



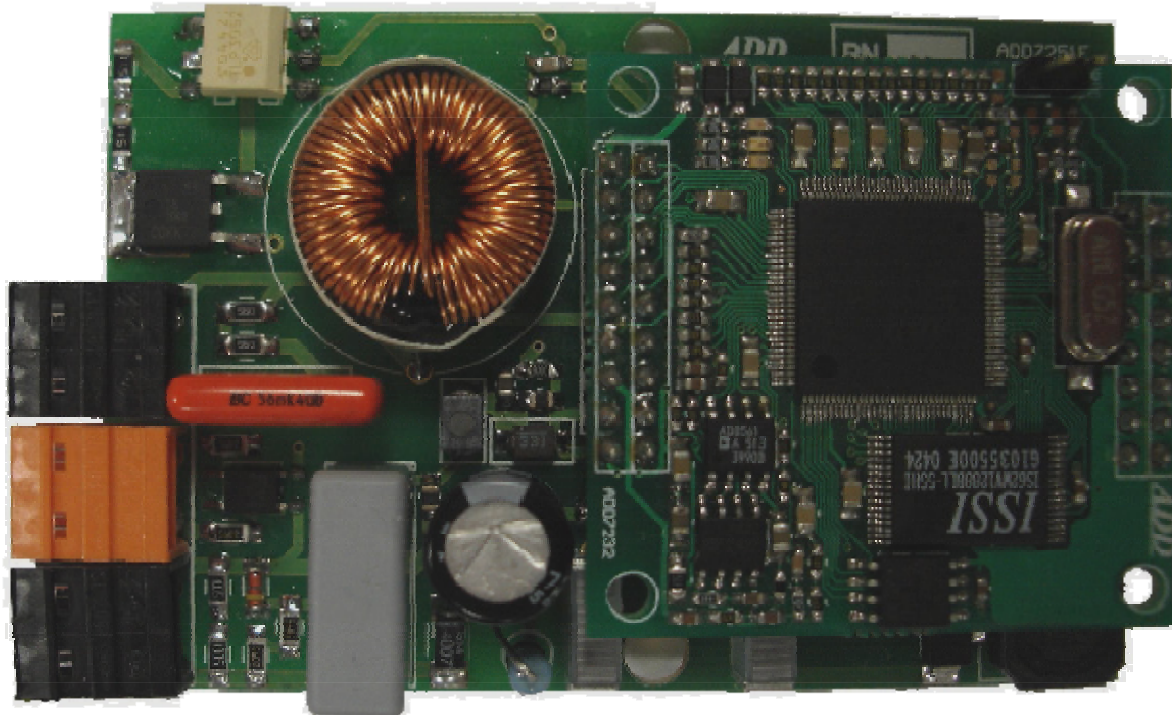
DESCRIPTION

The Power Line Communication (PLC) technology provides a low cost and easy way to connect and to control devices in the industrial, or domestic, environment. Advanced Digital Design PLC technology is based on ADD1000A chip. It implements a full PLC node, which includes an enhanced 8051 microcontroller, a Medium Access Controller (MAC) and a Modem circuit compatible with the EHS Power Line medium specifications. It is designed to be used by OEM and provides a low cost and small size solution for narrow band power line communications. ADD7251 motherboard is a module used to control a switch and a load. The power of the load can also be changed. It includes a triac output (T810-600B), a zero crossing detector, and a 220v AC optocoupled input.

APPLICATIONS

- Light dimmer
- Light switching (ON/OFF)
- Heating management
- Water leak detection and electrovalve operation

