



io5

Home EV Charging

**Powering
the future,
effortlessly**





FW THORPE PLC

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

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

Ratio Electric

Ratio EV 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 Electric specialises in the development, manufacture and supply of electrical power connection and distribution systems in four core areas: EV charging, EV cables, marine and power distribution units. Today Ratio Electric continues to supply high quality, functional and affordable products to OEM's, installers and specialised wholesalers.



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.



Sustainability

Ratio, as part of the FW Thorpe Group of companies, is committed to minimising the environmental impact of its activities across all operations.

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. Third party assessment provides independent assurance of the Group's long-standing commitment to sustainability across all of its operations worldwide. Being carbon neutral means that FW Thorpe Plc offsets the carbon dioxide emissions it generates (scopes 1 and 2 of the Greenhouse Gas Protocol) by its business activities.

FW Thorpe Plc is a carbon neutral company through a combination of measures. Company-wide initiatives such as energy use minimisation, self-generation of renewable energy through solar photovoltaic (PV) units, and procurement of renewable energy have reduced the Group's carbon footprint, whilst trees in the Group's award-winning carbon offsetting afforestation project absorb the remaining carbon dioxide produced.

The Road to net-zero

In 2023, FW Thorpe Plc announced its ambitious climate target to achieve net-zero emissions by 2040 and set credible and robust science-based targets.

The SBTi has validated that FW Thorpe Plc's science-based greenhouse gas emissions reduction targets conform to the SBTi Corporate Net Zero Standard. The standard includes the guidance, criteria, and recommendations companies need to set science-based net-zero targets consistent with limiting global temperature rise to 1.5°C.



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



The goal is ultimately to reach net-zero in 2040, 10 years before the UK's target for achieving net-zero greenhouse gas (GHG) emissions by 2050.





179,412
trees planted
on 215 acres

Emission reduction targets

FW Thorpe Plc commits to reach net zero greenhouse gas emissions across the value chain by FY2040.

For more information, visit:

<https://sciencebasedtargets.org/companies-taking-action>

Near-Term Targets

- FW Thorpe Plc commits to reduce absolute scope 1 and 2 GHG emissions 57.5% by FY2030 from a FY2021 base year
- FW Thorpe Plc also commits to reduce absolute scope 3 GHG emissions 25% within the same timeframe.

Long-Term Targets

- FW Thorpe Plc commits to reduce absolute scope 1 and 2 GHG emissions 90% by FY2040 from a FY2021 base year.
- FW Thorpe Plc commits to reduce absolute scope 3 GHG emissions 90% within the same time frame.

Carbon offsetting

In 2009, FW Thorpe Plc purchased 215 acres of farmland in Wales. To date, 179,412 trees have been planted for carbon sequestration. Based on the Group's calculated emissions, it has been confirmed that enough trees have been planted for FW Thorpe Plc to have been carbon neutral since 2012.

The carbon capture tree-planting scheme (quality-assured by the government-backed Woodland Carbon Code) is independently certified to ISO 14064-3 and ISO 14065 standards. The Woodland Carbon Code is an independent standard, devised by a group led by the UK Forestry Commission, to certify that woodland creation projects can accurately measure how much carbon is captured and stored.

FW Thorpe has completed its woodland creation project in Devauden, Wales and has recently purchased a further 195 acres of land in Herefordshire. The land has significant potential for connecting existing woodlands for biodiversity and landscape enhancement and the transition from grazing sheep to woodland creation will have little to no impact on food security.



Smart Charging for Every Journey

The 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

Pre-drilled holes for easy mounting.



Solar Compatible

Dynamic load management and solar compatibility is available when installed with the io5 Sense



Ratio EV charging app

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





Robust design made to last

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



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** with pre-drilled holes for easy mounting
- ✦ **Single and three phase** up to 22kW
- ✦ **Options for coiled, tethered or socketed cables**
- ✦ **Fast Bluetooth commissioning** via the Ratio app
- ✦ **io5 Sense** available for solar integration and dynamic load management
- ✦ **PEN fault** on single phase devices
- ✦ **Power sharing** of up to 4 devices on a single mains feed
- ✦ **OZEV grant approved** (office for Zero Emissions)
- ✦ **Ratio app** to monitor usage, remote start function, plus the ability to set charge times for off-peak tariffs
- ✦ **Over the air software updates**
- ✦ **Suitable for indoor and outdoor use** (IP54)
- ✦ **UK based support team**

io5 Sense

The io5 Sense allows for dynamic load management, maximizing power delivery. In addition solar panels can be integrated with the io5 using the Sense box.



