EGUANA

Evolve Hub
Wiring Quick Guide
For use with Evolve ESS & Evolve LFP

Energy Management Controller

Mini USB

WAN

ESS — CT8, CT7
PV — CT6, CT5
N/C, N/C
Mains — CT2, CT1

AC Ref — L1 N

RS485 ESU/BMS — A B G

Red LED — 5V
Green LED — 5V
Batt Backup — 12V
Ext Pwr — 24V

Evolve Hub

12V Battery Bank
EMC Selector Switch — A
12V EMC Batt Backup
24V EMC Ext Pwr
Load V_AC Ref
Load Grid Neutral Bus

RS485 EMC
RS485 PCS
PCS AK1
PCS Load
PCS Grid

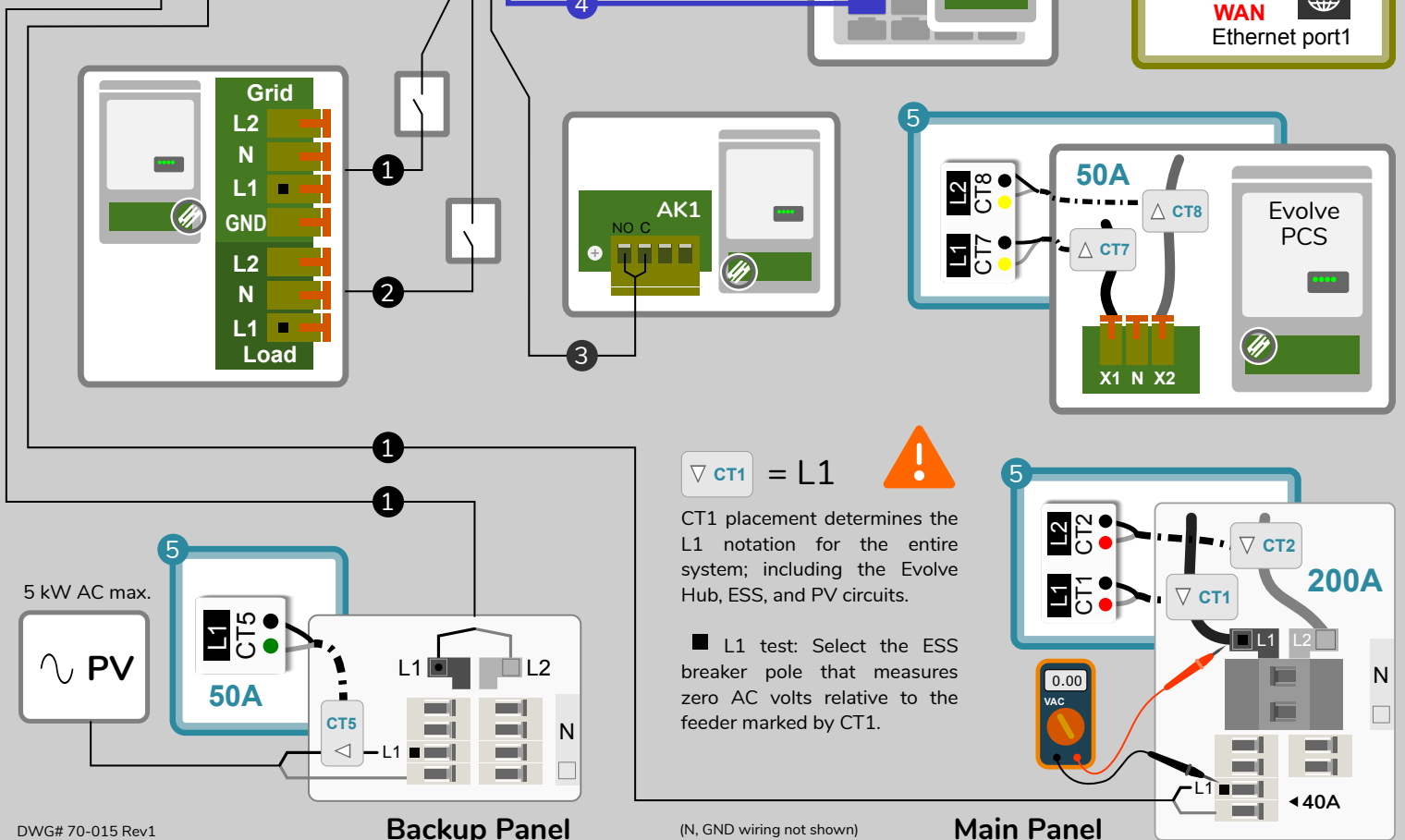Connect only after permission to operate.

12V AGM Battery

Wiring legend
- ① #8/3 + GND
- ② #8/3
- ▷ ③ #18/2 UTP
- ▷ ④ CAT-5 STP
- ⑤ CT's include 8 ft pigtails. Extend with #18/2 UTP.
- ⑥ CAT-5/6 UTP

▷ included with equipment.

CT legend
- ● Blk
- ● ● ● Wht (Red, Green, Yellow)

Observe CT polarity and direction.

Hard-wired customer internet connection recommended. Wi-Fi / cellular also supported.

EMS IN

WAN — Ethernet port1

Grid
L2, N, L1, GND
Load
L2, N, L1

AK1 — NO C

50A
L2 CT8, L1 CT7
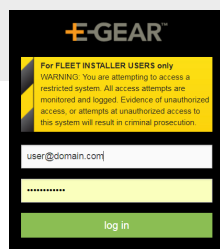△ CT8, △ CT7
X1 N X2
Evolve PCS

▽ CT1 = L1 ⚠

CT1 placement determines the L1 notation for the entire system; including the Evolve Hub, ESS, and PV circuits.