MODULE PICTURE

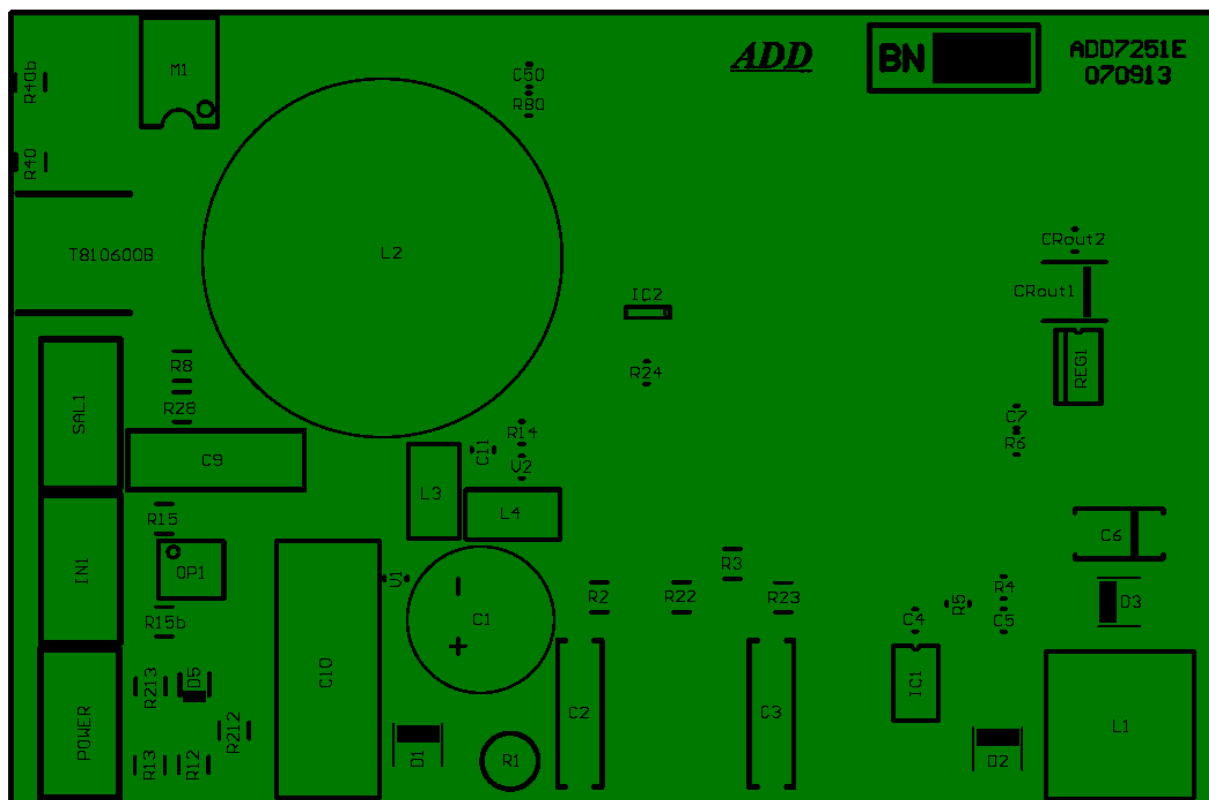




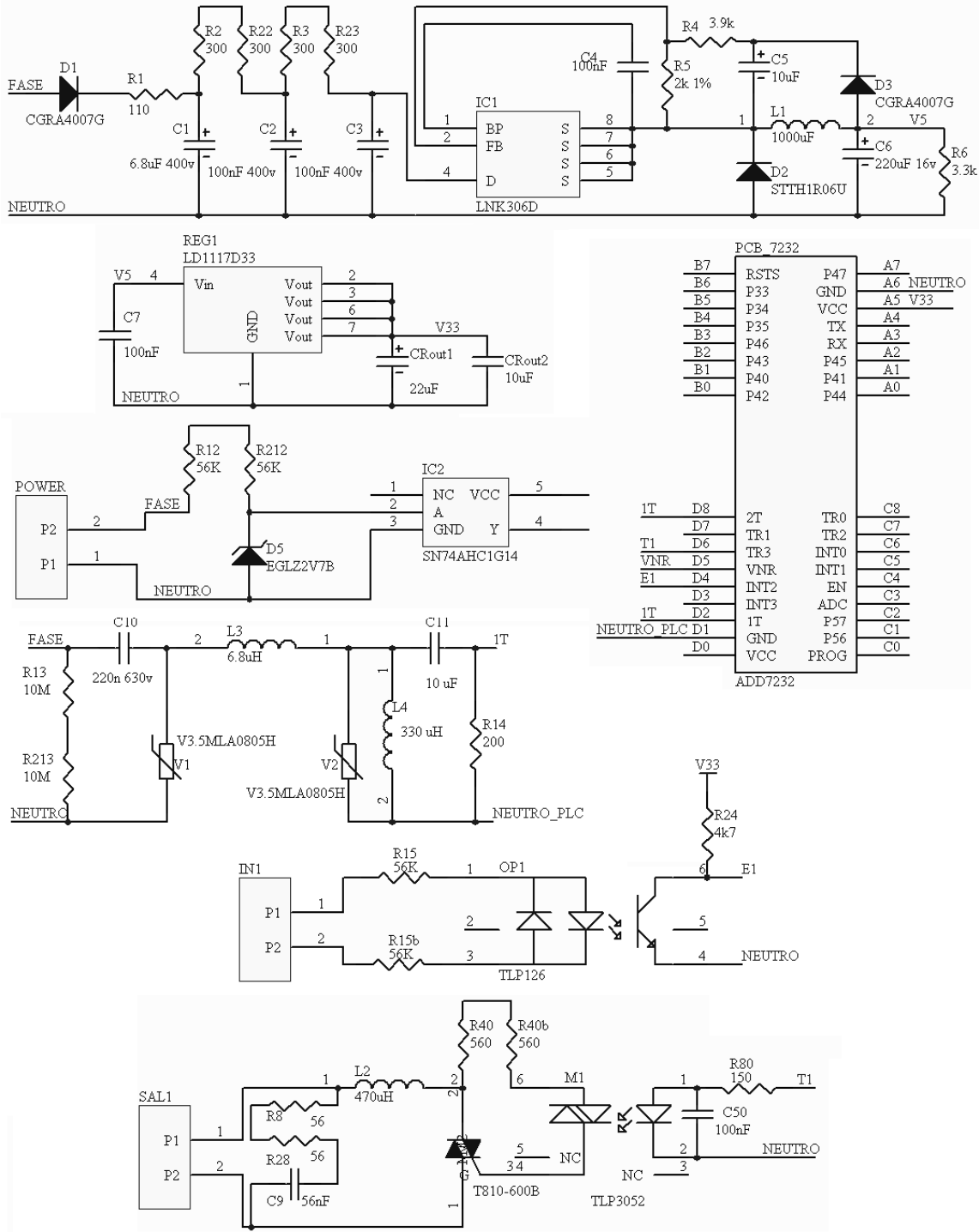
FEATURES

POWER SUPPLY	Voltage/Frequency	110-230 VAC 50Hz
	Consumption on standby	300mW
	Maximum consumption (emitting)	1 W
COMMUNICATIONS	Transmission power (132.45KHz) @ 50 ohm	116 dBμV
	Transmission power (132.45KHz) @ 1 ohm	110 dBμV
	Reception sensitivity (132.45 KHz)	40 dBμV
	Input impedance (132.45 KHz)	200 ohm
DIMENSIONS AND WEIGHTS	Dimensions (mm)	82Lx54Wx21D
	Weight	55gr
TEMPERATURE	Operating	-5 to 40°C
	Storage	-10 to 70°C
LOAD	Maximum load	500W (resistive load)

PRINTED CIRCUIT BOARD



SCHEMATIC





BILL OF MATERIALS

