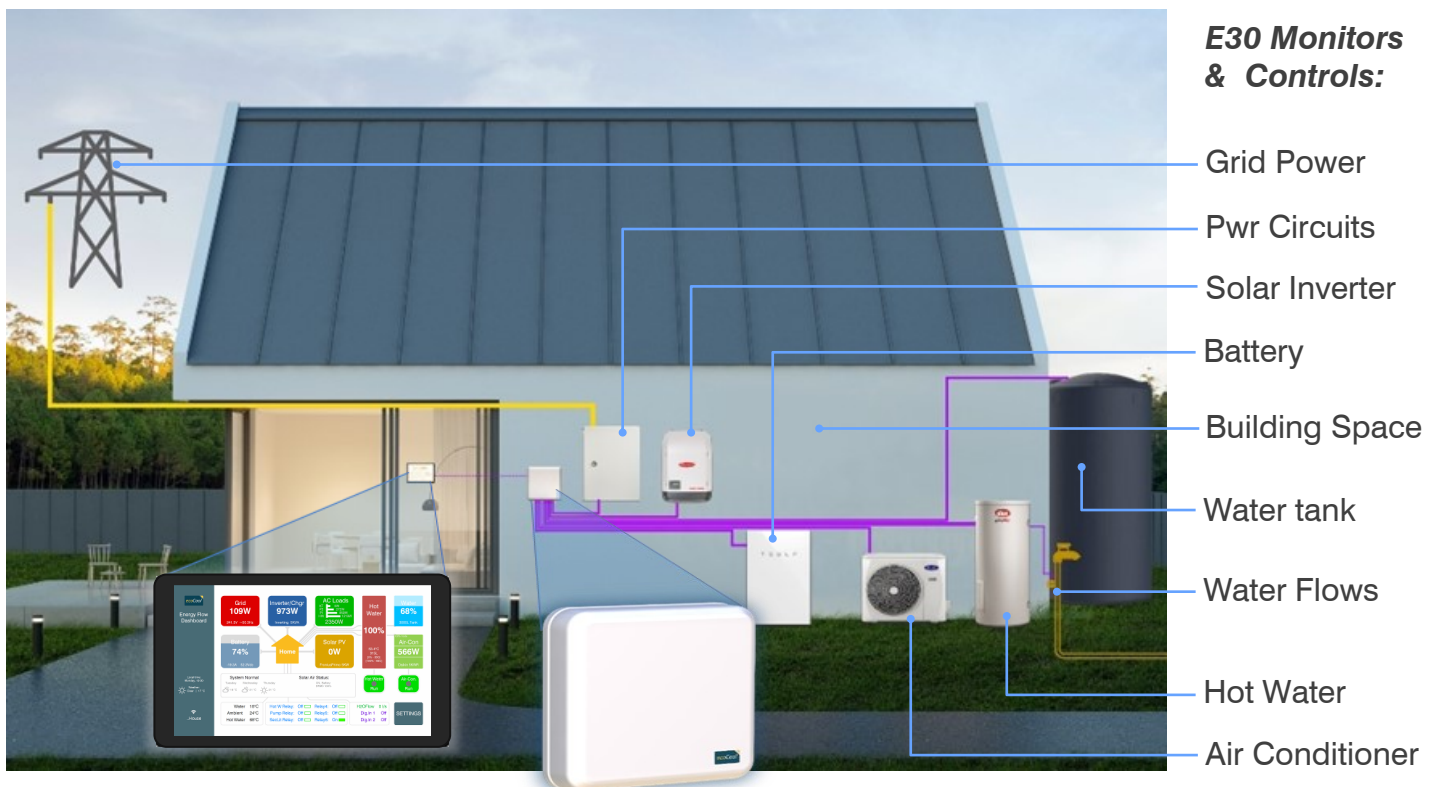# E30: Visualise Energy Flows

ecoCool

E30 Energy Flows Dashboard + Controller

With Solar Air Conditioning

ecoCool's Energy Flow Dashboard™ fuses energy flows in your home onto a visual display, allowing you perfect visibility of your energy. Control your air conditioning, electrical loads, energy use and costs.

E30 Monitors & Controls:

- Grid Power
- Pwr Circuits
- Solar Inverter
- Battery
- Building Space
- Water tank
- Water Flows
- Hot Water
- Air Conditioner

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E30 System Schematic

Grid/Gen Power

Weather/forecasts

Status Bar:
- Temperatures
- Relay States
- Pump Flow Rate

Solar Inverter

Battery

Water Mains

Air Conditioner

**House circuits:
Control by relays**

Status + Override
- Hot Water Manual.ON
- Air-Con Manual.ON
- Power Cost Ticker

Water Tank

Hot Water

Water Pumps

Energy Flow Dashboard™

The E30 Energy Flow Dashboard*TM* display & controller link to your household systems like switchboard, solar, battery, air-conditioning, drinking water, grid & appliances, for 'energy visibility', programming and smart decision-making.

