
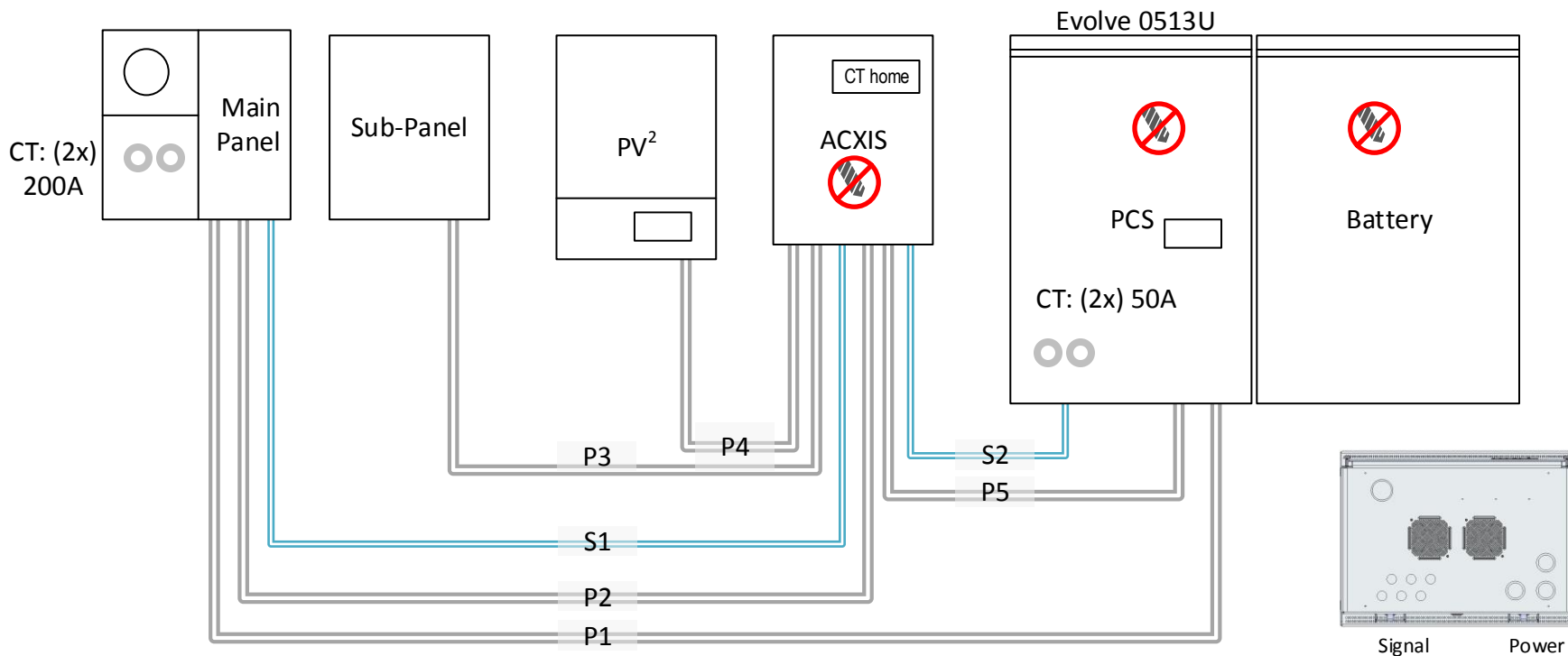


\* Recommended max dimension using manufacturer supplied interconnection cables.

Expansion battery cabinets shown where installation planning considers future storage capacity.

	Evolve Residential Energy Storage System			
	System Installation Clearances			
17.May.2019	SIZE	FSCM NO	DWG NO	REV
Randy McNernie	SCALE	none	58-137	3
			SHEET	1 OF 3



Disclaimer:  
Mfr supplied components represented here are limited to the PCS/Battery, EMC/ATS, and CTs for PV, battery, and mains.. All other materials and components represented are customer supplied. CEC/NEC electrical code compliance is the responsibility of the designer and/or electrical permit holder.



