E-AblePower Technology

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INSTALLATION MANUAL

SolarWrap Q140 vertical solar module

Hexagonal pole-mounted PV module · read before installation · keep for maintenance



PACKED IN THE CARTON

Solar module	1 set (master + sub)
Mounting brackets	2 sets, upper / lower
Set screws	M8 × 40, 6 pcs per bracket
MC4 adapter	300 mm, 2 pcs
Allen key	M4
Manual	1 copy

TOOLS YOU NEED

Allen driver	M4 bit
Torque wrench	10–20 N·m
Tape measure	3 m
Spirit level	300 mm
Access	ladder or MEWP
Cable ties	UV-rated

Safety first. Work at height needs a trained crew, harness and an exclusion zone below. Isolate and lock off any AC supply to the luminaire before wiring. PV modules generate voltage in daylight — cover the faces or work before sunrise, and never short the MC4 leads. Never lift the module by its cables.

INSTALLATION AT A GLANCE

01–04	05–12	13–19	20
Check pole, clamp brackets	Mount modules, connect MC4	Second module, final checks	Commission and hand over

Set screw length may change with pole wall thickness; through-pole screws are not supplied. The sub module ships nested on the master module — leave the transport clips in place until the bracket is on the pole.

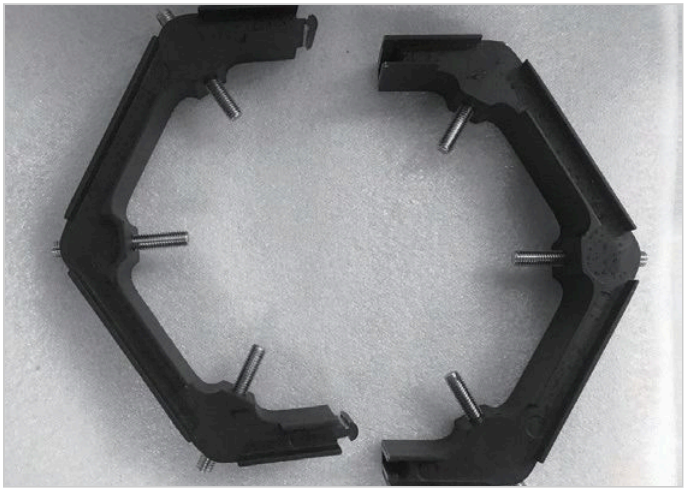
STEP 1 — CHECK THE POLE, FIT THE BRACKETS

Before you drill anything

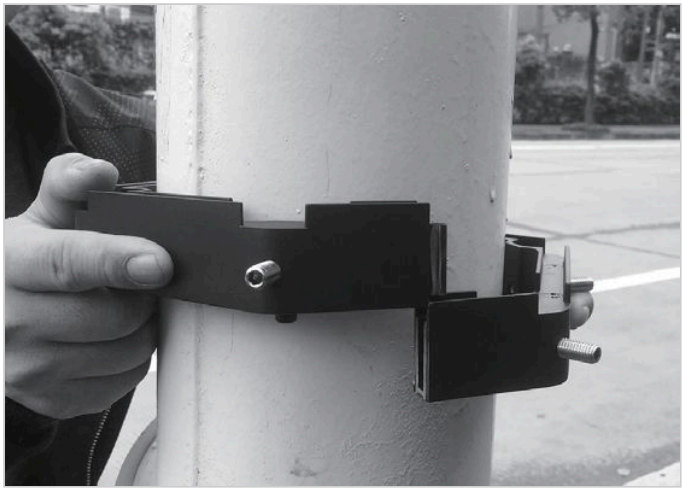
Check	Requirement for Q140	If it fails
Pole diameter	≤ 150 mm outside diameter at clamp height	Choose the next module size
Wall thickness	≥ 3 mm steel; ≥ 4 mm under the clamp band	Fit a reinforcing sleeve
Verticality	≤ 1° out of plumb over 1.5 m	Re-plumb or re-site
Surface	Clean, dry, no loose paint or rust scale	Wire-brush and treat
Cable route	Inside the pole, or UV-rated conduit with drip loop	Re-route before mounting
Rear clearance	≥ 150 mm behind the module face	Shift the clamp height

Bracket torque 12–15 N·m. The bracket is rated to carry 50 kg; the pole and its foundation must be rated for the finished array.