DESIGNATOR	VALUE	VOLT/DIEL	TOLERANCE	PACKAGE
C1	6.8uF	400V	[+20%]	Radial
C10	220nF	400V	[+10%]	Radial
C11	10uF	6.3V	[+10%]	0805
C2	100nF	400V	[+10%]	Radial
C3	100nF	400V	[+10%]	Radial
C4	100nF	16V	[+10%]	0805
C5	10uF	10V	[-20%+80%]	0805
C50	100nF	16V	[+10%]	0805
C6	220uF	16V		
C7	100nF	16V	[+10%]	0805
C9	56nF	400V		Radial
CRout1	22uF	10V	[+20%]	SMB
CRout2	10uF	10V	[-20%+80%]	0805
D1	CGRA4007G	1000V 1A		MELF
D2	STTH1R06U	600V 1A		SMB
D3	CGRA4007G	1000V 1A		MELF
D5	EGLZ2V7B			SOD-80C
IC1	LNK306D			SOIC8
IC2	SN74AHC1G14			SOT23-5
L1	1mF	340mA	[+20%]	
L2	470uH	2.3A	[+15%]	Radial
L3	6.8uH	600mA	[+10%]	1812
L4	330uH	50mA	[+10%]	1210
M1	TLP3052			DIP6
OP1	TLP126			SMD-4

