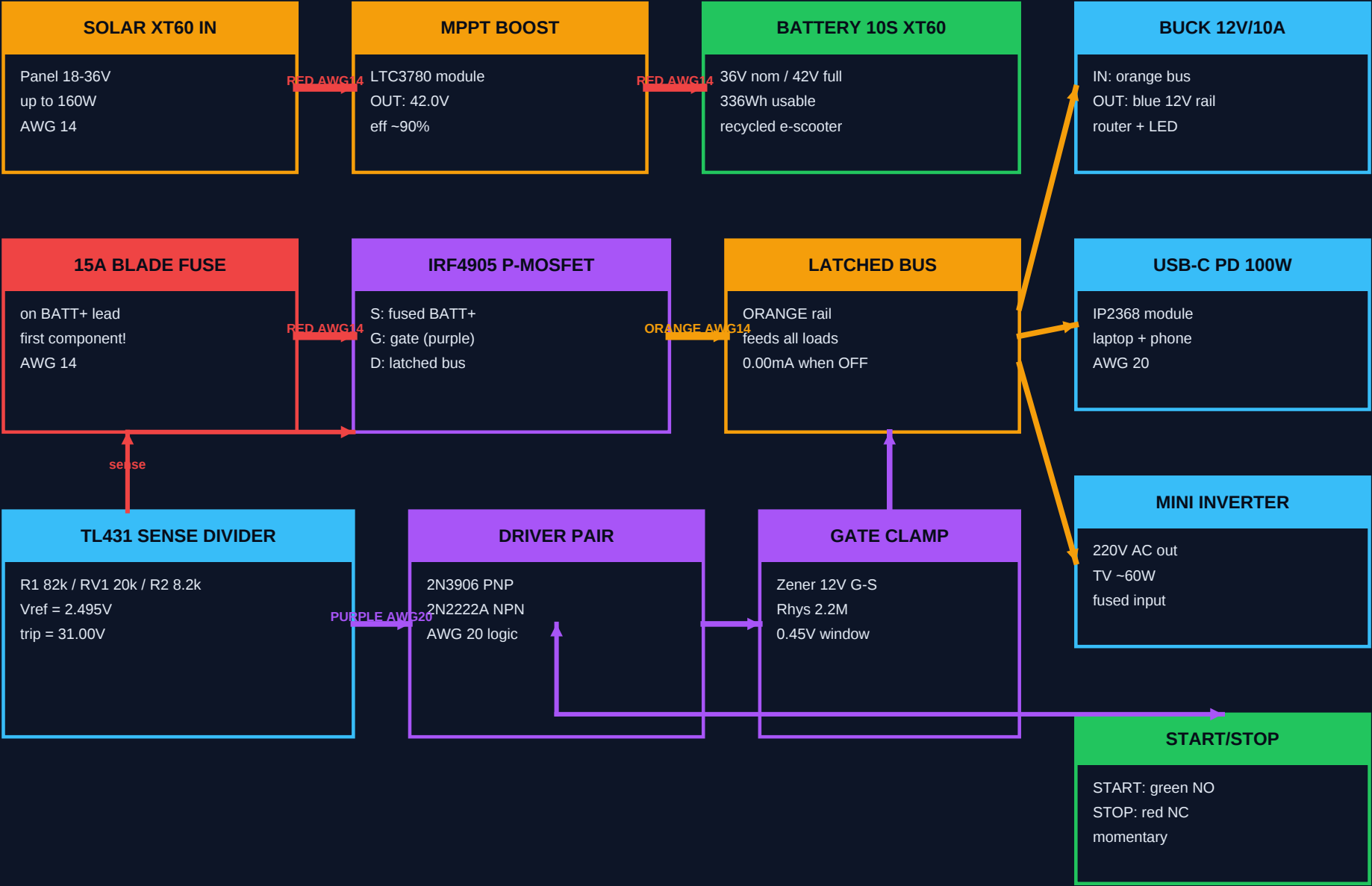


PBX-36 Modular Ultra - Wiring Blueprint

مخطط التوصيلات الكهربائية

36V zero-drain solar generator | 10S Li-ion | cut-off 31.00V | charge 42.0V

Wire legend: +36V RED GND BLACK LATCHED ORANGE +12V BLUE GATE PURPLE



الأحمر +36V والأسود GND بسماكة AWG 14 للبطارية والشمسي، والمنطق AWG 20 — الفيوز 15A أول عنصر بعد البطارية دائما

FROM	TO	WIRE	AWG	NOTE
Solar XT60+	MPPT IN+	RED	14	panel 18-36V
Solar XT60-	MPPT IN-	BLACK	14	common GND
MPPT OUT+	Battery XT60+	RED	14	42.0V charge
Battery XT60+	15A Fuse IN	RED	14	first element!
Fuse OUT	IRF4905 Source	RED	14	fused rail
IRF4905 Drain	Latched bus	ORANGE	14	switched rail
Batt+ sense	R1 82k top	RED	20	divider tap
TL431 K/A	2N3906 base	PURPLE	20	trip signal
2N2222A C	MOSFET Gate	PURPLE	20	gate drive
Zener 12V	Gate-Source	PURPLE	20	Vgs clamp
Latched bus	Buck / USB / Inv	ORANGE	14/20	via branch fuses
All returns	Battery XT60-	BLACK	14	star GND

Cut-off math: $V_{trip} = 2.495V \times (1 + (R1+RV1)/R2) = 2.495 \times (1 + 102k/8.2k) = 31.00V$ | Hysteresis Rhys 2.2M -> 0.45V window

1. Set MPPT output to 42.0V BEFORE connecting the battery. 2. Calibrate RV1 so cut-off trips at 31.00V on a variable supply.
3. Verify 0.00 mA standby on the mA range after STOP. 4. 15A fuse stays inline - never bypass BMS or fuse.
5. Battery/solar wiring AWG 14 silicone; logic/driver AWG 20. 6. All high-current joints via WAGO 221 - no solder on power path.

قس مرتين وشغل مرة واحدة — السلامة أولا