

Resource
Data Management



Intuitive Programmable Logic & Plant Control Solutions



Putting you in control

Gathering and monitoring data in real time, we deliver meaningful information to the right people at the right time. RDM control and predictive monitoring solutions reduce energy consumption to ensure that your business is operating at optimum levels. Our wide range of controls can be used across almost any type of BEMS infrastructure, maintaining everything from lighting and security to heating and refrigeration.

Our award winning and predictive remote monitoring and energy management software options give you complete visibility of the performance and health of your infrastructure whenever and wherever you need it. User friendly interfaces allow you to easily manipulate complex data into a highly graphical, easy to read, and interactive format. With the ability to set up text alerts, you don't even need to log in to know when the system needs your attention. Kwweb, our energy dashboard, completes the cycle – making it even easier to identify cost saving options and manage your energy usage.



5 year warranty on all
RDM manufactured products*

*Excluding OEM products and selected product lines. Warranty details for excluded products will be detailed on the respective product pages.



Contents

Software solutions

ActiveFM™	10
Kw ⁿ eb	14

Touch Control

dmTouch	16
touchXL	18

Intuitive Controls

	Intuitive Controls Overview	20
PR075x/PR076x-	TDB Intuitive Mercury Data Builder Controller	21
	Intuitive Networking	22
PR0657	Intuitive Wi-Fi Interface	22
	Intuitive Mercury Dimensions / Cat 5 Wiring	23
PR0650-TDB	Intuitive Data Builder Controller	24
	The Data Builder Programming Application	25
PR0650-PACK	Intuitive Pack/Condenser Controller	30
PR0650-SUP	Intuitive Superpack/Condenser Controller	32
PR0650-CCT	Intuitive Circuit Controller	34
PR0650-SUPCO2	Intuitive CO2 Superpack Controller	36
PR0659	Intuitive Backup Controller	40
	Intuitive Stepper Pack	40
PR0656	Inline Stepper Motor Filter	41
PR0660	Intuitive Stepper Expansion Module	42
PR0661	Intuitive I/O Expansion Module	43
PR0662	Intuitive 48 Channel Expansion Module	44
	Intuitive Dimensions	45
PR0615	Intuitive Colour Touchscreen Display	46

Mercury Plant Controller

PR0620	Panel Display	48
PR0445	Temperature/Humidity Display	49

Intuitive & Plant accessories

PR0178	Wall Mountable Temperature Sensor	50
PR0622	USB Pulse Reader	51
PR0626	USB Current Monitor	52
PR0624	USB Expansion /4 Port USB Hub	53
PR0623/PR0625	USB-485 MODBUS interface / 24V Power Supply	54
PR0193	Light Level Sensor	55

Pack/Rack Controls

PR0266	Mercury 11-5C Condenser Controller	56
PR0274-PR0277	Mercury 11-10 CV Dry Cooler Controller	57
PR0332-PR0335	Mercury 11-10 PV Pack/Condenser Controller	58
PR0282-PR0285	Mercury 11-10 G Glycol Pack Controller	59
PR0330/PR0331	Mercury Plant Step Controller	60
	Pack/Rack controls mechanical specs	61

Ancillaries

	Patch Cables and Network Switches	62
--	-----------------------------------	----

Free technical support

	Training	63
	Technical & After Sales Support	64

Other RDM product ranges



Book A Temperature Control Solutions

Flexible temperature control solutions for multiple environments including Retail, Healthcare and Pharmaceutical. Our solutions ensure that your assets and or environment is optimally maintained to help realise increased profitability and boost your ecological credentials.



Book C dmTouch Management Solutions and Displays

Our control system integrators present you with only what you need to know in order to make informed decisions. We recognise that each client has their own unique requirements, and budget, which is why we have developed options that are affordable and scalable to meet the most simple or the most complex of needs.



Book D HVACR & BEMS Solutions

RDM BEMS solutions deliver optimum control across all aspects of HVACR and lighting systems; supported by award winning predictive monitoring and energy management software, we give you everything you need to achieve your carbon reduction and sustainability objectives.



5 year warranty on all
RDM manufactured products*

While every effort is made to ensure the information given is accurate the Resource Data Management Group, including all associated companies, subsidiaries and affiliates cannot accept liability for any errors or mistakes which may arise. All are subject to change without notice. For full terms and conditions of sale please visit www.resourcedm.com

*Excluding OEM products and selected product lines. Warranty details for excluded products will be detailed on the respective product pages.

Intuitive and intelligent

	Intuitive Super Pack	Intuitive Pack
Base Model Part Numbers	PR0650 SUP	PR0650 PACK
Plant Options	Number of Sections 3 – Dual Pack and/or Condenser	Number of Sections 2 – Pack and/or Condenser
Control Types	Fuzzy or Staged	Fuzzy or Staged
Stages per Section	Up to 16*	Up to 12
Resistive Inputs (Temperature Probes)	Up to 24*	8
Supported Probe Types	11 **	11 **
Digital Inputs (24Vac or Volt Free)	Up to 48*	12
Number of Analogue Inputs	Up to 9*	3
Analogue Input Range	4-20mA, 0-5Vdc, 0.5-4.5Vdc, 0.5-9.5Vdc or 0-10Vdc	4-20mA, 0-5Vdc or 0-10Vdc
Number of Analogue Outputs	Up to 3	2
Analogue Output Range	0-10Vdc, 0-5Vdc, 4-20mA or 0-20mA	0-10Vdc, 0-5Vdc, 4-20mA or 0-20mA
CANbus Expansion Module Support (Expands available I/O)	Up to 10 Expansion Modules (PR0661)	No
Relay Outputs	Up to 48*	12
Highest Relay Current Rating	10A Resistive (250Vac,30Vdc) COSφ=0.4 5A Inductive load	10A Resistive (250Vac,30Vdc) COSφ=0.4 5A Inductive load
Solid State Relay (SSR)	Optional, up to three relays.	No
Relay Protection	Optional Fused	Optional Fused
Compressor Control	Digital Scroll, VSD Compressors, Fixed Body Compressors, Compressor Loaders & Trim Compressors	VSD Compressors, Fixed Body Compressors, Compressor Loaders & Trim Compressors
Fan Control	Fixed or Variable Speed	Fixed or Variable Speed
Display	Internal or Remote Options	Internal or Remote Options
Intuitive 4" Touchscreen Display-IMPt Support	Yes	Yes
5 Channel USB Current Monitor Support (Run Proof & Energy)	Yes	No
Network Broadcast - Suction Pressure	Yes	Yes
Liquid Level Sensor Monitoring	Yes	Yes
Web Browser Enabled	Fully Featured	Fully Featured
Alarm Notification	LED & Display (via Internal or Remote display options)	LED & Display (via Internal or Remote display options)
Status Indicators	LED & Display (via Internal or Remote display options)	LED & Display (via Internal or Remote display options)
Relay Output Status Indicators	Yes	Yes
Real Time Clock (RTC)	Yes	Yes
Network Communication (Integrated)	IP	IP
Network Communication External Hardware (Optional)	Not Applicable	Not Applicable
Network Protocol	XML	XML
USB-A Ports for Ancillary Equipment	Yes	Yes
USB-B Port for local Laptop connection	Yes	Yes
Power Supply	24 Vac ±10% or 24 Vdc ±10% (Fused) (Typ. <0.3A) 50–60 Hz ±10% or dc	24 Vac ±10% or 24 Vdc ±10% (Fused) (Typ. <0.3A) 50–60 Hz ±10% or dc
Operating Temperature	-10° to +60°C (14° to 140° F)	-10° to +60°C (14° to 140° F)
Operating Humidity	10% to 80% (non condensing)	10% to 80% (non condensing)
Removable Connectors	Yes	Yes
Enclosure Type	DIN (EN 50022) RAIL	DIN (EN 50022) RAIL
Panel Cut-out	Not Applicable	Not Applicable
Dimensions H x W x D	122 x 280 x 67mm (4.8 x 11 x 2.6in)	122 x 280 x 67mm (4.8 x 11 x 2.6in)
Weight	0.75Kg (1lb 10.5oz)	0.75Kg (1lb 10.5oz)

*Utilising PR0661 Expansion Boards

** The following temperature probes are supported: - PT1000, NTC2K, 470R,700R, 3K,5K,6K,NTC2K25, NTC10K or NTC10K(2)

***Utilising PR0660 & PR0661 Expansion Boards

Intuitive CO2 Super Pack	Mercury 11-10 PV	Mercury 11-5C	Mercury 11-10 CV	Mercury 11-10 G
PR0650 SUPCO2	PR0332 to PR0335	PR0266	PR0274 to PR0277	PR0282 to PR0285
Number of Sections 5 – Dual Pack, Gas Cooler and Dual Oil Control	Number of Sections 2 – Pack and/or Condenser	Number of Sections 1 – Condenser	Number of Sections 1 – Dry Cooler (Pump)	Number of Sections 1 – Glycol (Pump)
Fuzzy or Staged	Fuzzy	Fuzzy	Fuzzy	Fuzzy
Up to 16***	Up to 10	Up to 5	Up to 10	Up to 10
Up to 24***	1	1	10	10
11 **	PT1000	PT1000	PT1000	PT1000
Up to 80***	10 (Volt-free)	10 (Volt-free)	10 (Volt-free)	10 (Volt-free)
Up to 12***	2	2	2	2
4-20mA, 0-5Vdc, 0.5-4.5Vdc, 0.5-9.5Vdc or 0-10Vdc	4-20mA	4-20mA	4-20mA	4-20mA
Up to 6	1	1	1	0
0-10Vdc, 0-5Vdc, 4-20mA or 0-20mA	0-10Vdc, 4-20mA or 0-20mA	0-10Vdc, 4-20mA or 0-20mA	0-10Vdc, 4-20mA or 0-20mA	Not Applicable
Up to 10 Expansion Modules (PR0660 & PR0661)	No	No	No	No
Up to 104***	10	5	10	10
10A Resistive (250Vac,30Vdc) COSφ=0.4 5A Inductive load	6A Resistive (250Vac,30Vdc) COSφ=0.4 2A Inductive load	6A Resistive (250Vac,30Vdc) COSφ=0.4 2A Inductive load	6A Resistive (250Vac,30Vdc) COSφ=0.4 2A Inductive load	6A Resistive (250Vac,30Vdc) COSφ=0.4 2A Inductive load
Optional, up to two relays.	No	No	No	No
Optional Fused	No	No	No	No
Digital Scroll, VSD Compressors, Fixed Body Compressors, Compressor Loaders & Trim Compressors	VSD Compressors, Fixed Body Compressors & Compressor Loaders	Not Applicable	Not Applicable	Fixed Body Compressors & Compressor Loaders
Fixed or Variable Speed	Fixed or Variable Speed	Fixed or Variable Speed	Fixed or Variable Speed	Not Applicable
Internal or Remote Display Option	Internal or Remote Options	Internal Display	Internal or Remote Options	Internal or Remote Options
Yes	No	No	No	No
No	No	No	No	No
Yes	No	No	No	No
Yes	No	Yes	No	No
Fully Featured	Standard Features	Standard Features	Standard Features	Standard Features
LED & Display (via Remote display)	LED & Display (via Internal or Remote display options)	LED & Display via Internal display	LED & Display (via Internal or Remote display options)	LED & Display (via Internal or Remote display options)
LED & Display (via Remote display)	LED & Display (via Internal or Remote display options)	LED & Display via Internal display	LED & Display (via Internal or Remote display options)	LED & Display (via Internal or Remote display options)
Yes	No	No	No	No
Yes	Yes	Yes	Yes	Yes
IP	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	Standalone or IP or RS485	Standalone or IP or RS485	Standalone or IP or RS485	Standalone or IP or RS485
XML	XML	XML	XML	XML
Yes	No	No	No	No
Yes	No	No	No	No
24 Vac ±10% or 24 Vdc ±10% (Fused) (Typ. <0.3A) 50–60 Hz ±10% or dc	100-240Vac +/-10%, 50-60Hz +/-10% or 10Vdc to 35Vdc or 15Vac to 30Vac	100-240Vac +/-10%, 50-60Hz +/-10%	100-240Vac +/-10%, 50-60Hz +/-10% or 10Vdc to 35Vdc or 15Vac to 30Vac	100-240Vac +/-10%, 50-60Hz +/-10% or 10Vdc to 35Vdc or 15Vac to 30Vac
-10° to +60°C (14° to 140° F)	5° to 50°C (41° to 122°F)	5° to 50°C (41° to 122°F)	5° to 50°C (41° to 122°F)	5° to 50°C (41° to 122°F)
10% to 80% (non condensing)	10% to 80% (non condensing)	10% to 80% (non condensing)	10% to 80% (non condensing)	10% to 80% (non condensing)
Yes	Yes	Yes	Yes	Yes
DIN (EN 50022) RAIL	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Not Applicable	42 x 165 mm (1.2 x 2.8in)	42 x 165 mm (1.2 x 2.8in)	42 x 165 mm (1.2 x 2.8in)	42 x 165 mm (1.2 x 2.8in)
122 x 280 x 67mm (4.8 x 11 x 2.6in)	68 x 180 x 110mm (2.7 x 7 x 4.3in)	68 x 180 x 110mm (2.7 x 7 x 4.3in)	68 x 180 x 110mm (2.7 x 7 x 4.3in)	68 x 180 x 110mm (2.7 x 7 x 4.3in)
0.75Kg (1lb 10.5oz)	260 g (0.58lb)	260 g (0.58lb)	260 g (0.58lb)	260 g (0.58lb)

About us

It's common sense that the customer is core to our business. Your needs drive every aspect of our business from product planning, design and development to production.

Designed with reliability and longevity in mind, we develop products and solutions that challenge the way people think and change the industry. We offer the perfect mix, quality solutions that are easy to implement and products made by the best brains in the business. Each and every product is cost effective and packed with features and software that can't be matched. We also give you maximum networking flexibility and will never lock you into propriety networking systems.

Our customer commitment goes that one step further, with free after sales support, from a team of technical experts and free training sessions, tailored to individual customer needs. We ensure that our products and solutions deliver the very best results for each individual customer – which is why we are trusted by the world's leading brands.

Offices throughout Europe, USA, India, Australia and Asia, combined with a carefully selected international distributor and installer network, means that we are perfectly and strategically positioned to support our customers.

Delivering solutions for a wide range of industries



Retail



Healthcare



Public Sector
& Education



Food Production
& Processing



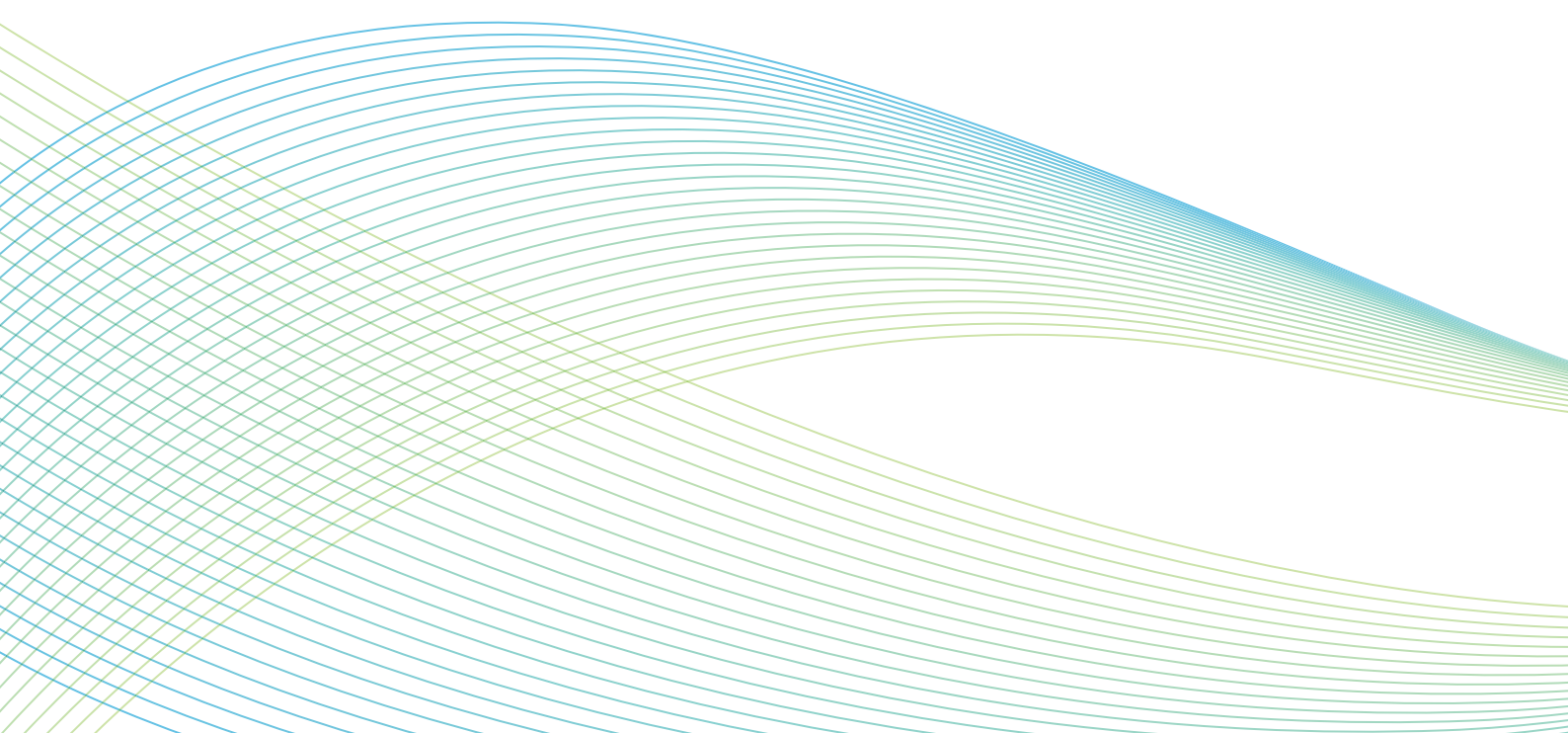
Data Centres



Offices &
Commercial



Leisure



RDM solutions

RDM solutions are used by the world's leading retailers and blue chip companies to control and manage a wide variety of infrastructures. Our control, energy management and asset performance strategies give you the information you need to reduce energy consumption, predict failures, and avoid expensive downtime while giving you the insight you need to accurately forecast capital expenditure and operating costs.

The dmTouch provides the ultimate gateway to interface with a number of standard and proprietary protocols including Modbus® and BACnet®. Our controls also network across industry standard protocols including CAT 5 Ethernet IP.

Quick and simple, plug and play options negate the need for proprietary setup, making for easy installation and networking, minimising both install cost and time.

At the heart of each RDM solution, our management solutions and displays interpret big data presenting you with the information needed to make informed decisions quickly. A high volume of complex, detailed information is presented in a visually stimulating, easily manipulated format, in real time, so that you can respond to potential issues before they become costly

All perfectly complimented by our award winning predictive monitoring and energy management software, our solutions consistently deliver impressive savings to help your business grow.

Remote connectivity

Some of the communication protocols that the dmTouch is capable of communicating with.

Worldwide

ADSL
Cable
Lease Line
3G
4G
GSM
Modem



Local

Wireless Mesh
BACnet®
Wi-Fi
Fibre
Modbus®
SNMP
XML

ActiveFM™

Award-winning monitoring software

RDM energy and building management solutions make it simple to control all aspects of HVACRR across your building or multi-site estate. ActiveFM™ supports your predictive, remote monitoring and asset performance strategies by giving you the information you need to identify issues, predict failures, avoid expensive downtime and accurately forecast capital expenditure and operating costs.

How it works

A dmTouch control system front end gives elected staff, contractors and engineers across your estate the ability to effectively manage, and resolve issues on site. ActiveFM™ delivers similar off-site capabilities and control by bringing together data from across your entire estate into one location in WebReporter, RDMs web based reporting and management tool.

Accessible across multiple devices WebReporter makes analysing large volumes of data simple. Pre-defined reports with filters for site, alarm type, date and time allow for statistical analysis of the data. The graphical interface makes it is easy for users to log in and make quick, informed decisions that ensure the best and most cost effective reactive action is taken.

Features:

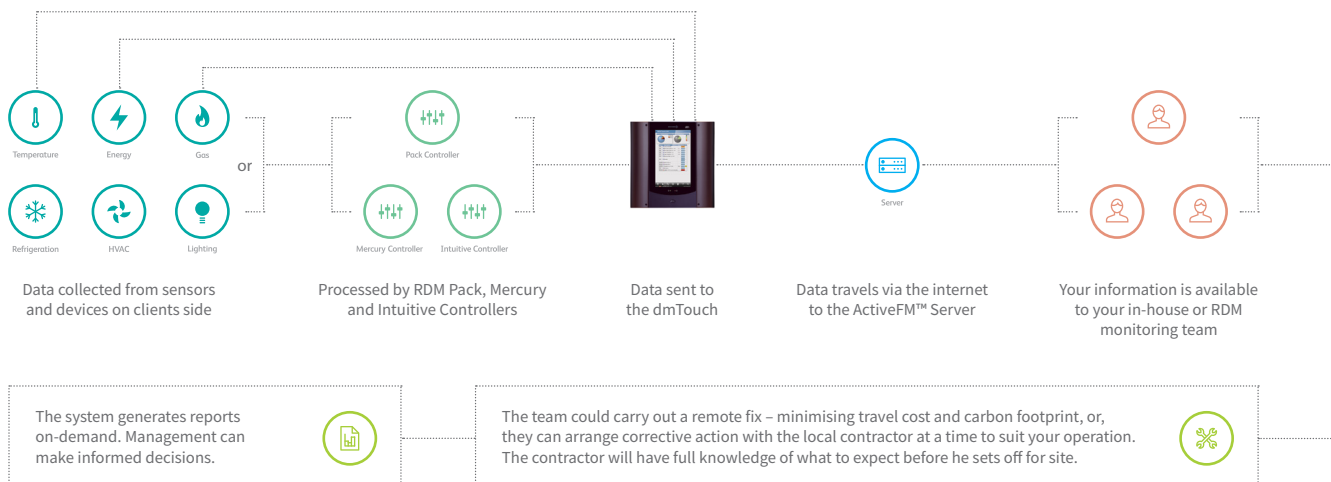
- Web based control dashboard
- Multi-site estate view
- Email alarm alerts
- Automated service and despatch requests
- Real time and historic regression analysis
- System parameter and time clock report
- Dial in Data Manager Access (Optional plug-in)
- Temperature Data Retention (Optional plug-in)
- Live Maps (Optional plug-in)
- Kw^{eb} (Optional standalone product)

Benefits:

- Real time access to site alarm information
- Improved asset performance
- Reduced asset lifecycle costs
- Minimal interruption to operations
- Avoid costs associated with system downtime
- Increased productivity
- Full visibility of service delivery
- Schedule maintenance at a time that suits your business and operations
- Accurately forecast expenditure and operating costs



How Active FM works



Monitor, measure, predict and react

There are four ActiveFM™ solutions to choose from W¹, W², W³ and W⁴. Each bundle has been designed to give customers the tools and flexibility they need to create a monitoring solution that specifically matches their individual needs.

Three plug-in options, Temperature Data Retention, Dial in Access and Live Maps, and one standalone energy dashboard option are also available to make it even quicker, easier and simpler to effectively manage assets and energy consumption.

To learn more about ActiveFM™ solutions please contact a member of the team on +44 (0) 141 810 2828 or sales@resourcedm.com

Feature	How it works	W1	W2	W3	W4
WebReporter	Web based reporting and management dashboard presenting real-time data from across your estate.	•	•	•	•
Alarm Forwarding by Email	Email alert when alarm is triggered. Designed for systems that are not supported with human monitoring.	•	•		
Data Manager System Parameter & Time Clock Report	Daily report accessed via WebReporter highlighting any item and parameters that have changed.		•	•	•
Data Manager Configuration Capture & Store	Daily data capture of back-up configuration and TDB files from on-site Data Manager. Available for external download.		•	•	•
WebFM2 Licence	Service management software used by either RDM or third party Technical Alarm Handlers.			•	•
Monitoring Team	Team of Technical Alarm Handlers provided by RDM 24/7 to react and respond to alarms across your estate.				•
Dial-in Access as Standard	Ability to access and view individual Data Managers remotely.				•

Optional plug-in

Dial-in Access	Ability to access and view individual Data Managers remotely.	•	•	•	
Temperature Data Retention (TDR)	Daily capture and storage of temperature data, alarm logs and parameter change data. Accessible via WebReporter.	•	•	•	•
Live Maps	Multi-site estate locations represented on an interactive map by pins. Pins change colour to highlight pre-alarm and alarm state.	•	•	•	•

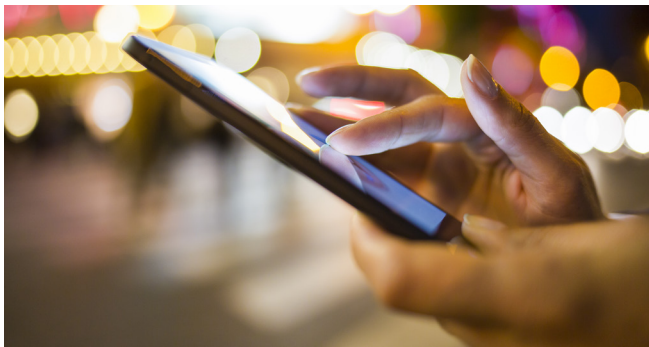
Additional Standalone Products

Kw ^h eb	Web based dashboard presenting meter readings from on-site Data Managers. Compatible with a wide range of Gas, Water and Electricity.	•	•	•	•
--------------------	---	---	---	---	---

Intelligent alarm prediction and reporting

The Data Manager or dmTouch on site communicates* with our ActiveFM™ server, sending real time data, alarms and analysis. In conjunction with the Data Manager data from sites can be critically scored to enable predictive algorithms to prioritise important alarms and data. Intelligent ActiveFM™ technology then processes your data dependent upon your selected service package.

*via an IP Network Connection



W1

Data is collected from each site, via a Data Manager. WebReporter then presents it in a highly graphical, easy to manipulate format. Accessible via the client login on the RDM website or via an un-branded WebReporter URL. Users can mine site alarm data using a series of pre-defined reports with filters for site, alarm type, date and time for statistical analysis of the data. Allowing users to identify problem sites and trends across the client estate.

Features:

- WebReporter
- Alarm forwarding by email

W2

Includes the same features as W1 with the addition of the Data Manager System parameter and time clock report plus Data Manager Configuration capture and store. ActiveFM™ collects data from client site every 24 hours, taking a snapshot of key information. The system then automatically highlights items and parameters that have changed. Resident TDB programs, and dmTouch configuration files are stored securely off site for download.

Features:

- WebReporter
- Alarm forwarding by email
- Data Manager system parameter and time clock report
- Data Manager configuration capture and store

W3

Including the same features as W2, with the addition of WebFM2 licensing. Clients have the ability to use their own, or a third party, service desk to monitor alarms and implement corrective action in real time.

