

io7 Brighter EV Charging

Ratio io7

Innovative EV dual charging pillar with built in professional quality, high performance lighting.





About FW Thorpe

FW Thorpe Plc was founded in Birmingham in 1936 by Frederick William Thorpe and his son, Ernest. Based in a factory in Small Heath, Birmingham, the company initially designed and manufactured vitreous enamelled steel reflectors.

Today FW Thorpe Plc specialises in professional lighting and control systems which are sold throughout the world, and currently employs over 900 people. The Group management team is passionate about developing the business for the benefit of the shareholders, employees and customers. It's aim is to create shareholder value through market leadership in the design, manufacture and supply of lighting systems, with the additional EV charging division complementing the skillsets and customer base of the lighting businesses.



About Ratio

Ratio EV Charging aims to create a sustainable future through innovation, and provide accessible and no nonsense products that enable people to move towards a world powered by renewable energy.

Established in 1960, Ratio specialises in the development, manufacture and supply of electrical power connection and distribution systems in four core areas: **e-mobility** (electrical vehicle chargers and cables), **marine**, **data centres** and **industry**. Today Ratio continues to supply high-quality, functional and affordable products to OEMs, installers and specialised wholesalers.

ratio
FW THORPE PLC

Ratio EV Charging is a joint investment between FW Thorpe Plc and Ratio Electric.

Ratio EV Charging designs and manufactures EV charging products at its factory in Redditch specifically to suit and serve the UK market.

Over 60 years of experience, combined with the FW Thorpe Plc skills and expertise, enable Ratio EV Charging to develop smart solutions for current and upcoming customer needs, such as connected charging stations and market-leading charging pillars. Ratio EV Charging products are functional, reliable and easy to use, allowing users and businesses to take control of their own energy consumption wherever they are.

Convenient.
Connected.
Protected.

Illuminating the workplace.

The io7 has been specifically designed to enable EV charging in a multitude of environments. The io7 can be configured to suit the users power availability and charging needs, internet connectivity, lighting requirements and budget.



Workplace

The io7 is the perfect EV charging solution for fleet, staff and visitors. **Flexibility of the system ensures usage can be easily managed and costs re-couped as appropriate.** Power management can be configured at both cloud and charge point ensuring maximum charging speeds utilising power availability.

- ⚡ **Designed for speed of installation and maintenance**
- ⚡ **Maximised power capacity - intelligent software ensures the optimum amount of charge to each vehicle**
- ⚡ **Flexible payment/usage methods including plug & charge, mobile app or RFID controlled charging**
- ⚡ **Extruded aluminium body for long life and high durability**
- ⚡ **Partnership with any OCPP compliant EV software providers to deliver turnkey EV charging solutions**
- ⚡ **OCPP 1.6 compliant**
(Can integrate with any back-office)
- ⚡ **Over-the-air firmware/software updates**

*OZEV (Office for Zero Emission Vehicles) grant approved



Public Charging

Having readily available EV charge points in public areas is becoming increasingly important. Ratio charging solutions are robust, reliable and easy to use, essential qualities in public spaces where usage is frequent.

- ✦ Extruded aluminium construction for impact and weather resistance
- ✦ Choice of payment providers
- ✦ Partnership with any OCPP compliant EV software provider
- ✦ OCPP 1.6 compliant
- ✦ Over-the-air firmware/software updates
- ✦ Compatible with a number of payment options including contactless, app and RFID card.



Apartments and Flats

- ✦ Municipal and allocated parking options
- ✦ Multiple tariffs and different levels of access for flexibility
- ✦ Landlord or individual power options
- ✦ OZEV (Office for Zero Emission Vehicles) grant approved*
- ✦ Robust design
- ✦ Partnership with any OCPP compliant EV software provider
- ✦ OCPP 1.6 compliant (can integrate with any back-office)
- ✦ Over-the-air firmware/software updates
- ✦ Compatible with a number of payment options including contactless, app and RFID card

Lighting the way.

EV chargers have been added to the list of criteria required by residents when looking for new homes. Ratio has cost-effective charging solutions for all types of properties, from large scale developments to independent flats and apartments.

