

## Componentes electrónicos para la IPU

Cantidad	Item	Local part # / spec	Nota
1	ESP32 DevKit	ESP32-WROOM-32	Wi-Fi + BT, 34 GPIO
4	LiFePO4 Cell	3.2 V 6000 mAh (32700)	4 en paralelo → 12 Ah @ 3.2 V
1	Buck-Boost 300 W	XL6019 (adjustable 5-35 V)	Handles PV 12-24 V
5	MOSFET 100 V 80 A	IRF3205	Low-side switch + kickback driver
1	Power Inductor	100 µH 10 A toroid	Core for kickback pulse
1	Super-Capacitor Bank	16 V 500 F module	Descarga instantánea del “pistón”.
1	Shunt 75 mV 100 A	Hall-effect current sensor	Real-time current feedback
10	Fast Diodes	UF4007 1000 V 1 A	Snubber /kickback protection
1	Heatsink + Fan	100 mm aluminium + 12 V fan	Thermal management
1	Proto PCB + misc	10×15 cm + headers, wires	Breadboard-to-PCB

## Baterías

[https://es.aliexpress.com/item/1005009445736928.html?spm=a2g0o.productlist.main.58.6178KsaXKsaXbF&algo\\_pvid=ae1e85e1-9918-4aff-885e-66ad766f746f&algo\\_exp\\_id=ae1e85e1-9918-4aff-885e-66ad766f746f-57&pdp\\_ext\\_f=%7B%22order%22%3A%22-1%22%2C%22eval%22%3A%221%22%7D&pdp\\_npi=4%40dis%21COP%21159115.40%2139777.43%21%21%21279.17%2169.79%21%402103146c17526131151676691ebb51%2112000049124247689%21sea%21CO%210%21ABX&curPageLogUid=Mx1zfkLuBvhi&utpara\\_m-url=scene%3Asearch%7Cquery\\_from%3A](https://es.aliexpress.com/item/1005009445736928.html?spm=a2g0o.productlist.main.58.6178KsaXKsaXbF&algo_pvid=ae1e85e1-9918-4aff-885e-66ad766f746f&algo_exp_id=ae1e85e1-9918-4aff-885e-66ad766f746f-57&pdp_ext_f=%7B%22order%22%3A%22-1%22%2C%22eval%22%3A%221%22%7D&pdp_npi=4%40dis%21COP%21159115.40%2139777.43%21%21%21279.17%2169.79%21%402103146c17526131151676691ebb51%2112000049124247689%21sea%21CO%210%21ABX&curPageLogUid=Mx1zfkLuBvhi&utpara_m-url=scene%3Asearch%7Cquery_from%3A)

## Inversor

[https://articulo.mercadolibre.com.co/MCO-819171786-inversor-de-corriente-600w-12v-a-110v-doble-enchufe-y-usb-\\_JM#polycard\\_client=search-nordic&position=47&search\\_layout=stack&type=item&tracking\\_id=27295ef2-d70a-4c46-8d39-6ccb4ccc6af5&wid=MCO819171786&sid=search](https://articulo.mercadolibre.com.co/MCO-819171786-inversor-de-corriente-600w-12v-a-110v-doble-enchufe-y-usb-_JM#polycard_client=search-nordic&position=47&search_layout=stack&type=item&tracking_id=27295ef2-d70a-4c46-8d39-6ccb4ccc6af5&wid=MCO819171786&sid=search)

## Paneles solares

[https://articulo.mercadolibre.com.co/MCO-1412668707-panel-solar-portatil-5v-12v-15w-recarga-celulares-baterias-\\_JM?searchVariation=180291374960#polycard\\_client=search-nordic&searchVariation=180291374960&position=42&search\\_layout=grid&type=item&tracking\\_id=8ff85434-824e-4fe3-86be-f9cd063acc7d](https://articulo.mercadolibre.com.co/MCO-1412668707-panel-solar-portatil-5v-12v-15w-recarga-celulares-baterias-_JM?searchVariation=180291374960#polycard_client=search-nordic&searchVariation=180291374960&position=42&search_layout=grid&type=item&tracking_id=8ff85434-824e-4fe3-86be-f9cd063acc7d)