

TECHNICAL SPECIFICATIONS - CW-6S (AUSTRALIA & EUROPE)

GENERAL

Climate Wizard coolers are characterised by the supply of 100% fresh, cool, outside air, with greatly reduced energy consumption relative to an equivalent refrigerated system performing the same duty.

The coolers comprise of a supply air fan, an exhaust air fan, a combined indirect/direct heat exchanger pack, integrated water reservoir, pumps, and chlorinator system.

CABINET

The cabinet consists of a reservoir, four side panels and a lid constructed of injection moulded UV stabilised reinforced polypropylene. Components are effectively treated to ensure corrosion resistance and mechanical fasteners are zinc coated, stainless steel or aluminium. Connection interface surfaces are provided for the outlet supply air ductwork to be fitted using established industry practices.

The CW3 is fitted with two semi-circular, polypropylene blades, hinged and counterbalanced, to open automatically when the supply fan is activated, and to close when the supply fan is switched off. The weather seal prevents the escape of room air through the ductwork.

FAN & MOTOR

The supply fan is a statically and dynamically balanced multi-blade, aerofoil shaped axial assembly. The exhaust fan is a multi-blade, centrifugal type with backward curved blades. Both fans are constructed from glass reinforced polypropylene and are mounted to their electric motor shaft by means of an axial co-moulded hub. The electric motors are high efficiency, inverter driven and responsive to pulse width modulation to implement speed control that delivers optimum efficiency at lower speed operation.

HEAT EXCHANGE CORE

The cooler uses a series of Seeley International's patented Micro-Core™ heat exchangers. The Micro-Core™ is characterised by its compact and efficient design which incorporates both an indirect cooling stage and an additional Chillcel® fabricated honeycomb, direct cooling pad.

WATER MANAGEMENT SYSTEM

The water supply connection is via a flexible connector which is terminated with a 1/2" BSP compression nipple.

Water is held in an internal reservoir which forms an integral part of the polymer cabinet to provide integrity to the structure and to ensure durability and corrosion resistance.

Heat exchange core saturation is achieved through internally mounted pumps delivering water to a specially designed non-clog water distribution system guaranteeing continuous uniform flow.

The pumps are manufactured from engineering plastics, with stainless steel shafts and fully encapsulated synchronous motors with thermal overload protection. They are provided with an easily cleanable strainer within the reservoir section.

An electronic water management system controls the maximum salinity level and chlorination of the reservoir water through continuous monitoring and replenishment.

The reservoir is drained by an electric drain valve which responds to the water management control system. The design of the reservoir ensures that no water remains after draining.

ELECTRICAL CABINET AND CONTROLS

The electrical control box is pre-wired within the cooler.

The cooler requires a 220V-240V, 10A, supply outlet with a 3m power cable supplied.

The cooler is also compatible with the MagIQtouch range of room wall controls and the MS1 BMS controller.

AIR FILTER

Intake air is filtered through aluminium framed, washable, pleated filters, protected by the intake louver forming the sides of the cabinet to minimise intrusion of rain.

INSTALLATION

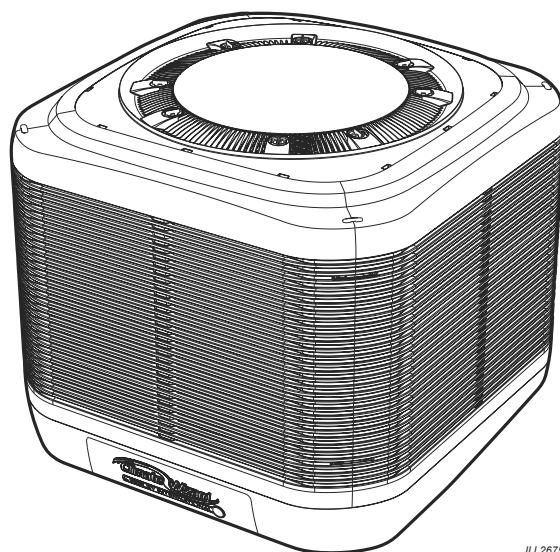
It is essential that the roof truss design is adequate to support the weight of the cooler.

Reinforcement may be required for existing roof structures. For a structural reinforcement guide for timber nail-plated truss roofs, see "CW3 Design Guide, Reinforcement of Timber Nail-plated Truss Roofs". Contact your Seeley International agent for a copy.

