

DESCRIPTION

ORCA Air is the ONLY 50 kW DC Fast Charging Station for CHAdeMO and/or SAE J1772 EVs on the market supplied by Solar Panels (DC) and Grid (AC) (Solar to Vehicle, S2V). Designed in Italy.

BENEFITS

- Drive on Sunshine!
- Compact form factor all-weather enclosure.
- Charges an EV from 0% to 80% in 25 minutes⁽¹⁾.
- Easy to be integrated in existing Photovoltaic plants.
- Outstanding value for the money.

• andromeda

ORCA Air Secure

SAE J1772 and CHAdeMO Solar to Vehicle (S2V) Fast Charger for Electric Vehicles (EVs)

GENERAL DESCRIPTION

ORCA Air Secure is a fast charging station for all EVs with CHAdeMO and SAE J1772 Combo charging standard compliance. Its robust NEMA 3R enclosure makes it a perfect solution for unattended installations.

ORCA Air Secure delivers up to 50 kW to the EVs. It can be customized with single or dual DC outputs (SAE and CHAdeMO) and AC output. It embeds a simple user interface with authentication and payment options with stand alone and network operation.

It accepts AC from the Grid and DC from Solar Panels implementing Max Power Peak tracking adapting the charging power to the available sunshine.



FEATURES

- Modern Italian design.
- DC Input from Solar Panels and AC from Grid.
- Compact, robust NEMA 3R enclosure.
- SAE J1772 Combo (AC and/or DC) compliant.
- CHAdeMO certified.
- Fast charge 0% to 20% in 5 minutes⁽¹⁾.
- Maximum output power: 50 kW, 500 V, 125 A.
- Efficiency: 95% @ 50 kW.
- User-friendly interface on any Wi-Fi connected device.
- Simple "Start" and "Stop" button operation.
- Flexible power input hardware to easily accommodate to local electric service capabilities.
- Integrated breakers for main and auxiliary circuits.

- Dimensions WxDxH: 29 x 19.7 x 47 in (63.5 x 50.0 x 119.3 cm).
- Weight: from 365 lbs (165 kg).
- Up to 9 m (30 ft) charging cable.

OPTIONS

- Enclosure: stainless steel or painted steel.
- Embedded ORCA-EDM (Energy Demand Management).
- ORCA-NET for remote upgrade and maintenance.
- Open Smart Charging Protocol (OSCP) for back office operation.
- Open Charge Point Protocol (OCPP) for interoperability.
- Remotely controllable via third-party software control system.
- Communication: Wireless IEEE 802.11g, 4G, or Ethernet.
- Smartphone app to control/monitor charging.

Table 1. Choice of Power Input Configurations (Factory Configured)

PI	Power Input Type	Power Input Wires	Power Input Voltage (V)	Max Input Current (A)	Max Input Power (kW)	Max Output Power (kW)
01	DC	(+), (-), Earth	250-350	222	56	50
02 ⁽³⁾	DC	(+), (-), Earth	350-600	154	54 ⁽⁴⁾	50
03	DC	(+), (-), Earth	500-900	108	54	50
04	AC ^(2,5)	3-phase, Earth	480	63	54	50
05	AC ^(2,5)	3-phase, Earth	400	76	53	50
06	AC ⁽²⁾	1-phase, Earth	240	88	21	20
					110	25
07	AC ^(2,5)	3-phase, Earth	208-240	148	53	50

Table 3. Charging Output Cable Length

Length	L
4 m (13')	1
6 m (20')	2
7.5 m (25')	3
9 m (30')	4

Table 4. Connection

Connection	WI
Wireless IEEE 802.11g	Wi
4G cellular	4G

⁽²⁾ AC frequency can be 50 or 60 Hz.

⁽³⁾ Solar panel default input. PV nominal power without solar tracker should be at least twice the max input power⁽⁴⁾ for max power operation 9am-4pm.

⁽⁵⁾ Setup complies with CHAdeMO certification.

