



**Palazzoli**  
GROUP



DISTRIBUTION CABINETS  
FOR MULTIPLE EV  
CHARGING POINTS

# Introduction

The Lewden range of EV Feeder Pillars are designed to provide outdoor hubs for the distribution of power simultaneously to multiple electric vehicle charging points, offering the ideal infrastructure solution for vehicle charging within communal residential, work place, and public car parking areas.

Designed to operate from a 400V AC 3 phase incoming supply, feeder pillars are available in five current ratings, ranging from 100A to 630A.

Each standard feeder pillar is designed to operate at its full rated capacity and comprises a selection of outgoing ways suitable for the connection of multiple 7.4kW 230V single phase EV chargers, or multiple 22kW, 43kW & 50kW three phase EV chargers (allowing for faster charging).

All outgoing circuits incorporate suitably rated individual over current and residual current protection to match the power requirements of the installed EV charging points. RCCBs are suitable for bi-directional power flow to allow for vehicle to grid (V2G) application should this become a necessary requirement.

Lewden Feeder Pillars meet the requirements of BS7671:2018 +A2:2022 section 722 and the Building Regulations Part S, providing the optimum solution for the electrical infrastructure where Part S requires the provision of multiple EV charging points.

## Feeder Pillar construction

The standard range of cabinets are manufactured from durable 2mm thick Zintec mild steel, finished in moss Green (RAL6005) with an ingress protection of IP55. We also offer the same cabinet range in stainless steel construction for more arduous environments.

Cabinets are designed for installation on a cast concrete base, and feature:

- > Vandal resistant lockable front access doors with concealed hinges for added security.
- > High quality seals guarding against the ingress of weather and vermin/insects.
- > Large pre-drilled gland plates to terminate multiple armoured cables.
- > Spacious base plinth for surface mounting onto a pre-cast concrete base, complete with access cover to aid installation and cable routing.
- > Internal shielding panels fully shroud electrical connections and internal wiring.
- > Type 2 Surge protection device
- > Thermostatically controlled anti condensation heater.



## Product Selection table

| Standard Base model | Incoming Device                | Distribution Bus bars | Surge Protection | Outgoing Ways | For use with Charge point ratings | Circuit Protection per outgoing way |                        | Drawing Reference |
|---------------------|--------------------------------|-----------------------|------------------|---------------|-----------------------------------|-------------------------------------|------------------------|-------------------|
| EV10A*#             | 100A 4P Switch<br>Disconnecter | 100A 3P+N             | Type 2           | 9             | 7.4kW<br>(32A 230V 1ph)           | 40A 1P MCB<br>type C 10kA           | 30mA 2P<br>Type A RCCB | Size 2            |
| EV10B*#             |                                |                       | Type 2           | 3             | 22kW<br>(32A 400V 3ph)            | 40A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 2            |
| EV10C*#             |                                |                       | Type 2           | 1             | 50kW<br>(72A 400V 3ph)            | 80A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 1            |
| EV12A*#             | 125A 4P Switch<br>Disconnecter | 125A 3P+N             | Type 2           | 12            | 7.4kW<br>(32A 230V 1ph)           | 40A 1P MCB<br>type C 10kA           | 30mA 2P<br>Type A RCCB | Size 2            |
| EV12B*#             |                                |                       | Type 2           | 4             | 22kW<br>(32A 400V 3ph)            | 40A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 2            |
| EV12C*#             |                                |                       | Type 2           | 2             | 43kW<br>(63A 400V 3ph)            | 63A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 2            |
| EV20A*#             | 200A 4P Switch<br>Disconnecter | 200A 3P+N             | Type 2           | 18            | 7.4kW<br>(32A 230V 1ph)           | 40A 1P MCB<br>type C 10kA           | 30mA 2P<br>Type A RCCB | Size 2            |
| EV20B*#             |                                |                       | Type 2           | 3             | 43kW<br>(63A 400V 3ph)            | 63A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 2            |
| EV40A*#             | 400A 4P Switch<br>Disconnecter | 400A 3P+N             | Type 2           | 12            | 22kW<br>(32A 400V 3ph)            | 40A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |
| EV40B*#             |                                |                       | Type 2           | 6             | 43kW<br>(63A 400V 3ph)            | 63A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |
| EV40C*#             |                                |                       | Type 2           | 5             | 50kW<br>(72A 400V 3ph)            | 80A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |
| EV63A*#             | 630A 4P Switch<br>Disconnecter | 630A 3P+N             | Type 2           | 18            | 22kW<br>(32A 400V 3PH)            | 40A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |
| EV63B*#             |                                |                       | Type 2           | 10            | 43kW<br>(63A 400V 3ph)            | 63A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |
| EV63C*#             |                                |                       | Type 2           | 7             | 50kW<br>(72A 400V 3ph)            | 80A 3P MCB<br>type C 10kA           | 30mA 4P<br>Type A RCCB | Size 3            |