The cooler is designed to be installed on dropper with a minimum metal thickness of 1.0mm (20 gauge) to support the operating weight of the cooler. The top edge of the dropper must incorporate a raw, but deburred, safe edge to avoid fouling of the weather seal.

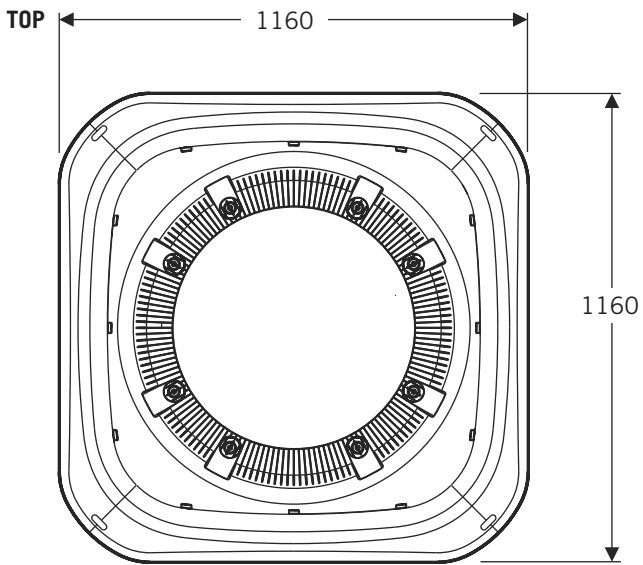
For information on the air duct design requirements, see Document: "Pre-installation Considerations for CW3 Duct Design". Contact your Seeley International agent for a copy.

The cooler is supplied on a pallet that is designed to allow the cooler to be readily craned into position. Features in the pallet provide for the safe sling lifting of the cooler. Given the weight of the product, the use of a crane to lift the cooler onto its mounting dropper is preferred. Alternatively, the cooler may be stripped of its major sub-assemblies to allow them to be handled onto the roof in more manageable pieces.