Features:

- WebReporter
- Data Manager system parameter and time clock report
- Data Manager configuration capture and store
- WebFM2 licence

W4

Includes the same features as W3 with Technical Alarm Handlers and service desk provided by RDM.

Features:

- WebReporter
- Data Manager system parameter and time clock report
- Dial in Access
- Data Manager configuration capture and store
- WebFM2 licence
- Technical Alarm Handlers provided by RDM

Request a demo

Contact a member of the team to schedule a free demo:
sales@resourcedm.com
 +44 (0) 141 810 2828



A wide range of industries



Retail



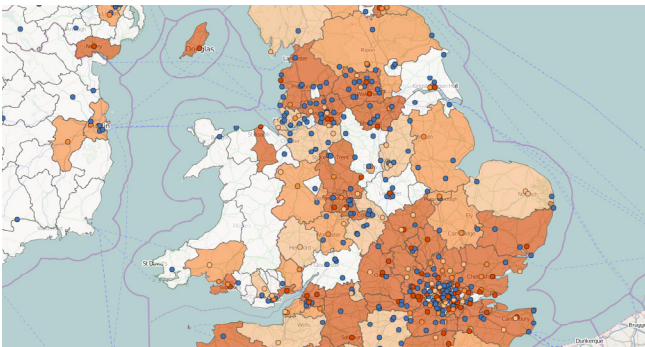
Healthcare

Public Sector
& EducationFood Production
& Processing

Data Centres

Offices &
Commercial

Leisure



Kweb*

Available as an optional plug-in with any ActiveFM™ solution or as a standalone product.

Kweb is a server based energy management software platform. It gathers information from site metering equipment and aggregates the information into a single web dashboard.

Delivering complex data in an easy and quick to interpret format it allows users to bring together essential energy information in a simple, clear and dynamic format and export the data if necessary.

Configurable for electricity or gas or water usage.

Live Maps

Available as an optional plug-in with any ActiveFM™ solution.

Client locations are represented as coloured pins. Configurable buttons change colour under pre-determined alarm parameters. When parameters are breached the associated pins change colour.

The quick view function, activated by clicking on a pin, displays a real time overview of critical data. A second click connects the user directly to site for further analysis options.

Temperature Data Retention

Available as an optional plug-in with any ActiveFM™ solution.

When due diligence is a priority the Temperature Data Retention plug-in gathers data from each location in your estate, daily extracting the temperature data from the previous 24 hour period. Your data is then retained off site, stored securely and available on demand. Data streams include:

- Device input data
- Device output data
- Device status data
- Alarm logs
- Parameter changes

Dial In Access

Available as an optional plug-in with W1, W2 and W3.

One click connection to site via WebReporter. Dial in Access allows third party call centres or third party consultants to analyse data and trends to facilitate fault finding and remote adjustment. Supports remote and time clock management, and energy saving initiatives through GP channels.

Kw^heb

Cloud based energy management

Embrace the future and be one step ahead with Kw^heb, RDMs cloud based energy dashboard. Kw^heb takes a fresh approach to energy and building management giving you the power to easily and effectively manage energy consumption to reduce energy costs and meet your sustainability objectives.

We understand that to be truly green you need to understand exactly how, when and where your building uses energy and that gathering that information can be difficult. Kw^heb overcomes that challenge. A fully configurable platform it collates data from monitoring and metering devices across your building or multi-site estate. Delivering full visibility of multiple consumables including electric, water and gas.

Presenting valuable data in an easy to interpret graphical format, Kw^heb allows you to make strategic, informed decisions. Getting that information in real-time gives you the ability to be proactive in quickly detecting irregularities and analysing energy waste, so that you can implement a solution that will reduce your energy consumption, and the associated costs, fast.

Resource Data Management HVACRR Control and Remote Monitoring solutions consistently reduce electricity costs, offer attractive returns on investment and enable far broader visibility and control of sites. Not only are our Control and Remote Monitoring systems future proof, but they also ensure savings are sustained for years to come.

Connected real-time, anywhere, anytime big data

Simply log on and have access to real-time actionable insight that is relevant to the right person at the right time. Building managers can compare individual assets. Estate Managers can compare site to site performance. Our intelligent technology filters the vast volumes of big data collected so that only the right data is presented. Saving everyone time and money.

Reporting & Benchmarking

Kw^heb has been designed to be user friendly, delivering complex data in an easy and quick to interpret format. Fully configurable the dashboard allows users to bring together essential energy information in a simple, clear and dynamic format. In a few simple steps users can select the dashboard format that matches their needs, and export data if necessary.

Reduce Energy, Boost Profits

Energy costs may only be a small percentage of turnover, but reducing them can directly increase margins without the need to increase sales. A 20% energy reduction represents the same bottom line benefit as a 5% increase in sales.* Our solutions regularly reduce energy consumption by much more than 20%. How much could you save?

*source Carbon Trust

How kw^heb works



Kw^heb is compatible with over 20 models of energy meter including Schneider, Carlo Gavazzi and Enviro

Features

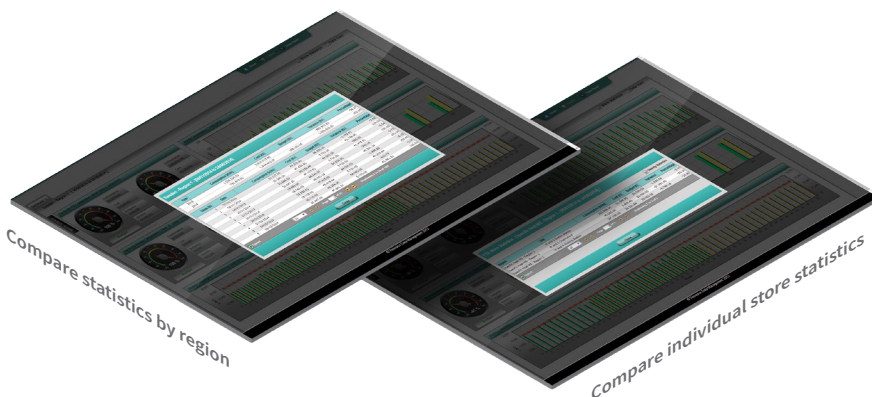
- Multi-site reports
- Budget management tool
- Asset performance tracking
- Actionable Insight and Analytics
- Historic or current data
- Data Export (to excel)
- Hierarchical structure
- Predictive analytics
- Graphic Displays
- Calculates actual consumption costs in multiple currencies
- Compatible with a broad range of consumables
- Intuitive and user friendly interface

Benefits

- Complete and in-depth overview of your entire estate at a glance
- Easily identify energy waste and inefficient assets
- Extend the lifecycle of assets
- Optimise the efficiency of your maintenance contract
- Access your data anywhere, anytime
- Make informed, reactive decisions quickly
- Accurately measure the effectiveness of your sustainability contract
- Engage staff; increase awareness and make them accountable for energy consumption levels
- Boost consumer sentiment and brand value

Why Kw^{eb}?

With over 30 years industry knowledge and experience, we live and breathe building and energy management. Our award-winning solutions make it simple, and cost effective, to reduce your energy costs quickly, which is why we are trusted by some of the world's biggest brands. Kw^{eb} takes our energy management solutions one step further to deliver even greater savings.



Both features allow you to benchmark performance and identify key trends and anomalies

Request a demo

Contact a member of the team to schedule a free demo:

sales@resourcedm.com
+44 (0) 141 810 2828



PR0510

dmTouch

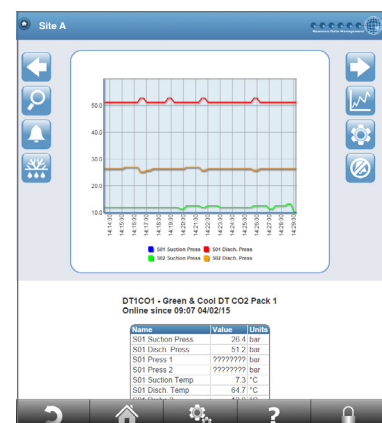
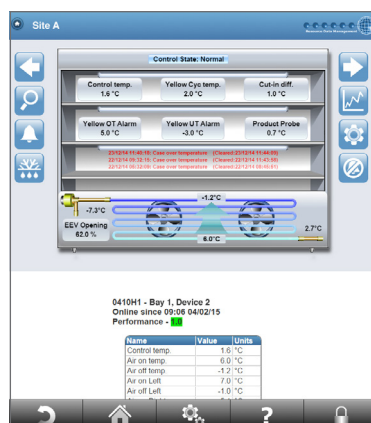
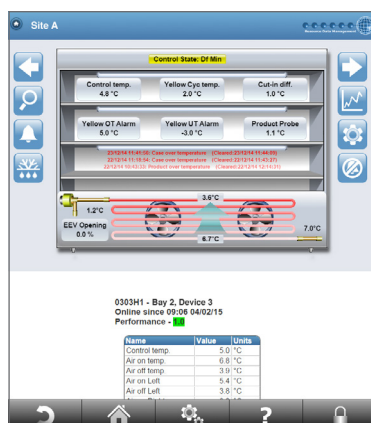
Future proof front-end control system

dmTouch provides the ultimate gateway to interface with a number of standard and proprietary HVACR (heating, ventilation, air conditioning and refrigeration) protocols including Modbus® and BACnet®. Our products also network across industry standard protocols including CAT 5 Ethernet IP. This means our customers are free to use their current control equipment to maximise the return on existing investments without becoming locked in to a new and proprietary system.

With a 10.1" HD touch screen, dmTouch processes your data into easily interpreted and actionable insights in real time. Detailed information from across your control and monitoring infrastructure is presented in a visually stimulating format and, as it's quick to read, it allows you to extract the information you need to make informed decisions about your business at a glance.

Typical Applications

BEMS (Building Energy Management System), HVAC, commercial, factories, healthcare, retail refrigeration.



Features

Hardware/Connectivity

- IP Ethernet connectivity
- Built in 4 port Ethernet Switch
- 5 USB ports: 4 internal and 1 front facing
- Alarm Sounder

Inputs/Outputs

- 12 Analogue/Digital inputs
- 4 x configurable relay outputs
- 3 x expansion board slots
- Optional fibre board

Benefits

- TDB Programmable PLC editor for any control, monitoring or alarm strategy you want, for any discipline. (optional)
- Monitors energy and can react locally to changing demand
- Networks to field devices with full two way communications.
- Scalable architecture for connection with other control systems.
- Stores log data, alarm information and device settings
- Provides predictive real time analysis with alarms and pre-warnings
- Provides centralised control in addition to local field management and event management on site
- Interacts with remote monitoring bureau, to display call status information

Specification

Onboard Storage

8GB Solid State Disk (Approx 25MB reserved for Application)

Inputs

12 Inputs Individually configurable as analogue temperature inputs or digital inputs. Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2), 100K)

Range: -99°C to +350°C for PT1000

Digital Input: Normally Open or Normally Closed input (Volt Free) with alarm delay.

Outputs

4 Relay Output: 7.5A resistive load 250Vac, 5A inductive load 250Vac COS ϕ =0.4

Onboard Expansion Cards & Network Interfaces

3 x Daughter Card Slots 5 x USB A Ports

1 x RS485 Interface (Option to enable) 4 x Ethernet RJ45

*Please refer ordering information on page 16 for details of compatible expansion cards and network interfaces.

Power

Supply voltage range: 100 - 240 Vac \pm 10%

Supply frequency: 50 - 60 Hz

Maximum supply current: 1 Amp

Typical supply current: <1 Amp

Voltage fluctuations not to exceed \pm 10° of nominal voltage

Environmental

Operating temperature range: -10°C to +60°C (14°F to 140°C)

Operating humidity: 10% to 80% (non-condensing)

Storage temperature range: -20°C to +65°C

Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 1, Installation Category II.

Dimensions

H x W x D 330mm x 310mm x 96mm



Better Resolution, More Control

High definition and multi-touch, dmTouch offers detailed information in a more visually stimulating and easier to read format than its competitors.



Free PLC Editing Software

TDB is the highly flexible Programmable Logic Control software. It's free and infinitely configurable to precisely meet your control requirements.



Light Speed Communications

dmTouch is available with a fibre-optic communication module, enabling high-speed and long-distance connection from RDM's other fibre-optic enabled products.



Free Site Layout Software

RDM Layout Editor gives you the ability to easily create dmTouch compatible site layouts that can be saved, modified, reused and shared across your sites.



Accessorise & Expand

dmTouch is available with a range of accessories and expansion modules to match the unique security, connectivity and presence requirements of your projects.



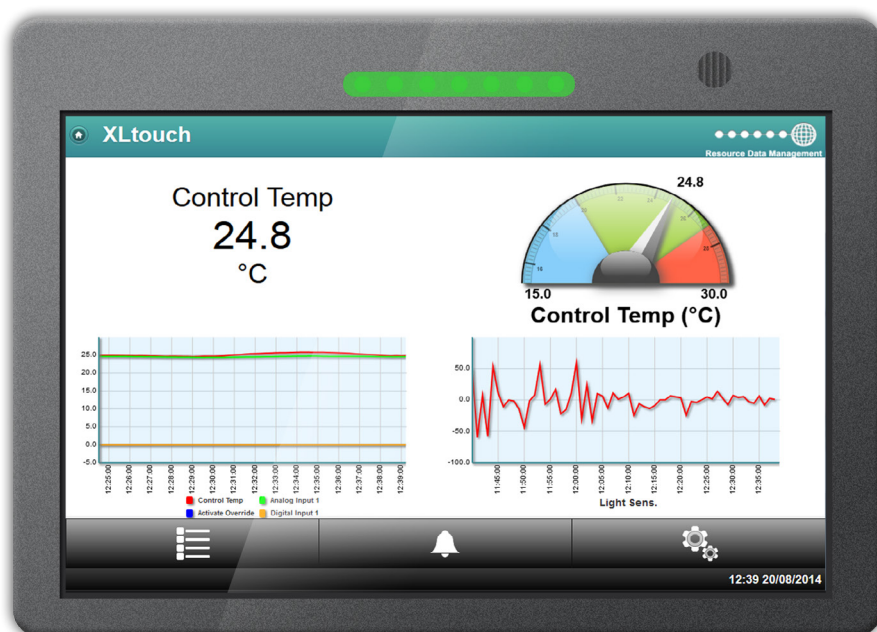
Remote Monitoring Tools

dmTouch comes with the ability to monitor and control your sites from anywhere, at any time, on your PC, tablet or smartphone when it's convenient for you.

touchXL

One device, three functions, maximum value for money

The newest member of RDM's pioneering Touch screen family, the slim line touchXL is a multi-function device that can act as a remote display, orbit Data Manager repeater console or stand-alone controller.



With a customisable graphic display it offers easy access to data and settings from an RDM Intuitive controller. As an orbit console connected to a dmTouch LAN, it can act as an additional user interface and alarm console.

Flexible communication options, including IP allow the controller to be sited hundreds of meters from the controller. CANbus allows the touchXL to act as an intelligent controller and display in one, eliminating the need for two separate products.

It can also accommodate multiple power supply options, including a choice of either POE, (Power over Ethernet) or a low voltage 24v supply. Designed with you in mind to offer optimal value for money.

Features

- HD 10" Touch Screen
- Audio sounder
- Customisable graphic display
- Remote display, repeater or controller options
- Fibre, IP and CANbus connectivity
- USB port
- Wall or panel mount
- POE or low voltage

How touchXL works



Specifications

Power

Power Over Ethernet 12.95W (Class 0) or 24Vdc auxiliary supply (11W)

Output

Alarm relay, NO/NC contacts. 30Vdc/24Vac 2A

Environmental

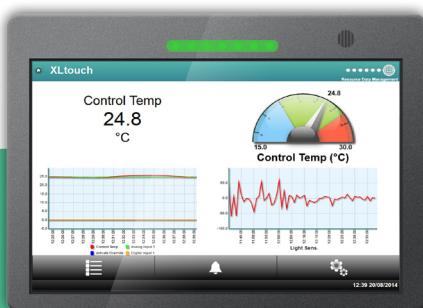
Operating temperature +5°C to +38°C
Operating humidity 80% maximum

Dimensions (LxWxD)

173 x 245 x 30.5

Benefits

- Switched Mode Power Supply (SMPS) – for operation worldwide
- Turnkey Solution
- Cost effective fixed price kit
- Advanced features and functionality
- Easy install



Released Q1 2016

For more information about the new touchXL please register your interest at www.resourcedm.com/touchXL/more

Intuitive Controls

Intuitive controls are designed to be powerful without the fuss of being complicated to programme or set up. With the added benefit of being quick to install with DIN rail mount.

Designed to be fully configurable the Intuitive PLC controller can be programmed using The Data Builder software package giving the user complete control of all aspects of the device. This enables users to develop their own control strategies, allowing them to rapidly develop bespoke site specific applications for their customer with the minimal of time and cost.

With a modular design the Intuitive Control range can be configured with a main control unit and up to 10 expansion modules offering huge application possibilities.

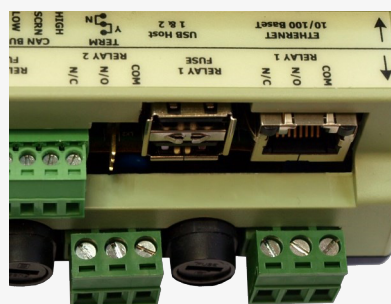
Easy to install, easy to configure and easy to operate, a truly Intuitive product range.

Intuitive Features (included features vary depending on specific product within the range)

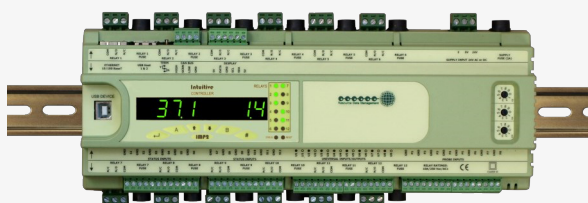
Flexible Display Options



Built in IP Communications & USB Ports



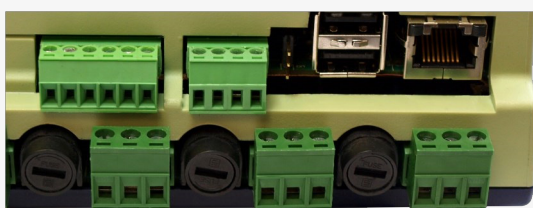
DIN Rail Mount



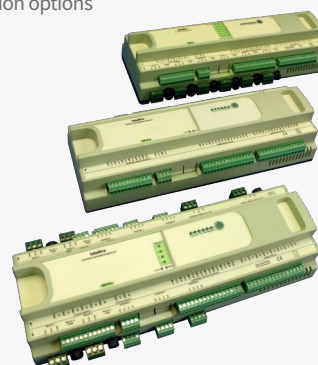
Front USB interface



Fused Supply Input. Optional on-board fusing for Relay Outputs providing the greatest flexibility and cost effective solution.



Wide range of expansion options



PR075x/PR076x TDB

Intuitive Mercury

TDB Programmable Logic Controller

Advanced flexible controls

Based on the proven technology of the Mercury controller range, the Intuitive TDB Mercury is a fully programmable controller in a compact and quick to mount DIN enclosure. It is typically used across multiple HVACR and BEMS applications e.g. to control a boiler, fan coil or air handling unit. With optional on-board fusing and network interface slot, there are multiple variants of the Intuitive TDB Mercury available to suit flexible requirements.

Offering high-quality, reliable, affordable and high performance control that will satisfy the most demanding applications.

Typical applications

HVACR, Process control, BEMS systems, Industrial automation.



Flexible network options*

Future proof IP connectivity is available for quick and secure networking. IP connectivity allows for the Intuitive Mercury TDB controller to be monitored by a Resource Data Management Data Manager which provides remote access to data, alarms and settings.

* Networking via optional network interface module

Easy configuration

The Data Builder editor suite allows the user to develop their own control strategies to exactly match the application. Easy to understand and quick to customise. When using Data Builder with an Intuitive Mercury it is configured with a standalone Windows application. Password protection of your programs means you can avoid unauthorised changes to the design as well as preventing copying of the design by others.

The Data Builder standalone programming application for Windows can be downloaded for free from the RDM website. This allows complex control strategies consisting of hundreds of blocks to be designed, developed and simulated before being downloaded into an Intuitive Mercury TDB controller. The Data Builder standalone application also has an "Online" mode. Here values are updated in real time which allows the user to confirm or fault find their control strategy.

For details on the TDB programming application see pages 25 to 27.

Ordering Information

Description	Part number Integral Display / Remote Display
Intuitive Mercury TDB, Mechanical Relays	PR0750 TDB / PR0760 TDB
Intuitive Mercury TDB, Solid State Relay	PR0751 TDB / PR0761 TDB
3 x Temperature Probe Expansion Card*	3P
1 x 0-5V/0-10Vdc Input & 1x 0-5V/0-10Vdc Output Exp Card*	Vi/Vo
2 x 0-5V/0-10Vdc Input Expansion Card*	2xVi
2 x 0-5V/0-10Vdc Output Card*	2xVo
1 x 0-5V/0-10Vdc Input & 1 x Probe Input Expansion Card*	1PVi
1 x 4-20mA Input & 1 x Probe Input Expansion Card*	1PAi
2 x 4-20mA Output board Expansion Card*	2xAo
3 x Input High Speed Pulse Counter Expansion Card*	3HSP
1 x 4-20mA Input & 1 x 4-20mA Output Board	Ai/Ao

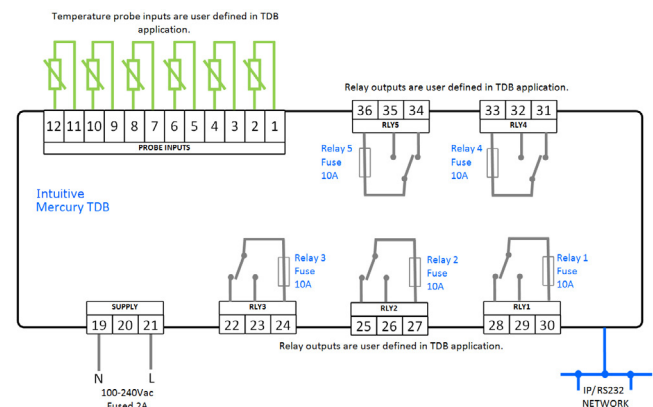
*Optional expansion cards are factory fit only, quote the desired expansion card part reference at the end of your controller part number when ordering.

Note: Intuitive Mercury controllers are available with or without on-board fusing. When ordering please include NF to indicate "Non-Fused", for example: PR0750NF

Features

- 5 Configurable Relay Outputs
- Switch mode power supply for use in any country
- 6 User definable inputs (Temperature probe or digital input)
- Solid State Relay (SSR) output options
- Optional Expansion card to provide additional I/O

Typical wiring



Inputs

6 Inputs supporting PT1000, NTC2K, 470R, 700R, 3K, 5K, 6K, NTC2K25, NTC10K NTC10K(2) user defined temperature probes or volt free digital inputs

Outputs

5 Fused Relay outputs (fuses are optional)

10A (250Vac,30Vdc) resistive load, (5A COS ϕ =0.4 Inductive load)

Power

100-240Vac +/-10% 50-60hz (Typ. <1A) Class 2 Insulatfon

Environmental

Operating temperature: -10° to +60°C (14° to 140° F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions: H x W x D: 120 x 157 x 67mm (4.7 x 6.2 x 2.6in)

Weight: 500g (1.1lb)

Intuitive Mercury Networking

Intuitive Mercury controls offer the ultimate in network flexibility to suit your application.

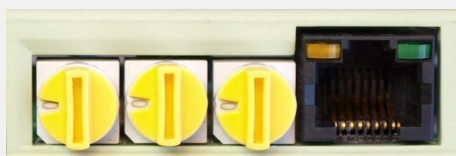
Intuitive Mercury ships as standard with an RS232 interface allowing external network modules to be connected, and includes an onboard network interface slot with the ability to install internally an IP or WiFi network module.

This can be factory fitted for your convenience or alternatively if you have parts already in the field (or your stock), you can install the network module yourself simply by purchasing an upgrade kit.

Optional cables

Description	Part number
0.5m CAT5E Patch Cable	PR0384
1m CAT5E Patch Cable	PR0385
3m CAT5E Patch Cable	PR0386
5m CAT5E Patch Cable	PR0387
15m CAT5E Patch Cable	PR0389

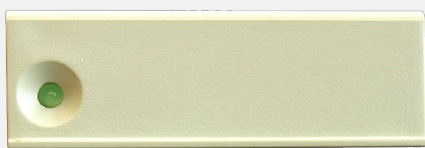
IP Internal Network Option



Ordering Information

Mercury Intuitive Internal IP Module	PR0770
--------------------------------------	--------

Wifi – Internal Antenna Option



Ordering Information

Mercury Intuitive WiFi Daughter Card - Internal Antenna	PR0769-INT
---	------------

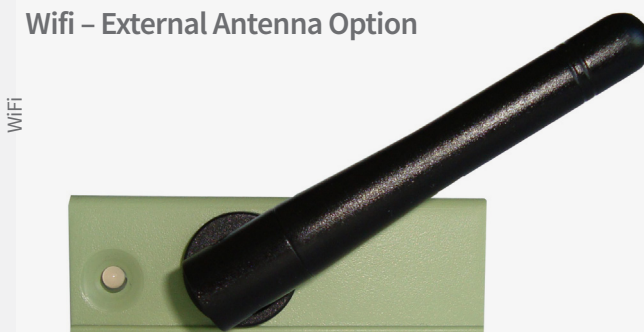
IP External Network Options



Ordering Information

Futura IP Module	PR0016
Futura IP Module DIN Mount	PR0016 DIN
Mercury IP Switch / Switch with Pressure/ Humidity Inputs	PR0018 / PR0018-PHI
Mercury IP Switch / Switch with Pressure/ Humidity Inputs with Fibre Connectivity	PR0018 F

Wifi – External Antenna Option



Ordering Information

Mercury Intuitive WiFi Daughter Card - External Antenna	PR0769-EXT
---	------------

PR0657

Intuitive Wi-Fi Interface

The introduction of an RDM USB Wi-Fi adapter allows the PR0650 TDB Intuitive range to interact with a standard Wi-Fi network, offering greater choice and flexibility for network installations. The USB Wi-Fi adapter is an optional plug and play communication accessory.

