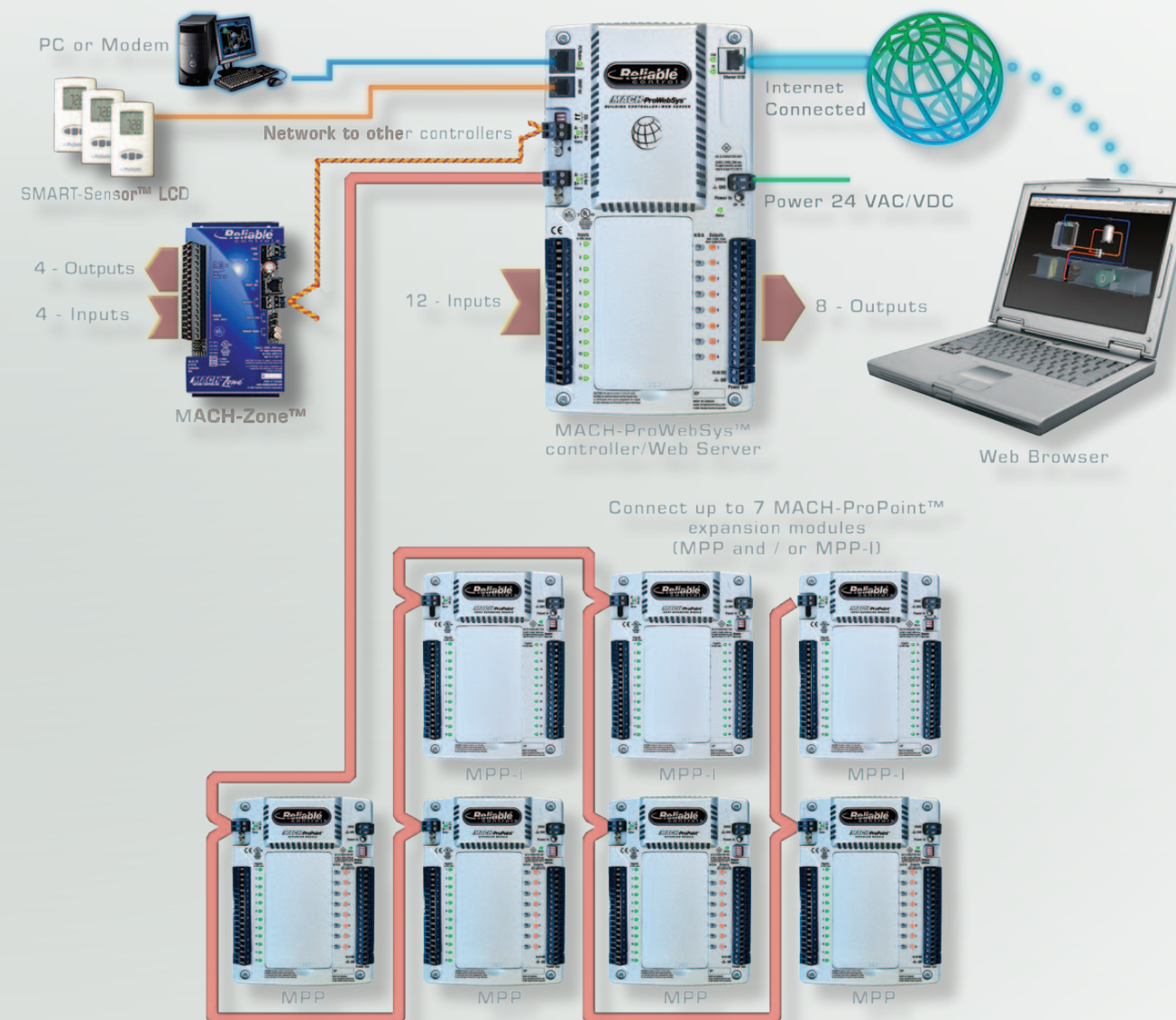


The MACH-ProWeb™ is the first three-in-one device of its kind, combining B-BC, B-OWS, and Web server capabilities into a single package with an installed footprint of a typical building controller.

MACH-ProWeb – Honorable Mention



The AHR Expo and its co-sponsors, ASHRAE and AHRI, recently recognized the MACH-ProWeb™ with an Honorable Mention designation in the Building Automation Category of the 2011 AHR Expo Innovation Awards Competition. A panel of industry professionals, selected for their knowledge and expertise in HVACR, found the MACH-ProWeb™ to be worthy of this industry-coveted recognition.



