



**Catalogue 2014-2015**

**CirCarLife**

*Intelligent recharging solutions for electric vehicles*



Since 2009, Green Engineering has been helping Australian households save on electricity and contribute to a cleaner environment. We believe in the benefits of harnessing clean energy from the most abundant renewable resource on the planet – the sunlight – without further harm on the environment.

We have integrated innovation and branding through a diversified market model and have gained favour and support for our products and services from many of our clients.

Our aim is to provide high quality green solutions for our fellow Australians and we are committed to promoting the use of innovative solar power to push for the liberalization of electricity.

INDEX  
E

INTELLIGENT RECHARGING SOLUTIONS FOR ELECTRIC VEHICLES

<b>E1</b>	<b>INTRODUCTION</b>	5
	E1.1 CHARGING MODES	5
	E1.2 TYPES OF CONNECTORS	6
<b>E2</b>	<b>WALLBOX SMART CHARGING SYSTEM FOR CAR PARKS AND COMMUNAL BLOCKS</b>	7
	E2.1 BASIC SERIES	8
	E2.2 SMART SERIES	10
<b>E3</b>	<b>POST CHARGING SYSTEM FOR CITY STREETS AND INTER-CITY ROADS</b>	12
	E3.1 BASIC CHARGING POSTS	13
	E3.2 POST URBAN SMART SERIES	15
	E3.3 SMART CHARGING POSTS SERIES	17
	E3.4 TWO WHEELS VEHICLE CHARGING SYSTEM	19
<b>E4</b>	<b>MULTIPOINT SYSTEM</b>	21
	E4.1 MASTER CONTROLLER	22
	E4.2 SLAVE WALLBOX	24
<b>E5</b>	<b>QUICK CHARGING SYSTEM</b>	26
	E5.1 QUICK CHARGING ADVANCE SYSTEM	27
	E5.2 QUICK CHARGING COMPACT SYSTEM	29
	E5.3 QUICK CHARGING COMPACT & COMBO 2 SYSTEM	31
<b>E6</b>	<b>MANAGEMENT AND CONTROL SOFTWARE</b>	33
<b>E7</b>	<b>ACCESSORIES</b>	34
	E7.1 SMART STANDALONE DATA CENTRALISING UNIT	34
	E7.2 COMMUNICATION ACCESSORIES	35
	E7.3 PRE-PAYMENT SOLUTIONS	36
<b>E8</b>	<b>TECHNICAL FEATURES</b>	37



E1  
4



**ULTRA-FAST  
CHARGING  
SYSTEM**



**ELECTRIC VEHICLE  
CHARGING  
IN CITY STREETS**



**ELECTRIC  
VEHICLE  
CHARGING IN  
PUBLIC CAR  
PARKS  
(INDOORS)**



**ELECTRIC  
VEHICLE  
CHARGING  
IN CAR PARKS  
(OUTDOORS)**



**ELECTRIC  
VEHICLE  
CHARGING IN  
COMMUNAL  
BLOCKS**



# CirCarLife

## Intelligent recharging solutions for electric vehicles

## E1 INTRODUCTION

### E1.1 CHARGING MODES

The EV charging process is regulated by the IEC 61851 and IEC 62196 international standards. These standards define the different charging modes and the type of connection required to charge EVs. All CirCarlife products have been created and designed in compliance with the strictest European regulations and standards, prioritising the end user's safety. CIRCONTROL is a leading and constantly innovating company committed to developing its products and adapting them to market requirements.

#### Mode 1

##### Technical features

Standard electrical network connector, non-specific for EVs.

Slow AC charging.

The installation must be protected with circuit breakers and earth leakage protection elements.

Maximum 16 A per phase (3.7 kW - 11kW).

Mode 1



#### Mode 2

##### Technical features

Standard electrical network connector, non-specific for EVs.

Slow AC charging.

The installation must be protected with circuit breakers and earth leakage protection elements.