Ordering Information

Description	Part number
Intuitive Wi-Fi Interface	PR0657

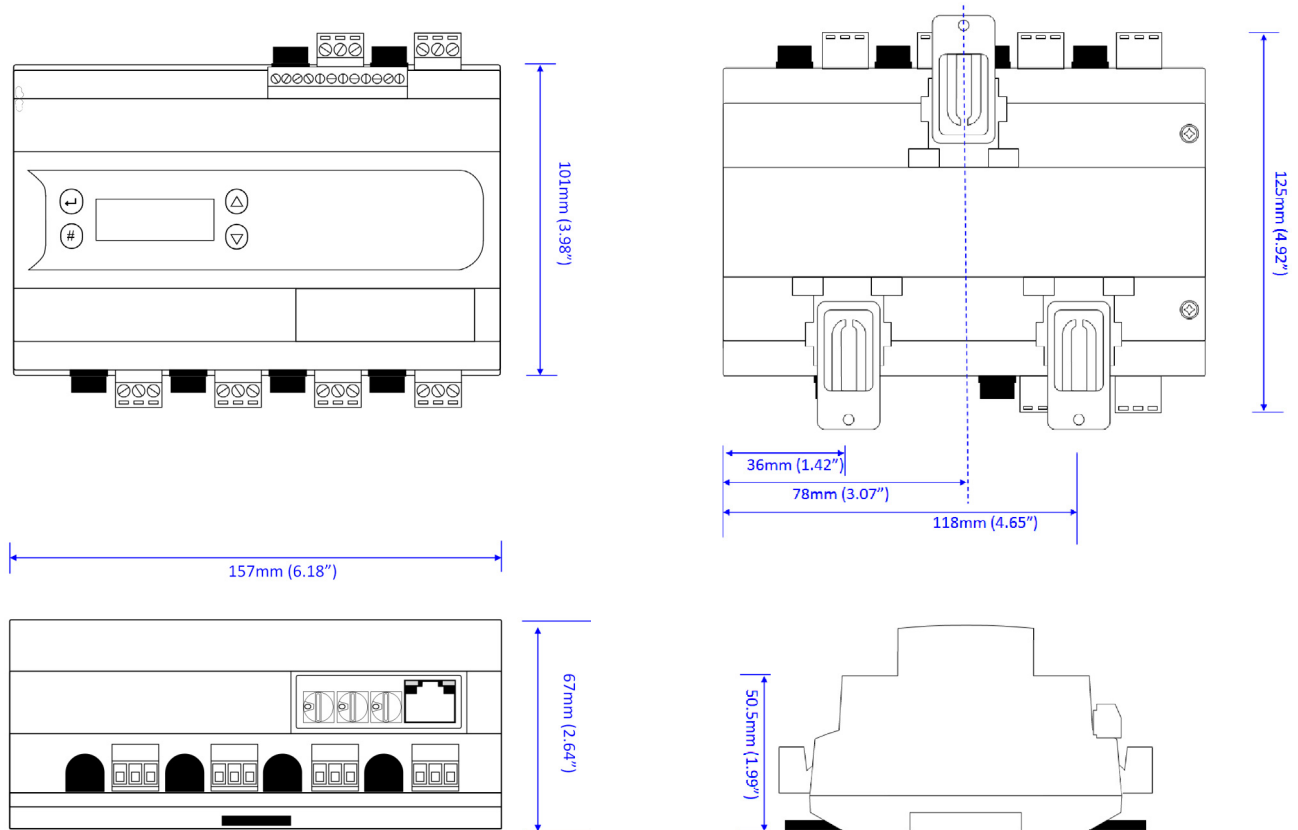
Typical applications

HVACR, Process control, BEMS systems, Industrial automation.

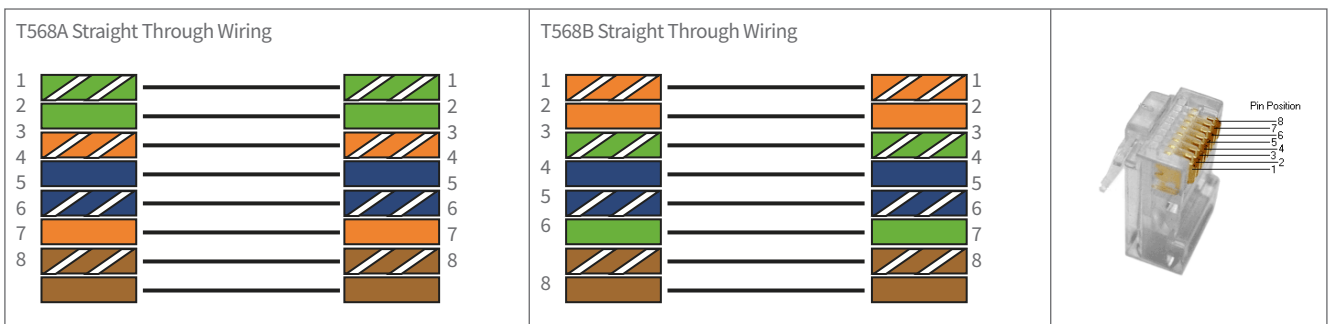


Note: contact technical support if you are outwith Europe and wish to purchase this product.

Intuitive Mercury mechanical information



All Dimensions H x W x D: mm (inch) - Please note that designs vary slightly depending on version purchased.



Technical Tip—IP Network Wiring 2

Question

Is wiring of CAT5 cables important?

Answer

Yes it is very important due to the design of CAT5/CAT5E cables that the end/connectors are wired to ensure that the twisted pairs are in the right order. The position of these twisted pairs provides the noise reduction to ensure that there is no data loss on long cable runs. Cables are most commonly wired to one of two International standards T568A and T568B. Either standard can be used but for good wiring practice it is recommended to keep wiring consistent during installation.

PR0650 TDB

Intuitive Controller

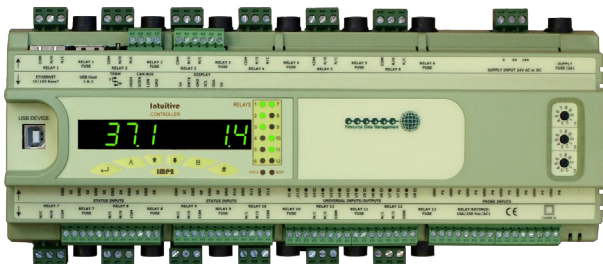
TDB Programmable Logic Controller

The flagship product in the Intuitive range, the Intuitive TDB Controller, is a fully-featured, high performance unit with an impressive variety of inputs and outputs. The controller is contained within an easy mount, compact DIN enclosure and with flexible network and display options it can facilitate the most demanding HVACR (heating, ventilation, air conditioning and refrigeration) and BEMS (building energy management system) applications. It can be used with up to 10 expansion I/O modules to control up to 480 points across a site.

The Data Builder (TDB) allows you to develop your own control strategies to exactly match your application. Easy to understand and quick to customise, The Data Builder can be used as a stand alone Windows application or by direct connection to a Data Builder enabled Intuitive Controller. Password protection of your program means you can avoid unauthorised changes to the design as well as preventing copying of the design by others. The TDB programming application is provided pre-installed with the Intuitive TDB Controller at no extra cost. The PC version of the programming application can be downloaded for free from the RDM website allowing applications to be developed remotely.

Typical applications

BEMS systems, heating and ventilation, energy management, process control, lighting, refrigeration.



Features

- 8 x Temperature Inputs (resistive)
- 12 x Digital Inputs
- 12 x Configurable Relay Outputs (optional fusing)
- 8 x Universal I/O (0-20mA / 0-10Vdc, in or out)
- 2 x USB-A Ports for Ancillary Equipment
- 1x USB-B Port for local Laptop connection
- CANbus Interface & IP Ethernet connectivity
- Built in simulation feature for easy testing & fault finding
- 24V ac/dc supply
- Web browser enabled
- Data Builder Software Pre-installed
- RDM Wireless Mesh - Relay Control
- TLS Support
- Configurable Remote XML Access
- Test Dialout Functionality^{New}
- Item Visibility^{New}
- Mobile Network Compatibility^{New}

Optional Extras

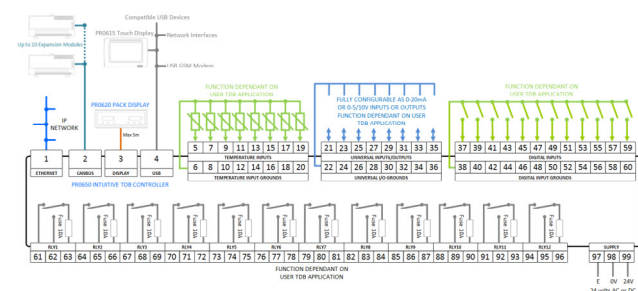
- Expansion cards
- BACnet Interface
- Options for internal or remote displays including Intuitive Touchscreen Display-IMPt PR0615
- Communication with third party Modbus® based Energy meters using the USB Plant Modbus adapter PR0623/PR0625
- Count pulses using the Plant USB Pulse Reader PR0622 (typically from a utility meter or flow measurement device)
- Fused or Non-Fused options
- Type Editor - for the creation of read-only Modbus® templates^{New}
- Read/Write Template Support^{New}

Ordering Information

Description	Part number
Intuitive Controller With TDB	PR0650 TDB
Intuitive Stepper Expansion Board	PR0660
Intuitive I/O Expansion Board	PR0661
Intuitive 48 Channel Expansion Board	PR0662
Intuitive TDB BACnet Interface Enabler	PR0655
24V 2A DIN rail Power Supply	PR0625

*Intuitive controllers are available with or without on-board fusing. When ordering please include NF to indicate "Non-Fused or Fused", for example, PR0650 NF TDB.
 **Add E1 to the end of a part number to substitute an electromechanical relay for an SSR. Use E2 for two relays etc.

Typical wiring



The Data Builder (TDB) programming application

The Data Builder application is an intuitive, graphics based programming tool supplied embedded in an Intuitive TDB controller, TDB enabled dmTouch or available as a stand alone PC package. When connected directly to an Intuitive TDB controller or dmTouch, the “Online“ mode allows real time viewing of the controller’s inputs, outputs and parameters which provides easy fault diagnosis and system overview.

Applications are developed by selecting from a comprehensive but straightforward selection of blocks. Blocks are then linked using virtual “wires” which are automatically coloured red for analogue or blue for digital, built in safety features prevent accidental analogue to digital connections.



TDB applications are fully password protected to prevent unauthorised users from copying or amending applications. Applications can be easily uploaded to a PC (subject to password protection) and transferred to one or more controllers.

A maximum of 10,000 control blocks (Up to 2000 if using an Intuitive Mercury controller) and interconnects can be added to any single application. Blocks are categorised under the subsections I/O, Logic, Mathematical, Time, Functional, Diagnostic, Custom, Text, Shortcut and Setting. Blocks available will vary slightly depending on the hardware platform being used.

Examples of TDB design blocks

I/O Analogue in

Allows an analogue input to be brought into the application, typically a temperature probe, a lux sensor or a pressure transducer. The block has 11 different probe tables built in or the option to add a custom table.



4 Input AND gate

A simple logic gate it allows 4 digital inputs to give a single digital output if all 4 inputs are “On”, for example if 4 different conditions need to be satisfied before an alarm is generated.



Mathematical algebra block

The algebra block can perform calculations on up to 5 different analogue values. Calculations which can be carried out are addition, subtraction, multiplication, division, raise to the power of and a variety of trigonometric and log equations.



Time daylight block

By entering the longitude and latitude of any location on the planet, this block will calculate whether it is currently daytime, night time or twilight at that location. This is useful for switching lighting on when it gets dark when no light sensor is being used.



Functional direct PID

This block calculates a percentage output based on the rate of change of an input against a target set point. This is useful for controlling the speed of an inverter drive with relation to an analogue value such as pressure or temperature.



Diagnostic analogue display

Analogue displays can be added at any point in an application and will show the instantaneous value of the item it is connected to. This can be used in real time using the on line mode, or in the simulation mode.



Custom 4 stage block

Allows the user to create their own simplified block to suit a particular application which can then be used repeatedly as required. In this example, an application which contains 20 blocks has been saved as a single custom block, this makes development of future applications much simpler and quicker.



I/O Plant display block

The plant display block allows two different analogue values to be displayed on an RDM plant display as well as giving the ability to illuminate a fault LED for each display section. The button presses from the six push buttons on the display can also be read and used as required in the application.



Setting block

Allows a setting to be added to an application, settings can be analogue or digital. This setting can be internal to the application such as a starting or default value, or can be used externally as a set point, such as “target pressure”. When used externally, the setting will appear as a settable value on the user interface (PC or data manager for example).



Static text

A static text block can be added anywhere in the application to add a description to a particular section or as a reminder to the user. Text font and size can be selected as required.

Shortcut

The shortcut block allows two or more points to be connected anywhere in the application without having to draw a connection line between them. This makes larger applications easier to work with and simpler to follow.



Functional display cascade

When used in conjunction with an Intuitive Touchscreen, the cascade block, when triggered by the TDB application, displays a user definable text message with two option buttons. Depending on which button is pressed, the appropriate output will be activated.

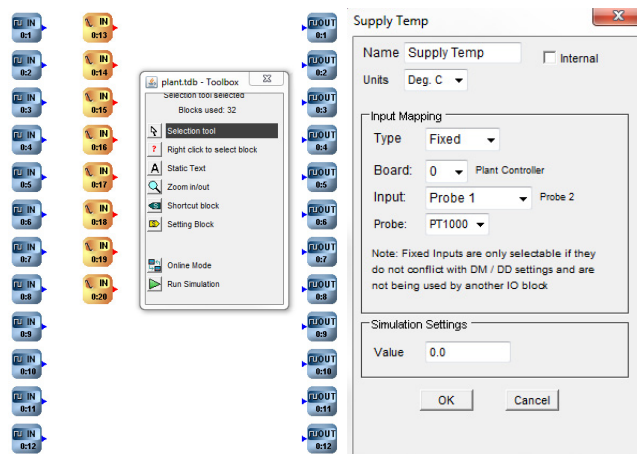


Four simple steps to create an application using The Data Builder

Step 1— define your inputs and outputs

When connecting to a TDB controller for the first time, a row of digital inputs, analogue inputs and digital output blocks will be shown, these relate to the status inputs, probe inputs and relay outputs of the controller. The floating toolbox is also shown which provides access to all the editing functions required.

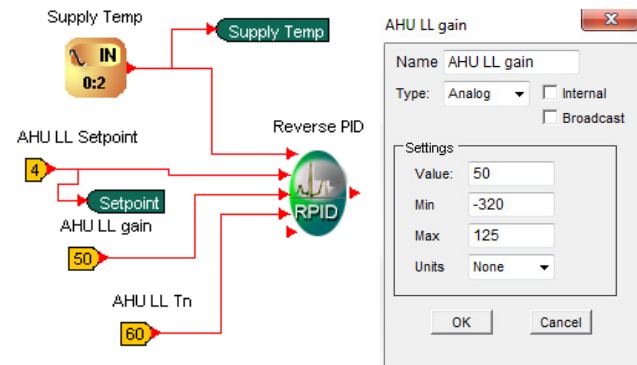
Clicking on each input and output block enables it to be named and its function defined, the example below shows a PT1000 temperature probe. Any unused inputs and outputs can be deleted, they can be easily added again at a later date if required.



Step 2— connect your blocks to define operation

Once all the inputs and outputs have been allocated and named, all the other blocks required can be selected from the floating toolbar and dropped into the workspace. In this example set points, shortcuts and a reverse PID Functional block are to be used.

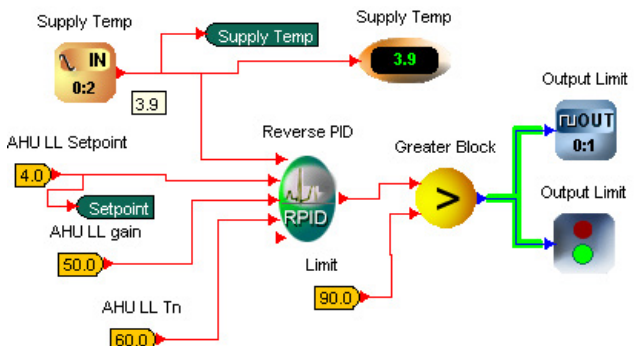
An example of defining a set point is shown below right, this menu is displayed by clicking on the set point block. All the blocks can now be connected together as required, this is a simple drag and drop procedure.



Step 3—test your program

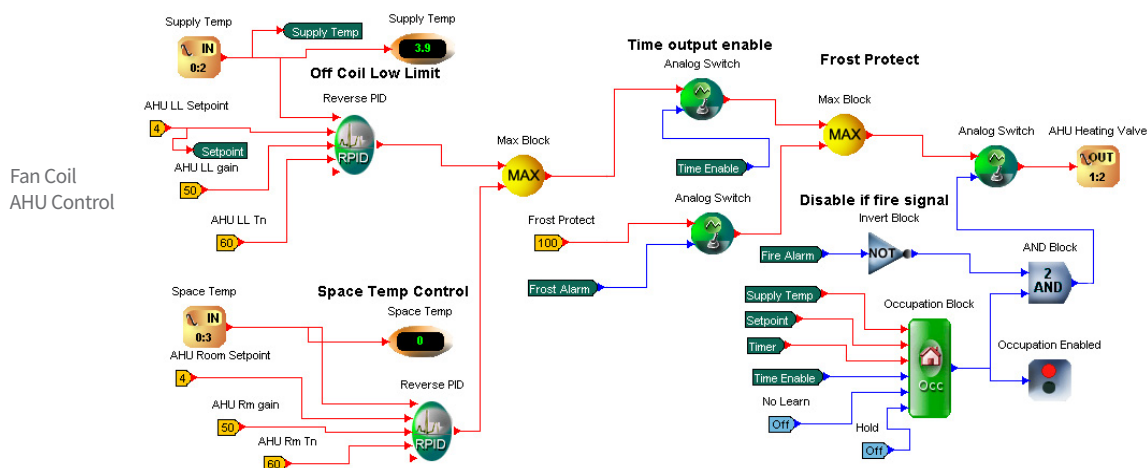
At any point whilst developing the application or when the application is complete, a simulation can be run using the simulation tab on the floating toolbox. Diagnostic displays can be added to make fault finding easier. Digital signals which are on will be highlighted in green, as shown to the right. Analogue values can be displayed on a virtual display or by placing the pointer at the input or output of a block.

If the controller has all the physical inputs connected (such as temperature probes), then using the online mode enables all the values to be viewed in real time.



Step 4—Expand as required and Save complete application.

Additional blocks added to complete the program. Static notes can be added for easy editing at a later date. The complete program can then be saved (to PC or direct to controller). Password protection can be set if required to prevent unauthorised changes/copying or viewing of code.



TDB supported products

	Intuitive TDB	Intuitive Mercury TDB	Data Manager
Base Model Part Numbers	PR0650 TDB	PR0750 TDB & PR0760 TDB	PR0510
Resistive Inputs (Temperature Probes)	8 Can support up to 10 plant expansion boards enabling up to 80 additional probe inputs via a CANbus network	6 An addition 3 inputs can be added via an expansion card	12 by Default. Up to 48 utilising Daughter Boards Can support up to 10 plant expansion boards enabling up to 80 additional probe inputs via a CANbus network
Supported Probe Types	11 (Including custom profile)*	11 (Including custom profile)*	11 (Including custom profile)*
Digital Inputs (24Vac or Volt Free)	12 x volt-free or 24Vac Note: spare resistive probe inputs can be used as volt-free digital inputs. Can support up to 10 plant expansion boards enabling up to 80 additional digital inputs via a CANbus network	0 Dedicated Inputs Note: spare resistive probe inputs can be used as volt-free digital inputs.	0 Dedicated Inputs Note: spare resistive probe inputs can be used as volt-free digital inputs. Can support up to 10 plant expansion boards enabling up to 80 additional digital inputs via a CANbus network
Universal Analogue Inputs & Outputs	8 Selectable Universal Inputs and/or Outputs (0-20mA or 0-10Vdc Range) Can support up to 10 plant expansion boards enabling up to 80 Universal I/O via a CANbus network	Analogue Inputs and Outputs via optional Daughter Boards	Analogue Inputs and Outputs via optional Daughter Boards Can support up to 10 plant expansion boards enabling up to 80 Universal I/O via a CANbus network
Daughter Board/Card Support	No	Yes. A range of additional inputs and outputs are available when used. Please refer to the table below.	Yes. A range of additional inputs and outputs are available when used. Please refer to the table below.
CANbus Expansion Module Support (Expands available I/O)	Up to 10 Expansion Modules (PR0660, PR0661 & PR0662)	No	Up to 10 Expansion Modules using USB to CANbus adapter PR0489. (Supported Modules PR0660, PR0661 & PR0662)
Relay Outputs	12 Can support up to 10 plant expansion boards enabling up to 120 additional relay outputs via a CANbus network	5	4 Built-in by default. Up to 13 utilising Daughter Cards Can support up to 10 plant expansion boards enabling up to 120 additional relay outputs via a CANbus network
Relay Current Ratings	10A Resistive (250Vac,30Vdc) COS ϕ =0.4 5A Inductive load	10A Resistive (250Vac,30Vdc) COS ϕ =0.4 5A Inductive load	Built-in 4 Relays - 7.5A Resistive (250Vac,30Vdc) COS ϕ =0.4 5A Inductive load Daughter Board Relays - 5A Resistive (250Vac,30Vdc) COS ϕ =0.4 2A Inductive load
Solid State Relay (SSR)	Optional, any of the 12 relays can be ordered with this as an option	Optional, any of the 5 relays can be ordered with this as an option	No
Fused Relay Protection	Optional Fused	Optional Fused	No
Display	Remote or Internal 2 section LED 8 Digits and 6 pushbuttons.	Remote or Internal LED 4 digits and 4 pushbuttons.	Built-in 9" High Definition Multi-touch Display
Intuitive 4" Touchscreen Display-IMPt Support	Yes	No	No
Number of TDB Programs	1	1	Up to 16
Number of TDB Blocks	10,000	Typically 2,000	4096 per Program
Built-in TDB Editor	Yes	No	Yes
TDB Program Password Protection	Yes	Yes	Yes
Data Logging – Internal	Months (15 Minute Samples)	Days (15 Minute Samples)	Years (15 Second Samples)
Data Logging – External USB Memory Stick	Years (15 Second Samples)	Not Applicable	Not Applicable
Web Browser Enabled	Fully Featured	Standard Features	Fully Featured
Alarm Notification	LED, Alarm Relays & Display (via Internal or Remote display options)	LED, Alarm Relays & Display (via Internal or Remote display options)	LED, Alarm Relays, Display and Sounder
Status Indicators	LED & Display (via Internal or Remote display options)	LED & Display (via Internal or Remote display options)	Yes, via onscreen graphics
Relay Output Status Indicators	Yes	No	No
Real Time Clock (RTC)	Yes	Yes	Yes
Network Communication (External Hardware)	Optional Wi-Fi	Optional IP	Wi-Fi, Wireless Mesh, CANbus, RS485, Fibre
Network Communication (Integrated)	IP	Optional IP or Wi-Fi	IP
Network Protocol	XML, Web Services, BACnet & Wireless Mesh	XML	XML, Web Services, BACnet, Modbus, SNMP & Wireless Mesh
Peer to Peer Functionality	Yes	No	Yes
USB-A Ports for Ancillary Equipment	Yes	No	No

	Intuitive TDB	Intuitive Mercury TDB	dmTouch
Base Model Part Numbers	PR0650 TDB	PR0750 TDB & PR0760 TDB	PR0510
USB-B Port for local Laptop connection	Yes	No	No
Modbus Communication	Yes, via PR0623 - USB to RS485 Modbus Adapter. Note Energy Meters Only	No	Yes, via USB to RS485 Modbus Adapter (PR0623) or Modbus TCP/IP (PR0470). Energy meters, Gas leak detection, Heat meters and other devices supported.
Wireless Sensors	Yes, via PR0734	No	Yes, via PR0732 or PR0734
Power Supply	Fused Supply 24 Vac $\pm 10\%$ or 24 Vdc $\pm 10\%$ (Typ. $<0.3A$) 50-60 Hz $\pm 10\%$ or dc	Fused Supply 100-240Vac $\pm 10\%$ 50-60hz (Typ. $<1A$)	100-240Vac $\pm 10\%$ 50-60hz (Typ. 0.4A)
Operating Temperature	-10° to 60°C (14° to 140°F)	-10° to 60°C (14° to 140°F)	-10° to 60°C (14° to 140°F)
Operating Humidity	10% to 80% (non condensing)	10% to 80% (non condensing)	10% to 80% (non condensing)
Removable Connectors	Yes	Yes	Mix of fixed & removable
Enclosure Type	DIN (EN 50022)	DIN (EN 50022)	Bespoke Enclosure
Dimensions H x W x D	122 x 280 x 67mm (4.8 x 11 x 2.6in)	120 x 157 x 67mm (4.7 x 6.2 x 2.6in)	330 x 310 x 96mm (13 x 12.2 x 3.8in)
Weight (Model Dependent)	0.75Kg (1lb 10.5oz)	500g (1.1lb)	2.3Kg (5.0lb 1oz)

Intuitive Mercury Optional Expansion Cards	Ordering Code
1 x 0-5V/0-10Vdc Input & 1x 0-5V/0-10Vdc Output Expansion Card	Vi/Vo
2 x 0-5V/0-10Vdc Input Expansion Card	2xVi
2 x 0-5V/0-10Vdc Output Card	2xVo
1 x 0-5/0-10Vdc Input & 1 x Probe Input Expansion Card	1PVi
1 x 4-20mA Input & 1 x Probe Input Expansion Card	1PAi
2 x 4-20mA Output board Expansion Card	2xAo
3 x Input High Speed Pulse Counter Expansion Card	3HSP

Optional expansion cards are factory fit only, quote the desired expansion card part reference at the end of your controller part number when ordering.

dmTouch Optional Expansion Boards	Part Number
12 x Analogue / Digital Inputs	PR0460
3 x Relay Digital Output	PR0461
4 x 4-20mA Inputs	PR0462
4 x 4-20mA Outputs	PR0463
4 x Voltage Outputs (0-5V/0-10V)	PR0464
4 x Voltage Inputs (0-5V/0-10V)	PR0465
2 x Voltage Inputs, 2 x Voltage Outputs	PR0466
6 x Status Inputs (240 Vac)	PR0467

Optional Expansion Boards can either be pre-fitted to a Data Manager when ordered or retro-fitted onsite. The Data Manager can take a combination of boards and accepts up to three in total.

PR0650 PACK

Intuitive Controller

Pack / Condenser control

The Intuitive Pack / Condenser Controller is a full featured, high performance controller with an impressive array of inputs and outputs all within a small footprint with easy DIN rail mount.

