Oasis AC Charging Portfolio — Technical White Paper

Executive summary

Oasis offers nine AC chargers across two families, two load balancers and one app and cloud platform, all covered by a 5-year warranty. The Oasis One series (single socket, 6 models) spans homes to commercial car parks. The Oasis Twin series (dual socket, 3 models) delivers up to 2 × 22 kW from one unit.

Every model shares one hardware backbone: a built-in MCB, Type A RCD with 6 mA DC detection, IP65 / IK10 housing, -30 °C to +50 °C operation and OCPP 1.6 / 2.0.1. The higher tiers add MID-certified metering, ISO 15118, phase balancing and multi-layer load management with unlimited chargers per site.

This document has two parts - the feature bullets and the technical white paper.

Key feature bullets (extracted)

Both charger families are built around the same nine feature pillars; points that apply to the Twin series only are marked (Twin).

Charger feature pillars

- **Powerful & flexible**
  - Single-phase 1.4–7.4 kW; three-phase up to 22 kW (One series)
  - Three-phase up to 2 × 22 kW (Twin)
  - Type 2 socket (with or without shutter) or tethered cable
  - Solar charging compatible
- **Always connected**
  - Ethernet (2 ports), Wi-Fi, 4G and Bluetooth
  - LoRa for local communication
  - Local OCPP 1.6-J and 2.0.1 compatible
  - ISO 15118 ready

- **Fast installation & scalable**
  - Installation in 5 minutes per charger
  - Smart backplate with NFC for quick setup
  - Flexible configuration via NFC, Bluetooth or online pre-configuration
  - Built-in MCB
  - 64 A daisy chain
  - SPD optional (Twin)
- **Safe by design**
  - 40+ smart sensors for maximum protection (One series)
  - Built-in RCD: 6 mA DC + 30 mA AC
  - Overload, over/undervoltage, temperature, relay welding and PEN fault protection
  - IP65, IK10, overvoltage category III
- **Easy to use**
  - Multiple start modes: Plug & Play, RFID, app
  - LED indicators and displays
  - Real-time charging data and rich insights
  - Ready to integrate
- **Simple management**
  - Remote management via app and web
  - Rich data insights and cloud-based monitoring
  - Fast replacement via NFC-compatible backplate
- **Accurate** (Twin: **Accurate & revenue-ready**)
  - Built-in energy meter, ±0.5% accuracy
  - MID certified for transparent billing
  - Optional built-in POS terminal (Twin)
- **Built to last**
  - 5-year warranty
  - Durable design for commercial use
  - Operating temperature -30 °C to +50 °C
  - Built for reliability, today and tomorrow
- **Smart load management**
  - Dynamic local and cloud load balancing
  - Phase balancing for efficient energy use
  - Multi-layer load management prevents overload in complex infrastructures
  - Works with Oasis CT Link or Meter Link for maximum control

Load balancers

- **Oasis Meter Link** (for smart meter reading)
  - Real-time smart meter data integration
  - Dynamic load management
  - One device for P1 / HAN / Kamstrup meters
  - Fast installation, no external power supply needed
- **Oasis CT Link** (for CT clamp connection)
  - CT clamp-based energy monitoring, 0–400 A
  - Dynamic load management
  - Wi-Fi / LoRa / Ethernet connectivity
  - Solar charging

Software (app and cloud platform)

- **Multiple modes:** normal, solar, scheduled and smart
- **Access management:** add or remove RFID tags; grant access to family members or guests
- **Cable locking:** permanently lock the cable to the charger to prevent theft
- **Energy monitoring:** real-time charging history and energy use
- **Remote debug:** troubleshooting from temperature, current, voltage, three-axis, infrared and other sensors

Technical white paper: Oasis AC charging platform

Oasis is one AC platform scaled from a 7 kW home wallbox to a dual 22 kW commercial post, so installers learn one product and operators run one fleet.

1. The challenge

AC charging now has to do more than deliver energy. Sites must avoid costly grid upgrades, bill drivers accurately, work with solar, stay online, and survive outdoors for years. Most sites also grow in stages, so the hardware chosen on day one must scale without rework.

Oasis answers this with a shared hardware base, tiered intelligence, and dedicated load-balancing accessories.

2. Portfolio architecture

The lineup has nine chargers in two families. All models offer socket or tethered cable, an internal MCB and a 5-year warranty.