New Dealers



Regreen Corporation

Los Angeles, CA, USA

Inkresa Internacional

San Pedro Garza Garcia, NL, Mexico



Sass-Moore Service Corporation

Woodbury, NJ, USA

Berkshire Control Mechanical

Lenox Dale, MA, USA



Tri-Star Automation

Winnipeg, MB, Canada

Systech

Hanoi, Vietnam



Precision Automation – Tampa

Seffner, FL, USA

Northern Mechanical Services

Timmins, ON, Canada



AMR Telecomunicaciones

Santiago, SMR, Chile

Energiant Energy Tech

Beijing, China



BUILDING EDUCATION REVOLUTION

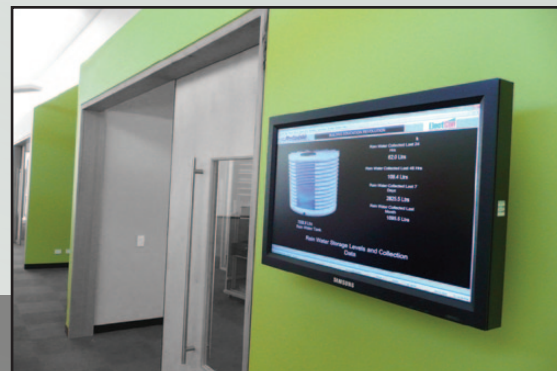
The primary focus for many in the building automation industry has been to engineer systems that deliver “people comfort” environments. But increasingly, another focal point has grown to become fundamental – the market now demands that building systems allow facilities to consume less energy, and ultimately, save money. As an example of this new environmental responsibility, one of the goals in building school facilities under the federally funded Building Education Revolution (BER) program in Australia is the reduction of a facility’s carbon footprint relative to standard school building practices – practices that demand fiscal responsibility.

How was this accomplished? Implementation of the BER program was administered and directed at the state level to best suit the environmental conditions of the local area. In southern Victoria, the scope of the BER program called for 12 unique building “footprints” in which passive ventilation was a key element in a strategy aimed at lowering the carbon footprint while realizing fiscally responsible budgets.



As can clearly be seen in this image taken inside one of the BER schools, each classroom has automated outdoor louvers and louvers that connect the classroom to the common space. Both of these louvers open and close under defined conditions. These conditions are based on outdoor wind speed, rain detection, CO₂ space monitoring, and indoor/outdoor air temperatures.

The status of the facility’s system operation is communicated to the students and staff through a 40” flat screen monitor mounted in the school’s common area. Kiosk mode graphics were set up to display information such as rain water storage levels, electrical energy usage, and potable water usage, based on a daily and weekly consumption.



Based largely on the competence of the installed louver systems, the understanding of climatic requirements, and the knowledge of each facility’s usage pattern, the decision was made not to use mechanical cooling in the BER facilities. For heating, classrooms and common areas have energy efficient gas fired heaters installed. The operation of these heaters is controlled to allow operation only when defined outdoor extreme temperatures exist.



Located in Melbourne, Victoria, Australia, Electcon Automation, a Reliable Controls® Authorized Dealer, was contacted to engineer and install the BMS in 45 of the BER facilities. The project had extremely tight installation and commissioning time lines. According to Scott Donaldson of Electcon, “Being organized, we engineered and pre-tested the systems before shipping them to site which allowed us to meet the aggressive time lines.”

Each of the 45 Reliable Controls® MACH-Systems installed in the BER initiative consisted of 2 MACH1™ controllers, 2 SST-CO CO₂ SPACE-Sensors, indoor and outdoor air sensors, a rain detector, and a wind speed and direction sensor. A rack-mounted PC with RC-Studio® 2.0 installed is used for the 40” monitor in the common space. Schools will also be able to use this PC for other information they wish to display.



ElectCon

www.electcon.com.au



Committed to Quality

Reliable Controls® is well on the way to obtaining ISO 9001:2008 certification by late 2011.

By instituting an ISO-based Quality Management System (QMS), Reliable Controls® will be building on a number of quality initiatives already in place. Ultimately, the value of ISO lies in creating a strong foundation for all quality assurance initiatives and this framework will provide an additional keystone to our ongoing commitment to having the most satisfied customers in the industry.