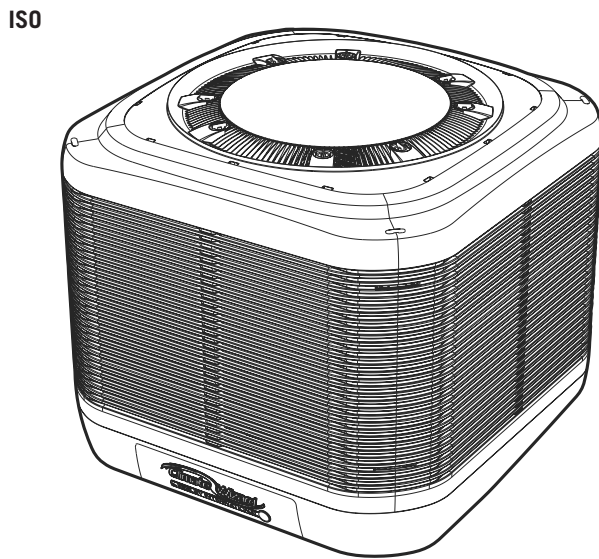


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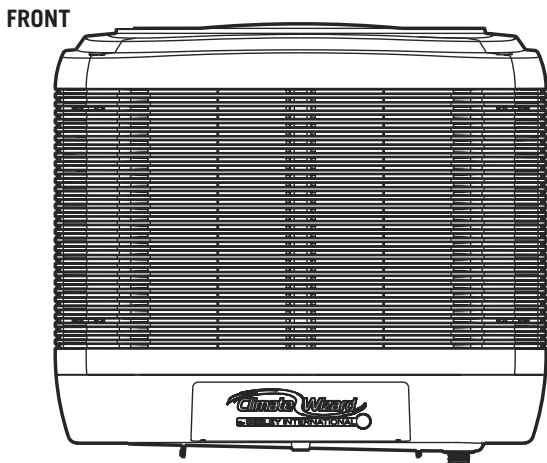
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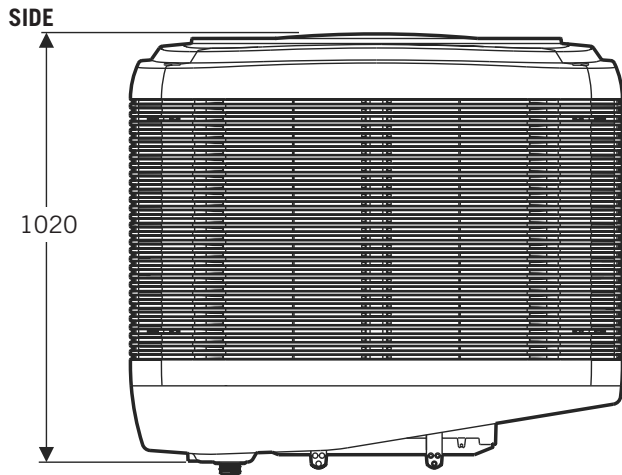
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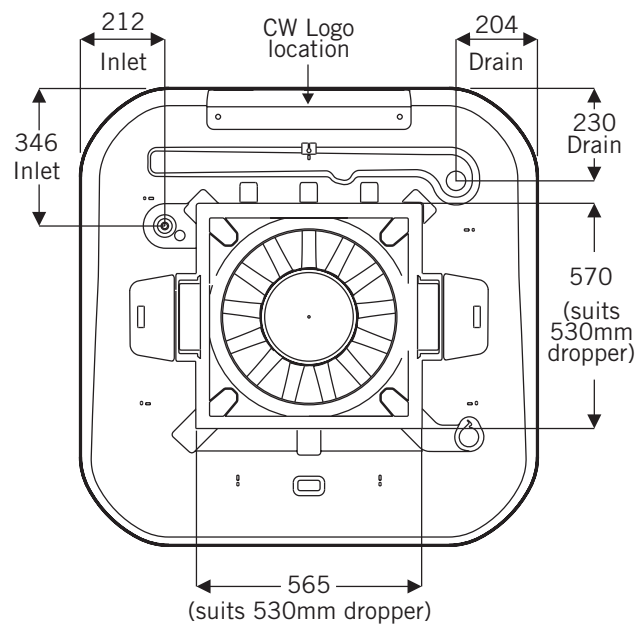


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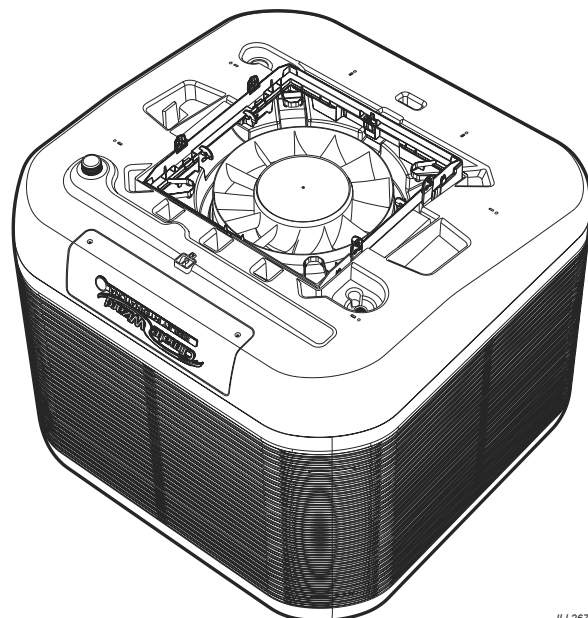
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SERVICES



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UNDERSIDE



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Dimensions are in mm.

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MODEL:		CW-6S	
OPTIMUM PERFORMANCE	Airflow	Supply Air	1265 L/s @ 150 Pa (4550 m ³ /h @ 150 Pa)
		Exhaust Air	655 L/s (2360 m ³ /h)
	Temperature*	Supply Air	20.7 °C
	Cooling Capacity*	Standalone	10 kW
		Pre-Cooling	26 kW
	COP*	Standalone	6
Pre-Cooling		15	
ENVIRONMENT	Maximum Inlet Air Temperature		50 °C
SERVICES	Electrical	Voltage	220-240 V / 1~
		Current	7 A
		Input Power	1.75 kW
	Water	Supply	20 L/min @ 100 kPa - 800 kPa
		Max Temperature	40 °C
		Inlet	1/2" Male BSP
		Consumption*	60 L/hr
		Drain	40mm Male BSP
	Drain Flow Rate	15 L/m	
	Duct Connections	Supply Air	Bottom Discharge 530 x 530 mm
Exhaust Air		Top Discharge	
AIR SYSTEMS	Supply Air Fan/Motor	Fan	1x 400mm Axial Forward Curve
		Motor	750W
		Control	Variable Speed, ECM, PWM Control
		Max Speed	2400 rpm
	Exhaust Air Fan/Motor	Fan	1x 380mm Centrifugal Backward Curve
		Motor	950W
		Control	Variable Speed, ECM, PWM Control
		Max Speed	1100 rpm
Air Filters	Inlet	8x G4 Pleated Washable 356 x 635 x 25mm	
HEAT EXCHANGERS	Indirect Evaporative	8x Micro-Core™	
	Direct Evaporative	8x Chillcel Pads	
WATER SYSTEMS	Tank (Reservoir) Capacity	30 L	
	Inlet Valve	12 VDC Solenoid Valve	
	Pumps	1 Pump 230V 50Hz 30W	
	Indirect Heat Exchangers	13 LPM @ 1.5m Head	
	Pump	1 Pump 230V 50Hz 30W	
	Direct Heat Exchangers	13 LPM @ 1.5m Head	
	Salinity Management	Conductivity Probe	
Chlorinator	12 VDC		
Drain Valve	12 VDC Vertical		
DIMENSIONS	Shipping	1175mm Long x 1175mm Wide x 1045mm High	
	Operating inc. Accessories	1160mm Long x 1160mm Wide x 1020mm High	
WEIGHT	Shipping	210 kg	
	Operating inc. Water/Accessories	240 kg	
STANDARDS COMPLIANCE	Electrical Safety IEC 60335.1:2011 +A1 +A2 IEC 60335.2.98:2002 +A1 +A2 Ingress Protection : IEC 60529:2011 EMC : CISPR14.1: 2013 EMF : EN 62233:2008		

