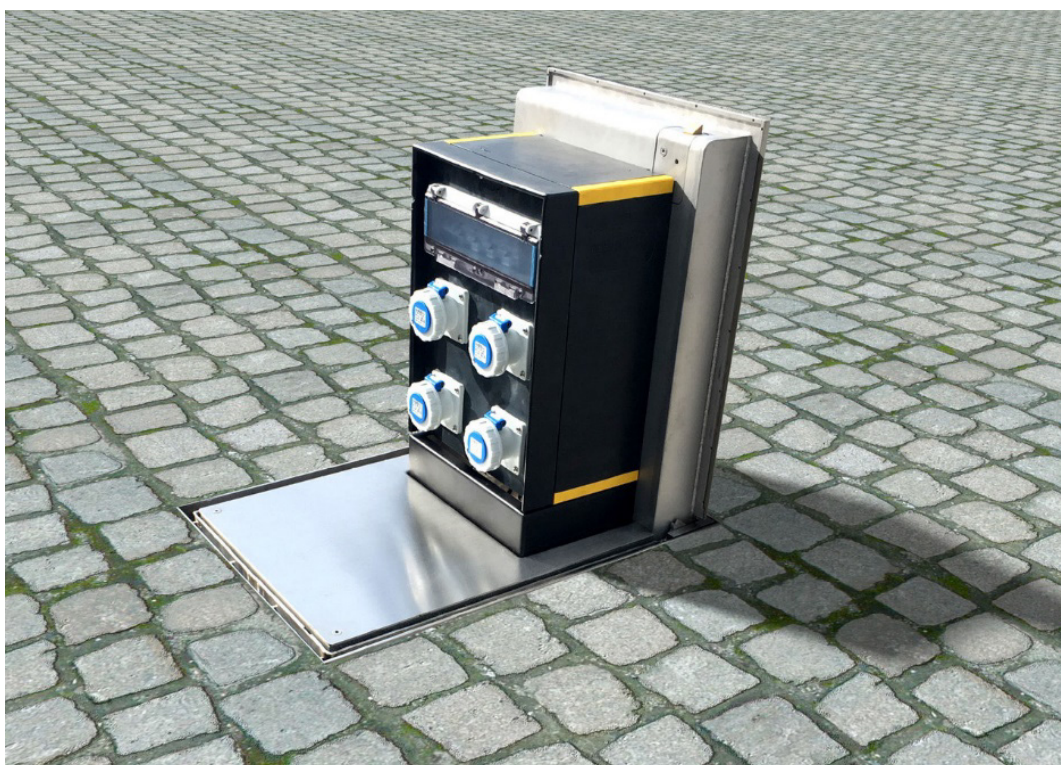


# SIGMA

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In-ground Units with Multiple Access

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*Ingenuity at work*

Charles Endirect **Distribution** Products

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Charles  Endirect

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# Introduction

Charles Endirect Ltd is a leading Manufacturer and Supplier of electrical components and equipment, principally to the street lighting industry. The Company has been delivering these products to UK and international markets since 1984.

Our experience and expertise in this field gives us the edge to manufacture and supply some of the most intelligent, high specification and robust products available in the market.

Charles Endirect Ltd is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Quality Accredited organisation with all areas of the company operating stringent quality control systems. This results in products that are designed and manufactured to comply with, or exceed, all relevant legislation. Charles Endirect is a founder member of the Highway Electrical Manufacturers & Suppliers Association (HEMSA) and an active member of the Highways Electrical Association (HEA). We are also a Premiere Member and supporter of the Institution of Lighting Professionals (ILP).