What is Load Management?

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.

Solar Panel Integration

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 whilst 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.

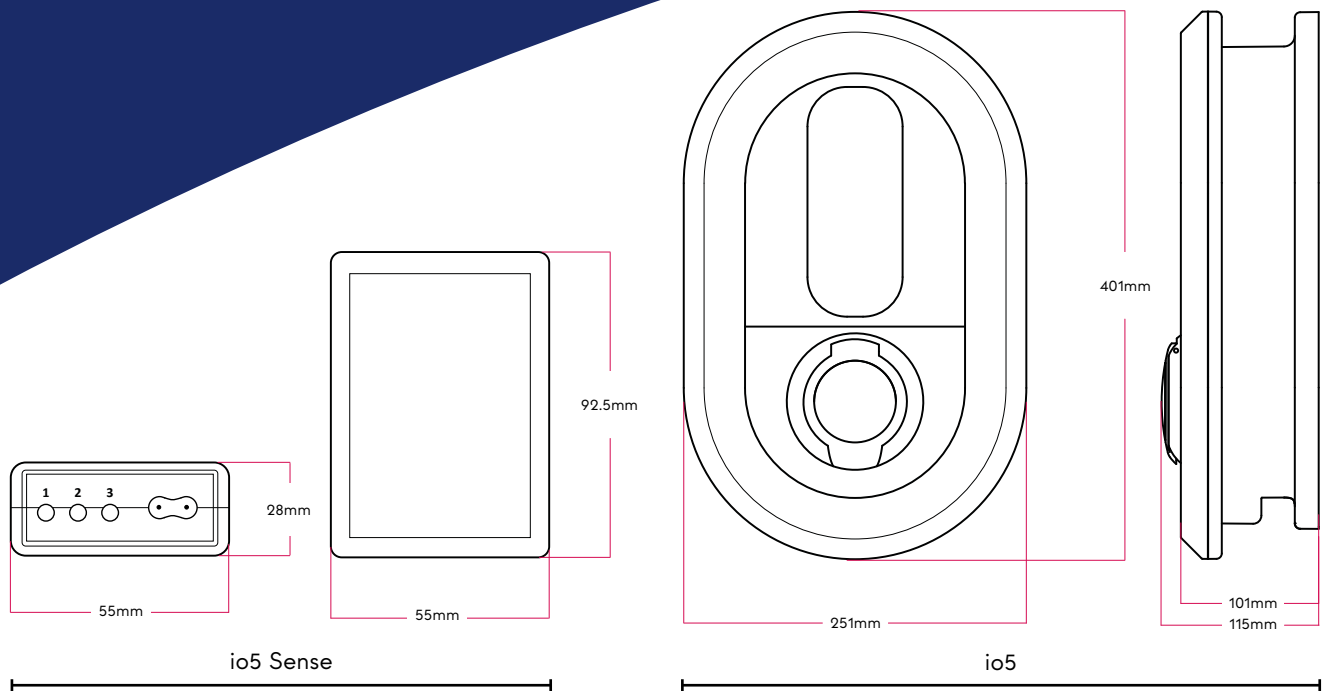
The app prevents use by unauthorised parties and the option to configure daily charging schedules, charging using solar power and the ability to quickly override the timed charging sessions to instigate a quick top up when you need it!



io5 Sense box



io5 Technical



Product Code	Description	Socket	Cable	Power
io574SKT	io5 Charger	Type 2		7.4kW
io574T50S	io5 Charger	Type 2	5m straight	7.4kW
io574T75S	io5 Charger	Type 2	7.5m straight	7.4kW
io574T10S	io5 Charger	Type 2	10m straight	7.4kW
io574T50C	io5 Charger	Type 2	4.5m coiled	7.4kW
io522SKT	io5 Charger	Type 2		22kW
io522T5S	io5 Charger	Type 2	5m straight	22kW

io574SBX	io5 single phase Sense box			
io5sglcol	Single steel mounting column			
io5twincol	Twin 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	7,4kW, 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	
Integrated RCD type A	6mA DC fault protection
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 16A 7.4kW to three phase 16A 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





Visit Ratio EV for more information



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