DESIGNATOR	VALUE	VOLT/DIEL	TOLERANCE	PACKAGE
R1	110 ohm	0.5W	[+1%]	Axial
R12	56K		[+5%]	1206
R13	10M		[+5%]	1206
R14	200 ohm		[+1%]	0805
R15	56K		[+5%]	1206
R15b	56K		[+5%]	1206
R2	300 ohm		[+5%]	1206
R212	56K		[+5%]	1206
R213	10M		[+5%]	1206
R22	300 ohm		[+5%]	1206
R23	300 ohm		[+5%]	1206
R24	4K7		[+5%]	0805
R28	56 ohm		[+5%]	1206
R3	300 ohm		[+5%]	1206
R4	3K9		[+5%]	0805
R40	560 ohm		[+5%]	1206
R40b	560 ohm		[+5%]	1206
R5	2K		[+1%]	0805
R6	3K3		[+5%]	0805
R8	56 ohm		[+5%]	1206
R80	150 ohm		[+5%]	0805
REG1	LD1117D33			SOIC8
T810-600B	T810-600B			DPACK
V1	V3.5MLA0805H	3500VDC 120A		0805
V2	V3.5MLA0805H	3500VDC 120A		0805



INPUTS/OUTPUTS SCHEME



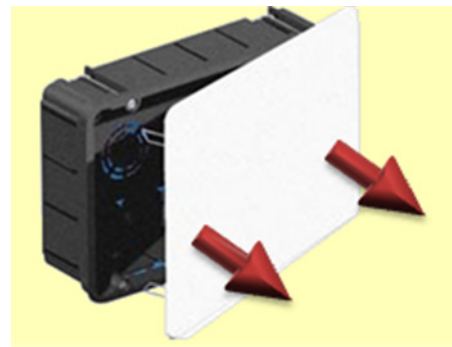
PCB plug-in connectors are provided with the board. The wires position does not matter.

INSTALLATION

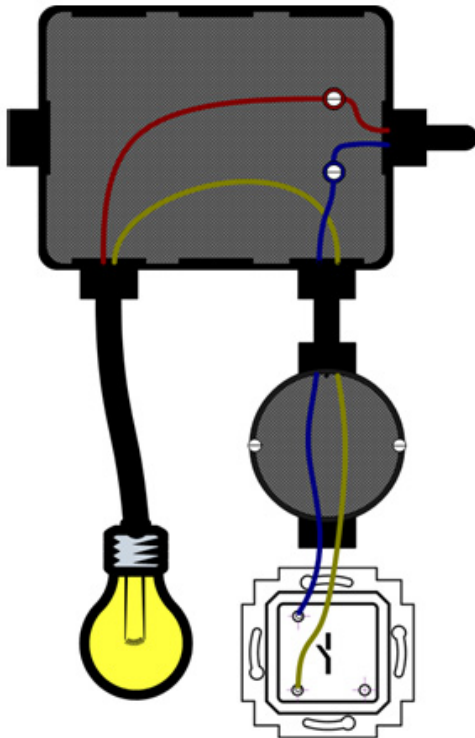
1. Power down the consumer unit:



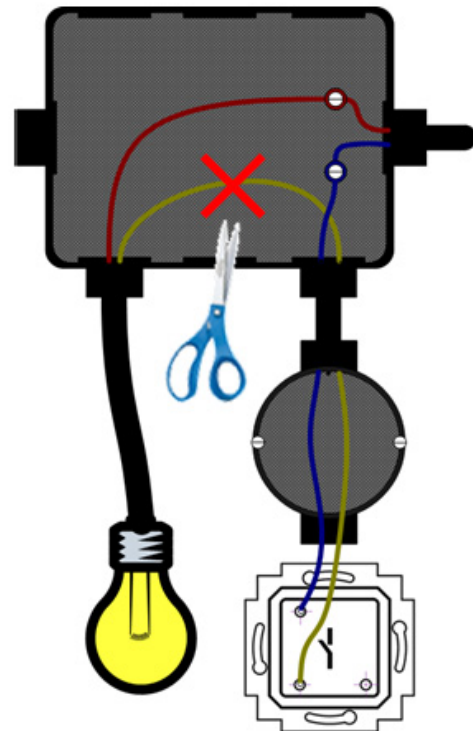
2. Remove the junction box frame:



3. Locate the wire that connects the load with the switch:

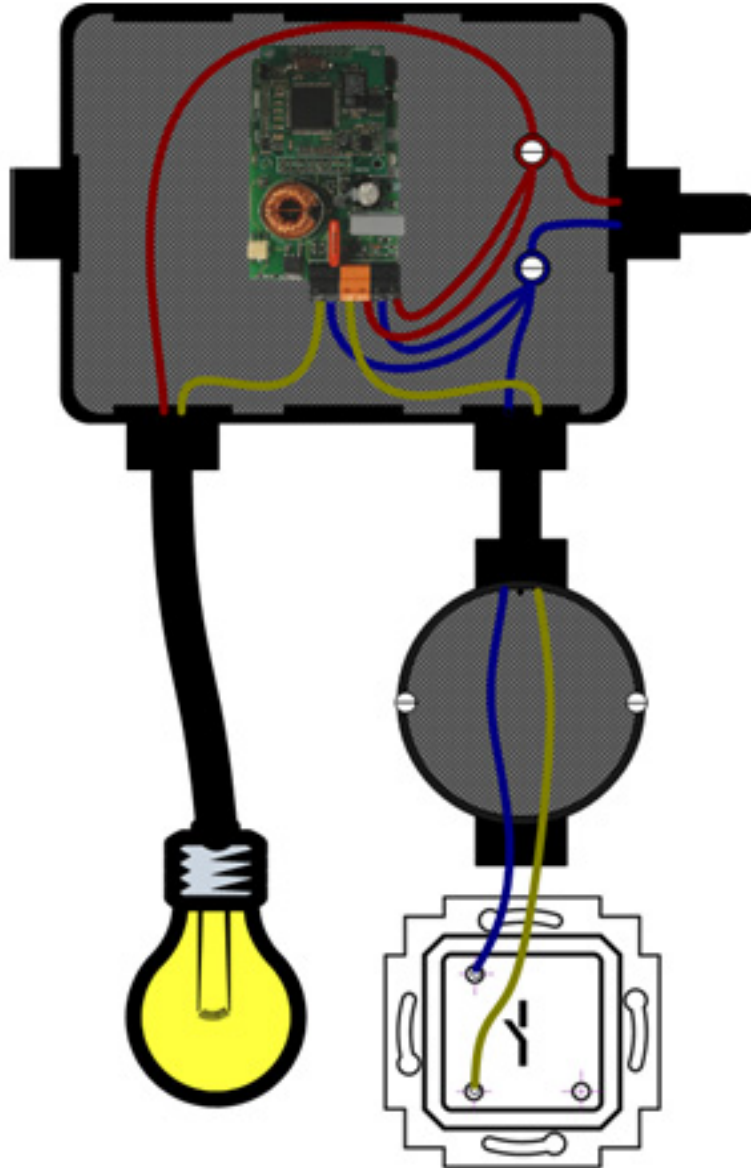


4. Cut this wire:



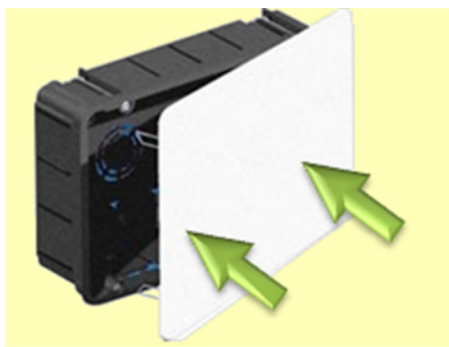
INSTALLATION (Cont.)

5. Place the ADD7251 board into the junction box, and make these connections:



INSTALLATION (Cont.)