Maximum 32 A per phase (3.4 kW - 22kW).

Special cable with an intermediate electronic device, with a control and protection pilot function.

Mode 2



#### Mode 3

##### Technical features

Electrical network connector, specific for EVs.

Slow or semi-fast charging in single or three-phase installations.

Protection elements included in the special infrastructure for EVs.

Maximum 64 A per phase (14.8 kW - 43 kW).

Direct connection of the EV to the charging unit.

Mode 3



#### Mode 4

##### Technical features

Electrical network connector, specific for EVs.

Quick DC charging.

Charging station, exclusively used for EVs.

Maximum 400 A per phase (50 kW - 150 kW).

Control and protection elements installed in the infrastructure.

Mode 4

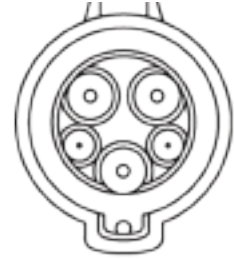


## E1.2 TYPES OF CONNECTORS

Type 1



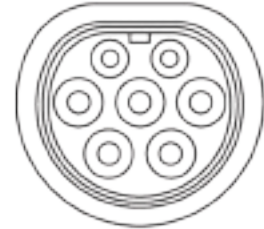
SAE J1772 Regulation.  
5 pins (L1/N, PE, CP, CS).  
Maximum 230Vac 32A single-phase (7.3kW).



Type 2



7 pins (L1, L2, L3, N, PE, CP, PP).  
Maximum 400Vac 63A three-phase (43kW).



Type 3



7 pins (L1, L2, L3, N, PE, CP, PP).  
Maximum 400Vac 32A three-phase (21kW).



CHAdeMO



Indirect connection between the EV and DC supply point. Control and protection elements installed in the infrastructure.



Combined Charging System Combo 2



DC connector of the combined AC/DC plug-in charging system:  
The inlet of the plug-in connector can also be used for AC voltage charging with a type 2 AC plug. One inlet is required on the vehicle side for AC and DC charging.





# CirCarLife

Intelligent recharging solutions for electric vehicles

## E4. MULTIPOINT SYSTEM



### Description



The multi-point system of the CirCarLife range has been designed to offer a smart electric vehicle charging solution for car parks with multiple outlet sockets for electrical vehicles.

This solution allows smart electric vehicle charging management of a large number of electric vehicles, controlling different parameters of the electric network and the vehicles connected to it, as well as user and car park manager preferences. In this way, users can get maximum results from vehicle charging in accordance with user requirements by charging under the most favourable conditions in terms of electricity tariffs or by opting for immediate charging.



#### COMMUNICATION S

RS, Ethernet, Zigbee, PLC, GSM, GPRS



#### SAVING AND FILTERING

Harmonics Filtering  
Reactive Compensation



#### ENERGY MANAGEMENT

Measurement  
Quality  
Consumption  
Adapt to electrical tariff  
Control of Recharges



#### ELECTRIC COMPANY SIGNAL



#### PC SOFTWARE

Real Time  
Multiuser  
Graphics  
Remote Connection  
Web  
XNL interface  
Alarm's Management  
Historical Generation  
Multiplatform



#### IDENTIFICATION

RFID  
Bar Code  
Magnetic Stripe



#### INTEGRATION WITH OTHER SYSTEMS

Payment Systems  
Occupation and guidance  
Lighting  
Pay and display

## CONTROLLER Series



Communication Serial RS-485

Ethernet  
3rd system interface



1                      2                      3                      4                      (...)



## Sockets Series

## E4.1 Master controller



### Description



MULTIPOINT SYSTEM has been designed as an extremely flexible system. Its special configuration can cater for specific vehicle charging needs of the current market. In addition, it is a scalable system that can control up to 32 charging stations in its most basic configuration.