*OZEV grants are available for anyone renting, leasing or managing a residential property to reduce the cost of charge points and their infrastructure.

io7 Lighting

The io7 is available with two illuminated head options; professional and amenity. The professional head provides limited uplight (less than 2%) with high angle distribution to provide excellent spacings and uniformity. The amenity head illuminates the surface of the bollard and provides additional upward light which improves vertical illumination and ensures that surfaces such as the sides of cars are well and uniformly lit.

DIE-CAST ALUMINIUM HEAD UNIT

Excellent thermal management of LEDs for long life

HIDDEN OPTICAL COMPARTMENT

The professional version offers low glare and less than 2% upward light, a requirement for preventing light pollution in many inner city and rural applications.

Emergency lighting

The io7 is available with integral emergency lighting allowing for illumination of walkways in the event of an emergency. Where io7s are placed along emergency routes, the emergency lighting facility will illuminate the way to fire assembly points highlighting any cables (trip hazards) on the way.

HIGH PERFORMANCE OPTICS

Superior luminaire spacing with high uniformity

Wireless controls

The io7 has been designed to work seamlessly with the Thorlux Lighting SmartScan platform ([read more](#))

The io7 will offer superior lighting controls, emergency status reporting and energy management on the same platform as the building luminaire installation.

COMPLETE WITH PHOTOCELL

The io7 comes with a photocell as standard to switch lighting on and off when required.

DESIGNED FOR TOUGH ENVIRONMENTS

The lighting unit is sealed to IP66.

Illuminate the car

The additional lighting aids location of the charging sockets, and provides illumination in the bonnet storage or boot area when finding the charging cable.

EXTRUDED ALUMINIUM BODY

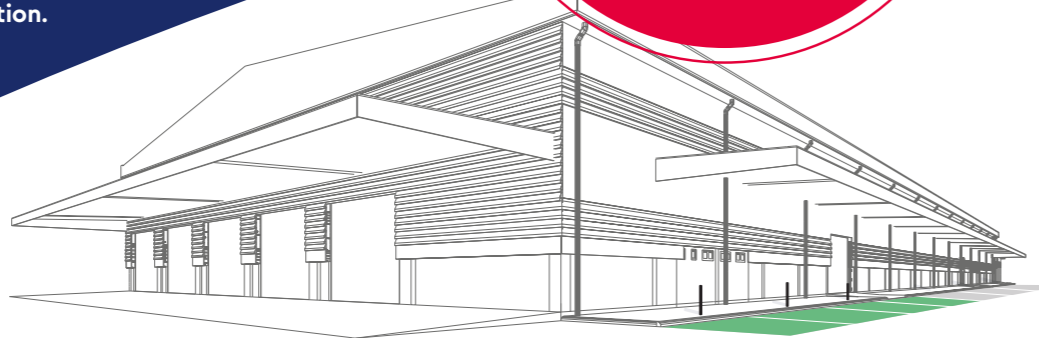
Long life and high durability

Complete charge point management solution

ratio MONTA

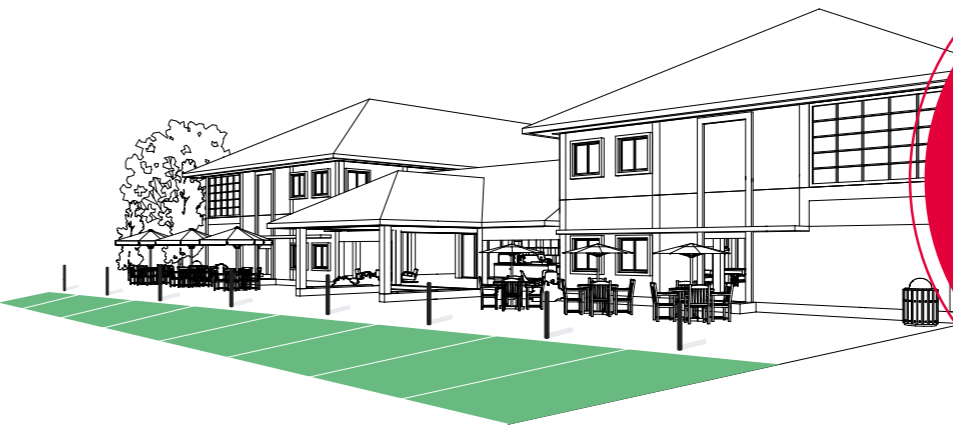
Ratio have partnered with Monta - the leading EV Charger Management Software provider, to provide to the complete EV charging solution.