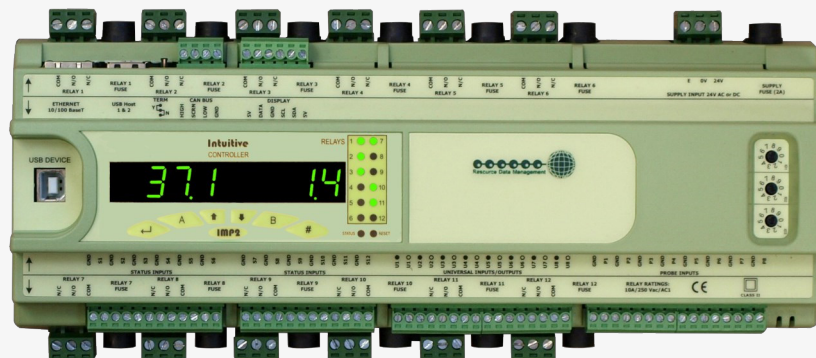
This versatile controller is intended for Pack and/or Condenser control. It has 12 relay outputs that are configurable for a variety of functions

including compressors, loaders, inverter enable and fans. The 12 digital inputs can be assigned for Pack or Condenser section inputs, run signals or general alarms.

There are three (4-20mA or 0-5/10Vdc) inputs for pressure transducers for control purposes, liquid level sensor for level monitoring and two outputs (4-20mA or 0-5/10Vdc) to drive variable speed devices. The Pressure readings obtained from the inputs can be broadcast directly to the controllers, or over a Data Manager IP network

for use by RDM Mercury Switch (PR0018-PHI), controllers connected to the switch can then use the value for control purposes.

Several energy saving features are built into the controller such as heat reclaim, suction pressure optimisation, floating head pressure and inverter drive control. Optional integrated fusing on the controller for all relays provides additional protection for both the attached hardware and the controller itself.



Typical applications

Refrigeration pack or condenser control.

Features

- IP Ethernet connectivity
- Web browser enabled
- 8 x Temperature Inputs
- 12 x Digital Inputs
- 3 x 0-20mA / 0-10Vdc Inputs
- 2 x 0-20mA / 0-10Vdc Outputs
- 12 x Configurable Relay Outputs
- 2 x USB-A Ports, 1x USB-B Port
- 24V ac/dc supply
- Options for remote displays including Intuitive Touchscreen Display-IMPt

- The “Fuzzy” based algorithm, will give enhanced control whilst maintaining the starts per hour requirement. The algorithm also reduces the number of input parameters required for control; only a target pressure is needed.
- The “staged” type allows the user to fully program the output stages to the desired elements.
- 10 configuration modes supports Pack, Dual Pack, Pack/Condenser, Condenser & Dual Condenser in both “Fuzzy” and “Staged” control

Ordering Information

Description	Part number
Intuitive Controller (Pack/Condenser) Intuitive Controller (Pack/Condenser)	PR0650 PACK
Intuitive Controller (Pack/Condenser) Intuitive Controller (Pack/Condenser) with internal display	PR0650D PACK
Intuitive Touchscreen Display-IMPt	PR0615
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN / Panel mountable Power Supply	PR0625

Note: Intuitive controllers are available with or without on-board fusing. When ordering please include NF to indicate “Non-Fused”, for example, PR0650 NF PACK.

Inputs

8 Temperature Inputs

Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2), 100K)
Range: -80°C to +127°C for PT1000. Configurable as Degrees Celsius or Degrees Fahrenheit

12 Digital Inputs

0V return or 24Vac (configurable as normally open or normally closed)

3 Analogue Inputs

0/4-20mA or 0-10Vdc

Outputs

12 Fused Relay Outputs (fuses are optional)

10A (250Vac, 30Vdc) resistive load, (5A COS ϕ =0.4 Inductive load)

2 Analogue Outputs

0-20mA or 0-10Vdc

Power

Supply Voltage Range: 24 Vac \pm 10% or 24 Vdc \pm 10%

Supply Frequency: 50 – 60 Hz \pm 10% or dc

Maximum supply current: <1.0 Amp Typical supply current: 0.3 Amp

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)

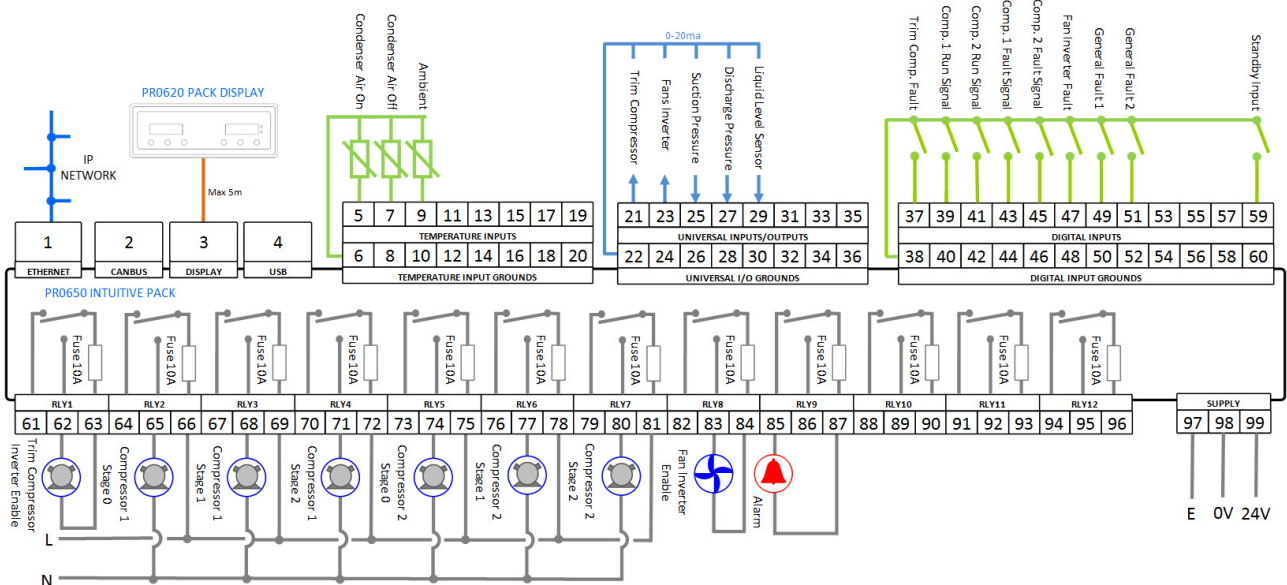
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)

Weight: 0.75Kg (1lb 10.5oz)

Typical pack wiring



PR0650 SUPER PACK

Intuitive Super Pack Controller

Pack / Condenser control with energy monitoring

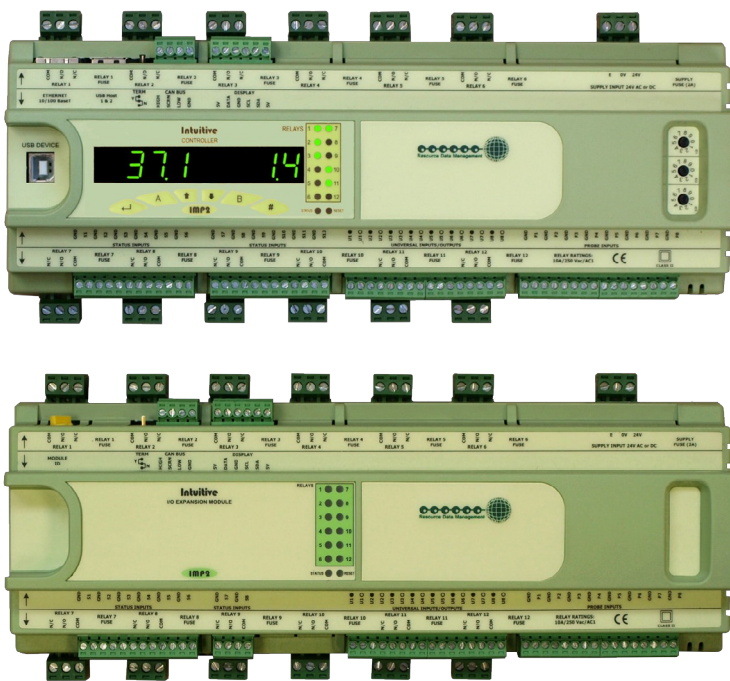
The Intuitive Super Pack / Condenser Controller is a full featured, multi-section, high performance controller with an impressive array of inputs and outputs, the controller is DIN rail mountable and can be used with integral or remote displays. Dependent upon application requirements, the Intuitive Superpack could support up to 10 expansion modules.

The controller can accept up to 50 current measurement inputs (using USB current monitoring devices) from individual compressors and fans allowing the controller to continually monitor and log electrical usage and generate an alarm if any device exceeds individually

configurable current limit thresholds. This provides an invaluable tool to help with energy monitoring and reduction, as well as provide feedback of data for failure prediction analysis which can be used as part of a preventative maintenance program.

This versatile controller is intended for up to three sections of Pack and/or Condenser control. Each section has a maximum of 16 stage relay outputs that are configurable for a variety of functions including compressors, digital compressor, loaders, inverter enable and fans, this allows up to 48 stages to be controlled by one control system. Each of the three sections has up to 16 digital inputs which can be assigned for Pack or Condenser section inputs, run signals or general alarms. Each control board has eight universal inputs and outputs (4-20mA, 0-5Vdc, 0.5-4.5Vdc,

0.5-9.5Vdc or 0-10Vdc) which can be used for pressure transducers, liquid level sensors, and variable speed inverter drives. The Pressure readings obtained from the pressure transducer inputs can be broadcast over a Data Manager IP network for use by RDM Mercury Switch (PR0018-PHI), controllers connected to the switch can then use the value for control purposes. Several energy saving features are built into the controller such as heat reclaim, suction pressure optimisation, floating head pressure and inverter drive control. Integrated fusing on the controller for all relays (optional) provides additional protection for both the attached hardware and the controller itself.



Typical applications

Refrigeration pack or condenser control.

Features

- IP Ethernet connectivity
- Web browser enabled
- Digital Scroll compressor control
- Up to 24 x Temperature Inputs
- Up to 48 x Digital Inputs
- Up to 9 x 0-20ma / 0-10Vdc Inputs
- 3 x 0-20ma / 0-10Vdc Outputs
- Up to 48 x Configurable Relay Outputs
- CANbus Interface
- 2 x USB-A Ports, 1x USB-B Port
- 24V ac/dc supply
- Options for remote displays including Intuitive
- Touchscreen Display-IMPt
- Optional control and Energy solutions using the USB 5 Channel Current Monitor (PR0626)

Ordering Information

Description	Part number
Intuitive Main Controller	PR0650 SUP
Intuitive Main Controller with Integral Display	PR0650D SUP
Intuitive Main Controller with solid state relay fitted in position 1 (for digital scroll control)	PR0650 SUP E1
Intuitive I/O Expansion Board	PR0661
Intuitive Touchscreen Display-IMPt	PR0615
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN/Panel mountable Power Supply	PR0625
5 Channel USB Current Monitor	PR0626
5 Channel USB Current Monitor - DIN Mount	PR0626 DIN

Note: Intuitive controllers are available with or without on-board fusing. Expansion boards are available with or without on-board fusing too. When ordering please include NF to indicate "Non-Fused", for example, PR0650 NF PACK.

If using a digital scroll compressor please include E1 to indicate solid state relay in position 1, for example, PR0650 SUP E1. For a dual section configuration add E2 for two digital scrolls compressors (One per section).

Inputs

8 Temperature Inputs

Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2), 100K)

Range: -80°C to +127°C for PT1000. Configurable as Degrees Celsius or Degrees Fahrenheit

12 Digital Inputs on Main Board, 8 on Expansion Board

0V return or 24Vac (configurable as normally open or normally closed)

Up to 8 Analogue Inputs

0/4-20mA or 0-10Vdc

Outputs

12 Fused Relay Outputs (fuses are optional)

10A (250Vac, 30Vdc) resistive load, (5A COS ϕ =0.4 Inductive load)

Up to 8 Analogue Outputs

0-20mA or 0-10Vdc

Typical wiring

Main Controller

Communications between boards (11 maximum)

CANbus (Bit rate 125kbits/s). Maximum cable length = 0.5km (0.3mi)

Power (per unit)

Supply Voltage Range: 24 Vac \pm 10% or 24 Vdc \pm 10%

Supply Frequency: 50 – 60 Hz \pm 10% or dc

Maximum supply current: <1.0 Amp Typical supply current: 0.3 Amp

Environmental

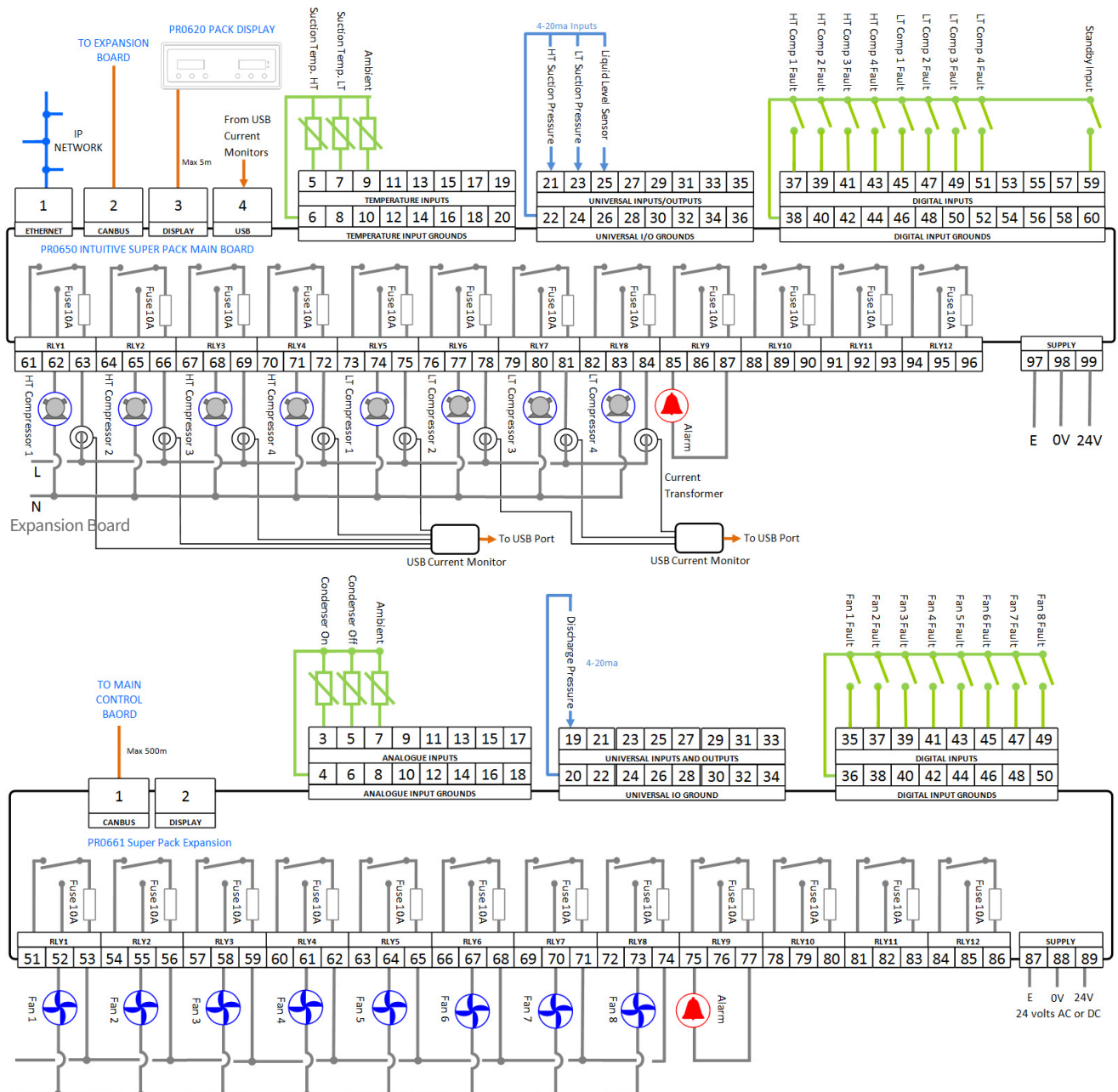
Operating temperature: -10° to +60°C (14° to 140°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical (per unit)

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)

Weight: 0.75Kg (1lb 10.5oz)



PR0650 CCT

Intuitive Controller

Circuit controller

The Intuitive Circuit Controller is a versatile and cost efficient controller intended for centralised control of up to 25 refrigeration devices (or circuits).

The controller has the ability to operate Liquid Line Valves, Fans, Trim Heaters, Lights, Defrost Relays, Remote Relays, and Stepper Motors. The Intuitive Circuit controller also provides monitoring and alarm functionality. The controller's CANbus interface allows connection between the main controller and expansion boards to increase the available inputs/outputs.

Up to 10 Expansion boards can be connected to the Main Board, there are three options available:

- PR0660 Stepper Expansion Board, with 8 Probe Inputs, 8 Status Inputs, 8 Universal I/Os, 4 Relay Outputs and 6 Stepper Motor outputs.
- PR0661 IO Expansion Board with 8 Probe Inputs, 8 Status Inputs, 8 Universal I/Os and 12 Relay Outputs.

- PR0662 48 Probe Expansion Board with 8 Universal I/Os and 48 Probe/Plant Inputs.

Rotary switches on Expansion Boards select the position of the Expansion Boards. Further information on all of the above expansion board variants can be found on page 25.

The Intuitive Circuit Controller main board has an embedded Ethernet port to allow for connection to a Data Manager system without the need for a communications module. A USB port allows for a direct PC connection amongst other features. All relays are volt-free and can be mixed between low and high voltage sources. The controller requires a 24Vac supply or a 24V dc PSU (RDM part ref: PR0625)

Typical Applications

Refrigerated cabinets, coldrooms & chillers.

Features

- IP Ethernet connectivity
- Web browser enabled
- Control of up to 25 refrigeration circuits simultaneously
- Control of mechanical liquid line valves or stepper valves
- Defrost control
- Lighting control
- Trim heater control
- CANbus Interface
- 2 x USB-A Ports, 1x USB-B Port
- 24V ac/dc supply
- Options for remote displays

Key Benefits

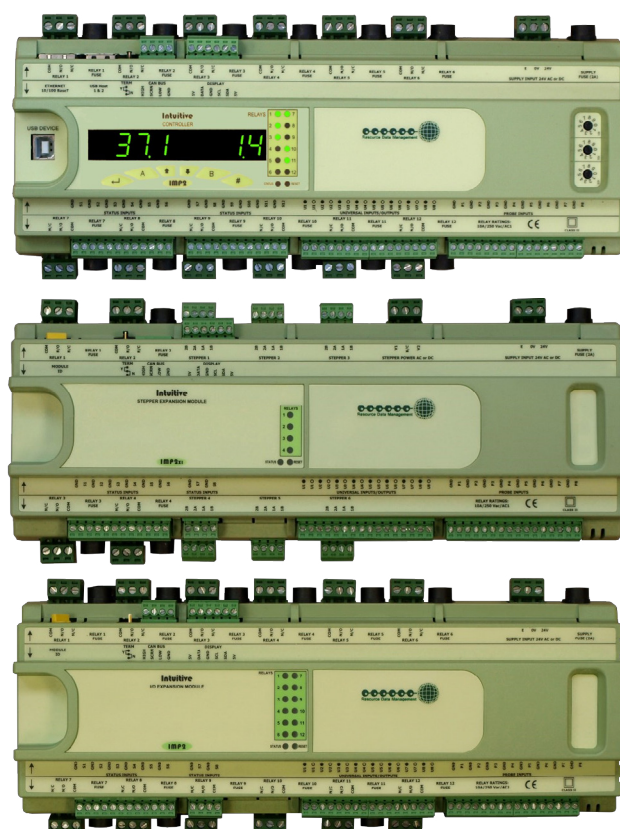
- Cost effective centralised control
- Energy saving using trim heater control
- “Fuzzy” algorithm for stepper valve control
- Optional individual fusing of all relays

Ordering Information

Description	Part number
Intuitive Circuit Controller	PR0650 CCT
Intuitive Circuit Controller with integral Display	PR0650D CCT

Description	Part number
Intuitive Touchscreen Display – IMPt	PR0615
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN / Panel mountable Power Supply	PR0625

Note: Intuitive controllers are available with or without on-board fusing. When ordering please include NF to indicate “Non-Fused”, for example, PR0650 NF CCT.



Inputs

8 Temperature Inputs

Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2), 100K) Range: -60°C to +127°C for PT1000. Configurable as Degrees Celsius or Degrees Fahrenheit

12 Digital Inputs

0V return or 24Vac (configurable as normally open or normally closed)

Outputs

12 Fused Relay Outputs (fusing is optional)

10A (250Vac, 30Vdc) resistive load, (5A COS ϕ =0.4 Inductive load)

Universal I/O (Inputs/Outputs)

8 x 0-10 Vdc or 0/4-20mA

Power

Supply Voltage Range: 24 Vac \pm 10% or 24 Vdc \pm 10%

Supply Frequency: 50 – 60 Hz \pm 10% or dc

Maximum supply current: <1.0 Amp

Typical supply current: 0.3 Amp

Environmental

Operating temperature: -5° to +60°C (23° to 140° F)

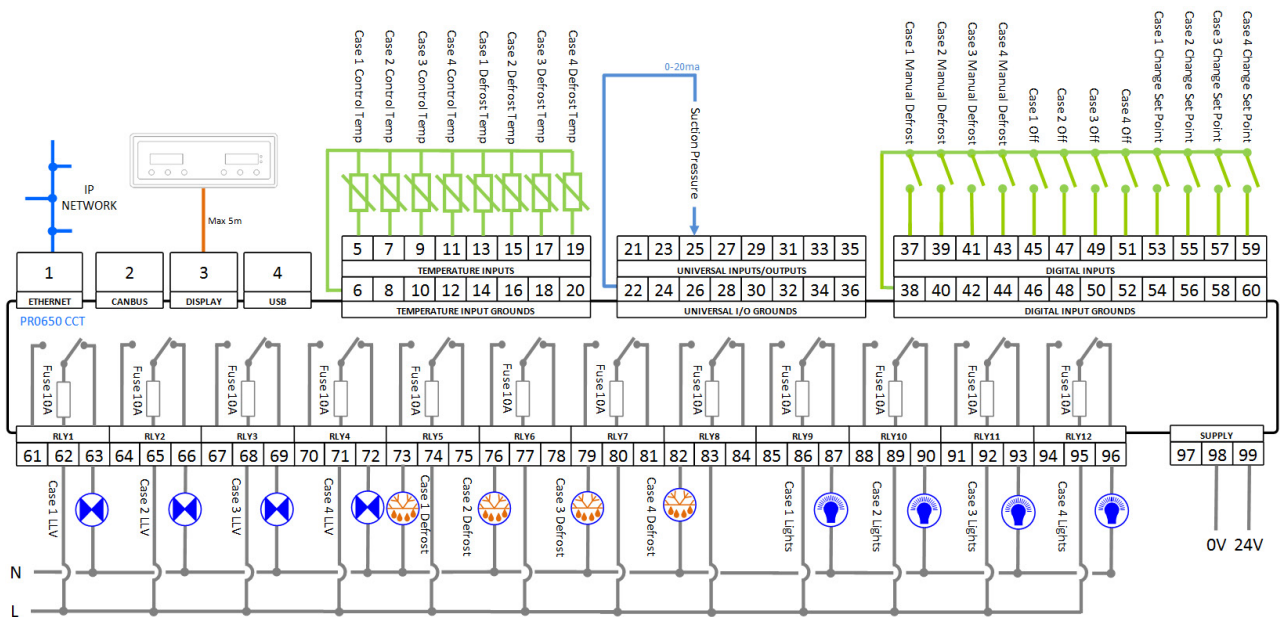
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)

Weight: 0.75Kg (1lb 10.5oz)

Typical Wiring



PR0650-SUPCO₂

Intuitive CO₂ Superpack Controller

Transcritical CO₂ controller

The Intuitive Transcritical CO₂ Superpack Controller is a versatile expandable controller intended for HT/LT CO₂ Pack, Gas Cooler and HT/LT Oil monitoring and control, each of these 5 sections are user selectable so the oil sections, for example, can be set to unused if not required. The controller can be expanded by using up to 10 Expansion Modules, consisting of the Stepper Expansion or IO Expansion module range.

Each of the pack control sections (HT & LT) has the following IO available:-

- Up to 24 relays that can be used for compressors, loaders, VSD enable, gas dump, offline, run and alarm.
- 16 digital inputs (0v return or 24vac)
- Compressor run signals, compressor fault signals and general alarms.
- Four analogue inputs (mA or volts) for suction and discharge pressure transducers and general pressure monitoring.
- Eight temperature probe inputs to measure suction temperature, discharge temperature and general temperature monitoring.
- One analogue outputs (mA or volts) which can be used to control a variable speed drive.

Features

- IP Ethernet connectivity
 - Web browser enabled
 - Up to 24 x Temperature Inputs
 - Up to 68 x Digital Inputs
 - Up to 12 x Milliamp or dc Voltage Inputs
 - Up to 6 x Milliamp or dc Voltage Outputs
 - Up to 4 x Stepper Valve Outputs
 - Up to 88 x Relay Outputs
 - CANbus Interface between main controller and expansion(s)
 - 2 x USB-A Ports, 1x USB-B Port
 - 24V ac/dc supply
 - Optional digital scroll compressor control
 - Optional fusing on relay outputs
-
- Total user flexibility allows all inputs and outputs to be mapped by the user
 - All items and parameters can be renamed providing user customisation of the controller
 - Any unused sections and parameters can be hidden providing a clearer & simpler user interface
 - Compressor, gas cooler and oil control all in one package
 - Compatible with a wide range of sensors and stepper valves

The CO₂ gas cooler section has the following IO available:-

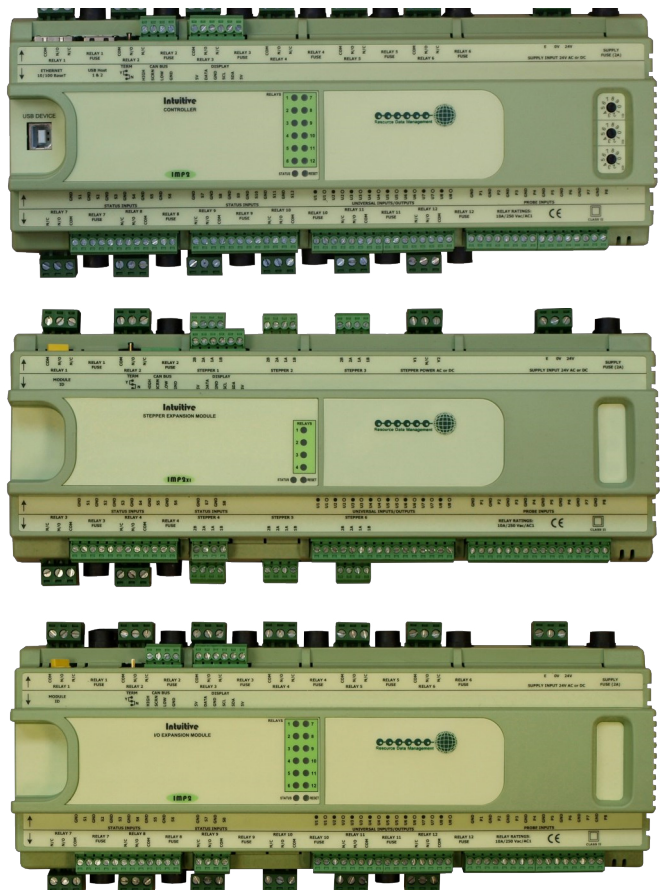
- Up to 24 relays that can be used for cooler, fan, receiver and auxiliary inverter enables, transcritical, liquid injection, superheat low & high, heat recovery, heat recovery bypass, offline, run and alarm.
- Sixteen digital inputs (0v return or 24vac) for extra capacity, receiver high and receiver low signals.
- Four analogue inputs (mA or volts) for cooler & receiver pressures, liquid level and heat recovery (0-10v only).
- Eight temperature probe inputs to measure cooler, ambient, air on, air off, liquid injection and general temperature monitoring.
- Four analogue outputs (mA, volts or stepper) which can be used to control cooler, fan, receiver and auxiliary compressor variable speed drives or stepper valves.