The system is composed of the following basic units:

- CCL-CM: CPU (industrial PC with PowerStudio software), 10" Touch Screen
- CCL-SL Charging Station

#### CCL-CM offers the following functions

- User interface 10" Touch screen as standard. This is the natural complement of the PowerStudio software, which allows interaction with the user. PowerStudio software, is capable of efficiently managing the power available, controlling the main's harmonics (upper measurement system is needed), charging vehicles in off-peak periods, etc.
- The user can browse through the screens that have been designed with ergonomics in mind to select the parking place, check their charging status, energy consumed, etc.
- Massive storage for all statistical studies.
- All of the current communications power used nowadays (ICT).
- Modbus Communications Protocol to communicate with the charging bases or other specific Energy Efficiency devices.
- XML Communications Protocol, which enables the integration with other automated parking and car park systems (blue parking areas, car parks in general, access control points, etc.). In addition, it offers remote station management options to parking operators like statistics, remote activation/deactivation, etc.
- Card reader. Built-in prepayment card reader Mifare type as standard, but it can be replaced or complemented with any other reader available in the market.

#### CCL-SL Charging Station offers

- The CCL-SL Charging Station it's a wall-mount charging box that guarantees a safe collection of the energy for the energy of the installation operator, prevents fraud and misuse of the energy.
- Also provide reliable measurement system for the user, since only the energy consumed is paid, with an accurate reading of the energy consumed.
- Protects end users against electrical risks. Current is only present during the charging cycle.
- Current antitheft prevention function. The operation is interrupted if the socket is removed during the charging process, so that no more energy will be supplied to the base until the user is identified again.
- In the event of an overload, the maximum current detection and limiting system is activated before the protection circuit breaker is tripped, in order to prevent subsequent maintenance operations.



The complementary units that offer all other features to the system are as follows:

- Pre-payment cards. Available without credits (paid at a later stage) and pre-charged with 5, 20, 50 or 99 credits.
- Pre-payment cards recharging tools.

There are three models available for the recharging of the CirCarLife cards:

- CCL-Cash: Cashier for the recharging of prepayment cards, able of accepting credit cards and notes.
- CCL-Term: standalone terminal for recharging cards.
- CCL-Soft: Software and USB peripheral reader for recharging cards.

