

INSTALLATION

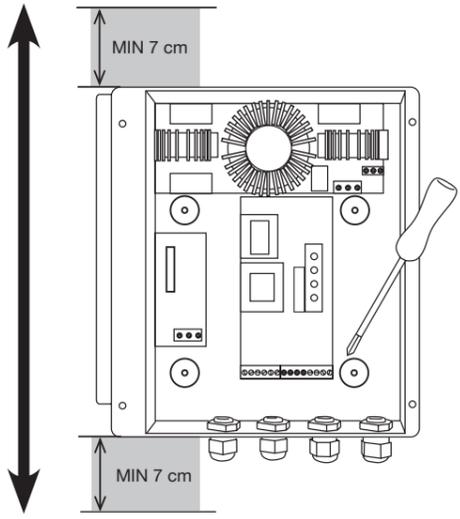
1) Fix Power Reducer onto the wall.

- a) Remove the cover unscrewing the 4 screws on the front of Power Reducer.
- b) Drill the wall according to the 4 holes at the back of the device.
- c) Securely mount the device on the wall using appropriate screws

Warning: do not use Power Reducer itself as a template for drilling holes directly on the wall.

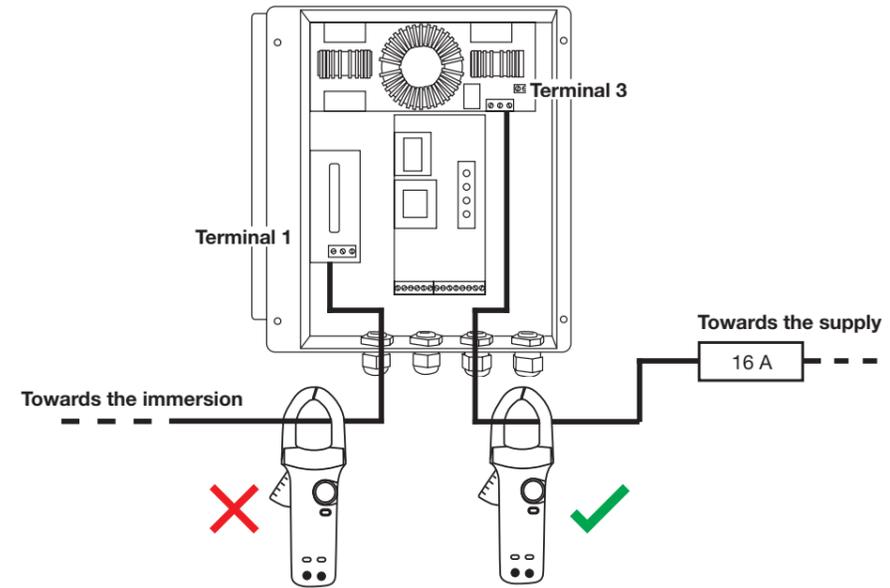
LOCATION: install Power Reducer next to the wire that supplies power to the resistive load (immersion). They will share the same power supply!

VENTILATION: install the device vertically (cable glands must be placed DOWNWARDS). Proper ventilation is also guaranteed by clearings around the device. Make sure no other objects are placed within a range of 7 centimeters.



2) Cut the resistive load power supply cable and connect the pins to the correct terminals.

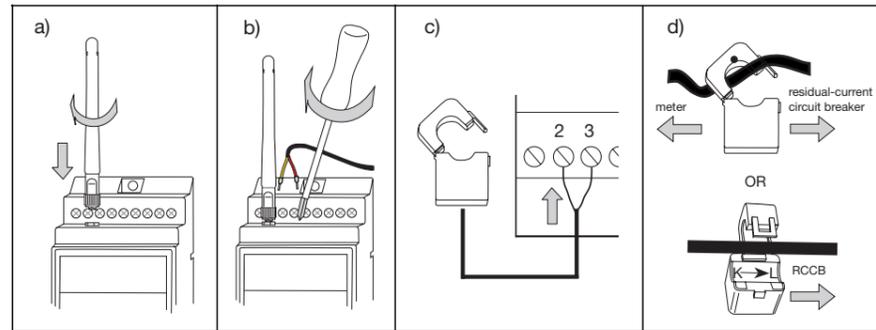
WARNING: before cutting the cable, make sure the power to the immersion is OFF



Possible measurements made with amperometric clamps must be detected on the Live-phase that connects the power source with the Power Reducer. Measurements detected on the wire directed towards the resistive load will be inaccurate.

- Warning:** Power Supply cables must be tripolar. Each single wire must feature a minimum dimension of 2.5 mm²
- Warning:** Installation of 20 A thermal magnetic to protect the device

3) Install the Radio Transmitter (ZR-BIDCI-GEN-ZB-SC-EM)



- a) Screw in the antenna
- b) Power the device
- c) Connect the CT to terminals 2 and 3
- d) Identify the wire that originates from the Residual-Current Circuit Breaker and directs towards the mains meter. Clamp the CT on the live-phase, placing it according to point 1 or 2 as follows:
 1 - CT face with the green point oriented towards the Residual-Current Circuit Breaker
 2 - arrow drawn inside the clamp points towards the Residual-Current Circuit Breaker

NB: make sure that Current Transformer is actually placed with the correct orientation and that it clamps only the live-phase that connects the Residual-Current Circuit Breaker and the mains meter or GRID. Make sure the CT is not clamped on the "consumption wire" or the "generation wire".

