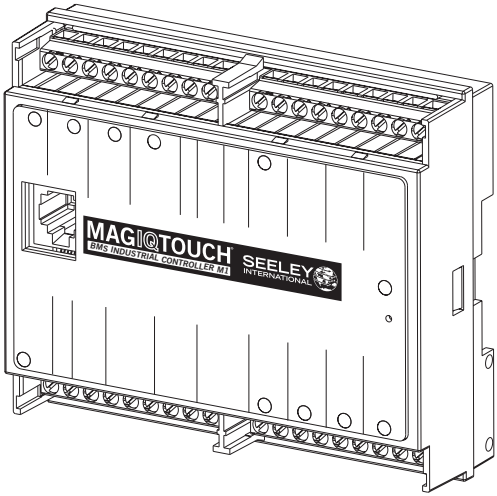
SEELEY INTERNATIONAL

INSTALLATION & OPERATION MANUAL

MagIQtouch BMS Industrial Controller M1

(Coolers Only)



(English) (Industrial Controller M1)

Original English Instructions

MAGIQTOUCH™
BMS INDUSTRIAL CONTROLLER M1

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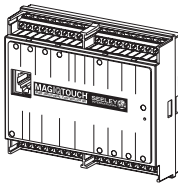
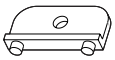
1		1	MaglQtouch Industrial Controller M1
2		1	Installation and Operation Manual
3		2	Wall Brackets
4		2	Wall Plug Yellow 5mm
5		2	Screw PAN PHIL 6ABX1” ZNP

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SAFETY

This document provides technical guidance on the installation and operation of the MagIQtouch BMS Industrial Controller M1.

EMPLOYER AND EMPLOYEE RESPONSIBILITIES

Please read this manual carefully. Your failure to do so could result in injury to you or damage to the cooler and property.

The installation and maintenance of coolers at height has the potential to create Occupational Health and Safety issues for those involved. Installers are advised to ensure they are familiar with Local Acts, Regulations and Standards, which may offer practical guidance on health and safety issues. Compliance with these regulations will require appropriate work practices, equipment, training and qualifications of workers.

INSTALLER AND MAINTENANCE CONTRACTORS – RISK ASSESSMENT

Seeley International provides the following information as a guide to contractors and employees to assist in minimising risk whilst working at height.

A risk assessment of all hazardous tasks is required under legislation. A risk assessment is an essential element that should be conducted before the commencement of work, to identify and eliminate the risk of falls or to minimise these risks by implementing control measures. There is no need for this to be a complicated process, it just is a matter of looking at the job to be done and considering what action(s) are necessary so the person doing the job does not injure themselves.

This should be considered in terms of:

What are the chances of an incident happening?

What could the possible consequence be?

What can you do to reduce, or better still, completely get rid of the risk?

Other important points to consider:

This MagIQtouch BMS Industrial Controller is to be installed **indoors only**, installation shall only be performed by suitably trained and qualified personnel, in accordance with local and national wiring rules. Interconnection wiring between the MagIQtouch BMS controller and the building management system shall be separated by reinforced insulation to any live parts. Installation and location of the BMS controller shall be sufficiently separated from live parts to comply with reinforced insulation.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. If any cables are damaged, they shall be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.

Stranded conductors shall not be consolidated by lead-tin soldering where they are subject to contact pressure, i.e on terminal block.

The MagIQtouch BMS Industrial Controller has a 24Vdc input and output Safety Extra Low Voltage (SELV) circuit, this should only be connected to other SELV circuits.

INSTALLATION PREPARATION

WARNING! THIS INSTALLATION SHOULD ONLY BE PERFORMED BY SUITABLY TRAINED AND QUALIFIED PERSONNEL, IN ACCORDANCE WITH LOCAL AND NATIONAL WIRING RULES.

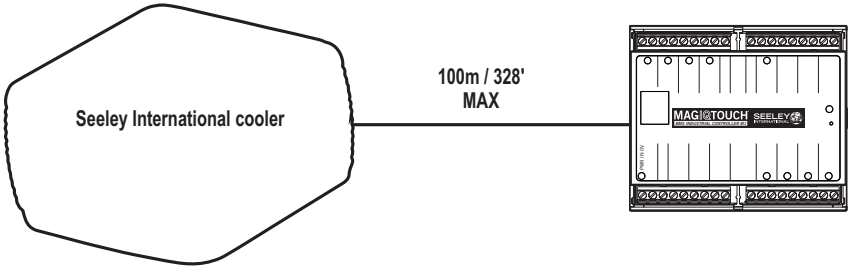
Important! The MagIQtouch BMS Industrial Controller can only operate **1 x cooler**. For systems with more than 1 x cooler additional MagIQtouch BMS Industrial Controllers are required.