## **SIGMA Shallow In-Ground Unit, Multiple Access – Patented Design**

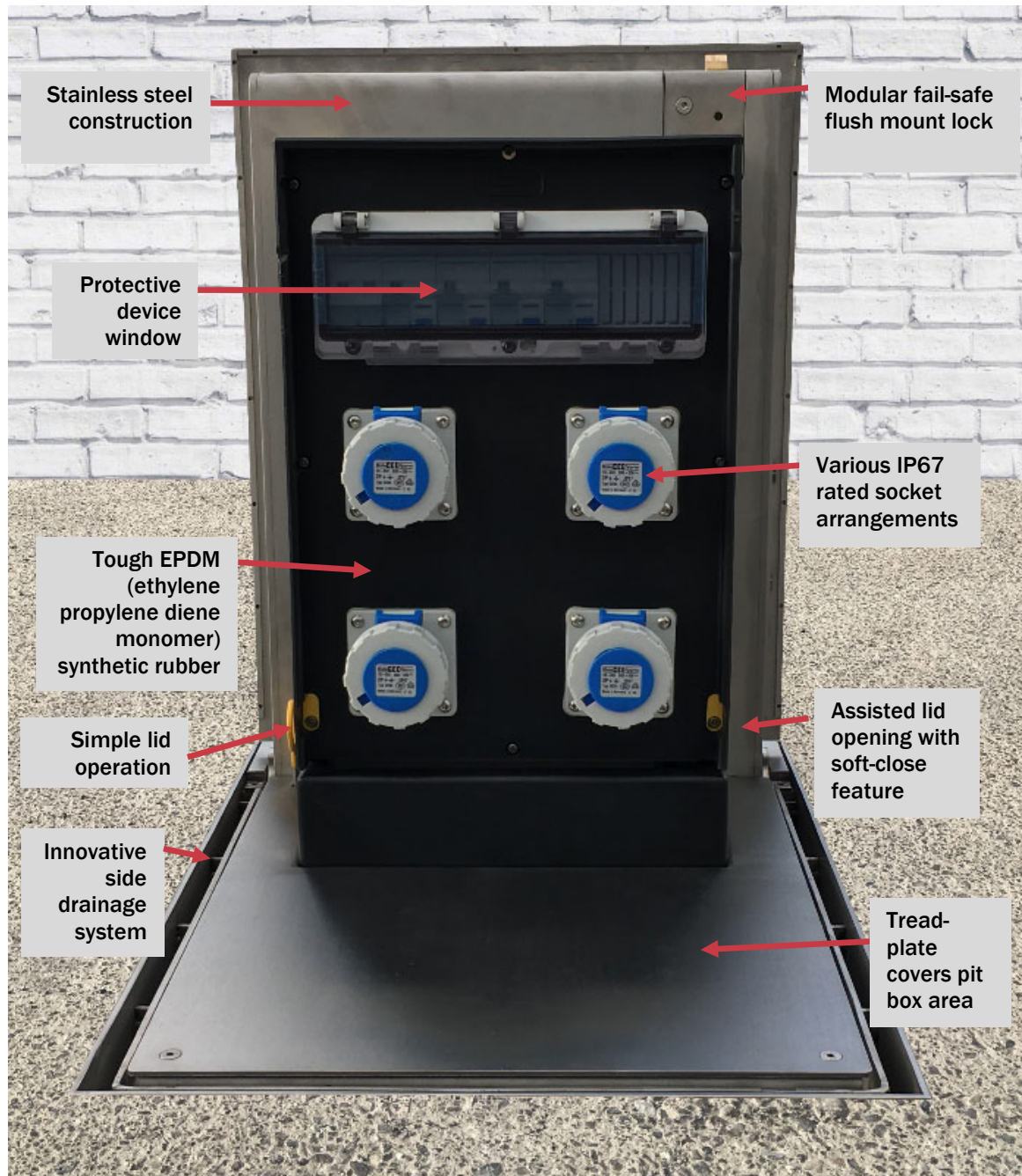
SIGMA by Charles Endirect is a family of In-Ground Power Distribution Units designed to offer a high-quality solution where shallow installation depth is a key requirement.

SIGMA has been designed with both installer and end-user in mind. It offers easy installation with multiple options for side-entry connection for both power and positive drainage systems. Robust design and use of high-quality materials ensure longevity of operational service.



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## Key Features and Benefits

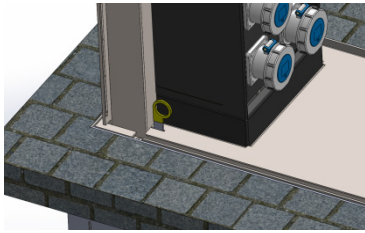


**Shallow depth** of 638mm when connected to positive drainage systems.



### Quality assurance and peace of mind.

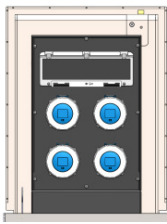
Standard unit tested and certified to BS EN124 D400 (40 Tonne) load rating. Optional F900 (90 Tonne) rated version for airside applications.



### Ease of Operation

Simple operation using a key turn to pop the lid open, followed by a gentle pull on the key provides assisted lid lift, until lid automatically locks in upright position.

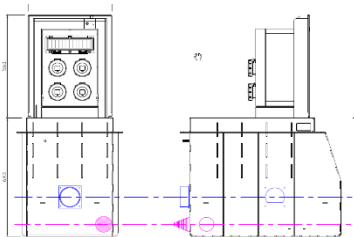
Closing is just as simple; a pull on the yellow release handle allows the lid to softly close to the ajar position, then a gentle step on the lid to close and automatically lock shut.



### Versatile Socket Arrangement

4 x 16A Electrical sockets securely mounted and protected within rugged EPDM enclosure, as standard. The EPDM enclosure is resistant to ageing, temperature, oil and acid and has a 99 Shore Hardness Rating. There are 11 variations available in this product range.

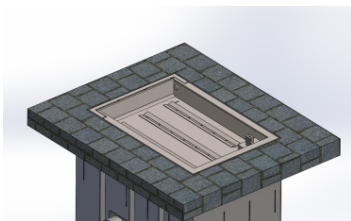
Incoming supply cable entry is by 4-way cable knockouts with high quality universal cone bellows gland.



### Shallow Drainage System with optional side entries

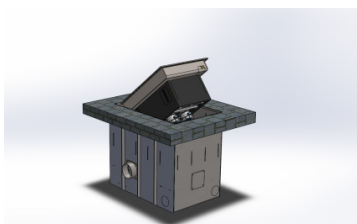
Shallow depth of 638mm when connected to positive drainage systems.

