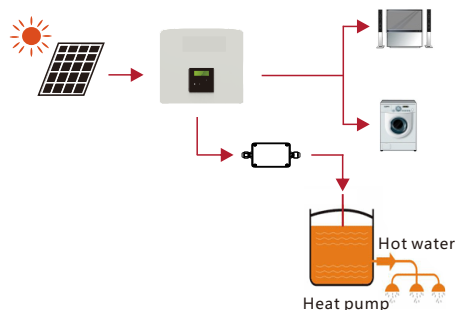


Quick Installation Guide

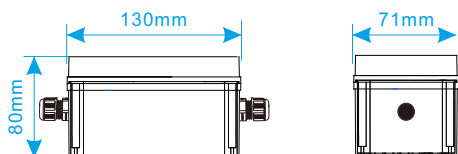
Dražice HP EMS box

I Introduction

Dražice HP EMS box is matched with a heat pump with dry contact function, which can realize heat pump integrated photovoltaic inverter energy system management. The inverter can control the HP EMS box to use solar energy efficiently according to the requirements set by the user (grid power, battery capacity, time, etc.) Supplying heat pumps is generally applicable when there is surplus solar energy and battery storage capacity. This part of the energy can be used to heat the heat pump within the required temperature range. Please read this guide carefully before using.

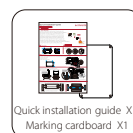
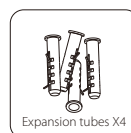


II Overview



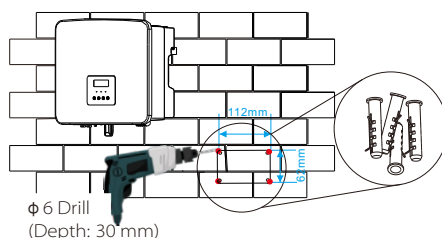
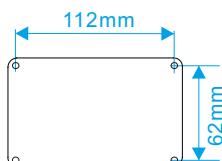
III Packing List

– Check that if there is any distortion or impaired during transportation.

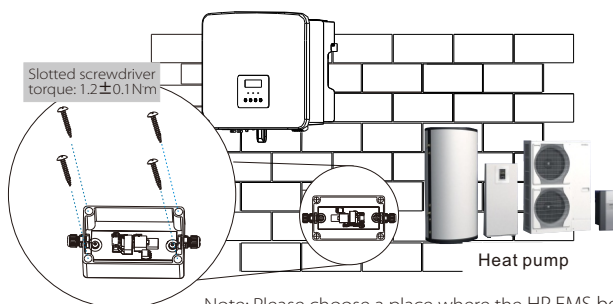
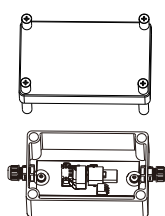
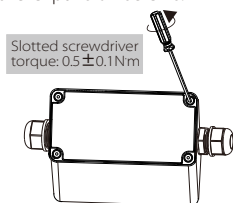


IV Mounting

- Use the marking cardboard to fix it on the wall and determine the location of the hole.
Drill holes with $\phi 6$ drill.
Depth: at least 30mm.
- Tighten the expansion tubes.



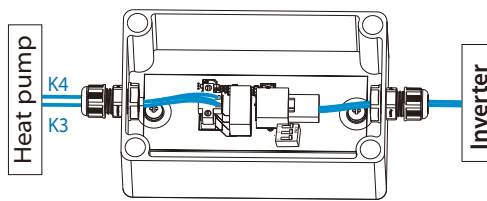
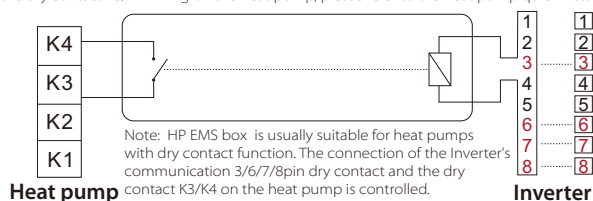
- Dismantle the upper cover of the Dražice HP EMS box.
- Pass the expansion screws through box installation channels.
Screw the expansion screws.



Note: Please choose a place where the HP EMS box is not directly exposed to the sun.

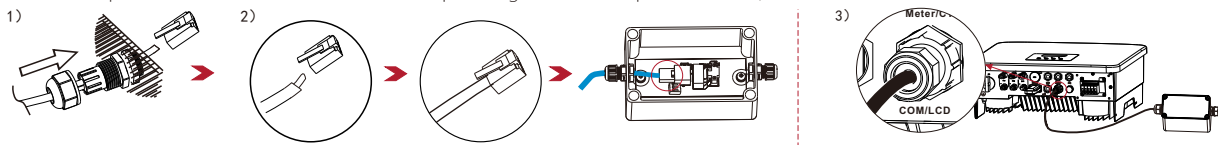
V Wiring

Connection diagram of the external relay for the Smart Grid Ready control of a heat pump.
(For the dry contact K3/K4 wiring on the heat pump, please refer to the heat pump quick installation guide)