Before commencing work on the cooler, ensure it is disconnected from the power source, when installing the MagIQtouch BMS Industrial Controller select and prepare an appropriate mounting site with the following features:

- Space for mounting on either DIN rail or directly to the wall.
- Clearance for inserting digital & analogue inputs & outputs.
- Within 100m of cooler.
- Dedicated 24Vdc power input.

Note! Do not use power boards and double adaptors!

COMMUNICATION CABLE



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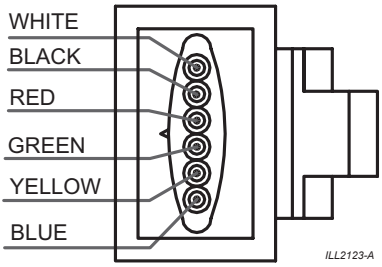
The communication cable from the Cooler Controller to the MagIQtouch BMS Industrial Controller are 26AWG, 7/0.16, 6 core flat cable.

- 20m/66’ cable is supplied with each Seeley cooler or heater.
- Supplied cables should not be altered.

Important! The maximum communication cable length allowed from the cooler to the MagIQtouch BMS Industrial controller is 100m. Failure of the product or components to operate correctly due to modification to supplied cables, or the use of non-approved cable will NOT be accepted under the Manufacturer’s warranty.

Part No.	Length	Details
862873	1.5m/5'	MagIQtouch Industrial Wall Controller cable (No ferrite)
861265	3m/10'	MagIQtouch Industrial Wall Controller cable (No ferrite)
833880	20m/66’	MagIQtouch Industrial Wall Controller cable (No ferrite)
823553	20m/66’	MagIQtouch Industrial Wall Controller cable (ferrite)
864396	30m/98’	MagIQtouch Industrial Wall Controller cable (ferrite)
864402	40m/131’	MagIQtouch Industrial Wall Controller cable (ferrite)
834238	60m/197'	MagIQtouch Industrial Wall Controller cable (No ferrite)
834474	500m/1640'	Roll of 6 core ribbon cable with no terminations or plugs Plug Type = 6 pin Farnell 781-289, wired as below.
670423		Hinged Bracket Ferrite



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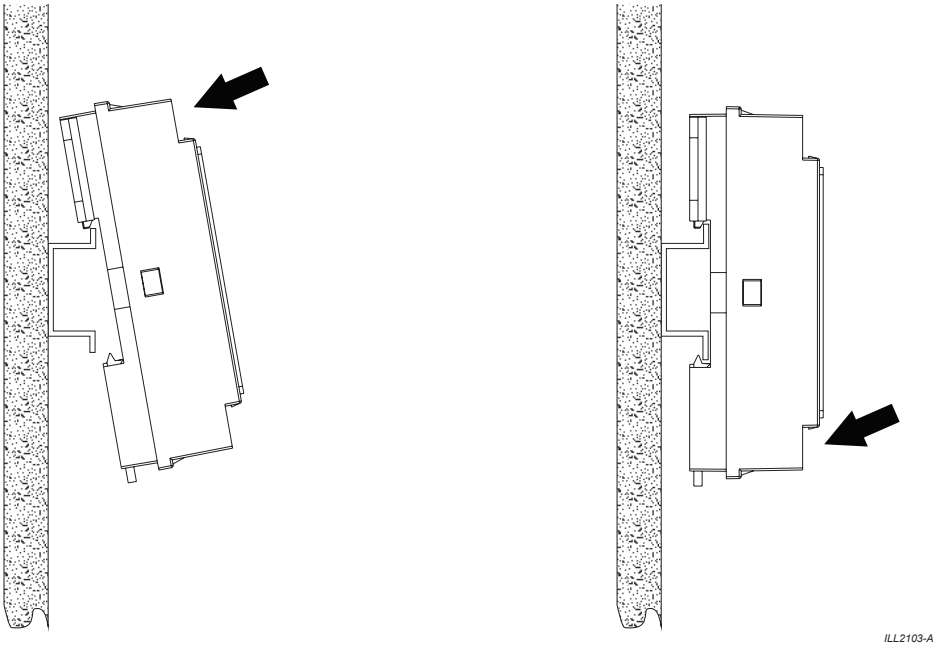
MOUNTING - DIN RAIL

BMS M1 is suitable for internal installations only. The MagIQtouch BMS Controller is fitted with a DIN rail retainer on the rear of the enclosure. Locate the top catches onto the rail first, pivot down then secure the bottom catches onto the rail where the DIN rail retainer will click into place.