6. Put the junction box frame



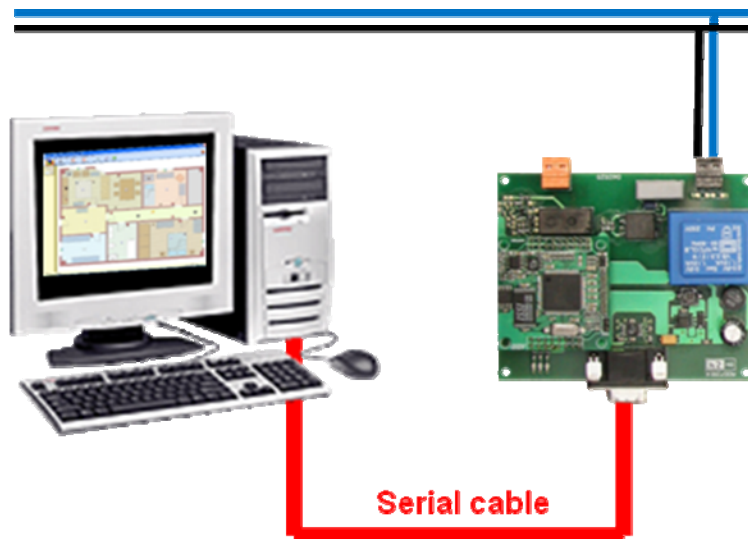
7. Power up the consumer unit



CONFIGURATION

Once the ADD7281 board is installed, it has to be configured. To do this, the following is necessary:

- ADD7281 module
- Serial cable
- Computer
- C@sa application installed in the computer

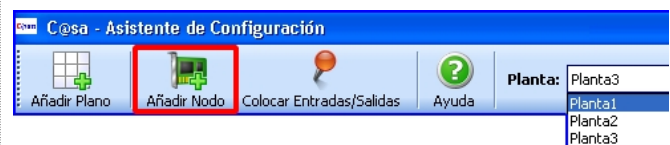


Steps to follow:

1. Access to Configuration Utility

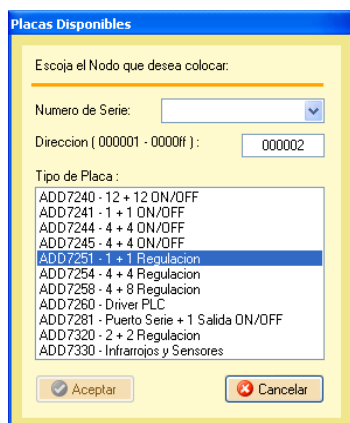


2. Click on *Add Node* button



CONFIGURATION (Cont.)

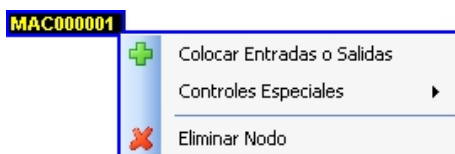
3. Select **ADD7281 – 1 +1 Regulation**, type the device serial number and click on **Accept** button



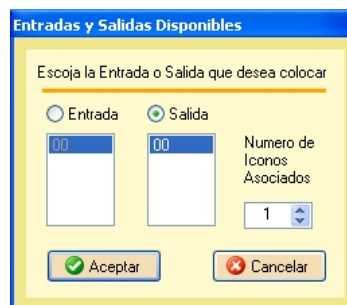
4. Place the device onto the floor plan

140c06090238 (ADD7251)

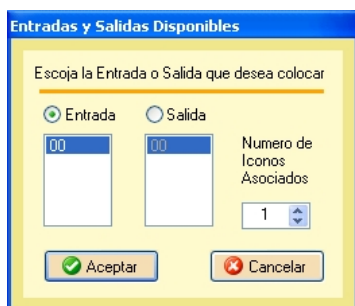
5. Click with right button on the device inserted, and click on **Place Inputs/Outputs** menu



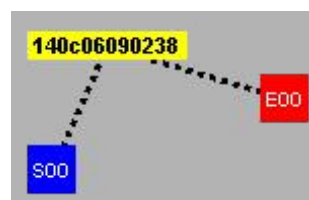
6. Click on the position where the load is located, choose output 00 in pop-up window, and click on **Accept** button



7. Click on the position where the switch is located, choose input 00 in pop-up window, and click on **Accept** button



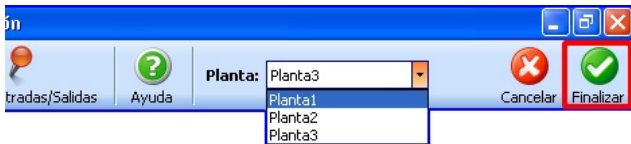
8. Device is now added





CONFIGURATION (Cont.)

9. Click on *Finish* button



10. A lamp icon and a switch icon have been added to the floor plan



11. Now, clicking on the lamp icon, the lamp must be switched on/off. If not, check the board connection.

If the problem continues, please contact to support@advanceddd.com

12. See C@sa help to learn how to change the icon, create relations between a switch and a lamp, and other issues.