The oil control sections (HT & LT) has the following IO available:-

- Up to 16 relays used for oil injection and 16 status inputs (0v return or 24vac) for compressor status, oil separator, oil low, oil high and oil reset inputs.

Due to the modular nature of this controller, all inputs and outputs can be mapped to any position on the main control board or any of the expansion boards allowing greater flexibility.

Note: The HT, LT and one of the monitor pressures (inputs 1-3 on the Controller Board) are also available to be broadcast over the Data Manager network for use by RDM Mercury Switch (PR0018-PHI) for evaporator pressure control or used in the Data Manager Load Shedding feature.



8 Temperature Inputs

8 x Temperature Inputs on main board and each expansion board

Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2), 100K) Range: -80°C to +127°C for PT1000
Configurable as Deg Celsius or Deg Fahrenheit

12 x Digital Inputs on main board, 8 on each expansion board

0V return or 24Vac (configurable as normally open or normally closed)

8 x Analogue Inputs/Outputs on main board and each expansion board

(0-5Vdc, 0-10Vdc, 0-20mA or 4-20mA)

Outputs

16 Relay Outputs, Fusing Optional

10A (250Vac, 30Vdc) resistive load, (5A COS ϕ =0.4 Inductive load)

Power (per unit)

Supply Voltage Range: 24 Vac \pm 10% or 24 Vdc \pm 10%

Supply Frequency: 50 – 60 Hz \pm 10% or dc

Maximum supply current: <1.0 Amp

Typical supply current: 0.3 Amp

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)

Operating humidity: 10% to 80% (non condensing)

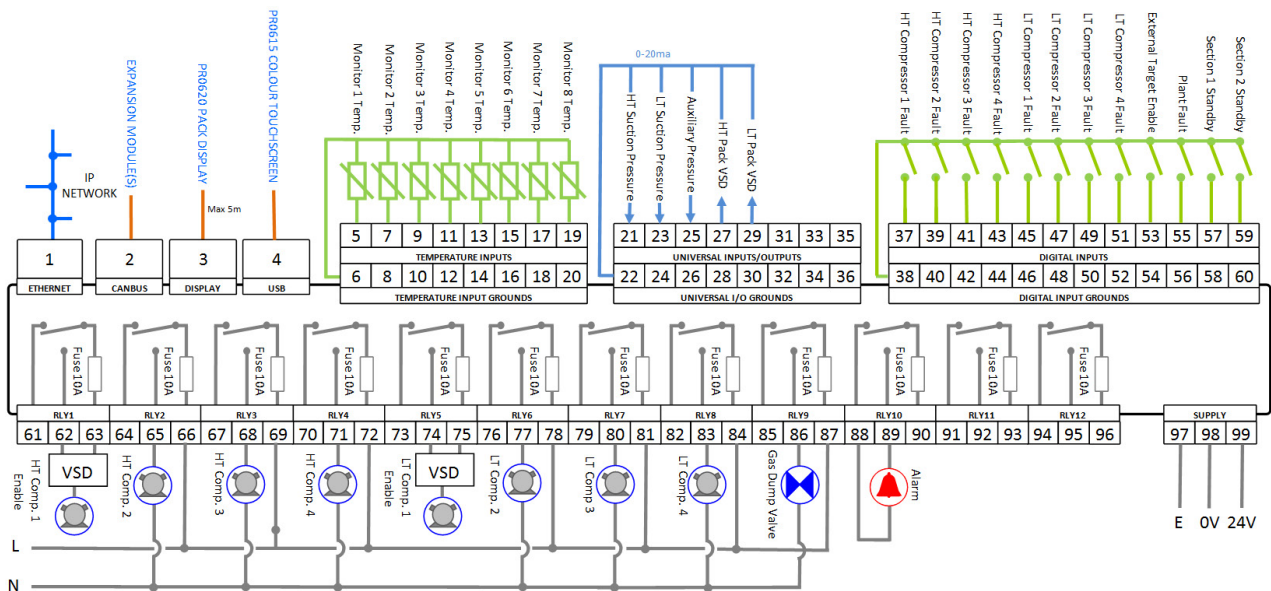
Mechanical (per unit)

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)

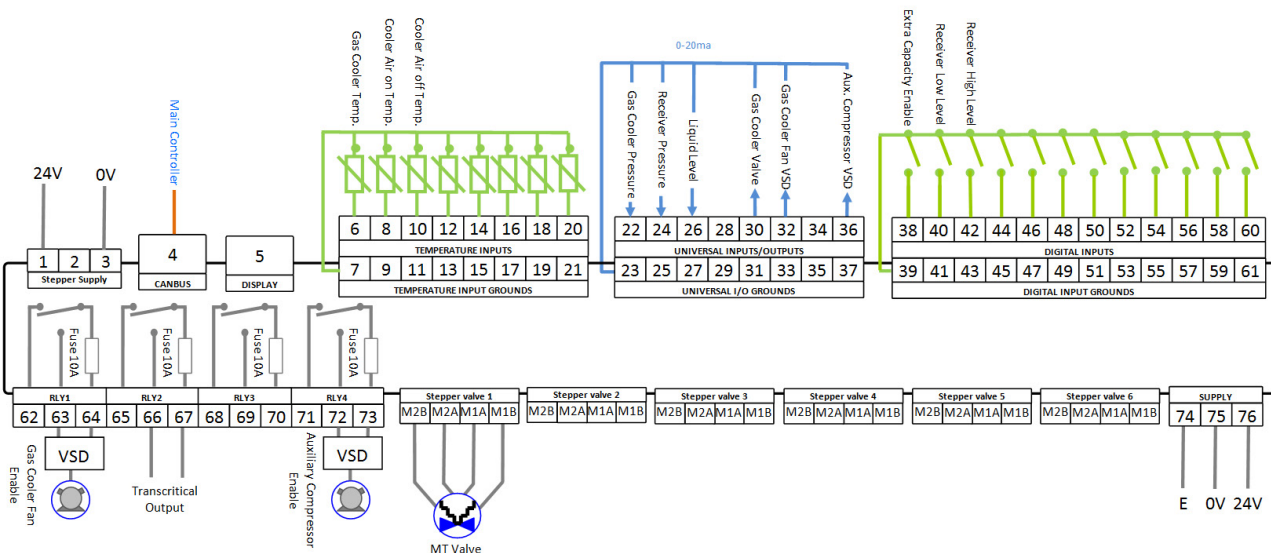
Weight: 0.75Kg (1lb 10.5oz)

Typical wiring

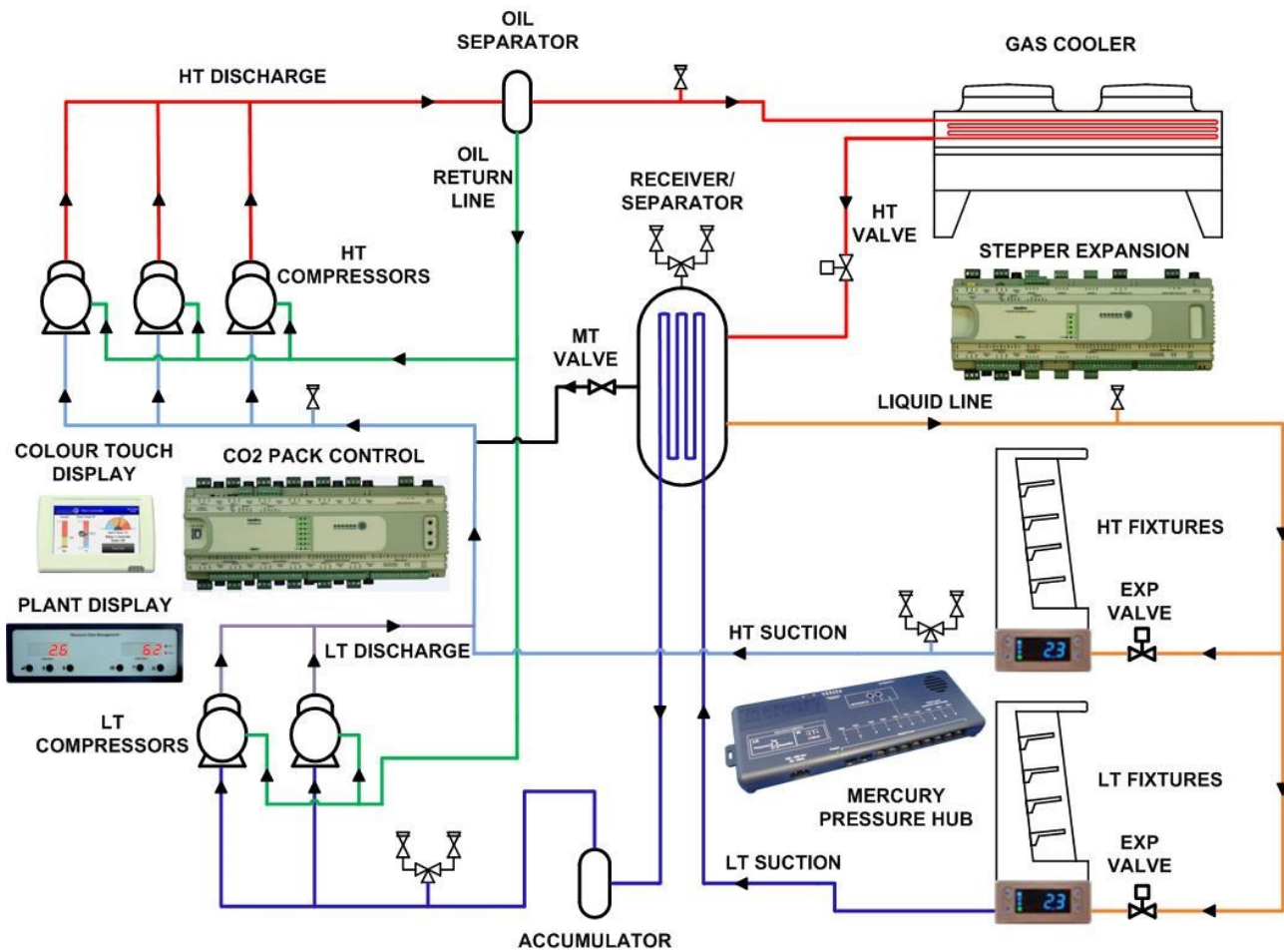
Main Controller



Stepper expansion module



Typical system schematic



Ordering Information

Description	Part number
CO2 Transcritical Superpack Controller	PR0650- CO2-SUP
CO2 Transcritical Superpack Controller with solid state relay (for digital scroll compressor)	PR0650- CO2-SUP-E1

Note: Intuitive controllers and their expansion boards are available with or without on-board fusing. When ordering please include NF to indicate "Non-Fused", for example, PR0650 NF CO2 SUP.

Optional

Description	Part number
Intuitive CO2 Stepper Expansion Module	PR0660
Intuitive CO2 I/O Stepper Expansion Module	PR0661
Dual Panel Mount Display With Keypad	PR0620
Intuitive Touchscreen Display IMPt	PR0615
24V Power Supply Units	PR0625
PT1000 Air Probes	PR0170
PR1000 Air Probes	PR0180

PR0659

Intuitive Backup Controller

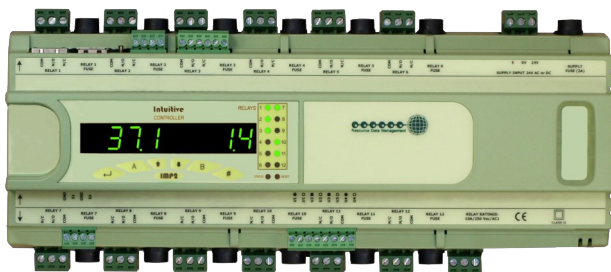
The Intuitive Backup controller is intended as a backup system for the primary pack/condenser controller. The controller has a built in display which allows for setup of the unit as well as interrogating the controller.

There are 12 relay outputs used to operate compressors, loaders, condenser fans or act as a standby relay used to switch control to and from the primary controller. Relays can also be assigned as Inverter enable relays to activate a variable speed device. There are two analogue Inputs for pressure transducers which can be set as either 0-10Vdc or 4-20mA. There are 2 analogue outputs used to control variable speed

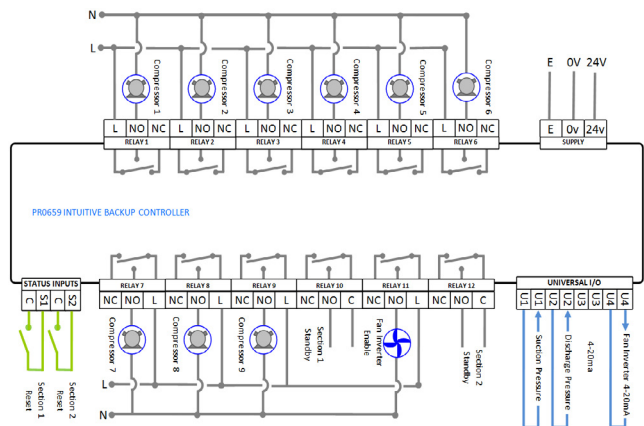
devices and either output can be set to 4-20mA or 0-10Vdc. There are 2 digital inputs which are used to return control to the primary pack/condenser controller if the backup controller is enabled. There are 7 software configuration options which can be selected during setup of the controller depending on the application (combined HT pack and condenser for example).

Typical applications

Backup control for pack/condenser systems.



Typical wiring



Comprehensive backup control

Control of compressors and/or condenser fans using pressure transducers, no pressure switches required.

Standalone operation

All features and parameters are set up using the integral display.

Automatic test facility

The backup controller can automatically test the main controller after one hour.

Ordering Information

Description	Part number
Intuitive Backup Controller	PR0659

Note: Intuitive controllers are available with or without on-board fusing. When ordering please include NF to indicate "Non-Fused", for example, PR0659 NF

Features

- Comprehensive backup control with "Staged" control algorithm
- Fully scalable transducer inputs
- Integral display with keypad provides access to all features of the controller
- Variable outputs to drive inverters
- Automatic retest of main controller
- 7 preset control types for easy setup
- Will operate from 24V ac or dc supply

Inputs

2 pressure transducer

0 to 10 Volts dc, or 4-20mA, selected in the Parameters.
4-20mA current loop, use 12Vdc output to feed the transducer

Digital inputs

0 volt or 24V return

Outputs

2 Analogue outputs

0 to 10 Volts dc or 4-20mA, selected in the Parameters.

Note: the 4-20mA output will not operate correctly if the target device input impedance is > 75Ω the 0-10V output will not operate correctly if the target device input impedance is < 10KΩ. A 50m. A fuse is recommended for this output.

12 Fused relay outputs (optional)

10A (250Vac,30Vdc) resistive load, (5A COSΦ=0.4 Inductive load)

Power

24 Vac ±10% or 24Vdc ±10% , max supply current < 1A Class 2 Insulation

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions (L x W x H): 122 x 280 x 67mm (4.8 x 11 x 2.6in)

Weight: 700g (1.54lb)

Intuitive Mercury Stepper package

Stepper valve control

RDM have partnered with Sporlan (Parker Hannifan Corp®) to offer a turnkey solution package incorporating the equipment required for your stepper valve control needs. The kits, which include the Parker stepper valve SER AA to D range of valves, deliver optimum value for money and simplicity when ordering.

Included in the kit is the new mains Intuitive Mercury Stepper hardware design. Based on the existing low voltage Intuitive Mercury Stepper platform, PR0750/PR0760, it has the same advanced features and functionality, with the addition of being mains powered. The internal switch mode power supply allows operation worldwide. Without the need for external low voltage supply, it is cost-competitive and easier to install. The mains Intuitive Mercury Stepper controller is available with an internal display (PR0753) option or remote display connection (PR0763).

The optional RDM Intuitive Power Store offers additional protection and peace of mind, closing the stepper valve in the event of power failure.

Typical applications

Retail refrigeration



Benefits

- Switched Mode Power Supply (SMPS) – no need for external low voltage supply
- Turnkey Solution
- Cost effective fixed price kit
- Advanced features and functionality
- Easy install

Features

- HT & LT Case and Coldroom Control
- Stepper motor drive output, operates a bipolar stepper 24V
- 8W maximum.
- Internal and Remote Defrost and Lights Schedules
- Trim level control (Energy Saving)
- Logging Probe with alarm
- Defrost Skip (Energy Saving)
- Control using log probe (Energy Saving)
- OT/UT Alarm levels and delays
- Fan control

Included in the Kit

- Intuitive Mercury Stepper Controller (Mains Powered)
- Sporlan Stepper Valve
- Valve Cable 3m (9.8ft)
- 4 Temperature Probes (2 Air Probes & 2 Pipe Probes)

Optional Extras

- 4-20mA Pressure Input Board
- Intuitive Power Store
- Inline Stepper Filter



For full information on the Parker valves available please contact parker or view their website to determine the valve section best suited to your application.

6 Inputs

supporting PT1000, NTC2K, 470R, 700R, 3K, 5K, 6K, NTC2K25, NTC10K NTC10K(2) or user defined temperature probes

4 Relay outputs (fuses optional)

10A (250Vac, 30Vdc) resistive load, (5A COSφ=0.4 Inductive load)

1 Stepper output

Bipolar Stepper Motor 24V 8W Max (Chopper Drive).
Maximum current cannot exceed 450mA

Power

100-240Vac +/-10% 50-60hz (Typ. <1A) Class 2 Insulation
Total Max current dependant on Stepper Motor used.

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)
Operating humidity: 10% to 80% (non condensing)

Dimensions

Dimensions H x W x D: 120 x 157 x 67mm (4.7 x 6.2 x 2.6in)
Weight: 500g (1.1lb)

* for stepper valve please refer to relevant Parker documentation.

Ordering Information

Description	Part number
Intuitive Mercury 240v stepper KIT with valve & 4 probes	PR0962 V
Intuitive Mercury 240v stepper KIT with valve & 4 probes, 1P/AI board	PR0962 V 1P/AI
Intuitive Mercury 240v stepper KIT with valve & 4 probes, IP board	PR0962 V IP
Intuitive Mercury 240v stepper KIT with valve & 4 probes, IP, 1P/AI board	PR0962 V IP 1P/AI
Intuitive Mercury 240v stepper Remote KIT with remote display, valve & 4 probes	PR0964 R V
Intuitive Mercury 240v stepper Remote KIT with remote display, valve & 4 probes, 1P/AI board	PR0964 R V 1P/AI
Intuitive Mercury 240v stepper Remote KIT with remote display, valve & 4 probes, IP board	PR0964 R V IP
Intuitive Mercury 240v stepper Remote KIT with valve & 4 probes, IP, 1P/AI board	PR0964 R V IP 1P/AI
Intuitive Mercury 240v stepper No Fuses KIT with valve & 4 probes	PR0966 NF V
Intuitive Mercury 240v stepper No Fuses KIT with valve & 4 probes, 1P/AI board	PR0966 NF V 1P/AI
Intuitive Mercury 240v stepper No Fuses KIT with valve & 4 probes, IP board	PR0966 NF V IP
Intuitive Mercury 240v stepper No Fuses KIT with valve & 4 probes, IP, 1P/AI board	PR0966 NF V IP 1P/AI
Intuitive Mercury 240v stepper Remote No Fuses KIT with remote display, valve & 4 probes	PR0968 NF R V
Intuitive Mercury 240v stepper Remote No Fuses KIT with remote display, valve & 4 probes, 1P/AI board	PR0968 NF R V 1P/AI
Intuitive Mercury 240v stepper Remote No Fuses KIT with remote display, valve & 4 probes, IP board	PR0968 NF R V IP
Intuitive Mercury 240v stepper Remote No Fuses KIT with valve & 4 probes, IP, 1P/AI board	PR0968 NF R V IP 1P/AI

*Required valve size must be specified at time of order. Valve selection is determined with the assistance of Parker. Please visit www.parker.com/sporlan

PR0656

Inline Stepper Motor Filter

Developed for the Intuitive Mercury Stepper range.

This optional accessory is fitted between the Intuitive Mercury Stepper and a stepper valve thus allowing the RDM stepper valve to be installed up to 50M from the Intuitive Mercury Stepper controller, compared to the normal recommended 5M maximum. Please contact RDM Technical Support for further information about this product.

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)
Operating humidity: 10% to 80% (non condensing)

Dimensions

Dimensions H x W x D: 120 x 157 x 67mm (4.7 x 6.2 x 2.6in)
Weight: 500g (1.1lb)

Ordering Information

Description	Part number
Inline Stepper Motor Filter	PR0656



PR0660

Intuitive Stepper Module

Modular expansion for Intuitive Controller

The Intuitive Stepper Expansion Module provides an impressive array of additional inputs and outputs for the Intuitive Controller, all within a small footprint which is DIN rail mountable.

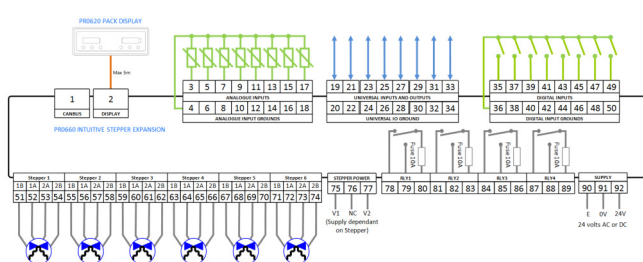
The Stepper Expansion Module provides 6 stepper motor outputs, an additional 4 relay outputs, 8 status inputs, 8 universal analogue inputs and outputs, and 8 temperature probe inputs. This module can be used with Intuitive Controller variants which can be expanded, such as TDB, CO² SUP or the Circuit Controller.

Optional integrated fusing on the controller for all relays provides additional protection for both the attached hardware and the controller itself.

Typical applications

BEMS Systems, HVACR, Refrigeration, Stepper Motor Control

Typical wiring



Key benefits

- Expands the capability of the Intuitive Controller
- Automatic detection and seamless integration with TDB programming tool
- Allows up to 6 independent stepper devices to be controlled at the same time
- Robust CANbus communications with up to 10 expansion modules and the main plant controller
- Can be situated up to 500m from the main plant controller

Ordering Information

Description	Part number
Intuitive Stepper Expansion Module	PR0660

Options	Part number
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN Mount Power Supply	PR0625

Note: Intuitive controllers are available with or without on-board fusing. When ordering please include NF to indicate “Non-Fused”, for example, PR0660 NF

Features

- 6 x Stepper Outputs
- 8 x Temperature Inputs
- 8 x Digital Inputs
- 8 x Universal 0-20mA or 0-5/10Vdc Inputs or Outputs
- 4 x Relay Outputs (Optional Fusing)
- CANbus Interface
- Built in CANbus termination resistor
- 24V ac/dc supply
- Options for remote displays
- All connections plug and socket

Communications

CANbus (Bit rate 125kbits/s). Maximum cable length = 0.5km (0.3mi)

Inputs

8 Temperature Inputs

Probe types supported PT1000, 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2) & 100K) Range: -99°C to +127°C for PT1000 Configurable as Deg Celsius or Deg Fahrenheit

8 Digital Inputs

0V return or 24Vac (configurable as normally open or normally closed)

Outputs

6 Stepper Motor Outputs

12/24V dc 8W Max

4 Relay Outputs (fusing optional)

10A (250Vac,30Vdc) resistive load, (5A COSφ=0.4 Inductive load)

Universal I/O (Inputs/Outputs)

8 x 0-5/10Vdc, 0-20mA Input or Output

Power

Supply Voltage Range: 24 Vac ±10% or 24 Vdc ±10% Class 2 Insulation
Supply Frequency: 50-60 Hz ±10% or dc
Maximum supply current: <1.0 Amp Typical supply current: 0.3 Amp

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)
Weight: 0.75Kg (1.65lb)

PR0661

Intuitive I/O Module

Modular expansion for Intuitive Controller

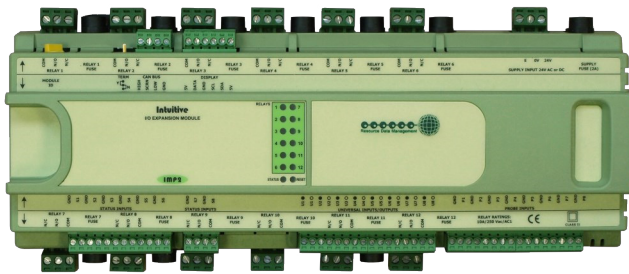
The Intuitive I/O Expansion Module provides an impressive array of additional inputs and outputs for the Intuitive Controller, all within a small footprint which is DIN rail mountable.

The I/O Expansion Module provides an additional 12 relay outputs, 8 status inputs, 8 universal analogue inputs and outputs, and 8 temperature probe inputs. This module can be used with Intuitive Controller variants which can be expanded, such as TDB, CO2 or Circuit Controller.

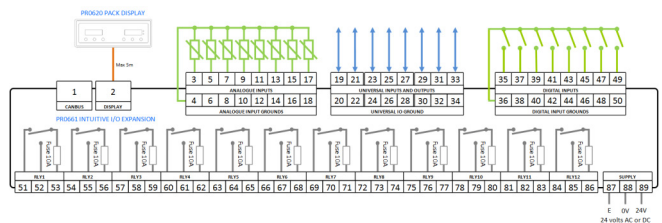
Optional integrated fusing on the controller for all relays provides additional protection for both the attached hardware and the controller itself.