* Supply Air Temperatures, Cooling Capacities, COP and Water Consumption tested to Australian Standard AS 2913-2000 and ASHRAE 143 with design condition of: 38 C dry-bulb, 21 C wet-bulb and 27.4 C room exit temperature.

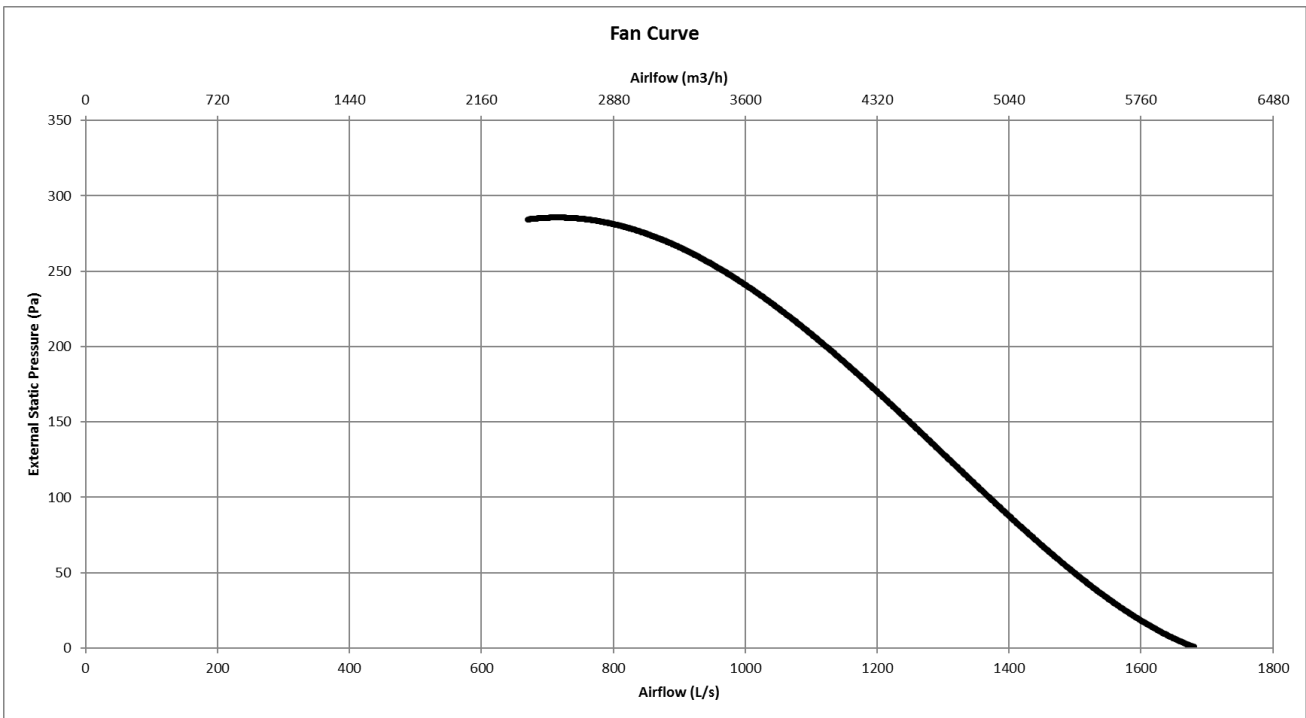
FREQUENCY (Hz)	Radiated Sound Power level (db re 1 pW) Octave Band Centre Frequency								Total Sound Power (db re 1pW)
	63	125	250	500	1k	2k	4k	8k	
CW-6S	46	55	62	65	70	65	58	50	78