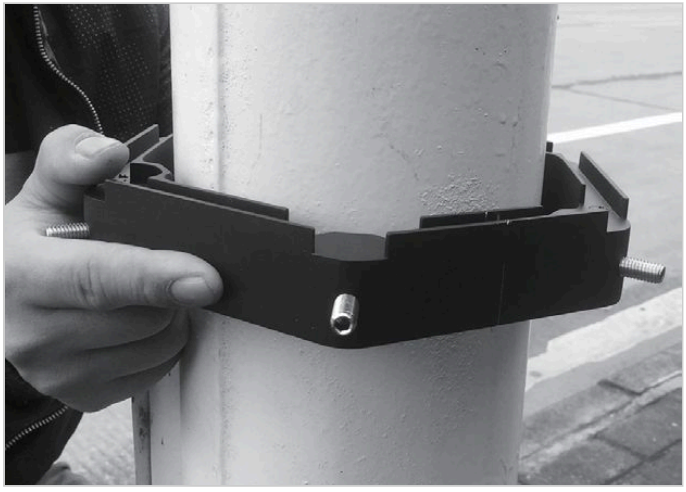
STEPS 01–04 — BRACKETS



01 Adjust the set screws to the pole diameter



02 Buckle the bracket halves on the pole



03 Join the two halves — keep the joint flat



04 Fasten the six screws, pole centred

Even gap, both sides. If one half of the bracket closes further than the other, the module tilts and one edge of the glass takes the load. Re-set the screws and start again rather than packing the gap.

STEP 2 — MOUNT THE MODULE

Hang, slide, seat, connect

Two people are needed above 1.5 m. Keep the red MC4 pair (master to sub) separate from the output leads — mixing them reverses one half of the module.



05 Brackets tight — rated to hold 50 kg



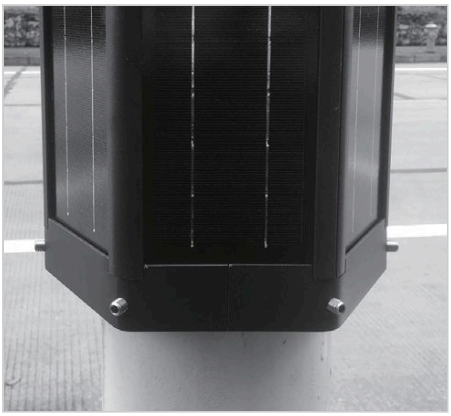
06 Hang the master module on the bracket



07 Slide the sub module down the track



08 Connect the red MC4 pair top and bottom



09 Seat the sub module on the bracket



10 Take the two MC4 leads out carefully



11 Fit the upper bracket over the module



12 Adjust until the module sits square

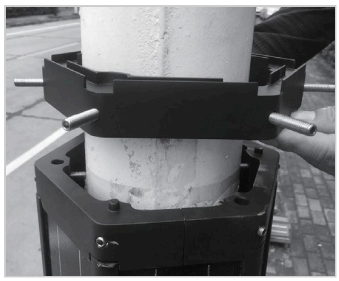
Do not let a lead fall inside the module. Tape the output pair to the bracket before sliding the sub module: a lead dropped into the cylinder cannot be recovered without dismantling the array.