Where

\* = Cabinet construction Z/S

Z = Zintec Mild steel / S = Stainless steel 304

# = Incomer selection D/M

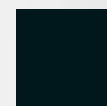
D= Switch Disconnecter / M= Moulded case circuit breaker

An additional Stainless steel root attachment is available for mounting onto the base of any standard cabinet, allowing for the pillar to be secured to the root which has been embedded into the ground during construction, and providing a large open cable duct beneath the feeder pillar.

### Root Attachment

| Part.no | Suitable for Feeder Pillar codes          |
|---------|-------------------------------------------|
| EVFPS1  | EV10C                                     |
| EVFPS2  | EV10A EV10B EV12A EV12B EV12C EV20A EV20B |
| EVFPS3  | EV40A EV40B EV40C EV63A EV63B EV63C       |

### No additional cost colour finish options

Moss  
Green  
RAL6005  
Standard  
colourLight Grey  
RAL7035Dark Grey  
RAL7011Jet Black  
RAL9005High Visibility  
Orange  
RAL2000

### Ordering examples

#### EV20AZD

200A Distribution pillar featuring 18 outgoing ways for 7.4kW charge points. Made from Zintec mild steel with switch disconnector incomer. Finished to RAL6005

#### EV20ASM

200A Distribution pillar featuring 18 outgoing ways for 7.4kW charge points. Made from Stainless steel with Moulded case circuit breaker incomer. Finished to RAL6005



## Technical features

### ■ Arduous environments

Standard Zintec Mild Steel enclosures are suitable for sheltered inland installations, situated more than 20 miles from the coast. As an additional level of protection, an optional zinc based primer coat can be applied to Zintec mild steel pillars located externally in exposed or polluted atmospheres. For areas of high salinity such as coastal and surrounding environments (i.e. within 10 miles of the sea), feeder pillars can be offered in a 304 grade stainless-steel cabinet construction to safeguard against the effects of salt corrosion.

### ■ Incoming supply

All EV Charge point infrastructure must be connected to a metered supply point. Depending upon the loading and location, it may be possible to power a new EV installation within the capacity of the existing electrical supply to a building and therefore on the existing supply metering. Alternatively, a new DNO supply cable may be required solely to power the EV charging installation. Where a new DNO supply is required this must be terminated within a GRP or brick built housing.

### ■ Metering

For installations that require additional sub-metering, the feeder pillar can incorporate MID approved multifunctional meters to measure the parameters of voltage, current and kWh consumption. The meter can be arranged with pulsed or RS485 output to enable remote monitoring.

### ■ Main Supply Isolation

Standard cabinets feature a 4 pole switch disconnecter incomer as the main point of isolation. This arrangement is particularly suitable if the cabinet is fed from an appropriately rated existing circuit breaker within the installation, or if the cabinet incorporates a new DNO fused supply.

As an alternative, the feeder pillar can be installed with an adjustable MCCB incomer, providing suitable internal overcurrent protection.



### ■ Open PEN conductor fault protection

Where an AC charge point installation is powered from a supply source featuring a TN-C-S (PME) earthing arrangement, and no provision has been made inside the EV charge point to guard against the effects of an open circuit on the combined PEN conductor, Lewden EV feeder pillars can be arranged with the necessary detection and disconnection equipment to prevent operation of the EV charge points in the event of the loss of the PEN conductor.

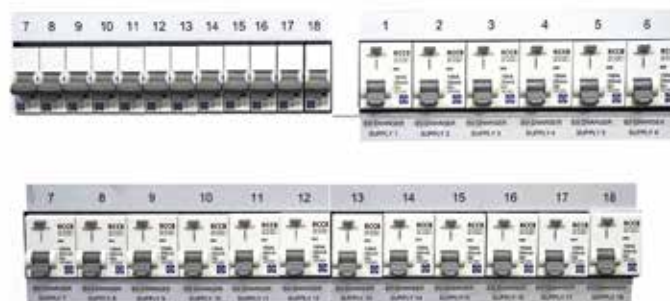


## ■ Residual Current Protection of outgoing circuits

Selection of the correct RCD protection for EV charging points is of paramount importance.