MONTA
Turn your EV chargers into a new revenue stream by offering electric car charging to the public. With MONTA connected to your charger points, you can easily manage pricing, users, and payments from our portal.




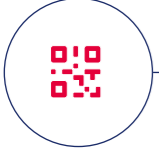
Public EV Charging


MONTA
Using MONTA with your car park charge points is the perfect future-proof solution. Easily customise and manage payments and data via a single software platform.




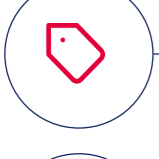
Commercial EV Charging


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End-to-end payment system End-to-end payment system for it all - monthly subscriptions, electricity reimbursements & public charging.
- 


QR-stickers Connect a QR sticker to your charge points to let customers charge & pay without downloading an app.
- 


Optimise your charge points Optimise the use of each charge point by letting your customers enter a Smart Queue or reserve a charge point (for a fee).
- 


Flexible customer pricing Charge users per kWh or minute & set idle fees. Differentiate pricing for different segments. You have complete control.
- 


Offer promo codes Offer redeemable credits or discounts; Either one-time or timebased discounts on specific charge points.
- 


End-customer support Chat support is available 24/7 to your customers. Add Monta's phone support as an extra service.


- 

SmartQueue Distribute EVs between charge points. Notify guests once it is their turn.
- 

Manage multiple locations Control all your charge points with a single back-office & decide who has access.
- 

End-to-end payment system Collect money from users directly without additional admin!
- 

Charge point customisation Customise your charge point settings to suit your needs; choosing who can access the charge points and at what price.
- 

Payment options Your customers can pay with Google Pay, Apple Pay, credit card, team wallet, or charge key.
- 

Self-healing Your charge points will always be up and running. Our self-healing algorithm fixes bugs & errors automatically.

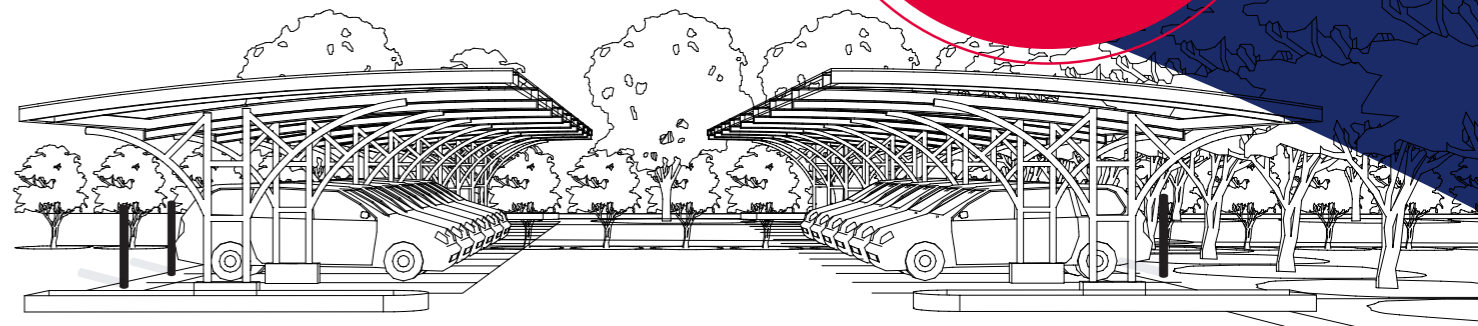


MONTA
 MONTA is a 100% digital solution for charge point management. Get a full overview of employee charging, payments and usage without time consuming administrative work.





MONTA
 Using MONTA for your hotel-based charge points is the perfect agnostic and future-proof solution from the get-go, enabling you to manage and organise all of your EV charging needs.


Hotel EV Charging





Fleet & Work EV Charging

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App clips & QR-stickers EV drivers can charge and pay without having to download the app!
- 


Manage multiple sites Control all your hotel charge points with a single back office.
- 


CP customisation Customise your charge point settings to suit your needs; choosing who can access the charge points, and at what price.
- 


Payment options Your customers can pay with Google Pay, Apple Pay, credit card, team wallet, or charge key.
- 


Self-healing Your charge points will always be up and running. Our self-healing algorithm fixes bugs & errors automatically.