Table 2. Physical and Environmental Specifications

Description	Reference
Power supply options	See Table 1 (1 DC and 1 AC inputs)
Dimensions W x D x H	29.0 x 19.7 x 47.0 in (63.5 x 50.0 x 119.3 cm)
CHAdeMO cable length	See Table 3
Operation	Card Reader for Authentication, Start, Stop, and Emergency buttons
Enclosure protection	IP34 / NEMA 3R
Operating environment	Ambient temperature: -30 to 50°C (22 to 122°F) Ambient humidity: 5 to 80% Altitude: 1,000 m (3,281 ft) or lower Atmosphere: Containing no corrosive gas



ORDER INFORMATION

ORCA-S3-PI-L-SS-WI-000000

Product Family Name

Model
S3 = Secure S3

Secondary Input Power
(see Table 1)

Custom Options

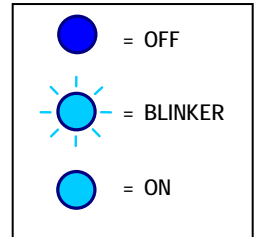
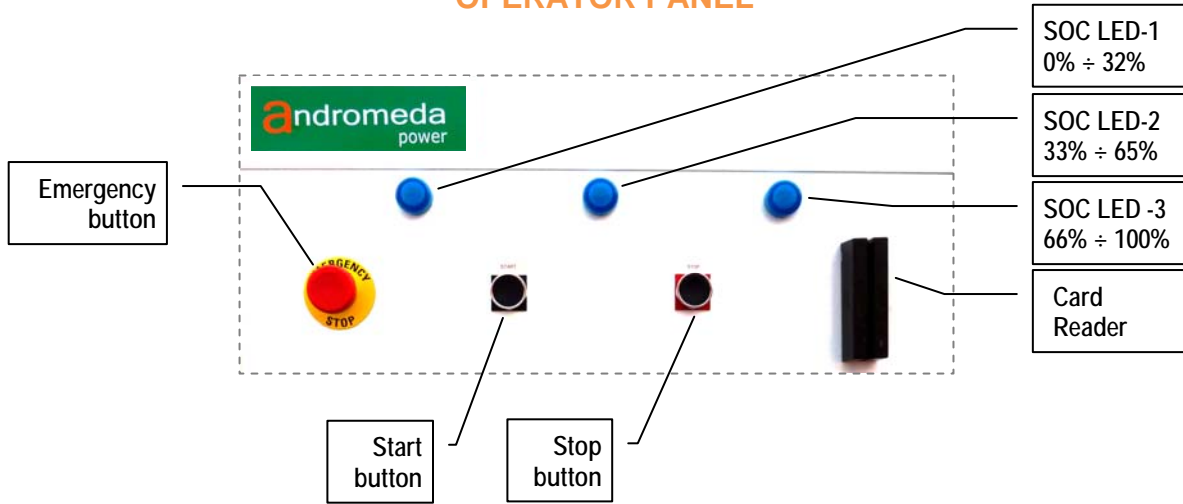
00000X: 0=none, 1=2nd Power Input (PI)
0X0000: 0=none, 2=SAE J1772 CCS
X00000: 0=none, 1=CHAdeMO
00X000: 0=none, 3=OCPP 2.0
000X00: 0=LCD display, 1=none

Communication
(see Table 4)