■ L1 test: Select the ESS breaker pole that measures zero AC volts relative to the feeder marked by CT1.

200A
L2 CT2, L1 CT1
▽ CT2, ▽ CT1
L1 L2
0.00 VAC
L1 ◄40A
N

Backup Panel
5 kW AC max.
∿ PV
50A
L1 CT5
CT5 ◁ — L1
L1 L2 N

(N, GND wiring not shown)

Main Panel

DWG# 70-015 Rev1

Evolve Hub Commissioning Quick Guide
Installer login account required

Register Device Online

For FLEET INSTALLER USERS only
WARNING: You are attempting to access a restricted system. All access attempts are monitored and logged. Evidence of unauthorized access, or attempts at unauthorized access to this system will result in criminal prosecution.

user@domain.com

log in

The EMC UID and S/N are found on the label inside the Evolve Hub.

1 Login via web browser.

🔒 Secure | https://www.mypowermyway.com/fleet_installer_users/sign_in

2 On-board (register) customer and device. **Add New Device**

installer dashboard | devices | commissioning profiles | customers | blocks | management ▾

The following fields require completion before system commissioning.

Customer info: email, name (first/last), country, state.
Device info: UID, S/N, total inverter AC capacity kW (PV only), number of battery modules.
**Device location:** country, state

* For time of use (TOU) applications, refer to special instructions provided by the manufacturer at time of order.

* Gateway reports to cloud in 5 minute intervals. Allow up to 15 minutes for initial data.   **Add Device**

3 Power up the Evolve ESS.

1. Turn ON all power switches on the battery modules.
2. Press the SW button on the master battery module.
2. Turn ON the battery disconnect (DC).
3. Turn ON the Evolve Hub breaker at the main panel.
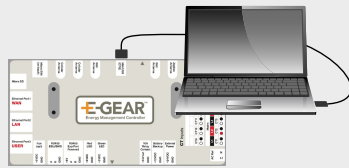
4 Connect your PC to the EMC mini USB port.

ℹ Skip step 5 and proceed to step 6 if the customer internet connection is wired ethernet or cellular.

5 Complete the Wi-Fi setup* via web-browser.
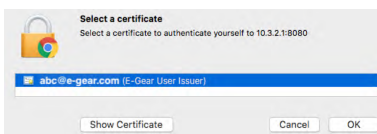
⚠ https://10.3.2.1   **Join Network**

1. Enter   user: egear   password: mypowermyway
2. Proceed past security warning (if applicable).
2. Select customer **Wi-Fi SSID** and enter **password**.

* If applicable. Wi-Fi signal strength must be higher than 50/100 for a reliable connection. Customer internet connection required. If Wi-Fi not available, an ethernet connection from the customer router to EMC Ethernet port 1 (WAN) is required. IP is DHCP assigned from router.

6 Login to the EMC config application via web-browser.

⚠ https://10.3.2.1:8080

1. Proceed past security warning
   (if prompted, click advanced, ignore security warning).
2. Present the PKI certificate* loaded on your PC.

Select a certificate
Select a certificate to authenticate yourself to 10.3.2.1:8080
☐ abc@e-gear.com (E-Gear User Issuer)

Show Certificate   Cancel   OK

* Refer to the PKI certificate instructions if you have not already obtained one.

7 Configure the Gateway for the Evolve ESS.
Confirm the following parameters. All others not shown are preset.

Gateway Configuration

Energy algorithms | Zigbee Devices | Other

Algorithm mode	Self Supply or TOU* ▼
Inverter type	Eguana AC Battery ▼
Interconnect Accessory	Eguana Evolve Hub 40A ▼

Energy algorithms | Zigbee Devices | Other

Onboard battery backup settings 🔵 Onboard battery backup enabled

Miscellaneous settings | YYYY-MM-DD hh:mm:ss | State / Province ▼

*TOU plans not currently in the system can be requested at the time of order. The TOU plans are updated remotely.   **Apply changes**

8 Configure the CT's.

CT Configuration

click to edit ➡	CT1	CT2	CT5	CT7	CT8
CT type	Mains	Mains	Generation (PV)	Battery	Battery
CT phase	L1	L2	Balanced	L1	L2
Subtract from loads	No	No	Yes	Yes	Yes
CT size	200	200	50	50	50

Update   Calibration mode | None   **Proceed**

ℹ **CT verification test:**
Start step 9 with PV OFF. Mains readings on L1 and L2 should be positive. The battery readings should be near zero and positive. Turn PV ON and wait for grid connect. When generating, PV readings should be negative.

9 Verify CT direction.
Output power convention: load = + Watts, gen = - Watts

CT Configuration

	CT1	CT2	CT5	CT7	CT8
	Mains	Mains	Generation (PV)	Battery	Battery
Watts	+	+	-	+ chg - dischg	+ chg - dischg

If CT orientation is reversed, correct one of two ways:
a. Remove and mount CT in the opposite direction. OR
b. click on CTx and select   Inverted | Yes

Update   Calibration mode | None   **Proceed**

ℹ Use the import & export configuration command buttons to save and copy configuration settings from one EMC to another.

Import Configuration   **Export Configuration**

Site Equipment Record
ℹ Take pictures as built.
Record all equipment serial numbers.