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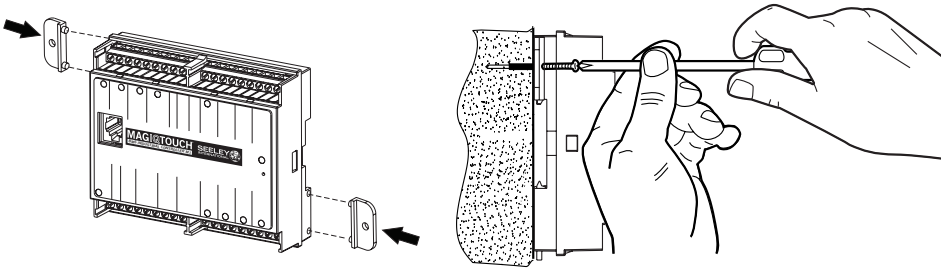
MOUNTING - WALL MOUNT

BMS M1 is suitable for internal installations only. Within the MagIQtouch BMS Industrial Controller kit are 2 x wall brackets, push fit them into the each side of the enclosure base. Mark and drill suitable holes in wall and insert wall plugs provided. Align and screw the MagIQtouch BMS Industrial Controller on to the wall.



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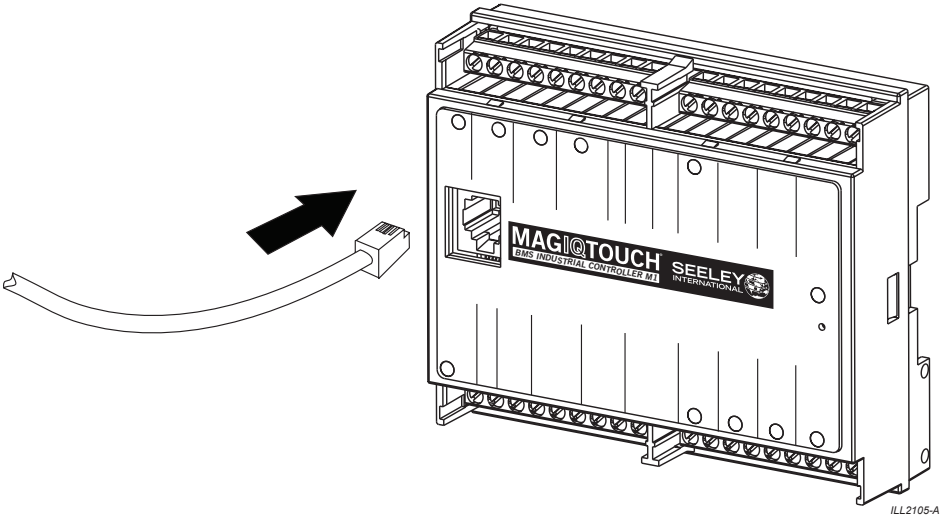
ELECTRICAL INSTALLATION

CONNECTING COOLER

Installation of the cooler & MagIQtouch BMS Industrial Controller must conform to local, national and international electrical safety and wiring regulations.
Refer to the cooler installation manual for installation and electrical connection of cooler.
Connect the RJ 6 way communications cable from the cooler CPMD to the MagIQtouch BMS Industrial Controller.



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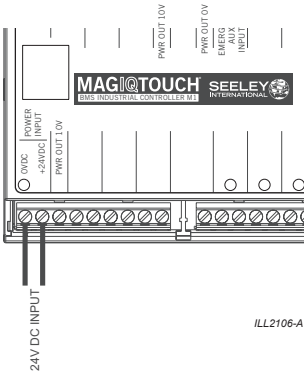
ELECTRICAL INSTALLATION cont.

CONNECTING POWER

RECOMMENDED POWER INPUT IS 24Vdc

	Min	Max
Voltage (DC)	12	30
Current (A)	1.25	



10Vdc OUTPUT

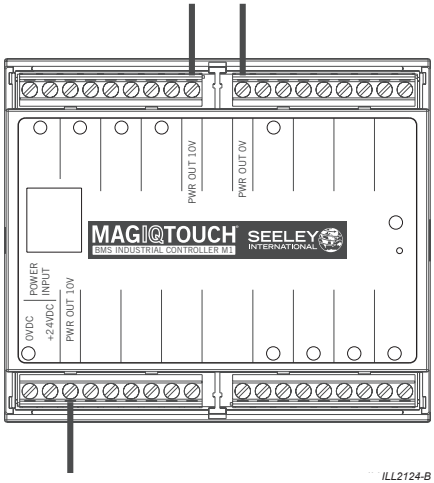
The MagIQtouch BMS Industrial Controller has 2 x 10Vdc Power Out terminals. These terminals can be used as a power rail by the installer for switching, pull up voltage etc.