You can run your Hot-Water system only when solar reaches a set output. Or schedule your pump to run when your tank reaches a set level. Or simply turn on a remote pump. The E30 Save you energy, saves money, and saves time.

Solar Air Conditioning

The E30 Solar Air Controller is designed to use as much solar PV power as possible, to aim for 100% renewable air conditioning, or when off-grid, to maintain battery life and to use otherwise unused solar power. Your own Air conditioner, becomes a renewable *Solar Air Conditioner*.

Technical Details
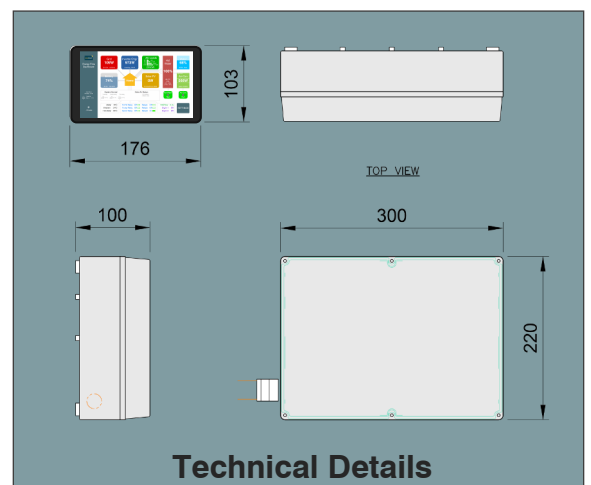
E30 Energy Flows Dashboard + Controller *With Solar Air Conditioning*

E30.300.01	Specifications	Hardware Details
Supply voltage AC:	230V ac / 50Hz 0.25A max	2 x 2.5mm2 Terminals
Supply voltage DC:	5-18V dc 4A max, @12V dc	2 x 2.5mm2 Terminals
Power Consupmtion:	10-15w nom.	
Outputs		
Relay.1 12V driving outputs 1A:	1	eg to Finder base 97.01 &16A relay
Relay.2-4 12V outputs extra 1A:	3 (DRM Terminals)	Jumper / Software setting to use
Relay.5-6 outputs Venus 6A:	2 on Venus Device	eg Victron Cerbo Relay 1,2 (6A)
Solar Air conditioning:	3 x DRM control terminals	Cat 5/6 cable to Air Con
Display: Touchscreen:	HDMI / USB	See accessories, touchscreen
Display: Tablet supplied:	Wifi - browser based display	Wifi Tablet or networked PC/Laptop
Inputs		
CT AC sensor Inputs:	0-50A	Clamp Type
Temperature Inputs:	3 x HW Sensor (2.5mm2 S/T)	DS18B20 type, waterproof
Water flow/temp:	1 x Pulse based flow, NTC temp	12m 5-core cable supplied
Tank Sensor:	1x Ø80mm Tank Top Sensor	Self adhesive, drill 10mm hole
Digital Inputs:	2 (2.5mm2 S/T)	Short Input to Ground, for 'On'
Controller:	Raspberry Pi 3B+, Custom Hat	
Enclosure type:	Polycarbonate, IP55 rated	Wall Mounting Holes
Enclosure colour:	Light Grey, RAL7035	
Communications		
Ethernet Ports:	4 Available	5 Port Gigabit ethernet switch
Supply voltage Network Switch:	12Vdc (0.3A)	
Wifi:	Local (5m) wifi, or via router	Add ethernet-router for wifi range
Wifi antenna:	Optional wifi dongle, USB	D-Link DWA 131 / Nano
Audible Alarm:	Audible Alarm 85dB	
Connection options:	Ethernet, Modbus TCP, USB	Also: 2 wire Digital in/out, DRM
Security:	Wifi Password Protected	
Control		
Pumps	Via Relay 1-6 (Man/Sched/Event)	Actuate secondary relay for AC/DC
Electrical Loads	Via Relay 1-6 (Man/Sched/Event)	Actuate secondary relay for AC/DC
Connected Equipment	In Victron network	Via VE.Bus, VE.direct, Modbus TCP
Dimensions		
Dimensions:	300L x 220W x 100H mm	
Weight:	1.2 kg	
IP Rating:	IP55	IP55: Suitable for outdoors
Standards		
Standards:	AS/NZS 60335.1, AS/NZS 61000.6.3	Electrical safety/EMC
Warranty:	5 years	Actuate secondary relay for AC/DC
Accessories		
7" Touchscreen:	7" Touchscreen, Mounting, Power	USB, Wifi, 1.5m, Power Kit, HDMI Opt.
CT Sensors:	Spare 0-50A CT Clamp sensor	For AC load sensing, AC circuits
HW Temp Sensors:	Spare DS18B20 Temp sensor	For Hot Water or other use
Switch for Loads	Hard switch for load on/off	Programmable/Manual control
Compatible Controller Systems:	Victron GX Devices, including VensGX, ColorGX, CerboGX	
	Any 230V a.c. solar inverters/batteries/HWS are compatible, see Manual	

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