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Easy bookkeeping We keep track of all payments & transactions. Reimbursed automatically forwarded to your employees when they charge at home.
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Optimise utilisation Optimise the use of each charge point with smart queue & reservations.
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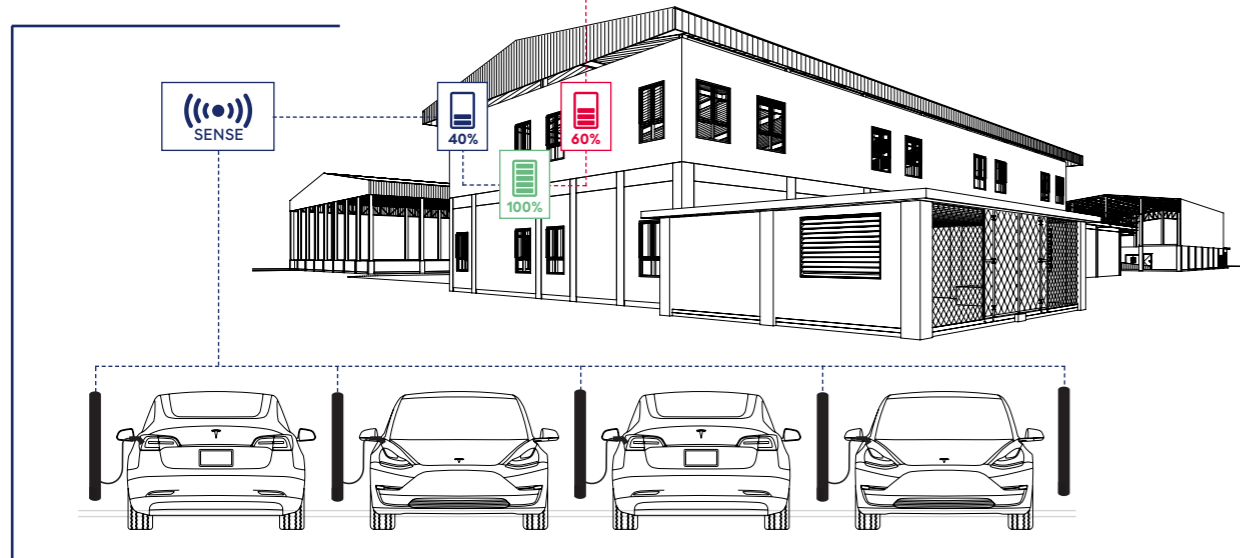
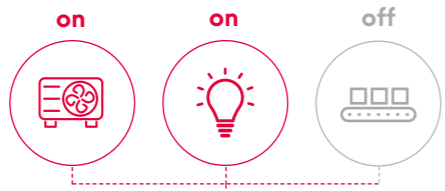
Fleet management A complete overview of consumption on user/ car level. Integrate your fleet with Monta to have battery status and car location.
- 

CP customisation Customise your charge point settings to suit your needs; choosing who can access the charge points and at what price.
- 

Full support Our customer support team is available to answer all your questions through phone, web, and chat functionality. We have you covered!

Load Management and Connection

The io7 is available with both static and dynamic load management systems. Load management of EV charging equipment is designed to maximise charging speeds whilst protecting the electrical installation and building infrastructure.