Model	Sockets	Ideal site	Power	MID (±0.5%)	ISO 15118	Display	Phase balance	Multi-layer LB	DLB units	Chip
Oasis One	1	Residential	1.4–7 kW	No	No	None	No	No	5	MCU
Oasis One Smart	1	Residential	1.4–7 kW	Yes	Yes	LED	No	No	5	MCU
Oasis One Flow	1	Residential	1.4–22 kW	Yes	Yes	LED	Yes	No	5	MCU
Oasis One Core	1	Commercial	1.4–22 kW	Yes	Yes	LED	Yes	Yes	Unlimited	MCU
Oasis One Pro	1	Commercial	1.4–22 kW	Yes	Yes	LED	Yes	Yes	Unlimited	SoC
Oasis One Ultra	1	Commercial	1.4–22 kW	Yes	Yes	5″ touch screen	Yes	Yes	Unlimited	SoC
Oasis Twin	2	Residential	1.4–22 kW × 2	Yes	Yes	LED	Yes	No	3	—
Oasis Twin Touch	2	Residential	1.4–22 kW × 2	Yes	Yes	7″ touch screen	Yes	No	3	—
Oasis Twin Pro	2	Commercial	1.4–22 kW × 2	Yes	Yes	7″ touch screen	Yes	Yes	Unlimited	—

The tiers follow a clear logic. Entry models cover basic home charging. Mid tiers add billing-grade metering and ISO 15118 readiness. Commercial tiers add multi-layer load management and unlimited chargers per load-balancing group. The Pro and Ultra models move from an MCU to a system-on-chip (SoC) for more on-board computing headroom. All Twin models offer an optional surge protection device (SPD).

3. Electrical design

The One series is rated at 32 A; the Twin series at 64 A with two independent outputs of 1.4–22 kW each. Both run on 230 / 400 V AC (±10%) at 50 / 60 Hz.

- **Grid compatibility:** TN, IT and TT earthing systems, detected automatically.
- **Wiring:** 2.5–10 mm² conductors, up to 16 mm² when daisy-chained.
- **Daisy chain:** up to 64 A through-feed, so several chargers share one supply run and cut cabling cost.
- **Cable entry:** 3 top, 3 bottom or 2 rear glands, up to M32.
- **Charging mode:** Mode 3, per IEC 61851.

4. Safety architecture

Protection is built in, not bolted on, so fewer external devices are needed in the distribution board.

- **Residual current:** integrated Type A RCD (30 mA AC) plus a 6 mA residual DC detecting device (RDC-DD) to IEC 62955.
- **Overcurrent:** integrated 40 A curve C circuit breaker (two in the Twin series).
- **Fault protection:** overload, over/undervoltage, over-temperature, relay welding and PEN fault protection.
- **Sensing:** 40+ smart sensors monitor the unit continuously (One series).
- **Enclosure:** IP65 dust and water protection, IK10 impact resistance, Class I, overvoltage category III.
- **Environment:** indoor or outdoor, -30 °C to +50 °C, up to 2,000 m altitude, EMC environment A and B.

5. Metering and billing

MID variants carry an integrated static energy meter with ±0.5% accuracy, Class C, and a 0.25–5 (32) A current range. The meter is certified to EN 50470-3, so kWh readings can be used for transparent billing, employee reimbursement and tenant sub-metering. The Twin series can add a built-in POS terminal for direct payment at the charger.

6. Connectivity and protocols

Every charger ships with five communication paths, so it stays online wherever it is installed.

Interface	Role
Ethernet (2 ports)	Wired backhaul and daisy-chained networking
Wi-Fi 2.4 GHz	Home and office networks
4G LTE	Sites with no local network

Interface	Role
Bluetooth	Commissioning and local app control
LoRa	Long-range local link to load balancers and other chargers

OCPP 1.6-J and 2.0.1 connect the charger to Oasis's cloud or any third-party back office. ISO 15118 readiness prepares mid and upper tiers for Plug & Charge. Drivers can start a session by Plug & Play, RFID or app.

7. Smart load management

Oasis shares available capacity across chargers in real time, so sites can add chargers without upgrading their grid connection.

```
flowchart LR
    G[Grid supply] --> M[Smart meter<br/>P1 / HAN / Kamstrup]
    G --> C[CT clamps<br/>0–400 A]
    M --> ML[Oasis Meter Link]
    C --> CL[Oasis CT Link]
    S[Solar PV] --> C
    ML -->|LoRa / Wi-Fi| CH[Oasis chargers<br/>One and Twin]
    CL -->|LoRa / Wi-Fi / Ethernet| CH
    CH -->|OCPP 1.6-J / 2.0.1| CP[Oasis cloud<br/>or third-party CSMS]
```

The load balancer reads total site demand and the chargers adjust their current to stay within the limit.

- **Dynamic load balancing (DLB):** runs locally and in the cloud, so balancing continues if the internet drops. Groups hold 5 chargers (One, One Smart, One Flow), 3 (Twin, Twin Touch) or unlimited (Core, Pro, Ultra, Twin Pro).
- **Phase balancing:** spreads load across L1, L2 and L3 to avoid phase imbalance (One Flow and above, all Twin models).
- **Multi-layer load management:** applies limits at several levels, such as main supply, sub-board and charger group, for car parks and multi-tenant buildings (One Core, Pro, Ultra, Twin Pro).
- **Solar charging:** solar mode uses surplus PV generation measured by the CT Link.