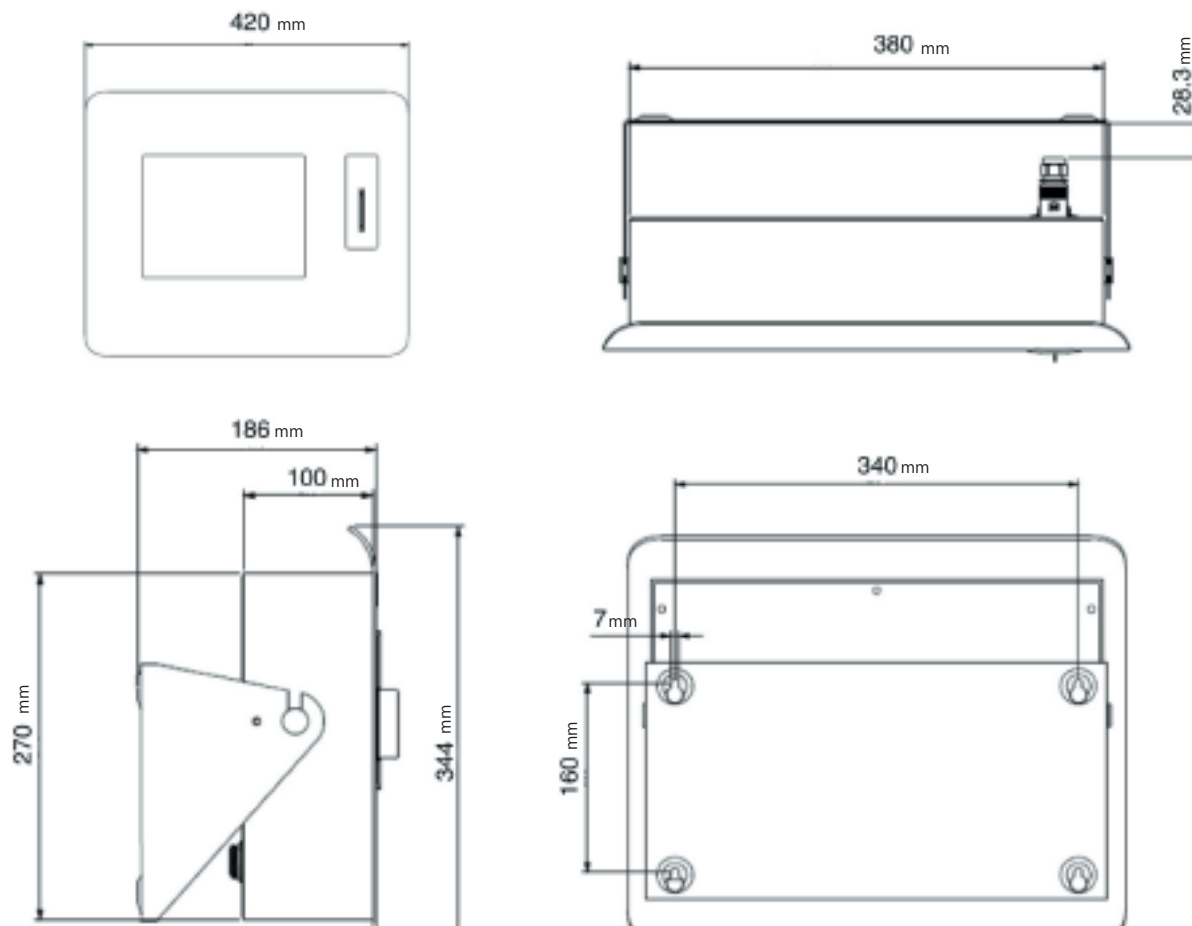


## More options and accessories


- Upper measurement systems used to control the power available to the installation. The energy available can be limited, bypassed or distributed to the different vehicles connected to the main. To be defined, in accordance with the particular conditions of each installation.
- Upper measurement and control systems used to control the quality of energy. Measurement and control of harmonics. To be defined, in accordance with the particular conditions of each installation.
- Any unit of the CIRCARLIFE family (outdoor posts, wall-mount units, two wheels...) can be connected to the MULTIPOINT system (Standard screen must be adapted).
- The MULTIPOINT SYSTEM vehicle charge unit complies with the CE requirements and the current European Union directives for this type of equipment.

## Unit dimensions

These units do not require special anchoring instructions since they are standard in any electrical box installation. The anchoring structure is prepared for 8 mm lag screws or threaded plugs on the CM box and 6 mm on the SL box.



## Technical Features

Type	Input Voltage	LAN Network	SL Charging Point	Scalable master WB control	Technical Features Page
CCL-CM 	230V AC 1P+N	Ethernet RJ45	RS 485 Modbus	32 WB Points	69

## E4.2 Slave Wallbox

### Description



The multi-point system of the CirCarLife range has been designed to offer a smart electric vehicle charging solution for car parks with multiple outlet sockets for electrical vehicles.

This solution allows smart electric vehicle charging management of a large number of electric vehicles, controlling different parameters of the electric network and the vehicles connected to it, as well as user and car park manager preferences. In this way, users can get maximum results from vehicle charging in accordance with user requirements by charging under the most favourable conditions in terms of electricity tariffs or by opting for immediate charging.