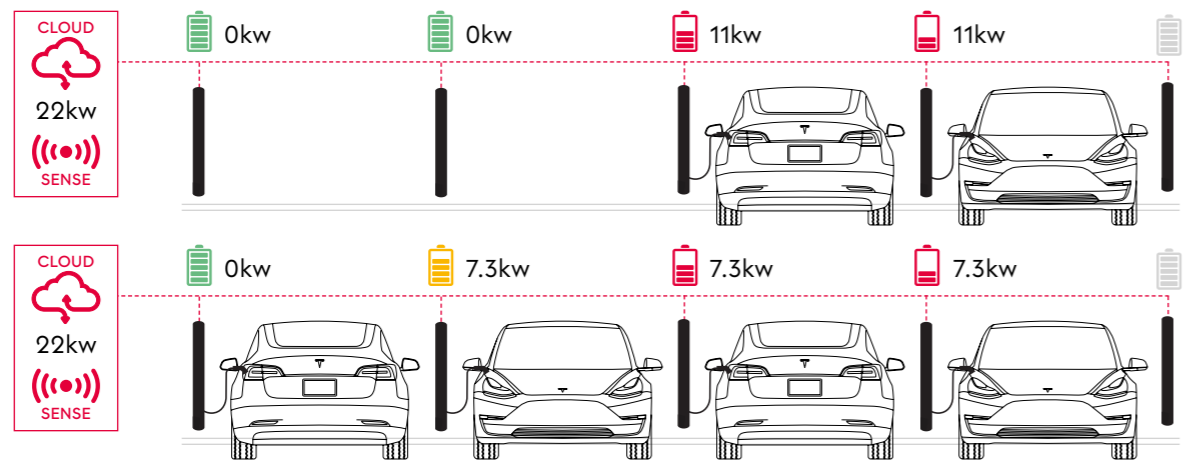
Dynamic Load Management

Monitors the building supply and usage, calculating the power available and distributing it equally to the EV charger installation. As the building power consumption increases (heavy machinery being switched on or off for example), the additional dynamic load management hardware will increase or decrease the power available to the EV charger installation.

MONTA

Static Load Management

Is where the EV charging equipment is installed on a dedicated supply with a known fixed power availability. The EV chargers will manage the supply, splitting the load between them equally as more sockets are in use. This can be done at Cloud level (using back-office software) or locally to the chargers using additional hardware.



io6 Coming Soon!

Benefits

- Single and three-phase versions, up to 22kW
- Socket, tethered and coiled options
- OCPP compliant
- Single and three-phase PEN fault detection
- Wi-Fi, ethernet and 4G communication
- RFID access
- OZEV approved



Socketed.
Tethered.
Coiled.

io7 Specifications

Benefits

The professional version uses a bespoke optic with a dedicated lens for each LED resulting in highly impressive luminaire spacings whilst maintaining light uniformity.

The amenity optic provides a comfortable glow, increasing light on the charger face for ease of use at night and also increasing light on the features of the user.

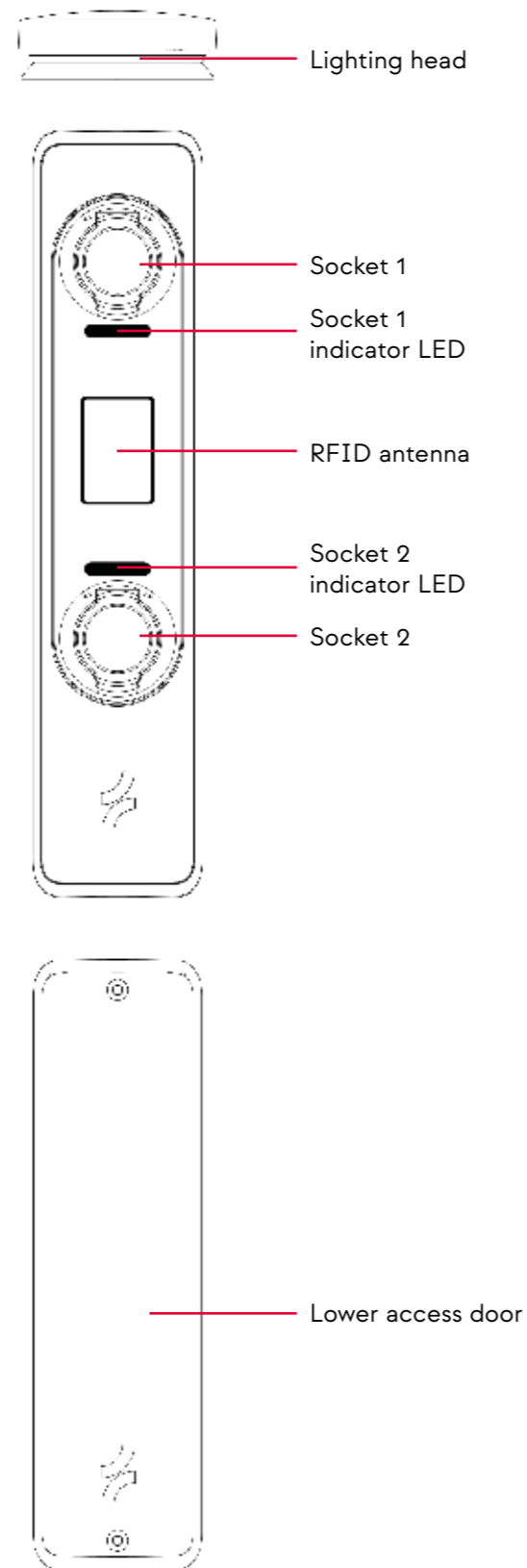
⚡ **Photocell controls enable the switching off and on of lighting** as and when required

