



io5 Home EV Charging

A photograph of a black electric vehicle (EV) parked in a driveway. The car is connected to a black Ratio io5 charging station mounted on a wooden wall. The charging station is a sleek, rectangular device with a cable leading to the car's charging port. The car is a dark color, possibly black or dark grey, and has a Goodyear tire visible. The background shows a wooden building, likely a garage or house, with a wooden door. The ground is covered in gravel.

**Ratio io5
Convenient,
Connected,
Protected.**



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 reflector luminaires.

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 stakeholder 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.

The Ratio io5 is connected to the cloud via Wi-Fi or an ethernet connection and controllable via the Ratio app. The app enables the user to set timings, and measure and report usage to take advantage of low-cost tariffs.



Easy installation

Smart housing design allows quick mounting and cable connections



Rugged design made to last

Housing made out of durable polycarbonate with high impact resistance, extra UV protection and flame retardant properties



LED charging indicator

Visible feedback on charging status supported by the Ratio EV charging app



Ratio EV charging app

Provides full control and visibility over your charging sessions (Android and iOS)



Integrated cable hub

Straight and coiled cables can easily be wound around the charger without the need of an additional hub



Dynamic load management

Automatically optimise your power supply safely from your mains connection



Features

- ⚡ **Easy installation**
- ⚡ **Fully protected**
- ⚡ **Single and three phase up to 32A**
- ⚡ Options for **coiled, tethered** or **untethered** connections
- ⚡ **Ratio app** for domestic use
- ⚡ **Optional sensorbox available** for PV integration and dynamic load management
- ⚡ **PEN fault** on single phase devices
- ⚡ **Power sharing of up to 4 devices** on a single mains feed
- ⚡ **Fully compliant** with The Electric Vehicles (Smart Charging Points) Regulations 2021
- ⚡ **Over the air updates**
- ⚡ **Fully maintainable** and serviceable
- ⚡ **Single and twin mounting columns** available to special order



io5 Charging

The Ratio io5 is connected to the cloud via Wi-Fi or an ethernet connection and controllable via the Ratio app. The app enables the user to set timings, and measure and report usage to take advantage of low-cost tariffs. The optional sensor box allows for dynamic load management, maximising power delivery. The io5 also integrates with solar panels, and four io5 chargers can be connected to the same supply and share the available power, future proofing the installation for additional devices in the future.



Load Management and Solar Compatibility

The io5 is available with additional hardware (the io5 Sense) which enables dynamic load management and solar compatibility. Dynamic load management monitors the building supply and usage, calculating the power available and reporting this information to the io5. In the event of a significant increase in electrical load, the io5 reduces its consumption to prevent overloading the building's supply. Once the consumption in the building decreases, the io5 will increase the supply of electricity to the EV.

The io5 Sense will also monitor energy input into the building by a solar panel installation. Configured through the app, the io5 intelligently charges the EV using available solar power or a combination of solar and mains power. This approach minimises charging costs while maximising the utilisation of renewable energy.

App Based Technology

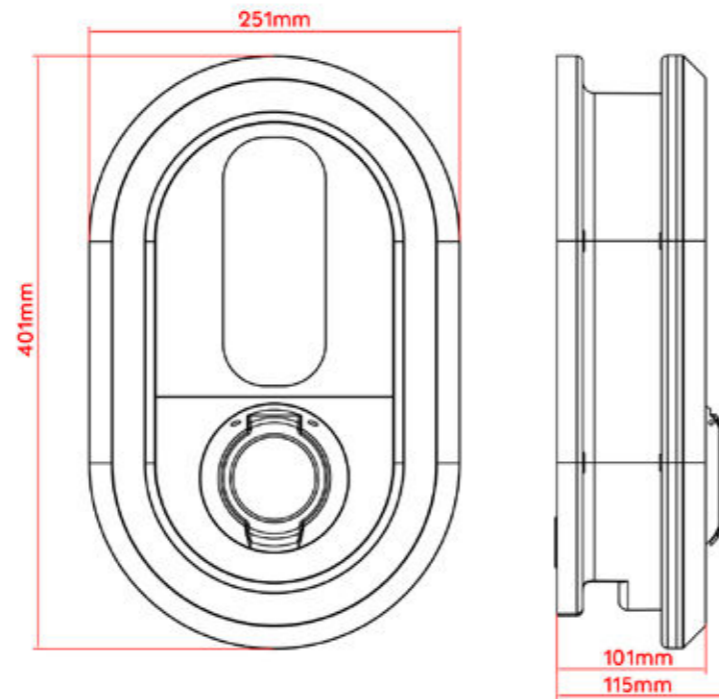
The free Ratio app is used by the installer to commission the io5 and grants the end user complete access to monitor the charger's performance, track charging sessions, and identify the EVs that have utilised the io5. Additionally, the app prevents use by unauthorised parties and the option to configure daily charging schedules, charging using solar power and the ability to quickly override the timed charging sessions to instigate a quick top up when you need it!