**Ocpp**  
Open Charge Point Protocol

### Technical features of WallBox boxes

Protection degree : IP54

Built-in energy metering system

Compatible with Mode 3 IEC 61851-1. (Certified)

Charge status light indicator (blue, green and red)

Type II or Schuko connectors, in compliance with the IEC 62196-2 regulations

Simple installation. 4-point wall fixing

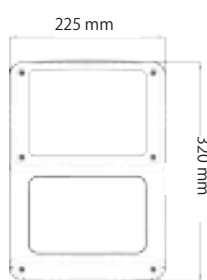
Self-extinguishing ABS plastic casing

Communications: RS-485

Customised housing finish and logos

Elegant, aesthetic design

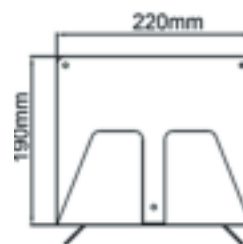
### Unit dimensions



WALLBOX CHARGING



125 mm



CONNECTION CABLE SUPPORT  
INCLUDED ONLY WBC SERIE S



190mm

## Technical Features

Type	Num. Sockets	Input Supply Voltage	Output Power		Output Current		Charge system		Technical Features Page
			Socket A	Socket B	Socket A	Socket B	Socket A	Socket B	
CCL-WB-SL 	1	230 Vac	3,6 kW	–	16A	–	Mode 1 Shucko	–	70
CCL-WBM SL 	1	230 Vac	7,2 kW	–	32 A	–	Mode 3 Type 2	–	70
CCL-WBC 16 SL 	1	230 Vac	3,6 kW	–	16A	–	Mode 3 Type 1	–	70
CCL-WBC 32 SL 	1	230 Vac	7,2 kW	–	32 A	–	Mode 3 Type 1	–	70
CCL-WB-SL-MIX 	2	230 Vac	3,6 kW	7,2 kW	16 A	32A	Mode 1 Shucko	Mode 3 Type 2	70
CCL-WBM-SL TRI 	1	400 Vac	22 kW	–	32 A	–	Mode 3 Type 2	–	71
CCL-WB-SL MIX TRI 	2	230 Vac	3,6 kW	22 kW	16 A	32 A	Mode 3 Type 2	Mode 1 Shucko	71

## Multipoint Controller - CCL-C M

Type	CCL-CM
Code	490015
<b>Power Supply</b>	
Input voltage	230V AC 1P+N+PE
Nominal input power	60W
Input frequency	50/60Hz
<b>Network connection</b>	
LAN network	Ethernet RJ45
SL charging point	RS485 Modbus
Scalable master WB control	32 WB points
<b>General</b>	
Enclosure Material	Steel metallic body
Operating temperature	-10 to +45c°
Operating Humidity	To 95% RH Non-condensing
RFID reader system	ISO/IEC14443A/B
LCD Display	10.4" XGA TFT LCD touch screen
Interface Integration protocol	OCPP / XML
Power limit control	Maximum demand management
Net weight	6kg
<b>Software</b>	
OS	Linux operation system
Scada management control	Circularlife scada
<b>Optional devices</b>	
Wireless Communication	3G/GPRS
Extended Temperature range	Heater (-30 to +50C°)
Meter	Utility company own meter
AC Analyzer	AC Power Quality Analyzers
Harmonics	Active harmonic filter