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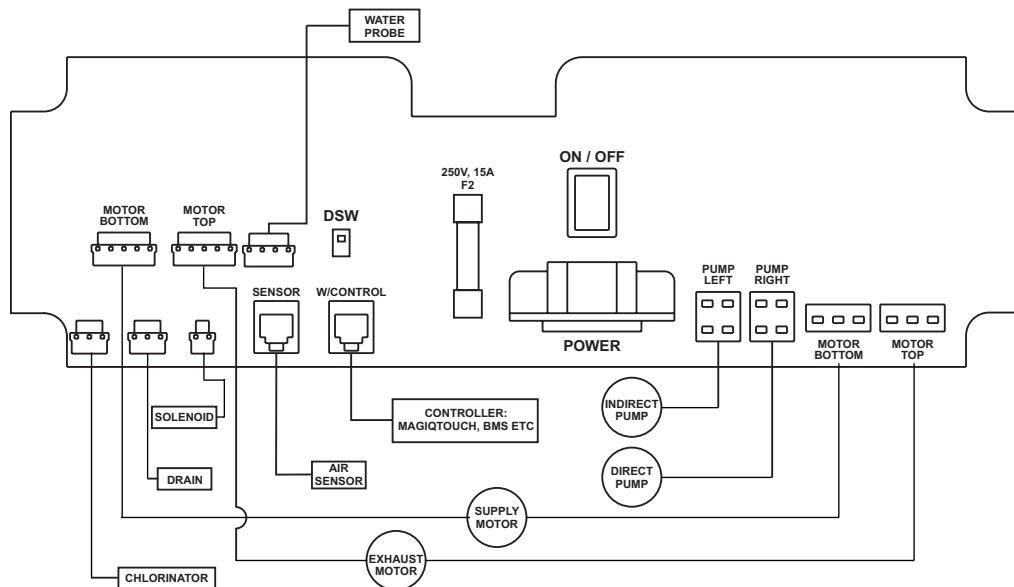
PERFORMANCE SUMMARY*						
Static Pressure (Pa)	0	50	100	150	200	250
Airflow (L/s)	1690	1490	1365	1265	1135	960
Airflow (m ³ /h)	6080	5360	4910	4550	4090	3460
Temperature (°C)	21.8	21.0	20.8	20.7	20.6	20.2
Standalone Cooling Capacity (kW)	12	12	11	10	9	8
Input Power (W)	1630	1660	1695	1730	1755	1750
Standalone COP	7.0	7.0	6.5	6.0	5.5	5.0

* Supply Air Temperatures, Cooling Capacities, COP and Water Consumption tested to Australian Standard AS 2913-2000 and ASHRAE 143 with design condition of: 38 C dry-bulb, 21 C wet-bulb and 27.4 C room exit temperature.

FAN CURVE



WIRING SCHEMATIC DIAGRAM

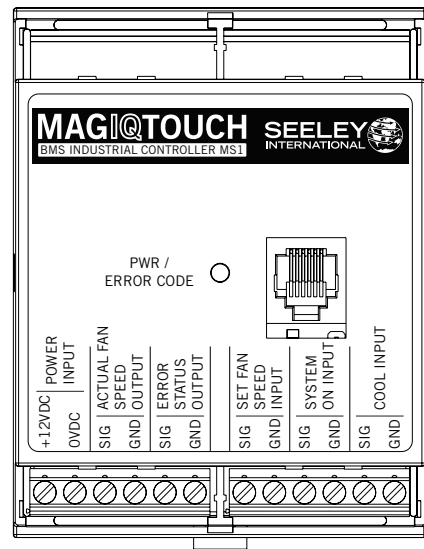


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MAGIQTOUCH BMS MS1 INPUTS

Name	Label	Function	Low	High	Input Type
On/Off	SYSTEM ON INPUT	Master mode only: Turn Cooler On or Off	Cooler Off	Cooler On	Digital 10Vdc
		Slave mode only: Switch operation between Wall control and BMS	MagIQtouch Control	BMS Control	Digital 10Vdc
Operation Mode	COOL INPUT	Cool or Vent	Fan Only	Cool Mode	Digital 10Vdc
Fan Speed	SET FAN SPEED INPUT	Set speed from 1-10	N/A	N/A	Analogue 0 - 10Vdc

Recommended voltage level for digital inputs.