Many EV charging points feature an integrated residual direct current detection device (RDC-DD), offering protection against DC residual fault currents  $>6\text{mA}$  at the charging point. Where a charge point incorporates an RDC-DD, the distribution feeder pillar circuit providing power to the EV charge point must incorporate a minimum of a Type A residual current circuit breaker (RCCB) complying to BS EN61008-1.

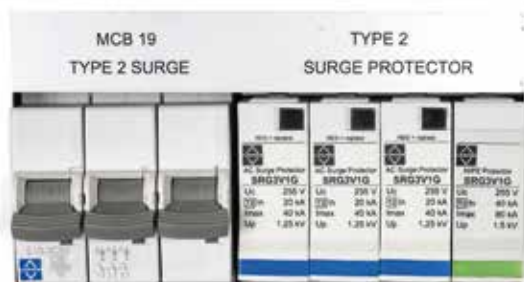
Lewden charging pillars are fitted with Type A RCCB's as standard. For EV charge points that do not have a built-in RDC-DD, the distribution circuit from the feeder pillar must incorporate a Type B RCCB.



## ■ Surge Protection

EV charge points are considered to be valuable electronic equipment. Incorporating surge protection at the feeder pillar can help to guard against EV charging points being irreparably damaged or having their lifespan severely shortened by the effects of voltage transients on the distribution network.

Lewden feeder pillars are fitted with integral Type 2 Surge protection as standard, providing protection against the effects of voltage transients on the electrical installation. Where required Type 1 Surge Protection Devices can be incorporated where enhanced protection is required.



## Optional Accessories / Custom Build designs

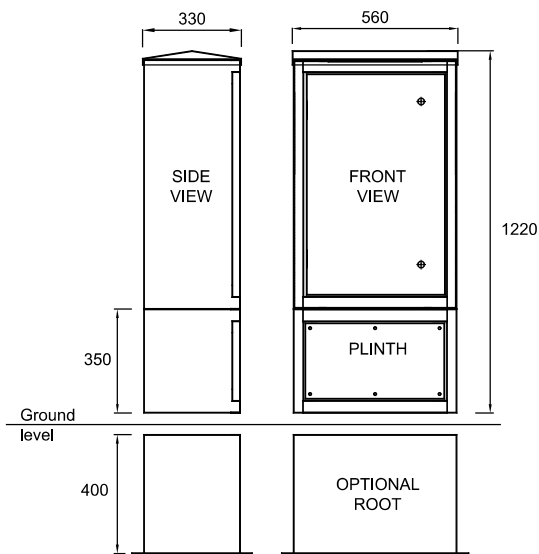
For applications where the standard feeder pillar range does not meet the exact requirements of the installation, Lewden offer a Custom Design & Build service to incorporate a range of customer options to provide a tailored solution.

| Tailored Options |                                                                       |                                                                                                                                                               |
|------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                | Number and Mix of outgoing circuits                                   | The number and type/rating of outgoing ways can be adjusted to suit the requirements of the electrical installation. Please call to discuss your requirement. |
| 2                | Type 1 Surge Protection                                               | Enhanced protection against the effects of a direct lightning strike on the electrical installation                                                           |
| 3                | Moulded case circuit breaker incomer                                  | Alternative to a switch disconnecter incomer. For installations with private supplies, offering adjustable overcurrent protection.                            |
| 4                | Open PEN conductor fault protection                                   | For TN-C-S (PME) supplies where the EV charging points do not feature integral protection against an open circuit PEN conductor fault                         |
| 5                | Type B Residual current protection                                    | Required for EV charging points that do not feature integral RDC-DD for protection against DC residual current faults >6mA                                    |
| 6                | 13A 230V BS1363 RCBO protected socket                                 | A general purpose maintenance outlet can be included inside the cabinet, protected by a 30mA type A RCBO                                                      |
| 7                | Internal Cabinet light                                                | To aid visibility of circuit protection devices during hours of darkness                                                                                      |
| 8                | Photocell controlled distribution circuit for local external lighting | A 16A 230V RCBO protected distribution circuit with photocell and contactor to provide power to local external lighting                                       |
| 9                | MID certified multi-function meter                                    | For existing DNO metered supplies, where the owner wishes to include a sub-meter to monitor the consumption of the EV charging installation                   |
| 10               | Cabinet Non standard colour finish options                            | A range of non standard colour options can be provided to suit the installation location or colour scheme. Please call to discuss your requirement.           |
| 11               | Cabinet Brushed stainless steel finish                                | A prestige finishing option                                                                                                                                   |
| 12               | Future proofing                                                       | Provision of mounting space for the future addition of further outgoing ways. (Note: This may increase the size of the cabinet)                               |
| 13               | Zinc rich base coat primer                                            | An additional level of anti-corrosion protection for mild steel cabinets                                                                                      |