Labels:

- “PWR OUT 10V” (x2)
- “PWR OUT 0V”

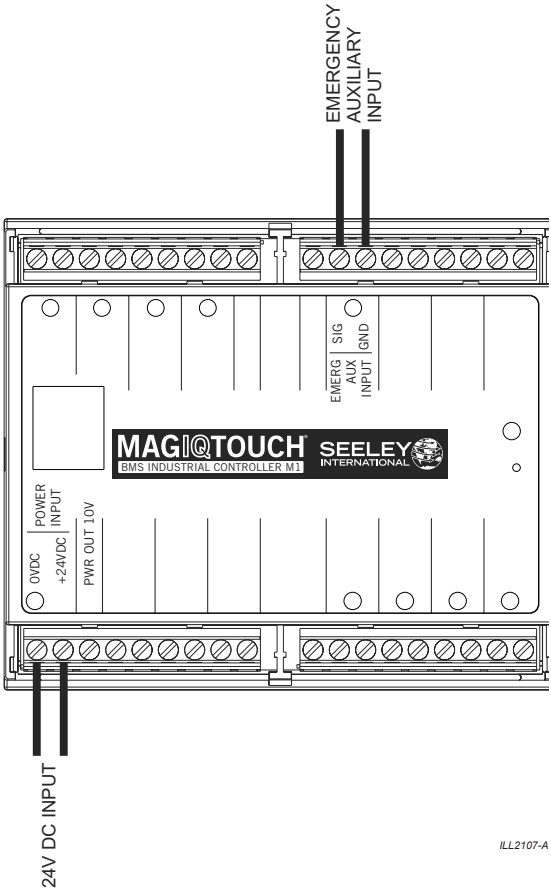
Total current supply capability for both outputs combined: 500mA

Note: “PWR IN 0V” is internally linked to “PWR OUT 0V”.

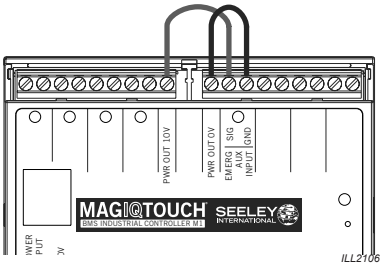


EMERGENCY AUXILIARY

If emergency auxiliary is required from the BMS follow the wiring diagram below. When isolation input is applied, power will be shut down to the cooler.



IMPORTANT: If emergency auxiliary is NOT required from the BMS the following links shown below must be installed to enable the cooler to operate.



COOLER FUNCTIONS

DIGITAL INPUT SIGNALS

Digital Inputs (0-10Vdc)

Input impedance: >100kΩ

Digital Inputs

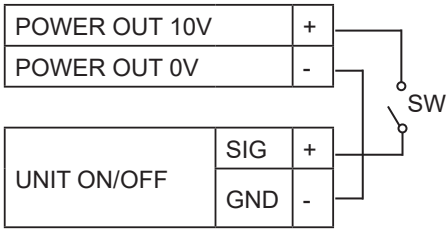
Name	Label	Low	High
Cooler On/Off	ON	Unit Off	Unit On (LED On)
Operation Mode	COOL	Fan Only Mode	Cool Mode (LED On)
Manual Drain	DRAIN	Normal Operation	Force Drain (LED On) (Will turn cooler off)
Spare Digital Input	D1 IN	*not used*	*not used*
Emergency Auxiliary Input	EMERG AUX	Disable operation	Enable operation (LED On)

Recommended voltage level for digital inputs is 10Vdc.

Logical Level	Min	Max
Low (Vdc)	0	2
High (Vdc)	4	32

Connection Example

Power Out 10V terminals can be used to activate the digital inputs.



COOLER FUNCTIONS cont

ANALOGUE INPUT SIGNALS

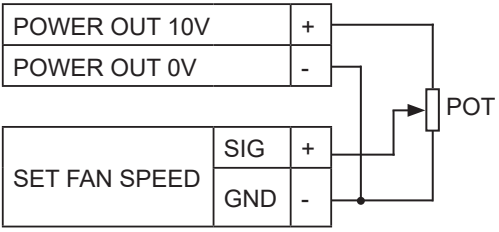
Name	Label	Value range
Set Fan Speed	FAN SPEED	FS0 - FS10
Spare Analogue Input 1	A1 IN	Not used
Spare Analogue Input 2	A2 IN	Not used

Recommended voltage levels for the Set Fan Speed input.