4) Supply the devices and check the correct operation mode

NB: Pressing the button will turn the immersion on for 1 hour, despite of the amount of energy sold to the GRID (By-Pass)

POWER REDUCER: self-diagnosis

When switch on, Power Reducer begins a test to evaluate the correct KIT installation.

	LED behaviour	Functioning	Suggestions
GREEN	Energy detected by CT: blinking light. the higher the blink frequency = the bigger the energy measured	Power Reducer operates in the proper way	
YELLOW	Quantity of energy, expressed as a percentage, supplied by Power Reducer to the immersion: blinking light. the higher the blink frequency = the bigger the energy diverted to the immersion	If the system operates correctly, the red LED steady ON informs that ByPass is active: maximum energy sent to the immersion, despite of the generated energy	Installation completed successfully
RED	OFF		Possible causes: 1) CT wires not connected - check the correct installation / wiring of the CT 2) no electricity detected out of the CT - Change the operation mode: When PR is OFF, press the black button and turn it on. Keep pressing until you hear one or more beeps. Repeat the action until you hear 3 consecutive beeps (ZB mode)
GREEN	Steady ON		
YELLOW	OFF		
RED	OFF	Power Reducer operates in 0-10V mode: it does not detect any variation of tension passing through the CT.	
GREEN	Blinking		Check: - CT orientation, - CT clamped on live-phase - ZR-BIDCI CT is wired according to the scheme - ZR-BIDCI is supplied properly - CT integrity
YELLOW	OFF	3 beeps and 3 blinks: CT inverted	
RED	Blinking LED and beeps when the device is turned on	5 beeps and 5 blinks: Communication error between ZR-BIDCI and PR	Re-configure the Zig-Bee network (check the Technical Manual)

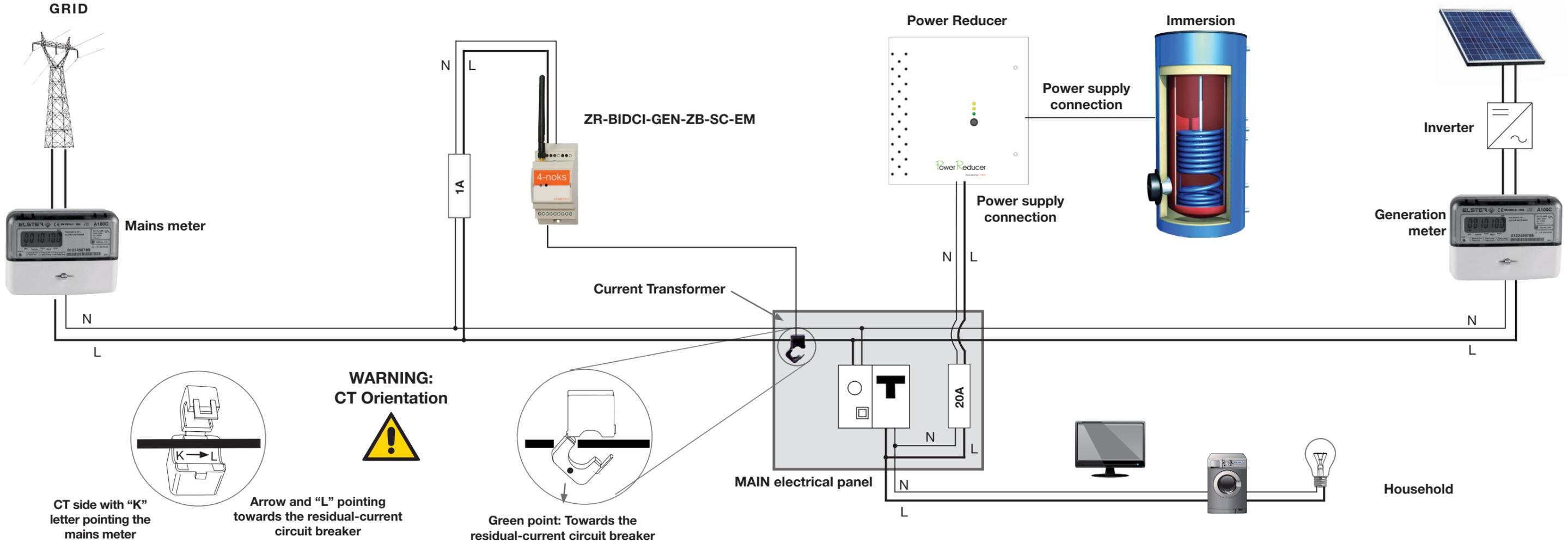
NB: when the system generates any ERROR, after the resolution it is necessary to turn OFF the the Power Reducer and turn it ON after a few seconds, to allow the device to operate a self-diagnosis test. Make sure that the problem has been solved