Typical applications

BEMS Systems, HVACR, Refrigeration, Process Control



Typical wiring



Key benefits

- Expands the capability of the Intuitive Controller
- Automatic detection and seamless integration with a range of master Intuitive controllers
- Robust CANbus communications with up to 10 expansion modules and the main plant controller
- Can be situated up to 500m from the main plant controller

Ordering Information

Description	Part number
Intuitive IO Expansion Module	PR0661 NF

Options	Part number
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN / Panel mountable Power Supply	PR0625

Note: Intuitive controllers are available with or without on-board fusing.
When ordering please include NF to indicate "Non-Fused" e.g. PR0661 NF

Features

- 8 x Temperature Inputs
- 8 x Digital Inputs
- 8 x Universal 0-20ma or 0-5/10Vdc Inputs or Outputs
- 12 x Relay Outputs (fusing optional)
- CANbus Interface
- Built in CANbus termination resistor
- 24V ac/dc supply
- Options for remote displays
- All connections plug and socket

Communications

CANbus (Bit rate 125kbits/s). Maximum cable length = 0.5km (0.3mi)

Inputs

8 Temperature Inputs

Probe types supported PT1000, 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K(2) & 100K) Range: -99°C to +127°C for PT1000
Configurable as Deg Celsius or Deg Fahrenheit

8 Digital Inputs:

0V return or 24Vac (configurable as normally open or normally closed)

Outputs

12 Relay Outputs (fusing optional)

10A (250Vac,30Vdc) resistive load, (5A COSφ=0.4 Inductive load)

Universal I/O (Inputs/Outputs)

8 x 0-5/10Vdc, 0-20mA Input or Output

Power

Supply Voltage Range: 24 Vac ±10% or 24 Vdc ±10% Class 2 Insulation
Supply Frequency: 50 – 60 Hz ±10% or dc

Environmental

Operating temperature: -10° to +60°C (14° to 140°F)
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)
Weight: 0.75Kg (1.65lb)

PR0662

Intuitive 48ch Module

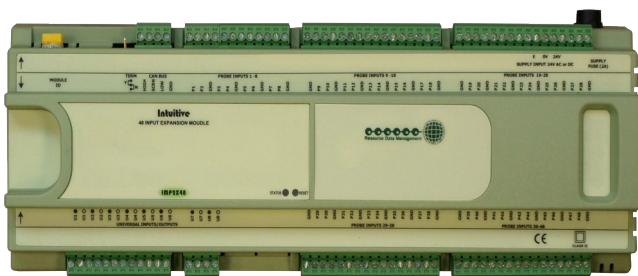
Modular expansion for Intuitive Controller

The Intuitive 48 Channel Expansion Module provides an impressive array of additional inputs for the Intuitive Controller, all within a small footprint which is DIN rail mountable.

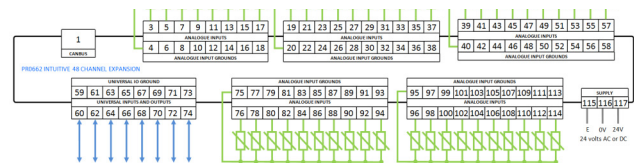
The 48 Channel Expansion Module provides an additional 8 universal analogue inputs and outputs, and 48 temperature probe or plant fault inputs. This module can be used with Intuitive Controller variants which can be expanded, such as TDB or the Circuit Controller.

Typical applications

BEMS Systems, HVACR, Refrigeration, Process Control



Typical wiring



- Expands the capability of the Intuitive Controller
- Robust CANbus communications with up to 10 expansion modules and the main plant controller
- Can be situated up to 500m from the main plant controller

Ordering Information

Description	Part number
Intuitive 48 Channel Expansion Module	PR0662

Options	Part number
Plant Controller Panel Mountable Display	PR0620
24V 2A DIN / Panel mountable Power Supply	PR0625

Features

- 48 x Temperature / Plant Fault Inputs
- 8 x Universal 0-20mA or 0-5/10Vdc Inputs or Outputs
- CANbus Interface
- Built in CANbus termination resistor
- 24V ac/dc supply
- All connections plug and socket

Communications

CANbus (Bit rate 125kb/s). Maximum cable length = 0.5km (0.3mi)

Inputs

48 Temperature Inputs

Probe types supported (PT1000 (default), 470R, 700R, 2K, 2K25, 3K, 5K, 6K, 10K, 10K (2), 100K) Range: -99°C to +127°C for PT1000
Configurable as Deg Celsius or Deg Fahrenheit

Universal I/O

8 x 0-20mA, 4-20mA, 0-5Vdc or 0-10Vdc, User definable

Power

Supply Voltage Range: 24 Vac $\pm 10\%$ or 24 Vdc $\pm 10\%$ Class 2 Insulation
Supply Frequency: 50 – 60 Hz $\pm 10\%$ or dc
Maximum supply current: <1.0 Amp Typical supply current: 0.3 Amp

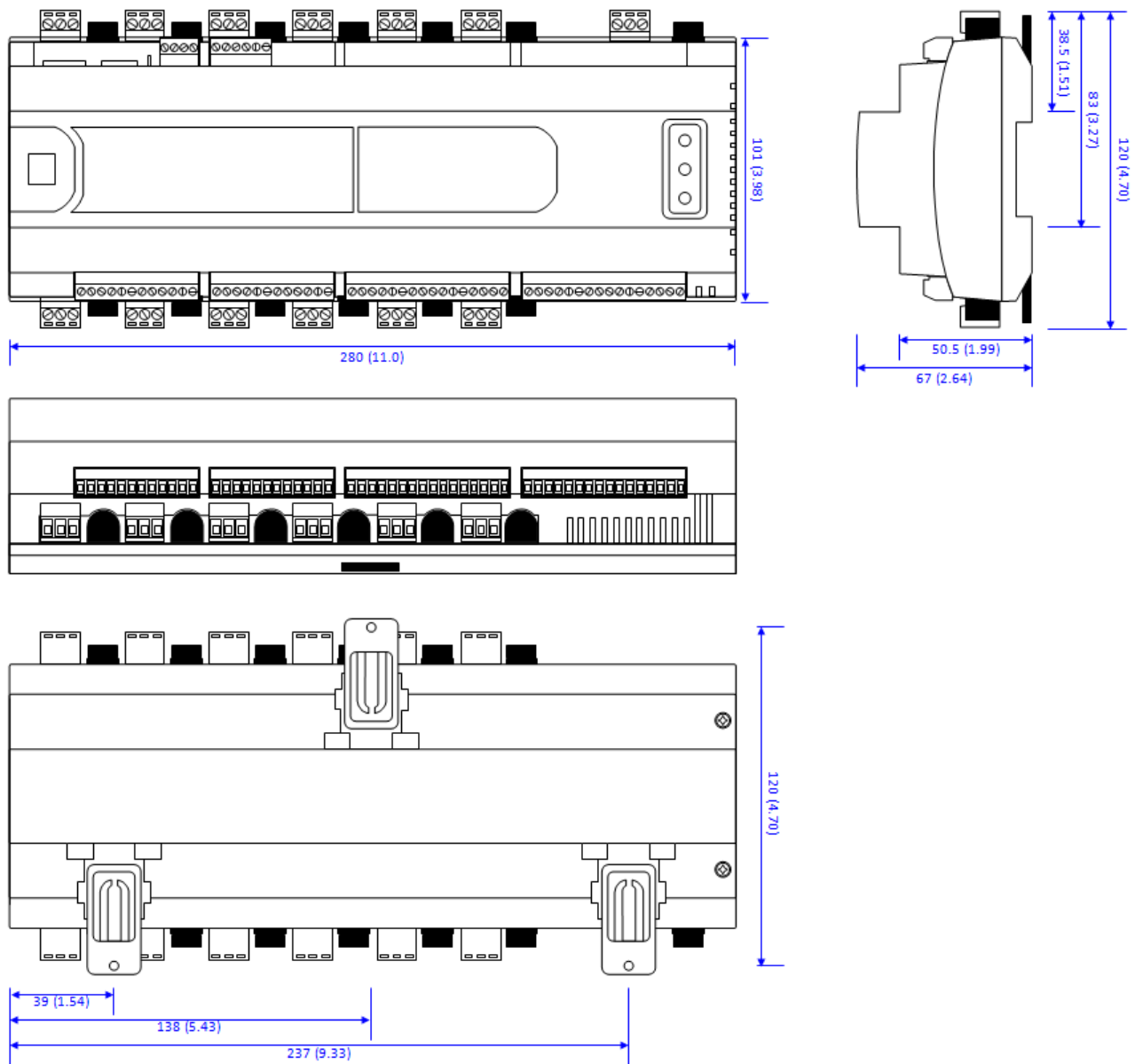
Environmental

Operating temperature: -10° to +60°C (14° to 140°F)
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 122 x 280 x 67mm (4.8 x 11 x 2.6in)
Weight: 0.75Kg (1lb 10.5oz)

Mechanical (PR0650 all versions, PR0660, PR0661, PR0662)



All Dimensions in mm (Inches)

PR0615

Intuitive Display

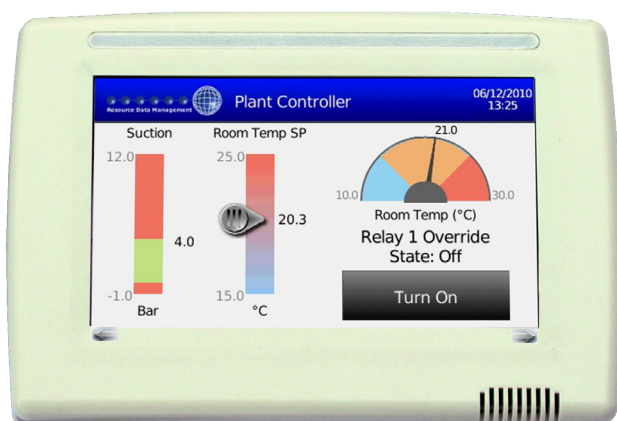
Touchscreen display

Intended for use with Intuitive and Plant controller ranges, the Intuitive Display offers a flexible customisable graphic display to provide easy access to data and settings.

Utilising an industry standard USB cable the display can be mounted up to 5m away from the controller.

All power for the device comes from the controller its connected to via the USB connection, so no additional power supply is needed and there are no batteries to worry about replacing or recharging.

The Intuitive display is offered at a low price yet still includes the standard Resource Data Management 5 year limited warranty.



Intuitive menus to suit your application

Plug and play connections at both controller and display allow installers easy options for routing of cables.

Intuitive plug and play operation

Customisation of the display resides within the controller so when distributing your custom Data Builder applications it is simply the case of plugging in a standard Intuitive Display and downloading the configuration to get access to your custom menus.

Intuitive functionality

The Intuitive display can allow access to key menus and settings of the controller to provide the greatest flexibility.

Intuitive installation

The Intuitive Display can be fitted directly to a wall or panel using the supplied mounting bracket or fitted to a number of standard wall pattresses. The cable has multiple routing options to suit your application.

Ordering Information

Description	Part number
Intuitive Touchscreen Display—IMPt	PR0615

Features

- Multi-coloured light bar for indication of operation or alarms.
- Up to 5 customised screens can be configured to show just the information required.
- Wall and panel mounting.
- Flexible cable routing options
- 1m & 5m USB cable supplied.
- Provides access to key features of the controller
- Password protection when changing parameters
- Built in alarm sounder

Screen

Resolution: 480*272 (4.3" WQVGA) TFT

Colour: 24bit RGB

Touch: Resistive. Rated for >1million operations

Connections

Micro USB

Power

5V Supplied from controller.

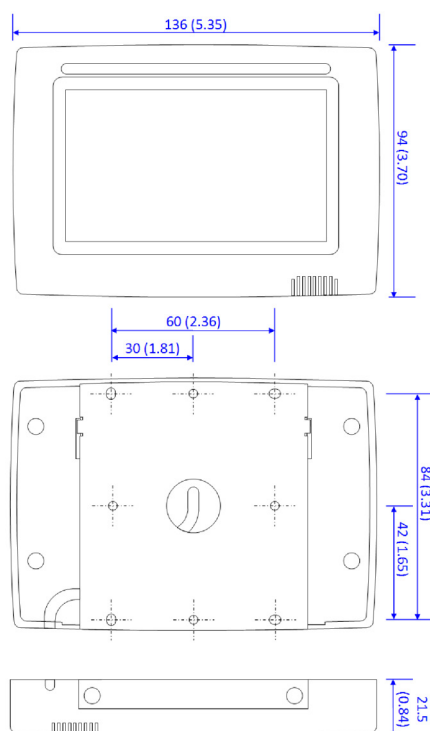
Operating temperature: 5°to 50°C (41°to 122°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions (Excl cable) H X W X D: 98 x 136 x 22mm (3.86 x 5.35 x 0.87 in)

Weight: Display only 170g (6oz), display with cable & mounting bracket 345g (12.1oz)



All Dimensions H x W x D: mm (inches)

Customised displays

When the Intuitive Display is connected to a controller for the first time and no custom screen has been set up, the display will show a list of current values available.

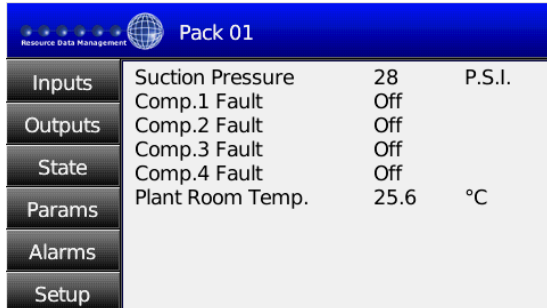


Fig 1

Up to four different customisable graphics can be added to each screen and up to five custom screens can be used on each display.

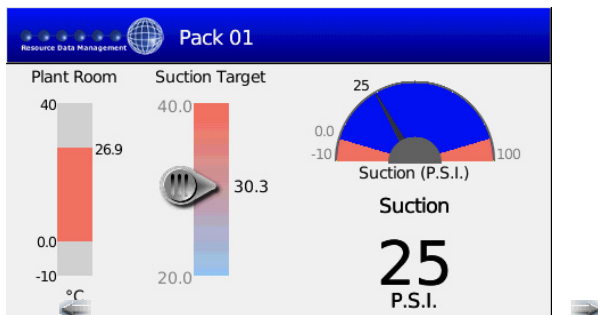


Fig 2

Analogue values can be displayed in the form of a gauge, a bar or a numerical value as shown below.

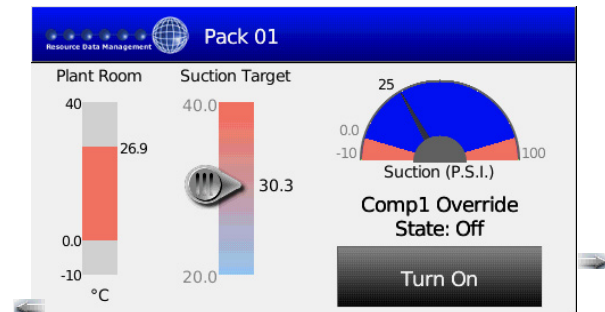


Fig 3

If used in conjunction with a controller running a TDB application, a slide icon can be used to alter an analogue parameter within the application or an override icon can be used to switch a digital value in the application on or off.

When using more than one custom screen, an arrow will appear in the bottom left or right hand corners, this indicates another screen is available to the left or right of the current screen. Touching the appropriate arrow or swiping left or right across the screen will scroll onto the next custom screen.

The power and flexibility of the Intuitive Display gives the user a quick and simple method to produce custom screens to show just the information required in a simple uncluttered form which are touch control ready.

Custom display example

A custom display can be created by selecting "Custom" from the setup tab. For security this is pass code protected.

A blank screen is displayed with a list of available icons on the left hand side, these are Value, Bar, Gauge, Override and Slide controls. The appropriate button can be touched and simply dragged across to the blank area and dropped into the desired position.

In the following example, a Gauge icon has been selected and dropped into the top right hand area of the display.

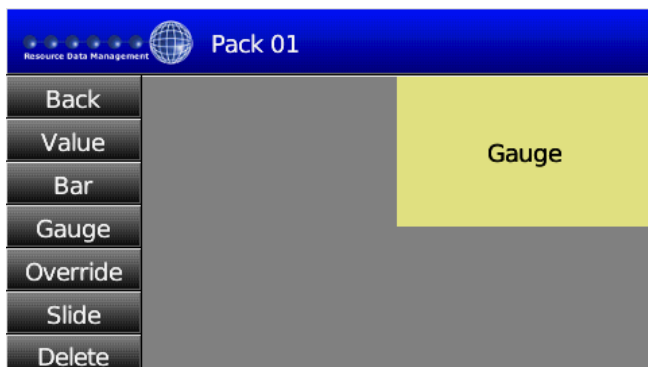


Fig 4

By touching the Gauge box all the parameters relating to it can be set up.

In the case of the Gauge these are:- the analogue value which the gauge is to display, the minimum and maximum values on the gauge scale, the high and low band values on the scale and the colours associated with the different regions on the gauge.

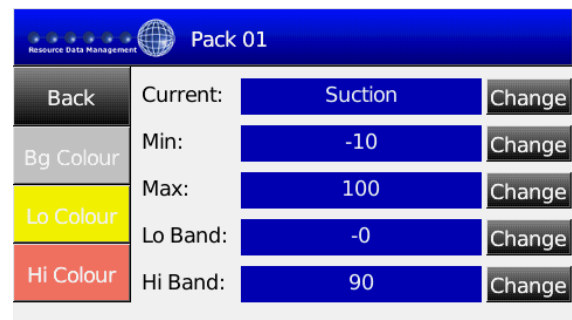


Fig 5

The other 3 available spaces on the custom display can now be filled in as required to complete a custom display.



Fig 6

The display will now show the custom display as default, as shown above in Fig 2. All the controller's parameters and values can still be viewed in list form if required.

PR0620

Plant display

Remote panel display

Modular display for the RDM Intuitive and Plant controller ranges.

The Plant Panel Mount Display is plug and play compatible with both the controllers and expansion modules and the 5m cable provides flexibility in positioning of the user interface away from the control panel.

Flexibility to suit your application

Plug and play connections allow for easy routing of cables.

Full functionality

The remote display gives you access to all the menus and settings of the controller as well as displaying readings and alarms.

Quick fit

The Mercury Plant Remote Display is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

Description	Part number
Plant Panel Display	PR0620



Features

- Dual four segment display with six buttons
- Allows display to be mounted remotely from the controller
- 5m prewired display cable supplied as standard
- Provides access to key features of the controller
- Supplied with pre-printed fascia label for pack applications and a blank label for custom applications created with The Data Builder application.

Power

5V Supplied from controller.

Environmental

Operating temperature: 5°C to 50°C (41°F to 122°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

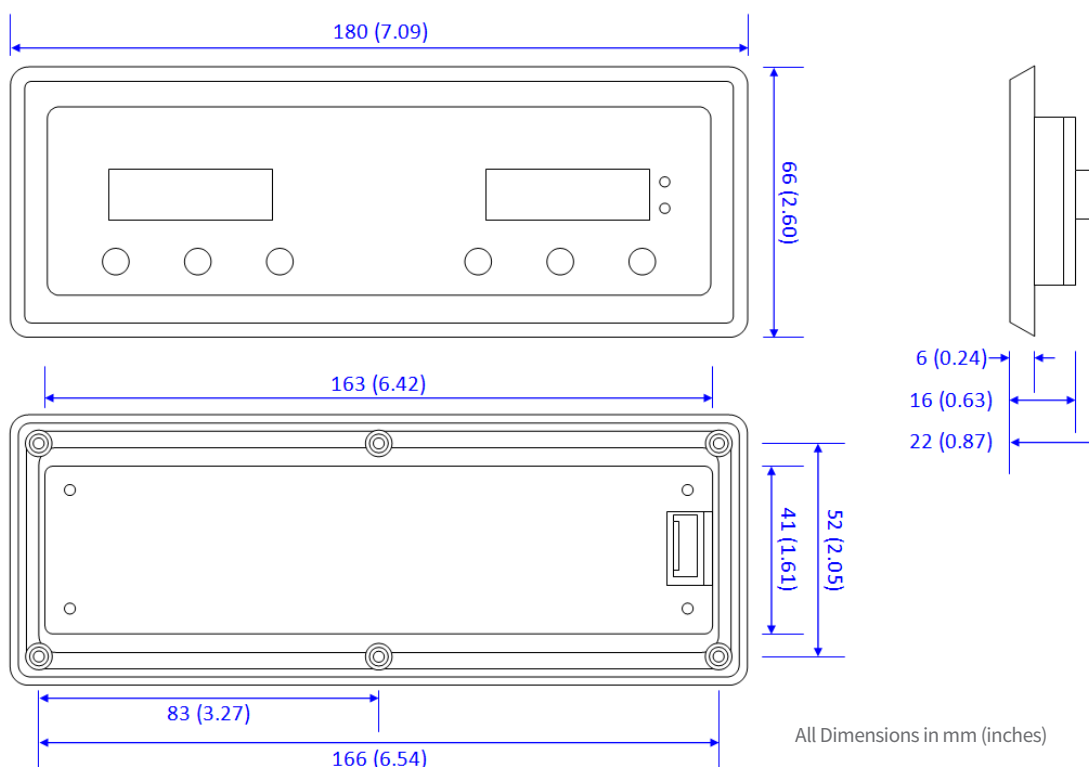
Dimensions (Excl cable) H x W x D: 66 x 180 x 22mm (2.6 x 7 x 0.9in)

Weight: 310 g (11oz)

Panel cut-out: 42 x 165 mm (1.2 x 2.8in)



Plant Display Mechanical Information



PR0445

Plant temperature/ humidity display

Remote display with built in humidity and temperature sensors

Modular display for RDM Intuitive and Plant controllers.

The Plant Temperature/Humidity Display is plug and play compatible with a range of controllers and expansion boards and the 5m cable provides flexibility in positioning of the user interface away from the control panel.



Flexible connection options

Plug and play connections at both controller and display allows users easy options to routing of cables.

Flexible mounting options

The display is designed to be mounted onto a standard UK pattress box providing flush or surface mount options.

Built in humidity and temperature sensors

Provides a convenient method of reading the humidity level and temperature at the display without the need for additional sensors and wiring.

User definable push buttons

When used with a TDB controller, the 4 pushbuttons on the display can be user defined.

Ordering Information

Description	Part number
Plant Temperature/Humidity Display	PR0445

Features

- 4 segment display with 4 buttons
- 3 Status LEDs
- Allows display to be mounted remotely from the controller
- 5m prewired display cable supplied as standard
- Built in humidity and temperature sensors
- Standard pattress box mounting
- Powered from the host controller, no additional supply required.

Power

5V Supplied from controller.

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

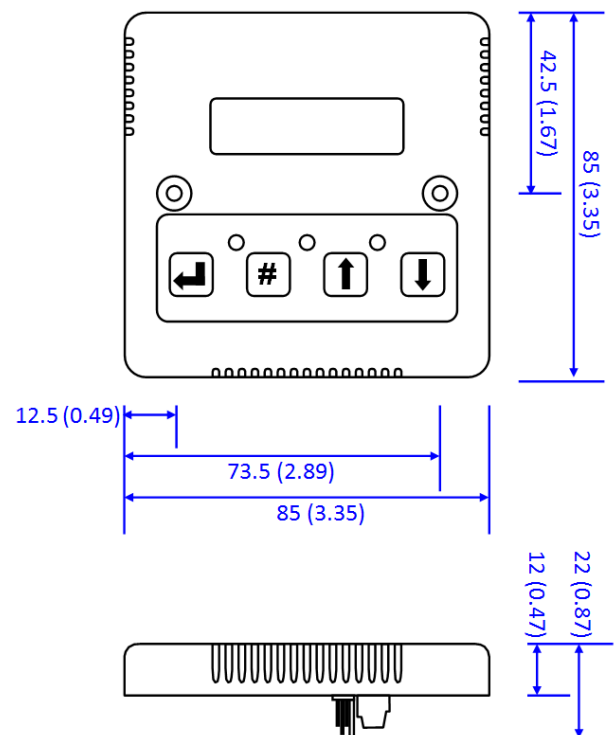
Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions (Excl cable) H x W x D: 85 x 85 x 22mm (3.35 x 3.35 x 0.87in)

Weight (Excl cable) : 75 g (2.65 oz)

Mounting Centres: 60mm (2.36in)



All Dimensions in mm (inches)

PR0178

Wall mounted temperature sensor

Remote 2k temperature sensor

Modular temperature sensor for use with a wide range of RDM products.

The wall mounted Temperature sensor is compatible with a wide range of RDM controllers and monitors. It provides a convenient and neat way to mount a temperature sensor when room temperature needs to be measured.



Flexible connection options

Simple two wire screw terminal connection provides easy options to routing of cables.

Flexible mounting options

The sensor is designed to be mounted in a standard UK pattress box providing flush or surface mount options.

Wide range of compatible products

The sensor can be used with any RDM product that has a 2K temperature probe option such as a Data Manager, Intuitive and Mercury controller.

Ordering Information

Description	Part number
Wall Mountable Temperature Sensor (2K)	PR0178

Features

- Robust ABS plastic housing
- Utilises a 2K sensor which is less affected by long cable runs
- Simple two wire connection
- Standard pattress box mounting
- Negligible power consumption, supplied by controller, no additional supply required.

Environmental

Operating temperature: -40° to 80°C (-40° to 176°F)

Operating humidity: 10% to 80% (non condensing)

Temperature sensor

Nominal resistance: 2000 ohms at 25°C

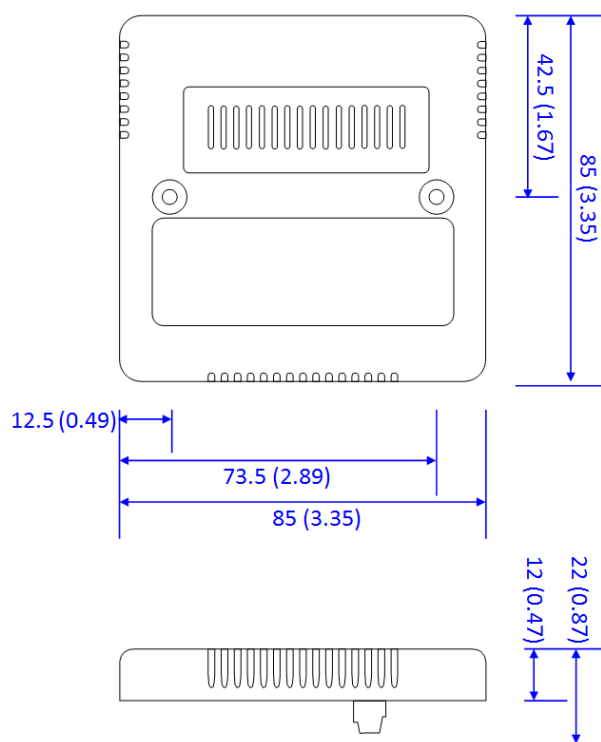
Tolerance: 1.0%

Mechanical

Dimensions H x W x D: 85 x 85 x 22mm (3.35 x 3.35 x 0.87in)

Weight: 50 g (1.78oz)

Mounting Centres: 60mm (2.36in)



All Dimensions in mm (inches)

PR0622

Plant USB Pulse Reader

8 channel pulse input module

The pulse reader module can be used with the RDM Intuitive TDB controller and TDB program('s) operating within the Data Manager. The module allows 8 pulse inputs to be read simultaneously and used by the TDB program operating in a controller, up to 3 modules can be used with a single controller giving a maximum of 24 pulse inputs. Pulse inputs are volt free switching, typically from a utility meter or flow measurement device.