**WARNING! Drilling holes anywhere in the battery system renders warranty null and void. Use knockouts provided with reducers where applicable. The ACXIS panel does not contain knockouts**

Conduit Ref	Rating	Conductor	Circuit protection
P1	Power	8/4	60 Amp, 2 pole (240V)
P2	Power	10/4	30 Amp, 2 pole (240V), <a href="#">Note 1</a>
P3	Power	10/4	30 Amp, 2 pole (240V)
P4	Power	10/4	Included inside EMC <a href="#">Note 2</a>
P5	Power	8/4	N/A
S1	Signal	(2x) CT wires*	N/A <a href="#">Note 3</a>
S2	Signal	(1x) CAT-5 STP (1x) CT wire* (1x) 18/2 TP	N/A N/A N/A

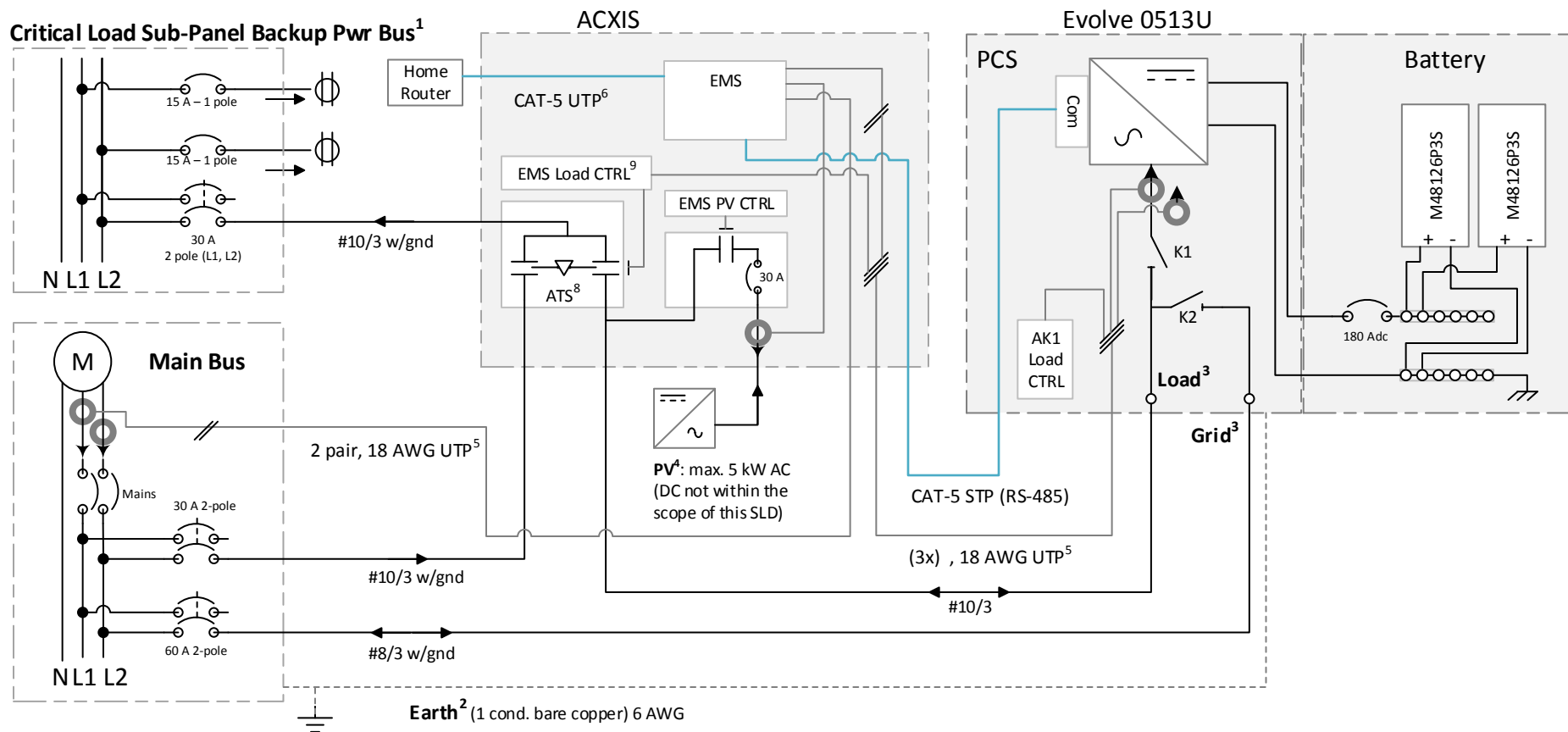
**Note 1:** Load circuit terminals are rated 60 Amp. With PV and load limit of the battery system, 30 Amp rating is permissible.