POWER REDUCER ZB ZB-Connection Installation Guide



- 1 Power Reducer
- 2 ZR-BIDCI-GEN-ZB-SC-EM
- 3 Current Transformer

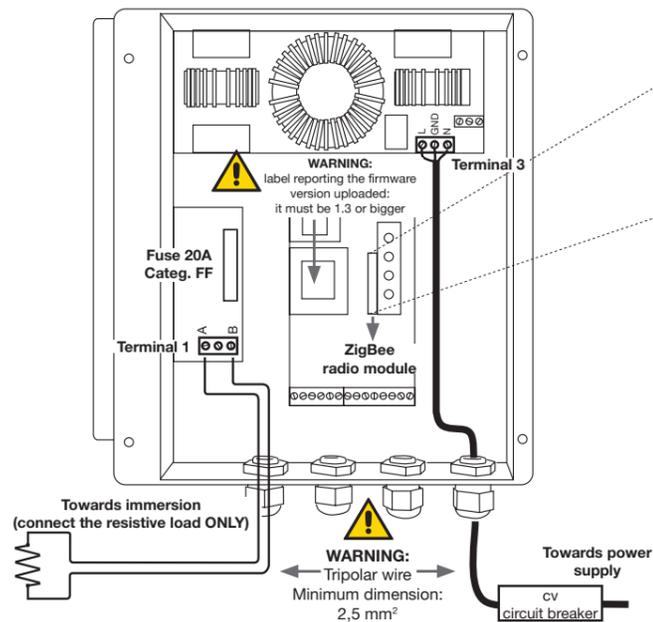
INSTALLATION SCHEME



Power Reducer - Wiring



WARNING: do not connect any wires on TERMINAL 1 other than the 2 wires (A and B) that supply the resistive load. Any different wiring (eg. sharing A, B with L, N) will cause an internal electrical damage!



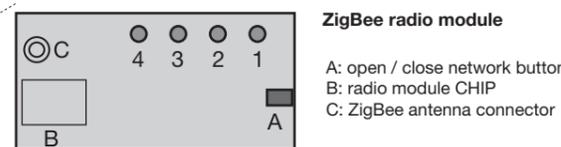
Power Reducer - Terminals

Terminal 1 - Towards the immersion (up to 3 kW)

1	A (resistive load PIN 1)
2	
3	B (resistive load PIN 2)

Terminal 3 - Power supply

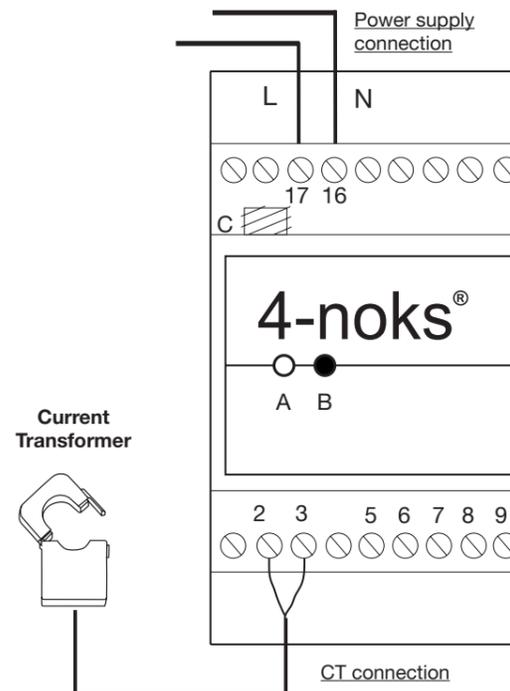
1	L (phase @ 230V)
2	GND
3	N (neutral)



ZigBee radio module LEDs behaviour

Starting	All LEDs are on for 2 seconds, then they blink quickly for 2 more seconds.
OFF-LINE	LED 1 is steady on, while the other LEDs are off. The Gateway is not generating any network. The Power Reducer Gateway is provided ready to use and already bundled with the Radio Transmitter. Check the manual for more information about the network management.
ON-LINE	LED 1: general functioning - quick blink: Gateway network is open - slow blink: Gateway network is closed (default) LED 2: radio link - the number of blinks informs about how many wireless devices are connected to Power Reducer (default 1 blink) LED 3: radio operations - it lights up each time the device receives / sends a radio message LED 4: always off

Radio Transmitter (ZR-BIDCI-GEN-ZB-SC-EM)



Radio Transmitter - Terminal

2	CT Input + (RED wire)
3	CT Input - (BLACK wire)
A	Orange / green (default) bicolour LED
B	Connection / Disconnection button
C	Antenna Connector
16	N 230 VAC
17	L 230 VAC

Radio Transmitter - Bicolour LED (A) behaviour

Starting	LED lights up steadily for 2 seconds, then it blinks quickly (orange light). Once this part is completed, the LED starts flashing according to the connection status (see description below)
OFF-LINE	LED is steady on (ORANGE light). After 20 seconds in this status, the device performs an auto-reset, returning back to the "Starting" phase. The device is not associated to any network. Check the manual to find out how to connect the Radio Transmitter to a ZigBee Gateway network.
ON-LINE	GREEN blinking light. Default condition