io5 Specifications



Sensorbox



| Part Number | Description |
|-------------|---|
| io574SKT | io5, 7.4kW with a type 2 socket |
| io574T50S | io5, 7.4kW with a 5m straight cable and type 2 plug |
| io574T75S | io5, 7.4kW with a 7.5m straight cable and type 2 plug |
| io574T10S | io5, 7.4kW with a 10m straight cable and type 2 plug |
| io574T50C | io5, 7.4kW with a 4.5m coiled cable and type 2 plug |
| io522SKT | io5, 22kW with a type 2 socket |
| io522T5S | io5, 22kW with a 5m straight cable and type 2 plug |
| io574SBX | io5 single phase sensorbox |
| io5sglcol | io5 single charger steel mounting column |
| io5twincol | io5 twin charger steel mounting column |

| Dimensions and Specifications | |
|-------------------------------|---|
| Charging system | IEC 61851 Mode 3 |
| Power input | Single phase or 3 phase, 230-400V AC, 16A and 32A |
| Power output | 3,7kW, 7,4kW, 11kW, 22kW |
| Protections | 6mA DC leakage, o-pen on single phase versions |
| Housing | PC/ABS-V0 |
| Dimensions | 400mm x 250mm x 105mm |
| Weight | 4kg |
| Enclosure rating | IP54 |
| Operating temperature | -25 C to +40 C |
| Marking | UKCA |

| Design Features | |
|------------------------|---|
| Easy installation | Smart housing design allows quick mounting and cable connections |
| Pole or wall mounted | Drill template supplied. Single or double pole mount available |
| Integrated RCD type A | 6mA DC fault protection |
| Integrated cable hub | Straight and coiled cables can easily be wound around the charger - no additional hub required |
| Multiple cable options | Choose between coiled, tethered or untethered with a range of cable lengths available |
| LED charging indicator | Visible feedback on charging status supported by the Ratio EV charging app |
| Rugged design | Housing made out of durable polycarbonate with high impact resistance, extra UV protection and flame retardant properties. Made to last |
| Optional sensorbo | Measures power usage at the mains connection to provide optimal charging speed without overload (Dynamic load management) |
| Pen fault detection | Eliminates the need for an earth electrode/rod, single phase versions only |

| Compliance | |
|------------|---|
| Standards | LVD 2014/35/EU, EMCD 2014/30/EU, BS EN61851-2019, EN61000-2, EN61000-3, CE Certified, BS7671-2018 |
| GDPR | Your privacy and sensitive data is handled with care and in compliance with GDPR |

| Charging Features | |
|-------------------------|--|
| Options | Single phase 32A 7.4kW to three phase 32A 22kW options |
| Energy meter | Built-in energy meter (non-MID) |
| Suitability | Suitable for home and office application |
| Power sharing | Connect up to 4 chargers on one grid connection. Available power will be distributed evenly to connected EVs |
| Dynamic load management | Automatically optimise your power supply safely from your mains connection |
| Solar charging | Prioritises your power consumption by utilising solar energy when available |

| Connectivity | |
|---------------------------|--|
| Ratio EV charging app | Provides full control and visibility over your charging sessions (Android and iOS) |
| Bluetooth low energy | To simplify and secure charge point installation |
| Ethernet/Wi-Fi | Ethernet or Wi-Fi connection to Ratio Cloud. Safe and secure storage of your charging data using AWS technology complying with UK regulations. Eliminates the need for costly 4G/5G subscription |
| Commissioning | Full configuration of the charger set up using the Ratio EV charging app, with settings stored in the Ratio cloud |
| Multi user | Multi charger, Multi EV. Manage access and sessions for all users, chargers and EVs |
| Secure authentication | Protect your charger from unauthorised use using the Ratio app, alternatively use the plug and charge mode for fast and easy access |
| Session planning | Predefined planned charging sessions to take advantage of low cost tariffs |
| Monitor charging sessions | Use the Ratio app to monitor live charging status |
| View charging history | Summarise your charging session for any timeframe filtering by user, charger and EV |
| Configurable cable lock | Option to lock the cable into charger |

| Sustainability | |
|----------------------|---|
| Low Carbon footprint | Locally sourced materials and production |
| Easy maintenance | All parts are serviceable prolonging the lifespan and reducing waste |
| Over-the-air updates | Enabling upgrades and futureproofing without need for replacement |
| Energy transition | Smart functions help solving grid congestion and allow the transition to E-mobility |



Ratio has been designing and manufacturing EV charging cables for over a decade; all products are fully tested and approved for the UK and EU markets.



io5 Charging Accessories

Ratio mobile chargers are the perfect option to safely charge your vehicle on the go with a selection of mains connections. Ranging from a 3 pin plug to a single or three phase commando socket, the Ratio mobile charging family will deliver from 1.4kW to 22kW.

io7 Commercial Charging

The OZEV approved io7 is the perfect fit for commercial charging. Designed and manufactured in the UK, the io7 combines over 85 years of experience in developing robust, external street lighting, with the Ratio knowledge of EV charging.

The flexibility of the design ensures that the io7 is suitable for a wide variety of applications, whether this be the workplace, public areas or flats and apartments.

Available in two options, pathway or area, the state-of-the-art optics ensure that the light is distributed exactly where needed, providing a safe and secure environment for the user.



Visit ratioev.uk for more info

Charging Accessories

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

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protected.**

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. 179,412 trees have been planted on 215 acres in Wales sequestering over 44,385 tonnes of CO₂e over a period of 100 years.

The Group has installed solar PV units on the roofs of most of its manufacturing facilities. The units deliver over 2 million kWh per annum reducing the Group's consumption from traditional electricity sources.

All remaining significant electricity consumption is now derived from renewable sources.



179,412
trees planted
on 215 acres




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



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 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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