Diving into the enocean® alliance

A new family of Reliable Controls® wireless products based on the EnOcean chipset is nearing completion and will soon begin internal alpha testing at our headquarters.

The EnOcean Alliance is a consortium of companies working to further develop and promote self-powered wireless monitoring and control systems for sustainable buildings. The consortium's goal is to ultimately formalize the interoperable wireless standard and are well on their way to doing so with the largest installed base of field-proven wireless building automation networks in the world.

Our wireless product family currently consists of two products – the SPACE-Sensor™ EnOcean (SSE) is the wireless and batteryless transmitter that resides in the occupant space, and the SMART-Sensor™ EnOcean Accesspoint (SSEA), the transceiver that connects directly to any SMART-Net. When used together, these two products can facilitate wireless communication from any EnOcean device into any existing MACH-System, without the need to upgrade software.

Be sure to stop by booth number N5065 at the AHR Expo in Las Vegas to see our new wireless family in action.

If you want find out more about the EnOcean Alliance, or want to join the alliance, please visit

www.enocean-alliance.org

No wires. No Batteries. No Limits.



SSE



SSEA



2011 Top Products Award

Reliable Controls® has been selected as a recipient of the *Building Operating Management* 2011 Top Products Award for the SMART-Space Controller. The Top Products Awards recognize the most popular manufacturers and suppliers of the year, as determined by building and facility executives who participated in a national survey conducted by *Building Operating Management* (BOM) magazine. The *Building Operating Management* Top Products Awards are 100% reader-selected, in that a possible pool of winners are determined by actual reader interest then voted on by industry executives. Out of 500 possible products, the SMART-Space Controller was clearly one of the people's favorites and the choice of industry executives.

The SMART-Space Controller will be featured in the January issue of *Building Operating Management* as a Top Products Award Winner – an important issue that will be read by 73,000 facilities decision makers.

Building Operating Management magazine serves the field of facilities management, encompassing the full range of commercial buildings. With a circulation of 73,000, qualified recipients of BOM are individuals in executive building ownership positions and the full suite of facilities management careers. BOM is widely considered the most effective trade publication in the HVAC industry because the publication is highly effective at reaching their targeted audience. In fact, by more than 3 to 1, facility managers named *Building Operating Management* the one publication most useful in selecting products for building renovation, retrofit, and new construction applications.



BUILDING OPERATING management



ROYAL AUSTRALIAN MINT

CANBERRA, ACT, AUSTRALIA

GOVERNMENT

MONEY MAKER

The Royal Australian Mint is responsible for producing all of Australia's circulating coins. In 1963 the Government decided to introduce decimal coinage into circulation with dollars and cents replacing pounds, shillings, and pence. The Royal Australian Mint was built in preparation for the introduction of decimal currency. The building was officially opened on February 22, 1965.

PROJECT DETAILS

The goal for the Commonwealth Lands Agency was to acquire a NABERS rating for the facility, which required reporting in order to succeed. Innovative Electrical Solutions lived up to their name by meeting the client's unique reporting wish list by installing a Reliable Controls® MACH-System with RC-Archive™ 2.0 software tasked with the reporting. Using Microsoft Access as a front-end and RC-Archive 2.0 as the SQL database, Innovative were able to deliver a key factor to the building owner.

The HVAC components of the building consist of 2 scroll chillers, 2 cooling towers, 2 single stage, non-condensing boilers, and 35 VAV terminal zone controllers. ENERGY meters were added to the hot water and chilled water mechanical system and there is a power meter for the mechanical services switchboard. The BACnet component of the project involves 15 ABB VFD drives connected via MS/TP.

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



PROJECT TYPE:
Retrofit

INSTALLATION TYPE:
Boiler, Chiller, Power Monitoring,
VAV, Water Monitoring, Gas Usage
Monitoring

TOTAL AREA:
4,200 m² (45,192 ft²)

EQUIPMENT INSTALLED:
1 MACH-ProSys™
3 MACH-Zone™
5 MACH-ProPoint™
10 MACH1™
34 MACH-Air™

NETWORK:
Ethernet, EIA-485, LAN

INTEGRATION:
BACnet®, Modbus

TOTAL SYSTEM POINTS:
270 points

ENGINEERING CONSULTANT:
GHD Consultants Canberra

RELIABLE CONTROLS® DEALER:
Innovative Electrical Solutions

www.reliablecontrols.com