Optional entry connection to each side for ease of design and installation.



### Deep Lid Recess for Paving Infill

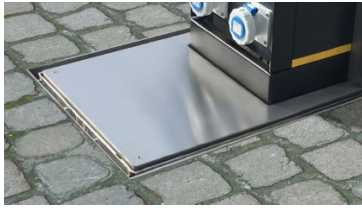
75mm deep lid recess reduces the need to cut paving infill, cutting installation time and cost.



### Assisted Lid Opening with Soft Close

Progressive lid assist force provides maximum when needed at 90 degrees, reducing to zero when fully open for ease of opening and closing.

Lid assist force can be supplied tuned to various lid infill materials ranging from Astro-turf to granite cobble sets.



### Safety Features

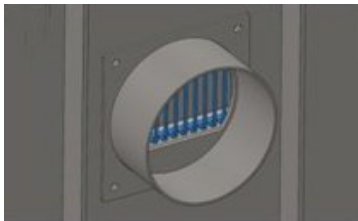
Soft close system with no cutting edges provides safer installation and operation. The secondary tread-plate covers the pit box void when lid is open. This reduces the risk of accidents, litter or unwanted objects being deposited in the void.

Failsafe opening and locking mechanism provides security and access.



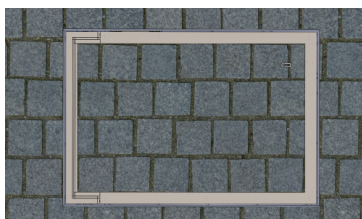
### Single Tool Servicing

Full access to operating mechanisms, drainage and supply cable termination in seconds. The whole unit can be completely dis-assembled and re-assembled using just a single tool saving time and money.



### Vermin-free Pit Box

Easily removable Anti-Vermin grille prohibits rodent ingress whilst maintaining access for rodding drainage.



### Sleek Design

Visually pleasing open or closed. As well as aesthetics and reduced obstructions and street clutter, hidden internals decrease the risk of unwanted tampering or interference.



### Stainless-steel Construction

Marine grade stainless-steel construction, bearings and fixings designed to provide long service life.

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## ELECTRICAL SPECIFICATION

Incoming supply:	PRIVATE
Operating voltage U <sub>o</sub> :	230V AC
Design current I <sub>b</sub> :	80A
Earthing:	TT

## PANEL ENCLOSURES - GENERAL SPECIFICATION

Material:	High quality, impact resistant solid rubber
Application Areas:	Harsh environments / outdoor use
Insulation:	Protection class II
Hardness Grade:	99 Shore
Ingress Protection:	IP67

Resistant to ageing, temperature, oil and acid  
Flame resistant, self-extinguishing material  
Chemical resistant  
Distinctive yellow markings for increased visibility when open

## IGU LOAD RATING AND DISCRPTIONS



**Group 4 – Minimum Class D400** – Access covers and gratings capable of withstanding a 400kN test load. For use in areas where cars and lorries have access, including carriageways, hard shoulders and pedestrian areas.



**Group 6 – Minimum Class F900** – Access covers and gratings capable of withstanding a 900kN test load. For use in areas where particularly high wheel loads are imposed such as aircraft pavements.

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## Charles Endirect Ltd - SIGMA options

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Designation	SIGMA D420	SIGMA D402	SIGMA D411	SIGMA D430	SIGMA D421	SIGMA D412	SIGMA D403	SIGMA D440	SIGMA D431	SIGMA D422	SIGMA D413
Marine grade stainless-steel construction	•	•	•	•	•	•	•	•	•	•	•
40T Load rating	•	•	•	•	•	•	•	•	•	•	•
No. of 16A 230V IP67 Sockets	2	0	1	3	2	1	0	4	3	2	1
No. of 32A 230V IP67 Sockets	0	2	1	0	1	2	3	0	1	2	3
75mm Recess for lid paving (delivered to customer with no lid infill)	•	•	•	•	•	•	•	•	•	•	•
Decorative stainless-steel lid infill plate (add suffix 'S' to designation code)	○	○	○	○	○	○	○	○	○	○	○
Bespoke decorative stainless-steel lid infill plate (add suffix 'B' to designation code)	○	○	○	○	○	○	○	○	○	○	○
Bespoke decorative stainless-steel internal tread plate (add suffix 'T' to designation code)	○	○	○	○	○	○	○	○	○	○	○
Cable access flap - allows cables to remain connected when lid closed (add suffix 'C' to designation code)	○	○	○	○	○	○	○	○	○	○	○

- Standard
- Optional

All Charles Endirect 'SIGMA' In-Ground Distribution Units are supplied fully pre-wired and tested to BS EN 61439-2. 90T load rated SIGMA is also available.

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*If you have any questions about your requirements; please contact our Customer Services Team  
T: (+44) 01963 848 400 or E: [info@charlesendirect.com](mailto:info@charlesendirect.com)*

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**Charles Endirect Distribution Products**

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