Flexible connection options

Plug and play connections at both controller and pulse module allows users easy options to routing of cables.

USB connection

Utilises a standard USB A to USB B connection lead.

High speed pulse reading

Pulses as short as 10ms can be read.

Self powered

Up to two modules can be powered from the two USB host ports found on a controller without the need for an external power supply. However to use a third module the 4 port USB Hub (PR0624) will be required.

Ordering Information

Description	Part number
USB Pulse Reader	PR0622
USB Pulse Reader DIN Mountable	PR0622 DIN

Features

- Compact enclosure for DIN or panel mount
- Simple rotary switch identification
- Standard USB connections
- Powered from the host controller, no additional supply required.

Power

5V Supplied from controller.

Inputs

8 x 0V return switching.

Maximum speed 10ms mark to 10ms space per channel

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

Operating humidity: 10% to 80% (non condensing)

Panel Mount

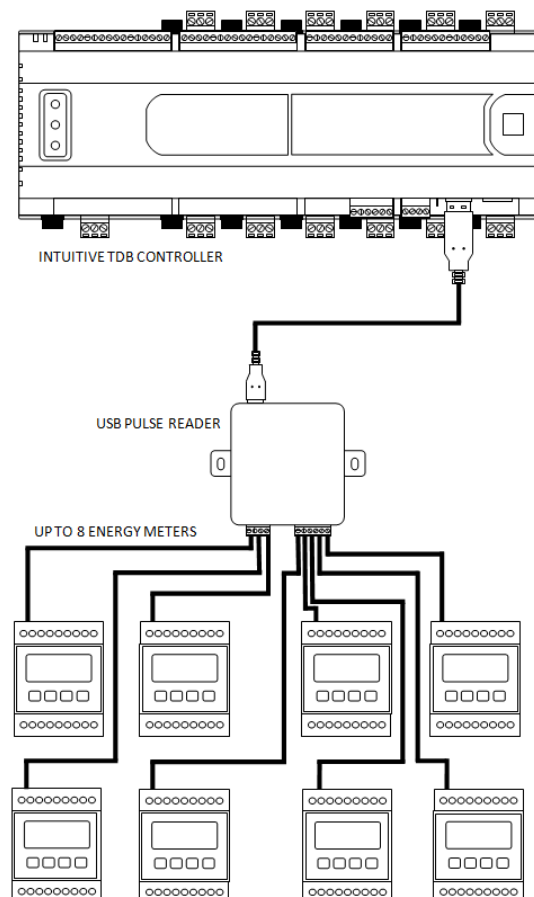
Dimensions (H x W x D): 97 x 114 x 30mm (3.8 x 4.5 x 1.2in)

Panel fixings 84mm between centres (3.3in)

DIN Mount

Dimensions (H x W x D): 130 x 52.5 x 67mm (6.2 x 4.9 x 2.6in)

Typical wiring



PR0626

USB Current Monitor

5 channel current monitor

The current monitor can be used with the RDM Intuitive Superpack controller. The module allows up to five current measurements to be made, via current transducers, with the resultant current consumption of each compressor logged by the Superpack.

Alarm limits can be configured to indicate when a compressor is drawing too much or too little current. This will provide an indication of a compressor related failure or highlight potential inefficient operation. This information can also be utilised by the Superpack to act as a run proof signal to validate a compressor.



Flexible connection options

Plug and play connections at both controller and current monitor allows users easy options to routing of cables.

USB connection

Utilises a standard USB A to USB B connection lead.

Scaleable current inputs

Measures industry standard current transformers with 5A secondary's which are then scaled in software

Self powered

Up to 2 modules can be powered from the two USB host ports on the Superpack controller without the need for an external power supply. Additional modules can be integrated using the RDM 4 Port USB Hub (PR0624).

Ordering Information

Description	Part number
USB Current Monitor	PR0626
USB Current Monitor	PR0626 DIN

Features

- Compact enclosure with DIN or panel mount options
- Simple rotary switch identification
- Standard USB connections
- Powered from the host controller, no additional supply required.

Power

5Vdc 100mA, Supplied from controller.

Inputs

5 x 5A Maximum from current transformer's secondary connection.

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

Operating humidity: 10% to 80% (non condensing)

Panel Mount

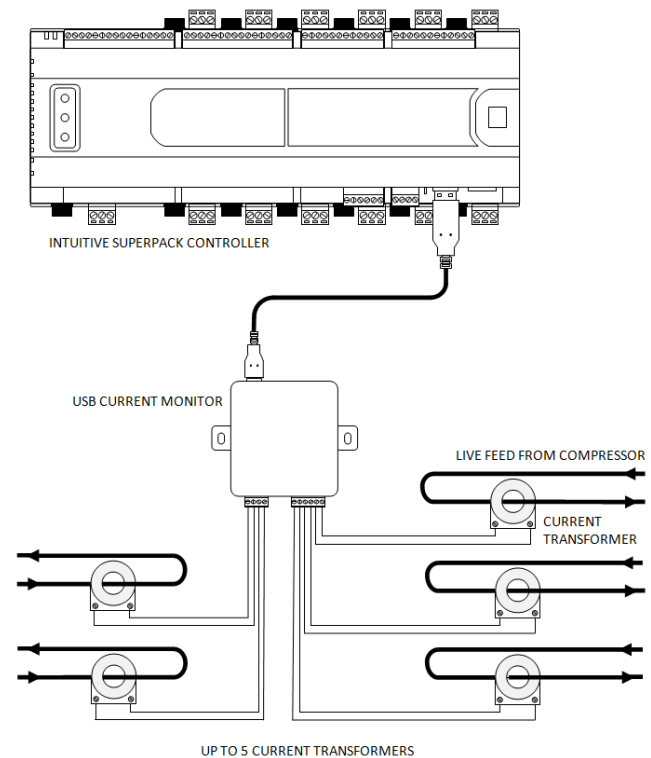
Dimensions (H x W x D): 97 x 114 x 30mm (3.8 x 4.5 x 1.2in)

Panel fixings 84mm between centres (3.3in)

DIN Mount

Dimensions (H x W x D): 130 x 52.5 x 67mm (6.2 x 4.9 x 2.6in)

Typical wiring



PR0624

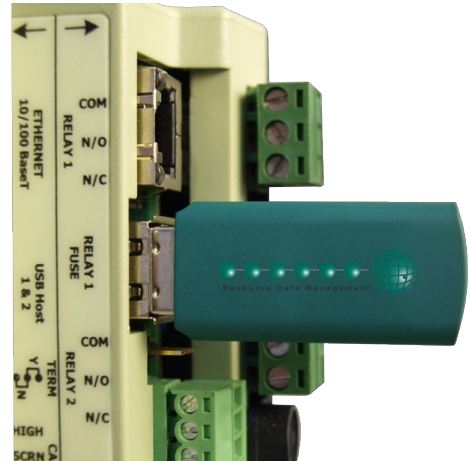
Flexible expansion with USB connections

The Intuitive and Plant controllers are fitted with two USB type A sockets which provides a highly flexible connection to a variety of devices.

These can be any one or more of the following*:

- When a USB memory stick is inserted (as shown on the right), it can be used to upgrade firmware. It can also be used, along with TDB software to log data. The controller's data can be logged every 15 seconds, normally every 15 minutes without a memory stick. The amount of extra logging will be dependant on the USB memory stick size and number of inputs being logged. For example a 4GB memory stick would offer 10+ years of logging (at 15 second intervals) every input on an Intuitive Controller and 10 expansion modules.
- Intuitive Touchscreen Display (PR0615 DIN)
- Pulse Reader Module (PR0622 DIN) allows pulses from a device such as a utility meter to be read into the controller.
- Modbus Adaptor (PR0623 DIN) enables interfacing to certain Modbus devices such as an energy meter.
- Wi-Fi Module enables wireless connectivity instead of using a data cable.

*Note some features are available with certain application software only.



4 Port USB Hub

USB port expansion module

If more USB sockets are required on an Intuitive Controller or Data Manager then an RDM 4 port USB hub can be easily added. Unlike most other USB hubs the unit is powered by a 24Vac or dc supply, allowing it use the same power supply as an Intuitive Controller removing the need for an additional power supply.



USB connection

Utilises a standard USB A to USB B connection lead to connect to the controller or Data Manager.

Ordering Information

Description	Part number
4 Port USB Hub	PR0624
4 Port USB Hub	PR0624 DIN

Features

- Compact enclosure with DIN or panel mount options
- Status LEDs for each port
- Standard USB connections
- Can be powered from the Intuitive Controller power supply.
- Supplied with USB A to USB B Cable (150mm)

Power

24V ac or dc, typical supply current < 1Amp.

Input

1 x USB type B

Outputs

4 x USB type A

Environmental

Operating temperature: 5° to 50°C (41°to 122°F)

Operating humidity: 10% to 80% (non condensing)

Panel Mount

Dimensions (H x W x D): 97 x 114 x 30mm (3.8 x 4.5 x 1.2in)

Panel fixings 84mm between centres (3.3in)

DIN Mount

Dimensions (H x W x D): 130 x 52.5 x 67mm (6.2 x 4.9 x 2.6in)

PR0623

Plant MODBUS® Adaptor

Features

- Modbus® RS485 Interface
- USB Connection to Intuitive Controller
- Simple Plug and Play installation

Power

Dc Voltage: 5V
Rated Current 0.1A (USB Powered)

Panel Mount

Dimensions (H x W x D): 97 x 114 x 30mm (3.8 x 4.5 x 1.2in)
Panel fixings 84mm between centres (3.3in)

DIN Mount

Dimensions (H x W x D): 130 x 52.5 x 67mm (6.2 x 4.9 x 2.6in)

Modbus® is a registered trademark of the Modbus Organisation Inc.



Ordering Information

Description	Part number
Plant Modbus® Adaptor	PR0623
Plant Modbus® Adaptor - DIN Mount	PR0623 DIN

NOTE: This product is also available as a USB adapter, please refer to Book C for further information. The USB version is typically used with a Data Manger/dmTouch.

PR0625

24V Power Supply



Features

- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment) approved
- LED indicator for power on
- 100% full load burn-in test
- Fix switching frequency at 100KHz
- 3 year manufacturer warranty

Output

Dc Voltage: 24V
Rated Current: 2.5A
Rated Power: 60W
Ripple & Noise: 150mVp-p

Input

Voltage Range 88-264Vac 124-370Vdc
Frequency Range 47-63Hz
Ac Current (Typ.) 1.5A@115Vac 0.75A@230Vac
Inrush Current (Typ.) 18A@115Vac 36A@230Vac (cold start)

Protection

Overload 105 ~ 160% rated output power
Over voltage 27.6 ~ 32.4V

Environment

Working temp. -20°C to 45°C
Humidity 20 to 90% RH non-condensing

Safety and emc

Safety Standards: UL60950-1, TUV EN60950-1
EMI: Compliance to EN55011, EN55022 (CISPR22) Class B
Harmonic Current: Compliance to EN61000-3-2, -3
EMS Immunity: Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN50204, EN55024, EN61000-6-2, EN61204-3, heavy industry level, criteria A
MTBF 364.6K hrs min. MIL-HDBK-217F (25oC)

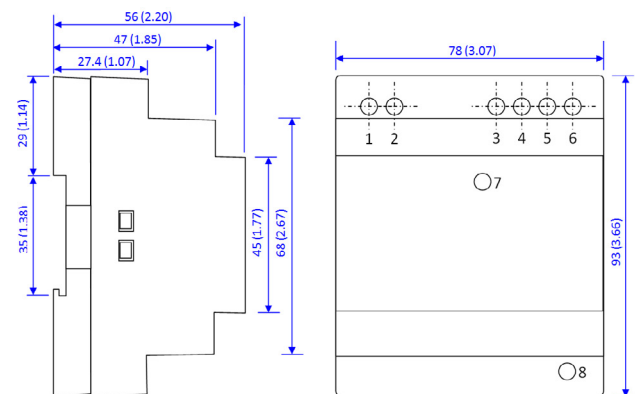
Mechanical

Dimensions 78 x 93 x 56mm (3.1 x 3.7 x 2.2in) H x W x D
Weight 0.31Kg (10.9oz)

Ordering Information

Description	Part number
24V 2.5A DIN rail Power Supply	PR0625

NOTE: Care should be taken not to overload this power supply, it should not be used to power more than 2 Intuitive Controllers and/or expansion modules at the same time.



All dimensions in mm (inches)

Connections

Terminal	Assignment	Terminal	Assignment
1	Input Ac Neutral	5,6	DC Output -V
2	Input Ac Live	7	Power LED
3,4	DC Output +V	8	+V ADJ

PR0193

Light Level Sensor

Wall mounted Light Level Sensor

The Resource Data Management light level sensor consists of a photodiode housed in a clear water resistant enclosure with two spring loaded connections on the underside. The unit is intended for use with an RDM Data Manager, Intuitive controller or Mercury Intuitive controller using a TDB application.

The resistance measured across the terminals will vary depending on the light level. This can be easily converted into a lux reading, for example, and used to switch lighting on and off when a particular light level is reached. When using an Intuitive controller, resistance measured by the sensor can be converted to a lux reading by using a TDB algebra block. When using a Data Manager or Intuitive Mercury, a custom probe table is used to convert resistance to lux level.



Energy saving

By measuring indoor and outdoor light levels, lighting loads can be switched on and off depending on how much daylight is available thus preventing lights being left on unnecessarily.

No power supply required

Using a light dependant resistor means that the sensor is powered from the TDB device it is being used with and no additional power supply is required, this simplifies installation and reduces costs.

Easy integration with TDB software

The light sensor can be easily integrated into TDB control strategies using a single probe input and can be used in conjunction with blocks such as run on timers, override inputs and GP timers. The sensor can also be used in conjunction with a daylight block which gives a backup switching method should the sensor become disconnected or damaged.

Ease of installation

The sensor has two low voltage spring loaded terminals which gives quick and secure cable connection.

Ordering Information

Description	Part number
Wall Mounted Light Level Sensor	PR0193
Wall Mounted Light Level Sensor (Box of 10)	PR0194
Wall Mounted Light Level Sensor (Box of 100)	PR0195

Features

- Robust water resistant housing
- No power supply required
- Quick and secure two wire connection
- Low voltage operation
- Single mounting point
- Low cost
- Negligible power consumption

Illuminance

Resistance	LUX	Typical conditions
9.8MΩ	1 lux	Nighttime with minimal street lighting
9.3MΩ	3.4 lux	Twilight with a clear sky
3.3MΩ	100 lux	Daytime, cloudy and overcast in a shaded area
1.1MΩ	400 lux	Daytime, sunset on a clear day
128kΩ	4000 lux	Daytime, Indoors well lit room
52kΩ	10,000 lux	Daytime, midday scattered cloud
9.5kΩ	40,000 lux	Direct sunlight

Measurement range

9.5kΩ to 9.8MΩ, 1 to 40,000 lux.

Environmental

Operating temperature: -40° to 75°C (-40° to 167°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 56 x 24 x 21mm (2.2 x 0.94 x 0.83in)

Weight: 45 g (1.6oz)

Mounting Hole: 4mm diameter (0.16in)

Maximum cable size: 2.5mm (14awg)

PR0266

Mercury 11-5 C

Condenser controller

Compact condenser fan controller with integral dual display and keypad.

The Mercury 11-5C is a versatile condenser controller which has 5 relays and can control up to 5 condenser fans or a combination of fans, heat reclaim valve, split valve and spray solenoid.

Control is achieved by measuring the discharge pressure, and using a “fuzzy logic” based control algorithm, determine the best combination of fan stages to bring on and off. A variable output (0-10V or 4-20mA) is also available to control a variable speed fan or group of fans if required.

Typical applications

Commercial and industrial refrigeration systems.



Energy saving

The controller has various energy saving features such as heat reclaim, floating head pressure and day/night setback.

Flexible network options*

Future proof IP connectivity is available for quick and secure networking. Flexible network options also ensure compatibility on many existing sites with legacy hardware and front ends.

* Networking via optional network interface module

Easy configuration

Mercury controls ship with multiple standard default configurations. Customisation can easily be carried out via the controller display, by direct PC connection, by remote connection from a system front end and using a Caesium programmer module.

Quick fit

The Mercury Condenser controller is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

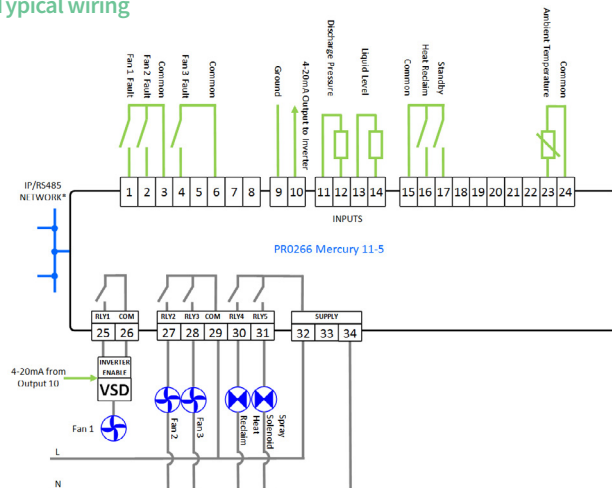
Description	Part number
Mercury 11-5C Condenser Controller	PR0266
DIN Rail Mounting Bracket	PR0339

Compatible interfaces	Part number
IP Futura Interface (Single controller to IP interface)	PR0016
RS485 Interface (Single controller to RS485 interface)	PR0026
Mercury IP Switch (IP support for 10 controllers)	PR0018

Features

- User Configurable Outputs and Inputs
- Variable output for accurate fan speed control
- Heat Reclaim
- Spray Solenoid Control
- Split Condenser Valve Control
- Floating Head Pressure
- Night Setback
- Variable Liquid Level Input

Typical wiring



Inputs

1 Temperature Probe PT1000

1 Pressure Transducer and 1 x Liquid Level 4-20mA Or 0-10Vdc. (for 4-20mA current loop, use 12Vdc output to feed the transducer)

10 Digital Inputs 0 volt return

Power

100-240Vac +/-10%, 50-60Hz +/- 10%, Maximum supply current 10A with relays 2,3,4 & 5 fully loaded.

Outputs

5 Relay Outputs

Relay 1- 6A (250Vac,30Vdc) resistive (COSφ=0.4 2A Inductive load)
Relays 2 & 3 - 4A (250Vac,30Vdc) resistive (COSφ=0.4 1.3A Inductive load)
Relay 4 & 5 - 3A (250Vac) resistive (COSφ=0.4 1A Inductive load)

1 Analogue Output

0 to 10 Volts dc or 4-20mA

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 68 x 180 x 110mm (2.7 x 7 x 4.3in)

Weight: 260 g (0.58lb)

Panel cut-out: 42 x 165mm (1.2x 2.8in)

PR0274-PR0277

Mercury 11-10 CV

Dry cooler controller

Compact dry cooler fan & pump controller with integral dual display and keypad.

The Mercury 11-10CV is a user configurable fan, pump and proportional valve controller designed primarily for use on secondary refrigeration systems. The controller has 10 relay outputs which can be configured to switch a combination of fans, pumps and an inverter enable signal and 10 inputs which can be configured for various fault and temperature inputs. A proportional valve can be controlled by measuring the flow temperature and adjusting the controller's 0-10V or 4-20mA output accordingly.

Fans can be controlled by measuring the dry cooler output temperature and switching fans via the relays or the 0-10V or 4-20mA output if it is not being used for valve control. A "fuzzy logic" based control algorithm will determine the best combination of variable output and relay stages to use. There are also two pressure transducer inputs for monitoring and alarm purposes.

Typical applications

Commercial and industrial refrigeration systems.



Energy saving

The controller has energy saving features such as target setpoint adjustment depending on ambient temperature and "fuzzy logic" control algorithm for accurate control.

Flexible network options*

Future proof IP connectivity is available for quick and secure networking. Flexible network options also ensure compatibility on many existing sites with legacy hardware and front ends.

* Networking via optional network interface module

Easy configuration

Mercury controls ship with multiple standard default configurations. Customisation can easily be carried out via the controller display, by direct PC connection, by remote connection from a system front end and using a Caesium programmer module.

Quick fit

The Mercury Dry Cooler controller is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

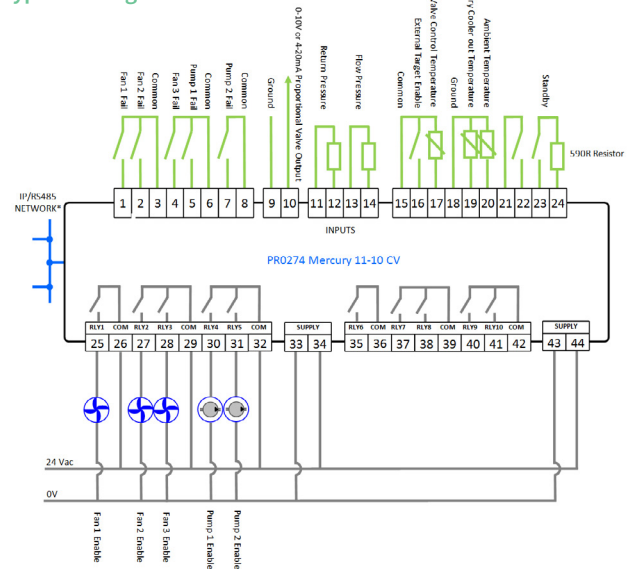
Description	Part number
Mercury 11-10CV Dry Cooler Controller	PR0274
Mercury 11-10CV Dry Cooler Controller 24V	PR0275
Mercury 11-10CVR Dry Cooler Controller Remote Display	PR0276
Mercury 11-10CVR Dry Cooler Controller Remote Display 24V	PR0277

Compatible interfaces	Part number
IP Futura Interface (Single controller to IP interface)	PR0016
RS485 Interface (Single controller to RS485 interface)	PR0026
Mercury IP Switch (IP support for 10 controllers)	PR0018

Features

- User Configurable Outputs and Inputs
- Variable output for proportional valve or fan speed control
- Setpoint can be adjusted according to ambient temperature
- Pressure monitoring and alarm inputs
- Pump changeover timer

Typical wiring



Inputs

10 Temperature Probes or Digital Input PT1000 or 0 volt return (User Defined)

2 Pressure Transducers 4-20mA current loop, use 12Vdc output to feed the transducer.

Power

Mains versions

100-240Vac +/-10%, 50-60Hz +/- 10%, Max supply current 12.5A with relays 4,5,9 & 10 fully loaded

24V Versions

10V dc to 35Vdc or 15Vac to 30Vac, Max supply current < 1A

Outputs

10 Relay Outputs

Relays 1 & 6 – 6A (250Vac,30Vdc) resistive (COSΦ=0.4 2A Inductive load)
Relays 2, 3, 7 & 8 – 4A (250Vac,30Vdc) resistive (COSΦ=0.4 1.3A Inductive load)
Relay 4, 5, 9, 10 – 3A (250Vac) resistive (COSΦ=0.4 1A Inductive load)

1 Analogue Output

0 to 10 Volts dc or 4-20mA

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

Operating humidity: 10% to 80% (non condensing)

Mechanical

Dimensions H x W x D: 68 x 180 x 110mm (2.7 x 7 x 4.3in)

Weight: 260 g (0.58lb)

Panel cut-out: 42 x 165mm (1.2x 2.8in)

PR0332-PR0335

Mercury 11-10 PV

Pack/Condenser controller

Compact compressor and/or condenser fan controller with integral dual display and keypad.

The Mercury 11-10PV is a versatile pack/condenser controller with 10 inputs and outputs which can be configured by the user to specifically match the requirements of a particular application.

Pressure is controlled by measuring the suction and/or discharge pressure, and using a “fuzzy logic” based control algorithm will determine the best combination of compressor or fan stages to bring on and off. A variable output (0-10V or 4-20mA) is available to control a variable speed compressor or fan(s) if required.

Typical applications

Commercial and industrial refrigeration systems.



Energy saving

The controller has various energy saving features such as suction optimisation, floating head pressure and day/night setback.

Flexible installation options

The controller can be supplied in either 24V or mains versions and with the option of integral or remote display providing flexibility of installation and cable routing

Flexible network options*

Future proof IP connectivity is available for quick and secure networking. Flexible network options also ensure compatibility on many existing sites with legacy hardware and front ends.

* Networking via optional network interface module

Easy configuration

Mercury controls ship with multiple standard default configurations. Customisation can easily be carried out via the controller display, by direct PC connection, by remote connection from a system front end and using a Caesium programmer module.

Quick fit

The Mercury Pack / Condenser controller is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

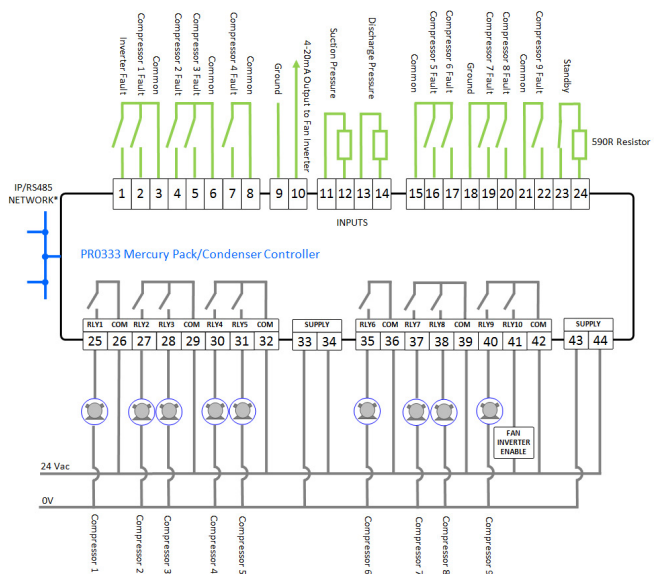
Description	Part number
Mercury 11-10PV Pack/Condenser Controller	PR0332
Mercury 11-10PV Pack/Condenser Controller 24V Supply	PR0333
Mercury 11-10PV Pack/Condenser Controller Remote Display	PR0334
Mercury 11-10PV Pack/Condenser Controller Remote Display 24V	PR0335
DIN Rail Bracket	PR0339

Compatible interfaces	Part number
IP Futura Interface (Single controller to IP interface)	PR0016
RS485 Interface (Single controller to RS485 interface)	PR0026
Mercury IP Switch (IP support for 10 controllers)	PR0018

Features

- User Configurable Inputs and outputs
- Variable output to control compressor or fan speed
- Can be used with multi stage or single stage compressors
- Dual display shows suction pressure and discharge pressure
- Compressor starts per hour setting to save energy and extend compressor life.
- Suction Pressure Optimisation, when used in conjunction with the RDM Data Manager.
- Floating Head Pressure option.