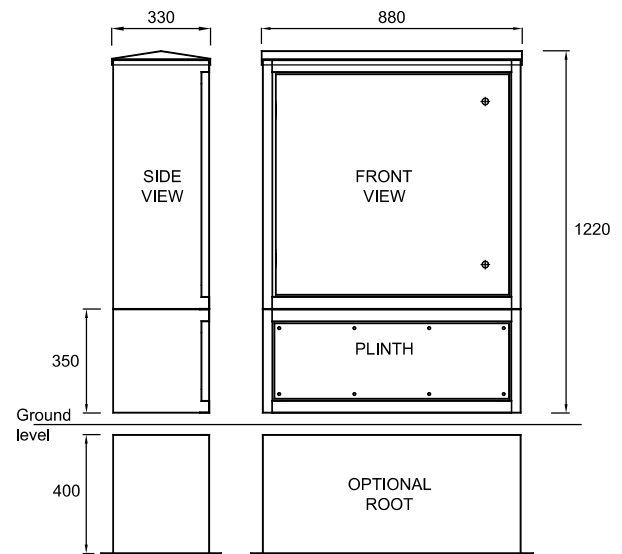
Should you have any further requirements not listed within the table, please contact Lewden [custom.build@lewden.co.uk](mailto:custom.build@lewden.co.uk) to discuss your needs.

# DIMENSIONAL DRAWINGS

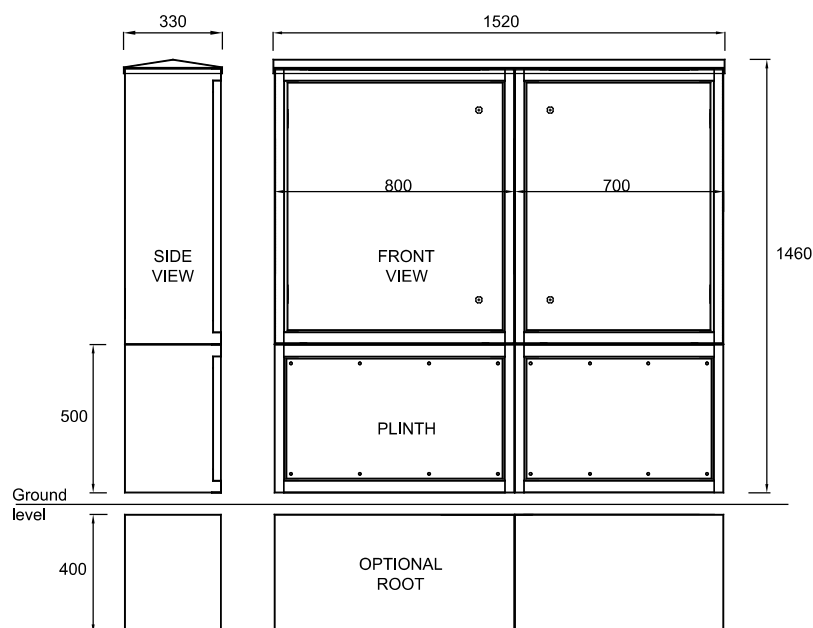
Size 1 PILLAR



Size 2 PILLAR



Size 3 PILLAR





Chris Smith  
(+44) 7919 922910  
Irvine Office  
01376 336281

**Core Electrical N.I**  
(+44) 028 9002 0066  
**Kate Knox**  
(+44) 7515 559 552

**Jodie Williams**  
(+44) 7843 148215  
**Tony Howard**  
(+44) 7973 334647

Richard Cotton  
(+44) 7399 521126  
Tim Ketterer  
(+44) 7557 655045

Lee Mallett  
(+44) 7736 694876

Ricky Hull  
(+44)7976 934326

David Osbourne  
(+44)7471 657078



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**LEWDEN LTD**  
Unit 4, Bradbury Drive,  
Springwood Industrial Estate,  
Braintree  
Essex  
CM7 2SD  
Tel.: +44 (0) 1376 336 200  
sales@lewden.co.uk



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@LewdenHelp on **Twitter** & **Instagram**  
for your technical Lewden Questions.



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