



io5 Home EV Charging

A photograph of a black Ratio io5 Home EV charging station mounted on a wooden wall. A black charging cable is plugged into the station and connected to the charging port of a dark-colored electric vehicle. The car is parked on a gravel driveway. The background shows a wooden building with a door. A red diagonal graphic element is on the left side of the image.

**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

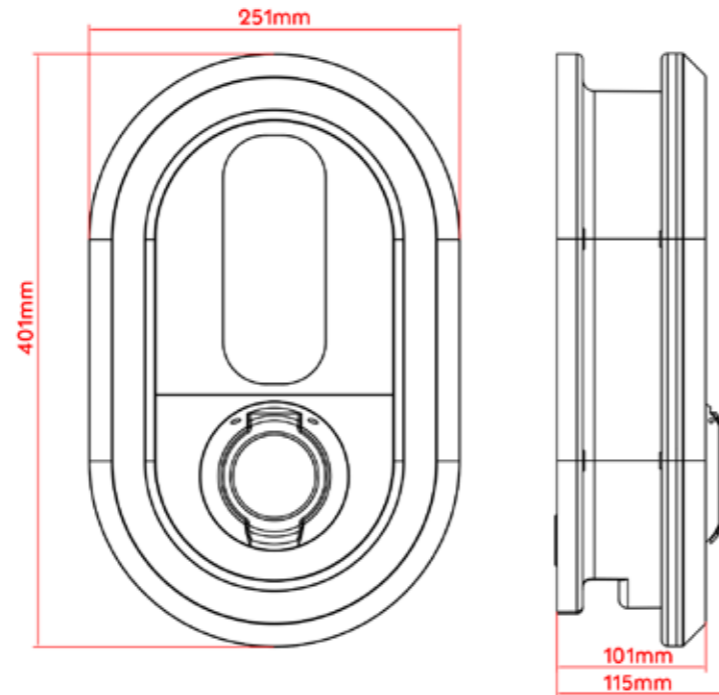
The free Ratio app is used by the installer to commission the io5 and grants the end user complete access to monitor the charger's performance, track charging sessions, and identify the EVs that have utilised the io5. Additionally, the app prevents use by unauthorised parties and the option to configure 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.

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.

Visit ratioev.uk for more info



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

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.

Convenient,
connected,
protected.

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.



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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