Typical wiring



Inputs

1 Temperature Probe PT1000

2 Pressure Transducers 4-20mA current loop, use 12Vdc output to feed the transducer.

10 Digital Inputs 0 volt return

Power

Mains versions

100-240Vac +/-10%, 50-60Hz +/- 10%, Max supply current 12.5A with relays 4,5,9 & 10 fully loaded

24V Versions

10V dc to 35Vdc or 15Vac to 30Vac, Max supply current < 1A (controller supply only)

Outputs

10 Relay Outputs

Relays 1 & 6 – 6A (250Vac,30Vdc) resistive (COSφ=0.4 2A Inductive load)

Relays 2, 3, 7 & 8 - 4A (250Vac,30Vdc) resistive (COSφ=0.4 1.3A Inductive load)

Relay 4, 5, 9, 10 - 3A (250Vac) resistive (COSφ=0.4 1A Inductive load)

1 Analogue Output

0 to 10 Volts dc or 4-20mA

Mechanical

Dimensions H x W x D: 68 x 180 x 110mm (2.7 x 7 x 4.3in)

Weight: 260 g (0.58lb)

Panel cut-out: 165 x 42mm (2.8 x 1.2in)

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

Operating humidity: 10% to 80% (non condensing)

PR0282-PR0285

Mercury 11-10 G

Glycol pack controller

Compact compressor and pump controller with integral dual display and keypad.

The Mercury 11-10 G is a Glycol pack controller with 10 inputs and outputs which can be configured by the user to specifically match the requirements of a particular application.

Glycol temperature is controlled by measuring the temperature, and using a “fuzzy logic” based control algorithm, will determine the best combination of compressor stages to bring on and off. Relays can be configured to switch Glycol pumps and rotate their duty as required. There are also two pressure transducer inputs for monitoring and alarm purposes.

Typical applications

Commercial and industrial secondary refrigeration systems.



Flexible installation options

The controller can be supplied with an integral or remote display providing flexibility of installation and cable routing

Flexible network options*

Future proof IP connectivity is available for quick and secure networking. Flexible network options also ensure compatibility on many existing sites with legacy hardware and front ends.

* Networking via optional network interface module

Easy configuration

Mercury controls ship with multiple standard default configurations. Customisation can easily be carried out via the controller display, by direct PC connection, by remote connection from a system front end and using a Caesium programmer module.

Quick fit

The Mercury Glycol Pack controller is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

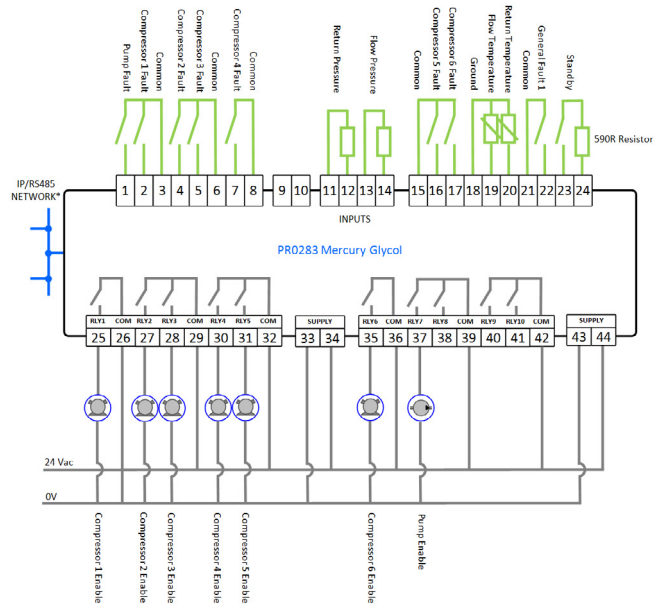
Description	Part number
Mercury 11-10G Glycol Pack Controller	PR0282
Mercury 11-10G Glycol Pack Controller 24V	PR0283
Mercury 11-10G Glycol Pack Controller Remote Display	PR0284
Mercury 11-10G Glycol Pack Controller Remote Display 24V	PR0285

Compatible interfaces	Part number
IP Futura Interface (Single controller to IP interface)	PR0016
RS485 Interface (Single controller to RS485 interface)	PR0026
Mercury IP Switch (IP support for 10 controllers)	PR0018

Features

- User Configurable Inputs and outputs
- Can be used with multi stage or single stage compressors
- Dual display shows control temperature and stages energised
- Compressor starts per hour setting to save energy and extend compressor life.
- Pressure and temperature inputs
- Adaptive control algorithm
- Automatic Glycol Pump Rotation

Typical wiring



Inputs

10 Temperature Probes or Digital Input PT1000 or 0 volt return (User Defined)

2 Pressure Transducer 4-20mA current loop, use 12Vdc output to feed the transducer

Power

Mains versions

100-240Vac +/-10%, 50-60Hz +/- 10%, Max supply 10A with relays 4,5,9 & 10 fully loaded.

24V Versions

10V dc to 35Vdc or 15Vac to 30Vac, Max supply current < 1A (controller supply only)

Outputs

10 Relay Outputs

Relays 1 & 6 – 6A (250Vac,30Vdc) resistive (COSΦ=0.4 2A Inductive load)
Relays 2, 3, 7 & 8 – 4A (250Vac,30Vdc) resistive (COSΦ=0.4 1.3A Inductive load)
Relay 4, 5, 9, 10 – 3A (250Vac) resistive (COSΦ=0.4 1A Inductive load)

Mechanical

Dimensions H x W x D: 68 x 180 x 110mm (2.7 x 7 x 4.3in)
Weight: 260 g (0.58lb)
Panel cut-out: 42 x 165mm (1.2x 2.8in)

Environmental

Operating temperature: 5° to 50°C (41° to 122°F)
Operating humidity: 10% to 80% (non condensing)

PR0330/PR0331

Mercury 6-10 S

Plant step controller

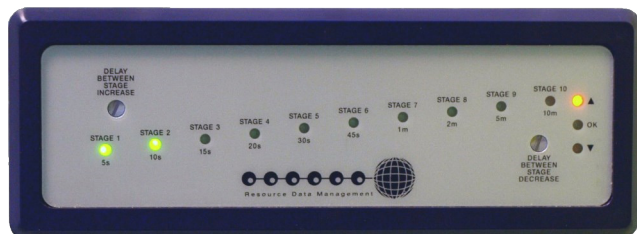
Basic plant step controller with status and diagnostic LEDs.

The Mercury 6-10 is a versatile stage controller which will switch up to 10 compressors or fans on and off in response to stage up and down inputs being activated, typically from a dead band pressure switch. The controller also has three general alarm inputs.

Parameters such as number of stages and stage increase delay can be set locally by adjusting a potentiometer on the front of the display or remotely over a network.

Typical applications

Back up control on commercial and industrial refrigeration systems.



Flexible network options*

Flexible network options also ensure compatibility on many existing sites with legacy hardware and front ends.

* Networking via optional network interface module

Easy configuration

Mercury controls ship with multiple standard default configurations. Customisation can easily be carried out via the controller display, by direct PC connection, by remote connection from a system front end and using a Caesium programmer module.

Quick fit

The Mercury Step controller is fitted to the panel and retained in place with M3 screws (supplied).

Ordering Information

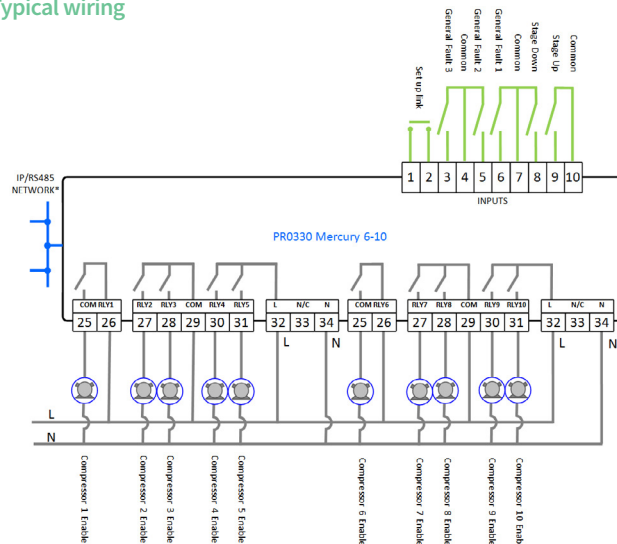
Description	Part number
Mercury 6-10S Mercury Step Controller	PR0330
Mercury 6-10S Mercury Step Controller 24V	PR0331

Compatible interfaces	Part number
IP Futura Interface (Single controller to IP interface)	PR0016
RS485 Interface (Single controller to RS485 interface)	PR0026
Mercury IP Switch (IP support for 10 controllers)	PR0018

Features

- Switches up to 10 stages
- General alarm inputs
- Capacity alarm
- Adjustable alarm delays
- Adjustable stage on and off delays
- Internal logging
- Networkable

Typical wiring



Inputs

6 Digital Inputs 0 volt return

Power

Mains versions

100-240Vac +/-10%, 50-60Hz +/- 10%, Max supply current 8.2A with relays 4,5,9 & 10 fully loaded

24V Versions

10V dc to 35Vdc or 15Vac to 30Vac, Max supply current <1A (controller supply only)

Outputs

10 Relay Outputs

Relays 1 & 6 – 6A (250Vac,30Vdc) resistive (COSΦ=0.4 2A Inductive load)

Relays 2, 3, 7 & 8 – 3A (250Vac,30Vdc) resistive (COSΦ=0.4 1A Inductive load)

Relay 4, 5, 9, 10 – 2A (250Vac) resistive (COSΦ=0.4 0.6A Inductive load)

Mechanical

Dimensions H x W x D: 68 x 180 x 110mm (2.7 x 7 x 4.3in)

Weight: 260 g (0.58lb)

Panel cut-out: 42 x 165mm (1.2x 2.8in)

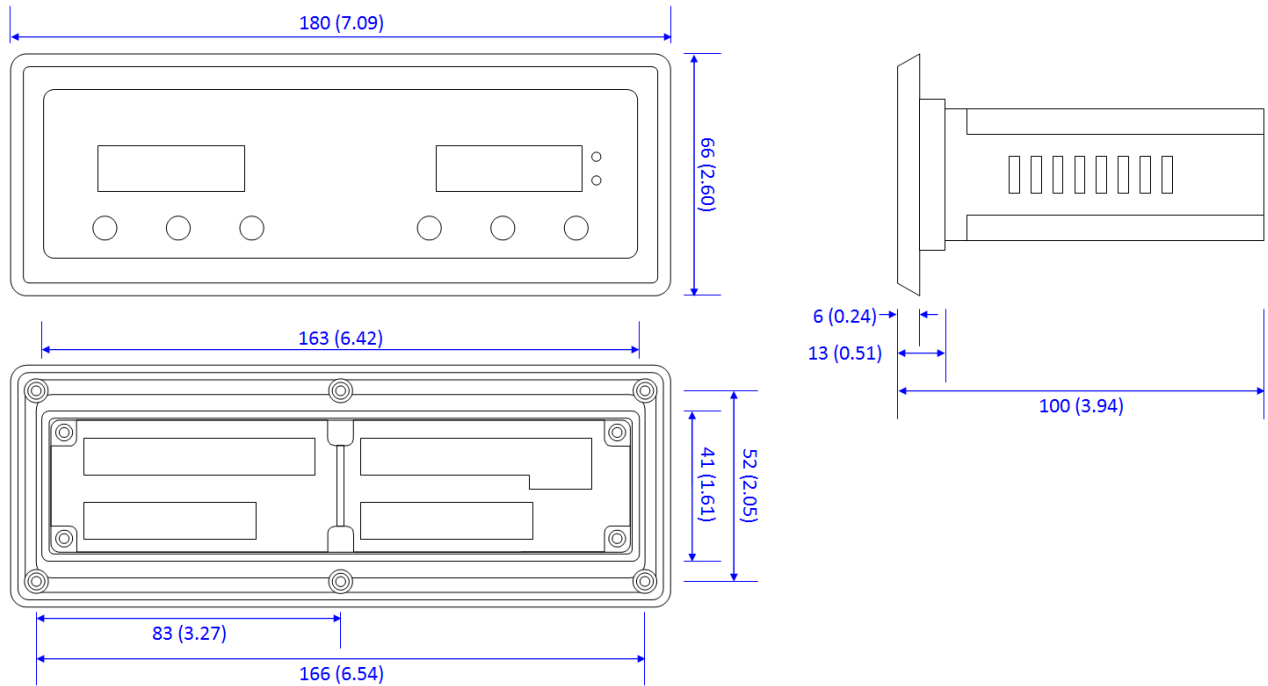
Environmental

Operating temperature: 5° to 50°C (41° to 122°F)

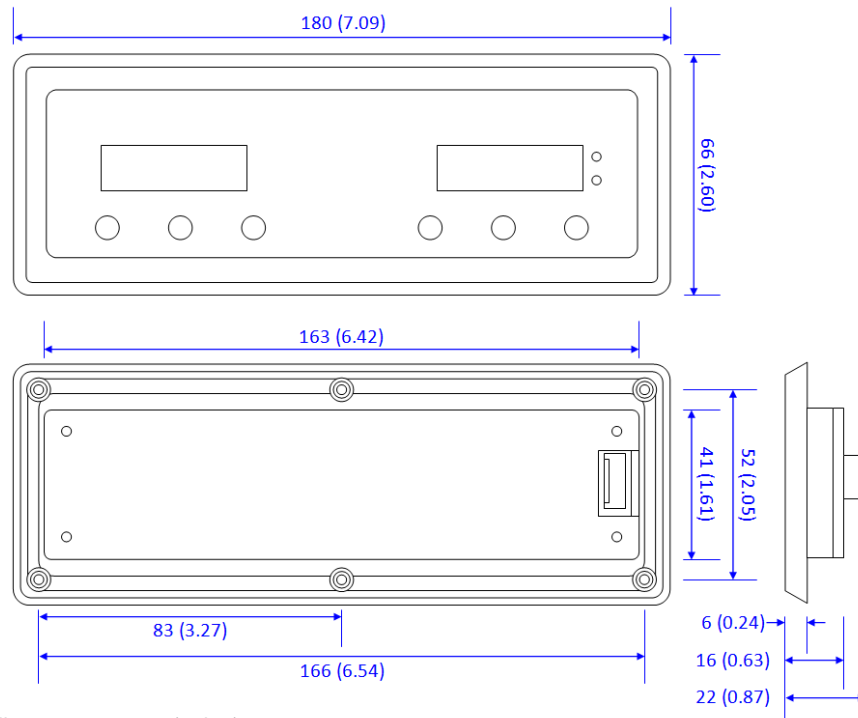
Operating humidity: 10% to 80% (non condensing)

Pack/Rack Controls Mechanical Information

Controller (All models)



Remote Panel-mount display (Remote Display Models Only)



All Dimensions in mm (inches)

PR0374 - PR0389

Ethernet Patch Cables

CAT5E

Industry standard Ethernet patch cables for networking and controller interconnects.

Easy fit

Plug and play connectors allow for simple, rapid fit connection to any RJ45 socket.

Full functionality

Dual purpose, suitable for connecting controls to interface modules as well as inter-connects on Ethernet networking.

Robust design

Constructed with four twisted pair core to minimise noise and interference with a durable outer PCV jacket.

Ordering Information

Description	Part number
0.5m CAT5E Patch Cable	PR0384
1m CAT5E Patch Cable	PR0385
3m CAT5E Patch Cable	PR0386
5m CAT5E Patch Cable	PR0387
15m CAT5E Patch Cable	PR0389

Features

- Guaranteed 100% compatible with Resource Data Management controls
- Available in 0.5m, 1m, 3m, 5m & 15m
- Simple plug and play installation



Category / wiring

CAT5E / STRAIGHT

Plug types

RJ45—RJ45

Conductors

AWG 24

Insulation

Polyethylene / PVC

Environmental

Operating temperature: 0° to 60°C (32° to 140°F)
Max Operating humidity: 90% (non condensing)

Mechanical

Weight: 50g to 650g (0.1 to 1.4lb) 0.5 to 15m

Warranty

1 year manufacturer warranty

PR0377-379

Network Switches

5 to 16 port ethernet network switches

Compact and low cost Ethernet Switches.

These switches are designed for applications requiring high network performance to exchange large data files and to access real-time information. Featuring internal power supplies plus autosensing and auto MDI/MDIX on all ports, these switches are delivered in compact streamlined enclosures.

The fastest connection speed is found automatically, all that is needed is to connect the power and Ethernet cables. There is no software to configure. Easy to set up, these switches feature a fanless design which provides silent operation. With a choice of five, eight or sixteen ports you can expand your network by adding more devices with speeds up to 200 Mbps per port in full-duplex mode.

Auto speed sensing 10/100Mbps connectivity

Enables connection from 10 to 100Mbps ensuring optimum throughput while retaining compatibility with legacy equipment.

Full duplex support

Allows full two way data transfer doubling the effective bandwidth.

Ordering Information

Description	Part number
5 Port Ethernet Switch	PR0377
8 Port Ethernet Switch	PR0378
16 Port Ethernet Switch	PR0379

Features

- Guaranteed compatibility with RDM controls
- Front panel LEDs indicate network use
- Suits industry standard CAT5E cables
- Non fan design ensures maintenance free, silent operation

Regulatory and agency approvals

Safety: UL 60950-1, EN 60950-1, CSA 22.2 60950-1, IEC 60950-1
Emissions: CFR Title 47, FCC Part 15, Subpart B Sections 15, 107 and 15, 109 Class B; ICES-003 Class B; EN 55022 Class B; EN 61000-3-2: 2000; EN 61000-3-3: 1995; EN 61000-3-11; CISPR 22: 2003-04-10 Class B; RRL

Power

100-240Vac, 50/60Hz

Power consumption: PR0377—3.6W, PR0378—4.7W, PR0379— 5.9W

Environmental

Operating temperature: 0° to 40°C (32° to 105°F)
Operating humidity: 10% to 90% (non condensing)

Mechanical

5 Port Dimensions H x W x D: 143 x 108 x 30mm (5.6 x 4.3 x 1.2in)
Weight: 470g (1.0lb)

8 Port Dimensions H x W x D: 178 x 108 x 30mm (7 x 4.3 x 1.2in)
Weight: 525g (1.2lb)

16 Port Dimensions H x W x D: 208 x 160 x 40mm (8.2 x 6.3 x 1.6in)
Weight: 640g (1.4lb)

Warranty

1 year manufacturer warranty

PR0160 — PR0164

Pressure Transducers

Pressure transducers with varying providing solutions for a wide range of applications. All transducers operate with the variable output 4~20mA with a 2m cable as standard.

Typical applications

Refrigeration and HVACR systems with varying gas types. See compatible refrigerants in table.

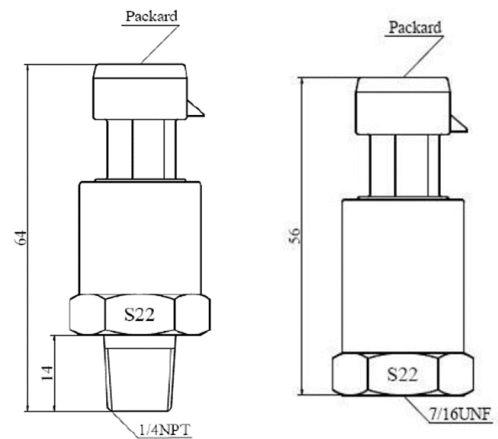


Ordering Information

Description	Part number
Transducer -1 to 20 BAR (-14.5 to 290 PSI) with 1/4in NTP male fitting	PR0160
Transducer -1 to 20 BAR (-14.5 to 290 PSI) with 7/16in 20UNF(F)	PR0161
Transducer -1 to 65 BAR (-14.5 to 940 PSI) with 1/4in NTP male	PR0162
Transducer -1 to 65 BAR (-14.5 to 940 PSI) with 7/16in 20UNF(F)	PR0163
Transducer 0 to 125 BAR (0 to 1810 PSI) with 1/4in NTP male	PR0164

Warranty

1 year manufacturer warranty



Pressure Range	-1-20 bar, -1-65 bar, 0-125 bar
Pressure Type	Gauge pressure, Absolute pressure
Overload	200% F.S
Burst Pressure	300% F.S
Accuracy (Linearity Hysteresis Repeatability)	$\leq \pm 0.5\%F.S$ $\leq \pm 1\%F.S$
Stability	0.5%F.S \pm 0.05%
Working Temperature	-40°C~95°C
Storage Temperature	-40°C~125°C
Temperature Compensation	-10°C~60°C (standard)
Thermal effect on zero	+/- 0.05%
Thermal effect on span	+/- 0.005%
Medium compatible	Compatible with 304/316 Stainless steel
Electronic wire	2/ 3 Wires
Output	4~20mA
Power supply	12~36V DC
Short Circuit protected	Yes
Overvoltage protection	45 V DC
Insulate resistance	>100M Ω @50V
Electronic connection	Packard 3 pin connector with 2.0m cable
Pressure connect port	1/4" NPT male, 7/16in 20UNF(F)
Response time	$\leq 10ms$
Certificate Approval	CE Certificate
EMC standard	Electromagnetic radiation: EN50081-1/-2 Electromagnetic susceptibility: EN50082-2
Water proof	IP67
Weight	Net weight 0.2Kg.Full packaging weight 0.35Kg (includes 2.0m cable)
Compatible Refrigerants	R12, R21, R22, R31, R32, R113, R114, R154a, R404a, R407a, R407c, R410a, R502, R507, R744.

Training

At Resource Data Management as well as supplying high quality, feature packed cost-effective products we believe that it is essential that our customers have the best understanding of how to install and use our products to gain the best possible results. Not only does this reduce initial investment costs, as customers will have the knowledge to confidently select the most appropriate products for their solution, it also ensures seamless and quick installation and effective maintenance.

Free bespoke training sessions, inform users how to optimise controls, reduce running costs and extend service life of the equipment for optimal value for money. Training sessions are available to all of our customers at our dedicated training facilities in Glasgow and Minneapolis. Other training solutions include live web based training, webinars, and on-site training sessions at customer premises.*

Training programmes can be tailored to suit your exact requirements and will typically last from one to three days depending on your requirements.

Topics covered include

- Refrigeration Applications
- Heating Ventilation & Air Conditioning Applications
- Lighting Applications
- Energy Monitoring and Reduction
- Controls Applications Using The Data Builder (TDB) Software Platforms
- Temperature and Plant Monitoring Applications
- dmTouch Installation and Setup
- Networking

To discuss your requirements and to arrange training please contact:

UK Office

RDM Group Head Office

80 Johnstone Avenue
Hillington Industrial Estate
Glasgow, Scotland G52 4NZ
UK

Tel: +44(0)141 810 2828
Email: sales@resourcedm.com

US Office

Resource Data Management Inc

100 North Sixth Street
Suite 630B
Minneapolis, MN 55403
USA

Tel: +1 612 354 3923
Email: usasales@resourcedm.com

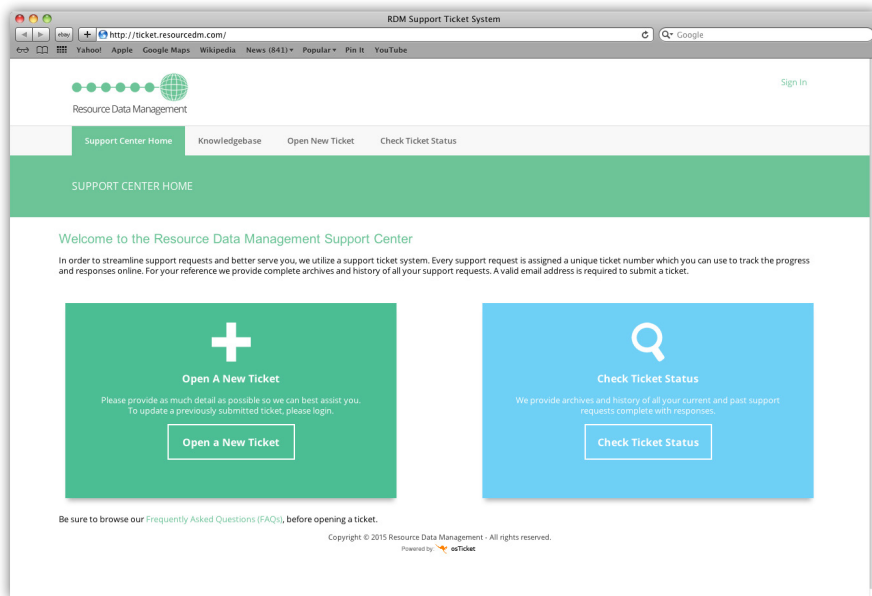
*Training at customer's premises will be chargeable to cover travel/accommodation costs.



Technical support

RDMs Technical Support department offers free after sales support. The resourcedm.com website offers a highly efficient support ticket system, making it easy to submit enquiries at a time convenient to you.

The ticketing system can be found under the **Support** menu



Once the ticket has been submitted it will be routed to the best available person with knowledge of that product, an answer will then be promptly delivered to you. To make it easy to reference your enquiry in the future, or over the phone, you will be issued with a unique ID number that will also allow you to track the progress of your enquiry online.



Instant live chat

Visit www.resourcedm.com during office hours and simply click on the link on the left side of any page of the RDM site, you will then be connected instantly with an expert from our Technical Support Team.



Free downloads

To ensure each and every customer has the opportunity to maintain their assets at optimum levels and reduce energy consumption fast we give you access to free license software and documentation downloads including function programmes and The Data Builder (TDB) our highly flexible Programmable Logic Control software.



5 year warranty on all
RDM manufactured products*



Resource Data Management

RDM Group Head Office

80 Johnstone Avenue
Hillington Industrial Estate
Glasgow, Scotland G52 4NZ
UK

Tel: +44(0)141 810 2828
Email: sales@resourcedm.com

RDM Inc

100 North Sixth Street
Suite 630B
Minneapolis, MN 55403
USA

Tel: +1 612 354 3923
Email: usasales@resourcedm.com

RDM Asia

Sky Park at One City
Jalan USJ 25/1, 47650 Subang Jaya
Selangor
Malaysia

Tel: (+60) 3 5115 0061
Email: info@rdmasia.com.my

Affiliates

RDM Australia

14 Centofanti Place
Thomastown
VIC. 3074
Australia

Tel: (+61) 1300 304 680
Email: sales@resourcedm.com.au

RDM Nordic

Askims Granstig 3 436 42
Askim
Sweden

Tel: (+46) 31 748 47 47
Email: sales@rdm-nordic.se

Visit www.resourcedm.com for more information on RDM solutions

While every effort is made to ensure the information given is accurate, Resource Data Management Ltd does not accept any liability for any errors or mistakes which may arise. All are subject to change without notice. See www.resourcedm.com for terms and conditions of sales.

*Excluding OEM products and selected product lines. Warranty details for excluded products will be detailed on the respective product pages.