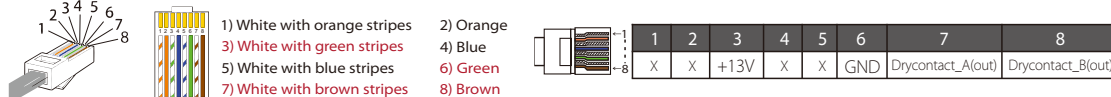


Connect the HP EMS box to the inverter

1. Insert the cables through the glands.
2. Make cables, insert it into the RJ45 connector in the box and tighten the waterproof terminal. (Conventional Communication cable length: Stripping cable length: L = 15.00 mm)
3. Press the wire on the other side according to the inverter quick installation requirements and insert it into the inverter port. (Refer to the quick installation manual of the corresponding inverter for specific details)



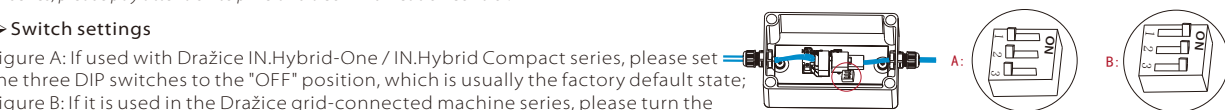
COM/RS485 PIN Definition



Note: The inverter terminal communication lines are carried out in strict accordance with the color sequence of the above lines. If you use it with Dražice's IN.Hybrid-One / IN.Hybrid Compact series, please pay attention to the communication control of pins 3, 6, 7 and 8; For use with Dražice grid-connected inverter series, please pay attention to pin 3 and 6 communication control.

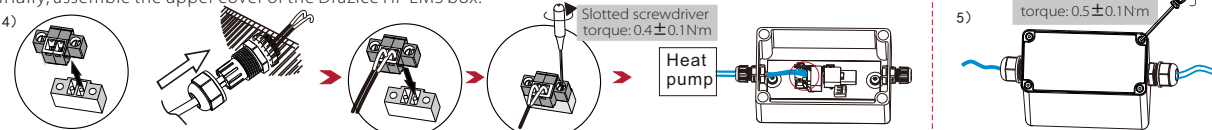
Switch settings

Figure A: If used with Dražice IN.Hybrid-One / IN.Hybrid Compact series, please set the three DIP switches to the "OFF" position, which is usually the factory default state; Figure B: If it is used in the Dražice grid-connected machine series, please turn the three DIP switches to the "ON" position. If you need to match inverter and HP EMS box, please contact our Dražice team.



Connect the HP EMS box to the Heat pump

4. First remove the green terminal block in the HP EMS box, the connect the cables to the through-hole terminals and tighten them. (Wire specifications: outer diameter (3.5-5.5) mm, stripping cable length: L = 7.00 mm).
 5. The wiring on the other side is inserted into the port according to the quick installation requirements of the heat pump. (Please refer to the quick installation manual of the corresponding heat pump)
- Finally, assemble the upper cover of the Dražice HP EMS box.



VI Setting

– All Smart Grid Ready heat pumps have four controllable operating modes. Dražice recommends switching between operating modes 2 and 3. The switching is realized by an external relay, which is controlled by the Dražice inverter.

Operating mode

Operating mode 2 – standard operation	In this operating mode, the heat pump runs in standard operation. To activate this operating state, the external relay for controlling the heat pump remains open.
Operating mode 3 – increasing temperature mode	In this operating mode, the heat pump operates within the regulator in the intensified operation for hot water generation and / or room heating. This is not a direct start-up command, but an activation recommendation corresponding to the available PV power. In order to activate this operating state, the external relay is closed.

– To use the heat pump function, users need to set the inverter LCD screen, press the following menu to enter: "Load Management", select "Smart save" to set.



(a) If you want to turn off the HP EMS box function, you can set "Disable" here to turn it off.

Manual setting: (b) Manual mode switch, you can set it to on or off here.

Smart save settings: (c) User can set the feed-in power threshold here. Once the feed-in power is greater than or equal to the set value, the adaptor box will turn on to make the heat pump work in mode 3.

(d) User can set the consumption power threshold here. Once the power consumption is greater than or equal to the set value, HP EMS box will turn off to make heat pump work in mode 2.

(e) User can set the battery capacity threshold here. Once the battery capacity drops to the set value, the HP EMS box will turn off to make the heat pump work in mode 2.

(f) User can set the minimum duration time that the heat pump will continue to run in mode 3 once the condition (c) is triggered.

(g) User can set the cumulative time of operation mode 3 in one day. If this value is exceeded, the HP EMS box will not turn on even if condition (c) is met.

(h) Users can set two working time periods for the operating mode 3. (In other time periods, the HP EMS box will be turned on/off according to the (c)/(d)/(e))

(h-1)/(h-2)/(h-3)/(h-4) Here you can set the start time and end time of operation mode 3.