Load balancer	Best for	Measurement	Interfaces	Power	Size (H × W × D)
Oasis Meter Link	Homes with a smart meter	P1 / HAN / Kamstrup meter port	RJ45, micro USB; Wi-Fi 2.4 GHz, Bluetooth 4.2 BLE, LoRa 868 MHz	4.15–32 V, 0.2–0.4 W, powered from the meter port	68 × 68 × 26 mm
Oasis CT Link	Any site, including solar	CT clamps, 0–400 A	RS485, dry contact, wet contact, M-Bus; 2 × Ethernet, Wi-Fi 2.4 GHz, Bluetooth 4.2 BLE, LoRa 868 MHz	220 V AC; TN, TT, IT grids	77 × 36 × 65 mm

Both units install indoors, operate from -20 °C to +50 °C up to 2,000 m, and carry a 5-year warranty. The Meter Link cable is 1.5 m, extendable to 15 m.

8. Installation and serviceability

A Oasis charger installs in about 5 minutes. The smart backplate is wired first and stores its configuration on NFC. The charger then clips onto it and reads its settings.

- **Commissioning:** by NFC, Bluetooth or online pre-configuration before arrival on site.
- **Fewer parts:** the built-in MCB and RCD remove the need for separate devices in many installations.
- **Scaling:** the 64 A daisy chain feeds several chargers from one supply run.
- **Replacement:** a faulty unit swaps onto the same backplate and inherits its settings, with no rewiring.

9. Software platform

The Oasis app serves drivers; the web platform serves fleet and site operators.

- **Charging modes:** normal, solar, scheduled and smart.
- **Access control:** add or remove RFID tags; share access with family or guests.
- **Cable locking:** keeps the cable locked to the charger to prevent theft.
- **Monitoring:** real-time power, session history and energy use, plus fleet dashboards for operators.
- **Remote diagnostics:** temperature, current, voltage, three-axis motion and infrared sensor data support remote troubleshooting and fewer site visits.

10. Technical specifications

Parameter	Oasis One series (single socket)	Oasis Twin series (dual socket)
Dimensions (H × W × D)	300 × 190 × 130 mm	400 × 288 × 125 mm
Certification	IEC 61851, IEC 62955, EN 50470-3, BS 7671	IEC 61851, IEC 62955, EN 50470-3, BS 7671 (in progress)
Operating temperature	-30 to +50 °C	-30 to +50 °C
Installation	Indoor / outdoor	Indoor / outdoor
Charging mode	Mode 3	Mode 3
Maximum altitude	2,000 m	2,000 m
EMC classification	Environment A and B	Environment A and B
Rated voltage	230 / 400 V AC (±10%)	230 / 400 V AC (±10%)
Rated current	32 A	64 A
Rated frequency	50 / 60 Hz	50 / 60 Hz
Grid types	TN, IT, TT (auto-detect)	TN, IT, TT (auto-detect)
Charging power	1.4–22 kW	Dual output, each 1.4–22 kW
Connection point	Type 2 socket (with or without shutter) or tethered cable	Type 2 socket (with or without shutter) or tethered cable
Wire cross-section	2.5–10 mm² (16 mm² daisy-chained)	2.5–10 mm² (16 mm² daisy-chained)
Glands	3 top, 3 bottom or 2 rear, max M32	3 top, 3 bottom or 2 rear, max M32
Ingress protection	IP65	IP65
Impact resistance	IK10	IK10
RCD	Type A 30 mA AC + 6 mA RDC-DD	Type A 30 mA AC + 6 mA RDC-DD
Circuit breaker	40 A, curve C	2 × 40 A, curve C
Protection class	Class I	Class I

Parameter	Oasis One series (single socket)	Oasis Twin series (dual socket)
Overvoltage category	III	III
Pollution degree	4	4
Communication	Wi-Fi 2.4 GHz, Bluetooth, 4G LTE, 2 × Ethernet, LoRa	Wi-Fi 2.4 GHz, Bluetooth, 4G LTE, 2 × Ethernet, LoRa
Authorization	RFID / app / Plug & Charge	RFID / app / Plug & Charge
OCPP	1.6, 2.0.1	1.6, 2.0.1
Status indicator	LED light strip	LED light strip
MID meter type	Static meter	Static meter
MID current range	0.25–5 (32) A	0.25–5 (32) A
MID accuracy class	Class C	Class C

11. Model selection guide

If the site is…	Recommended model
A home on single-phase supply, basic charging	Oasis One
A home that needs metered kWh (e.g. company-car reimbursement)	Oasis One Smart
A home on three-phase supply, or with solar	Oasis One Flow
A home or small business with two EVs	Oasis Twin or Twin Touch
A workplace or small car park	Oasis One Core
A large or multi-tenant site needing more computing headroom	Oasis One Pro
A public or premium site where drivers need an on-screen interface	Oasis One Ultra
A high-density commercial site with payment at the post	Oasis Twin Pro (optional POS)