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MAGIQTOUCH BMS MS1 OUTPUT SIGNALS

- Power Input only required if ACT FAN SPEED and ERROR STATUS signals are required from the module.
- If power input is not connected, ERROR STATUS and ACT FAN SPEED will not work.

Voltage	Min	Typ.	Max	Unit
DC	11.5	12	12.5	V

OUTPUT SIGNALS - ACTUAL FAN SPEEDS

Actual Fan Speed	VOUT min	VOUT typ	VOUT max
0	0.0	0.8	1.0
1	1.0	1.3	1.6
2	1.7	2.2	2.5
3	2.7	3.2	3.5
4	3.7	4.2	4.5
5	4.7	5.2	5.5
6	5.7	6.2	6.5
7	6.8	7.2	7.5
8	7.8	8.2	8.6
9	8.8	9.3	9.6
10	9.8	10.3	12.0

OUTPUT SIGNALS - ERROR STATUS

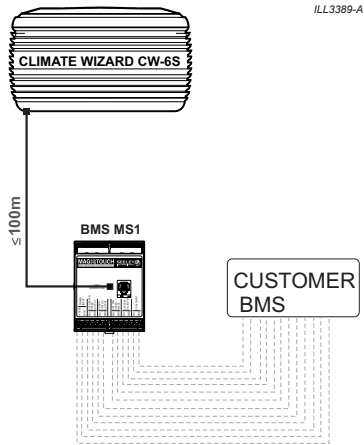
Signal	Error
1 Flash	Fault Code #1 Communication Failure.
2 Flashes	Fault Code #2 Failure to Detect Water at Probes.
4 Flashes	Fault Code #4 Failure to Clear Probes during drain.
7 Flashes	Fault Code #7 Motor Fault

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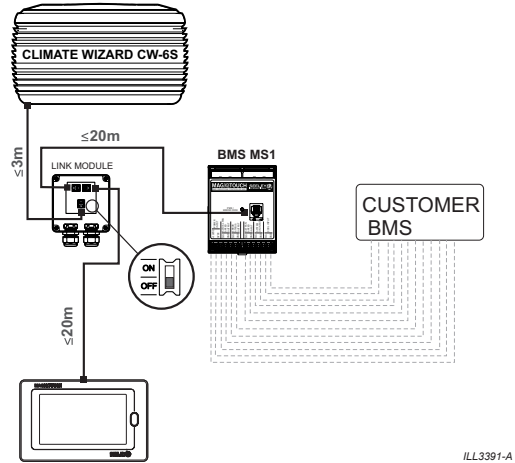
TYPICAL INSTALLATION OPTIONS

MASTER MODE - SINGLE COOLER

NOTE: 1 X BMS MS1 MASTER PER 1 X COOLER

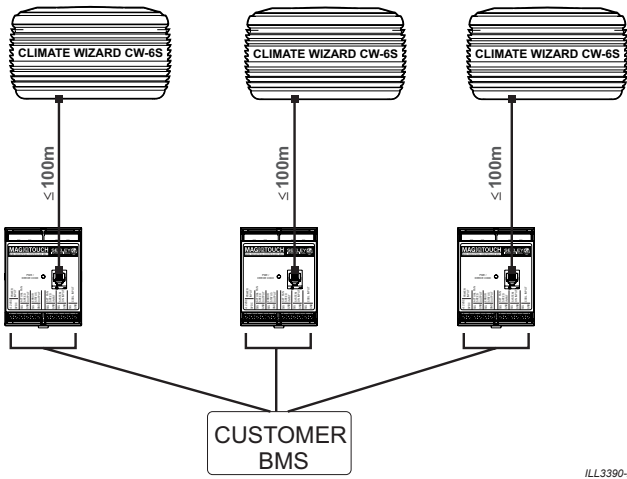


SLAVE MODE - SINGLE COOLER OPTION 1



MASTER MODE - MULTI COOLERS

NOTE: 1 X BMS MS1 MASTER PER 1 X COOLER



SLAVE MODE - SINGLE COOLER OPTION 2