STEP 3 — SECOND MODULE AND WIRING

Stack, then wire to the controller



13 Fasten the six screws of the upper bracket



14 Fit the third bracket at the top



15 Take the MC4 leads out through the bracket



16 Connect the 300 mm adapter cables



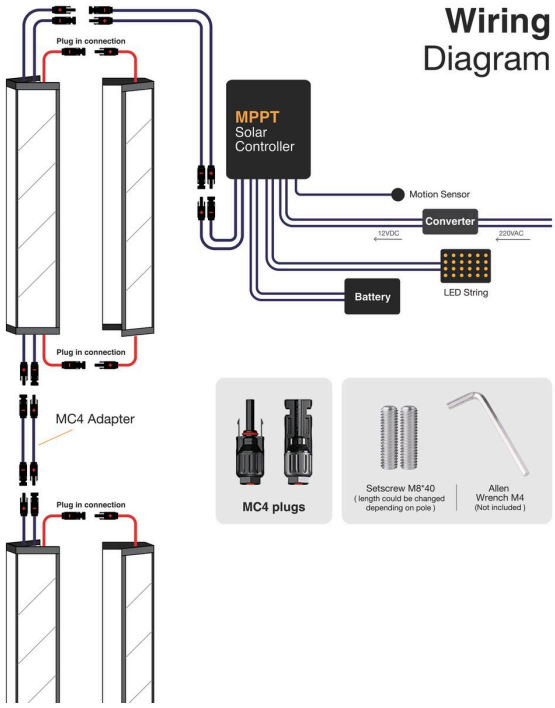
17 Mount the second master module



18 Join it to the first with the adapter



19 Installation complete



Factory wiring diagram — series connection, MPPT input

WIRING RULES

Polarity	Male MC4 = positive; female = negative (18/36 V+)
Between modules	300 mm adapter is mandatory
Last module	Leave the final pair open or cut it off
Controller	MPPT only; PWM cuts yield
String	Vmp adds; Isc stays at one module

Check string Vmp against the controller window and the battery class before energising.

STEP 4 — COMMISSION AND HAND OVER

Set it up, then sign it off

COMMISSIONING

Item	Setting / check
Array profile	Enter the installed array voltage and current — never leave a factory default set for a different array
Battery type	LiFePO4, voltage window matched to the battery pack datasheet
Dimming profile	Match to the site's operating hours; a default profile drains the pack before dawn
Dusk / dawn	Photocell switches within 10 minutes of sunset
Output check	Measure Voc and Isc at midday; both within 5% of the nameplate values

TROUBLESHOOTING

Symptom	Likely cause	Action
No output at midday	Open MC4, reversed polarity, covered face	Check each joint; confirm male = positive
Output below nameplate	Partial shading, dirty face, sub module not connected	Clean, re-seat adapter, re-measure
Light dies before dawn	Dimming profile too aggressive or battery undersized	Re-profile, then review battery capacity
Module loose on pole	Set screws not re-tightened after settling	Re-torque to 12–15 N·m

MAINTENANCE

Every 6 months — visual check of clamps and screws; re-torque if the pole has settled.

Every 12 months — clean the glass with water only; inspect gland and drip loop.

After a storm — check bracket alignment and glass for impact damage before re-energising.

Never — drill extra holes in the frame, or stand on the module face.

BEFORE YOU CLOSE THE POLE

- ☐ All six screws torqued to 12–15 N·m on both brackets.
- ☐ 300 mm adapter fitted between every pair of modules.
- ☐ Unused MC4 pair capped or cut at the last module.
- ☐ Drip loop formed before the gland; cable fixed inside the pole.
- ☐ Module level checked front and side with a spirit level.
- ☐ Serial number photographed and entered below.

HANDOVER RECORD

Site / project		Install date	
Module serial no.		Quantity	
Pole diameter		Clamp height	
Measured Voc		Measured Isc	
Controller model		Profile set	
Installer		Signature	

SolarWrap Q140 carries a **5-year** warranty against manufacturing defects in materials and workmanship from the shipment date, covering the module and its brackets. It excludes damage from incorrect installation, unauthorised modification, lightning, storm loads above the tested wind class and normal glass soiling. Claims need the serial number, site photographs and a measured output record.