**Note 2:** PV inverter must be rated 5kW or less. One 30 Amp, 2 pole breaker included.

**Note 3:** All signal wires can be combined into one conduit, and distributed as required, if applicable. Individual conduits are shown for clarity of individual signals only. Long parallel signal runs to power runs should be separated by a minimum of 300 mm to minimize signal interference.

\* CT wire is 8 feet. Use 18/2 twisted pair extension wires up to 500 feet if required.

		Evolve Residential Storage System			
		Conduit, Conductor & Circuit Protection Plan Solar + Storage w/ Backup			
17.May.2019	SIZE	FSCM NO	DWG NO 58-137	REV 3	
Randy McNernie	SCALE 1:1	SHEET 2 OF 3			



**NOTES**

- 1- The backup power bus must be electrically isolated from the main electrical bus. Do not tap the neutral wires of the main and backup buses. Refer to the installation manual for wiring details. Load circuits are shown for demonstration. Maximum number of circuits determined by sub-panel rating. Loads connected to circuits must not exceed nominal power ratings (continuous/surge) of the inverter.
- 2 – The battery system must be earth bonded to the building ground to meet lightning protection requirements.
- 3 – The battery system load and grid ports are independently controlled circuits. Should the electrical code require additional “line-of-sight” disconnects, a separate disconnect must be used for each of the grid and load ports. The disconnects and/or circuit breakers must operate independently of each other, and not be ganged.
- 4 – ACXIS panel supports one PV (AC only) input, 30 Amp- 2-pole breaker included. For micro inverter installations, an external AC combiner must be installed (not supplied) such that one circuit is connected to the ACXIS panel. EMS PV CTRL is an EMS built-in function to curtail PV in backup mode when PV output exceeds charge limit of the battery. This relay also acts to curtail PV in non- grid export applications.
- 5 - CTs are equipped with 8 ft pigtailed. Twisted pair extensions can be run up to 500 feet. CT extensions should not be required if ACXIS box is within 4 ft of Evolve system.
- 6 – Ethernet is optional. EMS can communicate wi-fi or cellular.
- 7 – Excess PV above 5 kW AC must be routed directly to mains. PV circuits can be monitored by one set of CTs if those circuits are routed in a single enclosure.
- 8- The ATS consists of two mechanically interlocked contactors. Default source is grid to the critical load backup panel. Upon grid outage, ATS switch over occurs after the battery inverter generates off-grid output.
- 9- EMS load CTRL is activated to disconnect the critical load panel when battery is depleted to minimum reserve in back up mode, allowing PV to recharge the battery before reconnecting load.

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	Evolve Residential Energy Storage System			
	Electrical Single Line Diagram (SLD) Solar + Storage with Solar Integrated Backup			
17.May.2019	SIZE	FSCM NO	DWG NO	REV
Randy McNernie	SCALE	none	58-137	3
			SHEET	3 OF 3