⚡ Full integration with the **Thorlux Lighting SmartScan** platform for additional lighting performance

⚡ **Full control and visibility** over EV charging and lighting power consumption

⚡ **Complete flexibility of EV charging** from 'free-vend' through to public spaces and payments

⚡ **Robust construction using premium materials** and finishes for prolonged use



Product	Twin/Single	kW	CT/MID	Height	Professional /Amenity	Controls	Standard / Emergency / SmartScan
io7	T - Twin	74 - 7.4kW	C - CT Clamp	15 - 1.5m	P - Professional	PC - Photocell	ST - Standard
	S - Single	22 - 22kW	M - MID	15 - 1.5m	A - Amenity	RA - Radar	EM - Emergency SS - SmartScan Emergency

Part Number	Description
io7T74C15PPCST	io7 Twin 7.4kW CT clamp metering 1.5m tall Professional Lighting Photocell Control no emergency option
io7T22M25ARASS	io7 Twin 22kW MID metering 2.5m tall Amenity Lighting Radar Controls SmartScan emergency lighting

Dimensions & Specifications	
Charging system	IEC 61851 Mode 3
Supply voltage	Single phase or 3 phase, 230-400V AC, 16A and 32A
Charging power	7.4Kw & 22kW
Protections	AC 30mA, DC 6mA
Housing	Polyester powder coated aluminium
Dimensions	Dia. 165mm x 1500mm
Weight	17Kg
Enclosure rating	IP54
Operating temperature	-25c to +40c
Marking	UKCA
O-PEN	PME fault detection on single and three phase versions
Metering	CT clamp or MID meter versions available
Standards	BS EN IEC 61851-1:2019 / BS EN IEC 61851-21-2:2021 / BS EN IEC 61000-6-1:2019 / BS EN IEC 61000-6-3:2021 / BS 7671:2018+A2:2022
EV communications	OCPP1.6J

Radar and SmartScan versions to be used in conjunction with Thorlux Lighting control systems. 2.5m and Amenity Optic versions in development, product availability TBC.

Charging Accessories

Visit ratioev.uk for more info

To complement its charging solutions, Ratio also designs and manufactures a range of charging cables and mobile chargers, to connect to a wide range of electrical connections.



E-Line T2-T2
straight charging cable



Premium T2-T2
straight charging cable



Premium T2-T2
coiled charging cable



Mobibox portable charger
T2 to CEE plug 16A



Mobibox portable charger
T2 to 3pin plug 10A

Sustainability

The FW Thorpe Group of companies has been officially recognised as being carbon neutral, with systems of reduction, measurement and certified offsetting in place since 2012.

In 2009 FW Thorpe designed an ambitious carbon-offsetting scheme. 165,687 trees have been planted on 215 acres in Wales for carbon sequestration. A further 13,725 trees will be planted by the end of 2023.

The Group has also installed solar PV units on the roofs of most of its manufacturing facilities, reducing consumption from traditional electricity sources, enabling it to generate 40–50% of its own electricity with the remainder derived from renewable sources.

FW THORPE PLC



Group companies acquired since 2012 have been assessed only since their date of acquisition.



165,687
trees planted
on 215 acres



Circularity

The principles of circularity aim to eliminate waste by keeping as much of the original product material in use for as long as possible. All Ratio products are designed with circularity in mind using recycled materials, the minimum number of components, longevity and reparability.

The body of the io7 is primarily constructed from 100% recycled aluminium, often reclaimed from old engine blocks and other automotive components.

The io7 has been designed to achieve a long and reliable lifetime which is extended further by its simple serviceability. However once end of life is reached, the io7 can easily be disassembled and recycled, minimising the impact on the environment.



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