Fan Speed	Vdc min	Vdc typ	Vdc max
0	0.0	0.0	2.5
1	2.7	2.9	3.1
2	3.4	3.6	3.8
3	4.1	4.3	4.5
4	4.8	5.0	5.2
5	5.5	5.7	5.9
6	6.2	6.4	6.6
7	6.8	7.0	7.2
8	7.5	7.7	7.9
9	8.2	8.4	8.6
10	9.8	10.0	10.2

Connection Example

Potentiometer to adjust Set Fan Speed signal between 0V and 10V (refer to previous table). Ensure the GND of the Analog Input Signals are connected to the POWER OUT 0V.



COOLER FUNCTIONS cont

DIGITAL OUTPUT SIGNALS

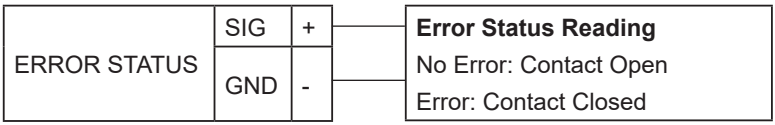
Digital outputs channels (relay contacts)

List of digital outputs

Name	Label	Contact Open	Contact Closed
Error Status	ERROR STATUS	No Error	Error
Drain Status	DRAIN STATUS	Drain Closed	Drain Open
Spare Digital Input 1	D1 OUT	*not used*	*not used*
Spare Digital Input 2	D2 OUT	*not used*	*not used*

Connection Example

Digital outputs are relay contacts (contact ratings: 24Vdc/1A).



ANALOGUE OUTPUT SIGNALS

Name	Label	Value range
Actual Fan Speed	ACT FAN SPD	0 - 10
Spare Analogue Output 1	A1 OUT	Not used

Vmin	Vtyp	Vmax	Unit	Actual Fan Speed
0.0	0.6	1.0	V	**0**
1.2	2.4	2.8	V	**1**
2.9	3.3	3.7	V	**2**
3.8	4.2	4.6	V	**3**
4.7	5.1	5.5	V	**4**
5.6	6.0	6.4	V	**5**
6.5	6.9	7.3	V	**6**
7.4	7.8	8.2	V	**7**
8.3	8.7	9.1	V	**8**
9.2	9.6	10.0	V	**9**
9.6	10.0	10.4	V	**10**

COOLER FUNCTIONS cont

ANALOGUE OUTPUT SIGNALS - cont

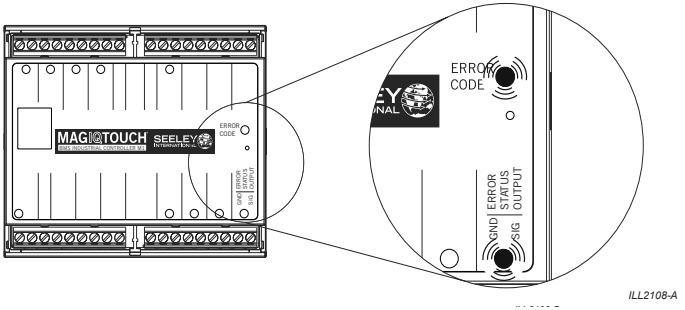
Connection Example

ACTUAL FAN SPEED	SIG	+	**Actual Fan Speed Reading** 0V: Fan Off 10V: Fan Speed 10
	GND	-	

DIAGNOSTIC LED'S

Diagnostic and cooler operating information can be viewed from the MagIQtouch BMS Industrial Controller via the Error Code and Error Status LED's.

When an error is detected by the controller, the ‘ERROR STATUS’ LED will illuminate on the front panel. The type of error will be indicated by the sequence of flashes highlighted on ‘ERROR CODE’ LED.
Error codes can be cleared using the "RESET" button on the front of the controller.



Part No.	Error
1 Flash	Fault Code #1 Communication Failure.
2 Flashes	Fault Code #2 Failure to Detect Water at Probes.
4 Flashes	Fault Code #4 Failure to Clear Probes during drain.
7 Flashes	Fault Code #7 Incorrect Supply Frequency

NOTE: Error Codes can vary between products. Refer to the cooler Installation Manual.

Warranty Service
Australia 1-300-650-644

Technical Support
Australia 1-300-650-399

For regions outside Australia:
Contact your local Dealer

seeleyinternational.com

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