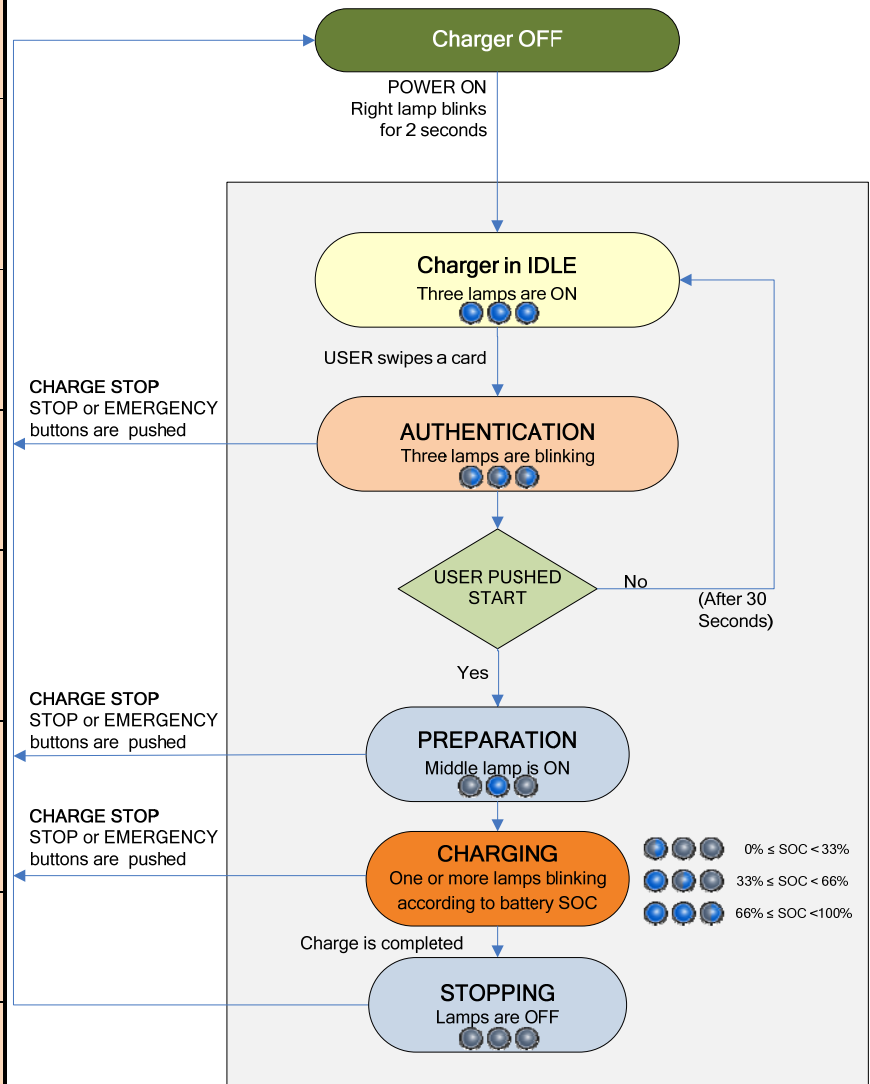
Enclosure Material
SS = Stainless Steel
PS = Painted Steel

Cable Length
(see Table 3)