## Multipoint Sockets - CCL-WB-SL Single phase

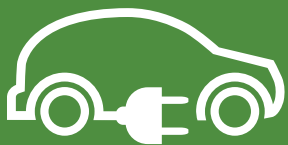


Type	CCL-WB-SL	CCL-WBM SL	CCL-WBC 16 SL	CCL-WBC 32 SL	CCL-WB-SL-MIX
Code	490091	490092	490057	490125	490094
Number of plugs	1	1	1	1	2
<b>Outputs</b>					
Rated output current	16A	32A	16A	32A	32A (Socket A) 16A (Socket B)
Rated output	3,6kW	7,2kW	3,6kW	7,2kW	7,2kW (Socket A) 3,6kW (Socket B)
Output AC voltage	230V AC 1P+N+PE	230V AC 1P+N+PE	230V AC 1P+N+PE	230V AC 1P+N+PE	230V AC 1P+N+PE
<b>Inputs</b>					
Input voltage	230V AC 1P+N	230V AC 1P+N	230V AC 1P+N	230V AC 1P+N	2 x 230V AC 1P+N
Nominal input current	16A	32A	16A	32A	32A 16A
Nominal input power	3,6kW	7,2kW	3,6kW	7,2kW	25kW
Input frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
<b>Charge system</b>					
Socket A	Mode 1 & Mode 2	Mode 3 (IEC 61851)	Mode 3 (IEC 61851)	Mode 3 (IEC 61851)	Mode 3 (IEC 61851)
Socket B	-	-	-	-	Mode 1 & Mode 2
<b>Sockets</b>					
Socket A	CEE 7/4 (Schuko) or BS1363 (UK)	Type 2 (UNE EN 62196-2)	Type 1 (UNE EN 62196-2)	Type 1 (UNE EN 62196-2)	Type 2 (UNE EN 62196-2) lock system
Socket B	-	-	-	-	CEE 7/4 (Schuko) or BS1363 (UK)
<b>Energy Meter</b>					
Internal meter					
<b>Cable</b>					
Cable length	-	-	5 meters	5 meters	-
Cable support	-	-	Metal cable support	Metal cable support	-
<b>Network connection</b>					
RS485 (scalable)	Modbus				
<b>General</b>					
Energy Meter	Internal meter				
Enclosure Rating	IP54 /IK10				
Enclosure Material	ABS				
Operating Temperature	-10 to +45C°				
Operating Humidity	To 95% RH Non-condensing				
Net Weight	4kg				
Light beacon	Three color led Status				
Power limit control	Mode 3 PWM control according ISO/IEC 61851-1				
<b>Optional devices</b>					
Extended range temperature	Heater (-30 to +50C°)				
RFID reader System	ISO/IEC14443A/B				
Connector Lock System	-	Type 2 connector hook	-	-	Type 2 connector hook

## Multipoint Sockets - CCL-WB- SL Three phase




Type	CCL-WBM-SL TRI	CCL-WB-SL MIX TRI
Code	490093	490095
Number of plugs	1	2
<b>Outputs</b>		
Rated output current	32A	32A (Socket A) 16A (Socket B)
Rated output power	21kW	21kW (Socket A) 3.6kW (Socket B)
Output AC voltage	400V AC 3P+N+PE	400V AC 3P+N (Socket A) 230V AC 1P+N (Socket B)
<b>Input</b>		
Input voltage	400V AC 3P+N	400V AC 3P+N (Socket A) 230V AC 1P+N (Socket B)
Nominal input current	1 x 32A	32A 16A
Nominal input power*	22kW	25kW
Input frequency	50/60Hz	50/60Hz
<b>Charge system</b>		
Socket A	Mode 3 (IEC 61851)	Mode 3 (IEC 61851)
Socket B	-	Mode 1 & Mode 2
<b>Sockets</b>		
Socket A	Type 2 (UNE EN 62196-2)	Type 2 (UNE EN 62196-2) lock system
Socket B	-	CEE 7/4 (Schuko) or BS1363 (UK)
Energy Meter	Internal meter	
<b>Network connection</b>		
RS485 (scalable)	Modbus	
<b>General</b>		
Enclosure Rating	IP54 /IK10	
Enclosure Material	ABS	
Operating temperature	-10 to +45c°	
Operating Humidity	To 95% RH Non-condensing	
Light beacon	Three color led status	
Power limit control	Mode 3 PWM control according ISO/IEC 61851-1	
Net weight	4kg	
<b>Optional devices</b>		
Extended Temperature range	Heater (-30 to +50C°)	
RFID reader System	ISO/IEC14443A/B	
Connector Lock System	Type 2 connector hook	



Green Engineering has a network of distributors and representative agents all over the world, for further information contact with:

 1300 200 959

 [info@greenengineering.com.au](mailto:info@greenengineering.com.au)

 [www.greenengineering.com.au](http://www.greenengineering.com.au)



N° 6002038