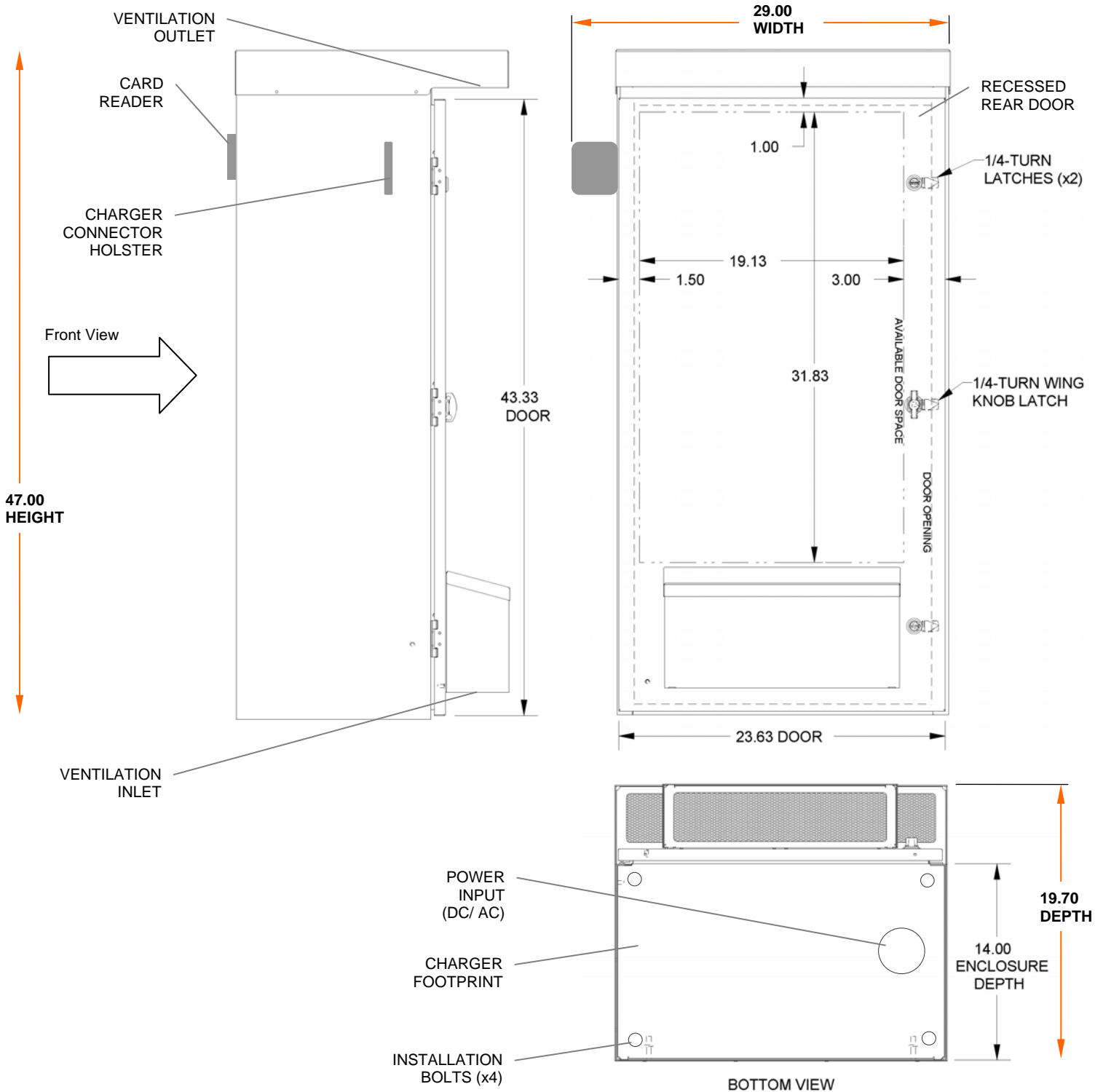
OPERATOR PANEL



LED	Description
● ● ⦿	POWER ON. This indication lasts for 2 seconds when the ORCA is turned ON.
● (with white center) ● (with white center) ● (with white center)	READY. The operator has to swipe the authentication card, then push the START button.
⦿ ⦿ ⦿	AUTHENTICATION. The operator can push the START button. If the operator does not push START within 30 seconds the ORCA returns in "READY status".
● ● (with white center) ●	PREPARATION. The communication between the ORCA and the Electric Vehicle started (up to 3 seconds).
⦿ ● ●	CHARGING (low battery). One LED is blinking and two LED are OFF: the State Of Charge of the Electric Vehicle battery is below 33%.
● (with white center) ⦿ ●	CHARGING (medium battery). One LED is ON, one is blinking, and one is OFF: the State Of Charge of the Electric Vehicle battery is between 33% and 65%.
● (with white center) ● (with white center) ⦿	CHARGING (high battery). Two LEDs are ON and one is blinking: the State Of Charge of the Electric Vehicle battery is between 66% and 100%.
● ⦿ ⦿	FAULT (Red). Code RED is active (see Maintenance Manual for further details).
● ● ⦿	FAULT (Blue). Code BLUE is active (see Maintenance Manual for further details).



PHYSICAL DIMENSIONS



Andromeda Power LLC is a registered trademark of Andromeda S.r.l. Corporation. All other trademarks are property of their respective owners. This technical information specifies the Orca charger but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.