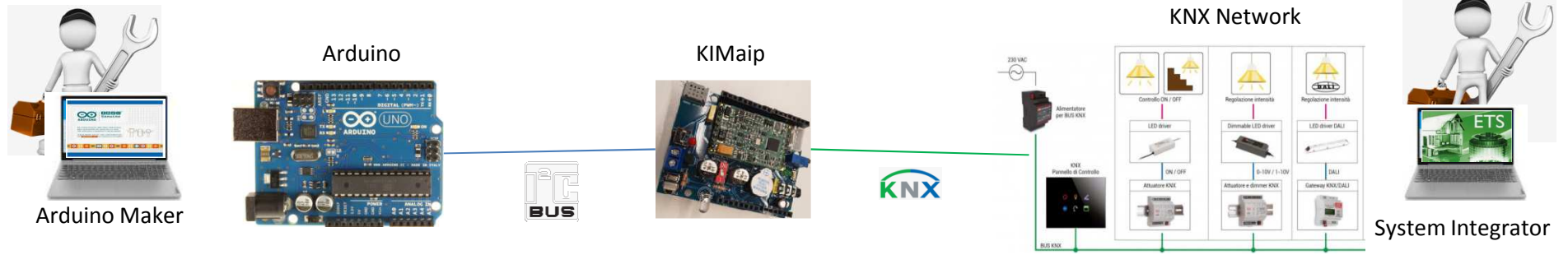


KIMaip I2C / KNX Gateway use case



KIMlib, libreria per modulo Tapko KIMaip; I2C / KNX Gateway

The image shows two windows side-by-side. The left window is the Arduino IDE showing the 'HelloWorld' sketch. The right window is the ET55 KIMlib interface showing the configuration of the KIMaip module.

Arduino IDE (Left Window):

```
19 #include <KIMlib.h>
20
21 #define KNX_DATAREADY 2 // Pin data ready KNX
22 #define KNX_BUS 12 // Pin BUS KNX OK
23
24 #define LED 13 // Pin LED_BUILTIN
25 #define BUTTON 8 // Pin pulsante S3
26
27 // Object definition according to ET55 exactly sequence respect
28 #define OBJ_CMD_LED 0
29 #define OBJ_ST_LED 1
30 #define OBJ_CMD_BUTTON 2
31 #define OBJ_ST_BUTTON 3
32
33 KIMaip knxIno(KNX_DATAREADY, KNX_BUS);
34 DPT cmdLed(OBJ_CMD_LED, &knxIno);
35 DPT statLed(OBJ_ST_LED, &knxIno);
36 DPT cmdButton(OBJ_CMD_BUTTON, &knxIno);
37 DPT statButton(OBJ_ST_BUTTON, &knxIno);
38
39 // variables will change:
40 bool oldButtonState = false; // variable for reading the pushbutton status
41 bool buttonPressed = true;
42 bool oldLed = false;
43 bool oldStatButtonKNX = false;
44
45 void setup() {
46   pinMode(LED, OUTPUT);
47   digitalWrite(LED, LOW);
48   pinMode(BUTTON, INPUT_PULLUP);
49 }
50
51 void loop() {
52
53   bool newStatButtonKNX;
54   bool ledStatus;
55
56   // check if the pushbutton is pressed. If it is, the buttonState is HIGH:
57   if ((digitalRead(BUTTON) == LOW) && (buttonPressed == false)) {
58     buttonPressed = true;
59     oldButtonState = !oldButtonState;
60     cmdButton.setValue(oldButtonState);
61   }
62
63   if (digitalRead(BUTTON) == HIGH) {
64     buttonPressed = false;
65   }
66 }
```

ET55 KIMlib (Right Window):

The ET55 KIMlib interface shows the configuration of the KIMaip module. The 'Topologia' tab is selected, and the '10.10.50 Gateway I2C > KNX KIMaip' is highlighted. The 'Indirizzi di Gruppo' tab is also visible, showing the configuration for the '0/0/1 Comando BuildIn Led'.

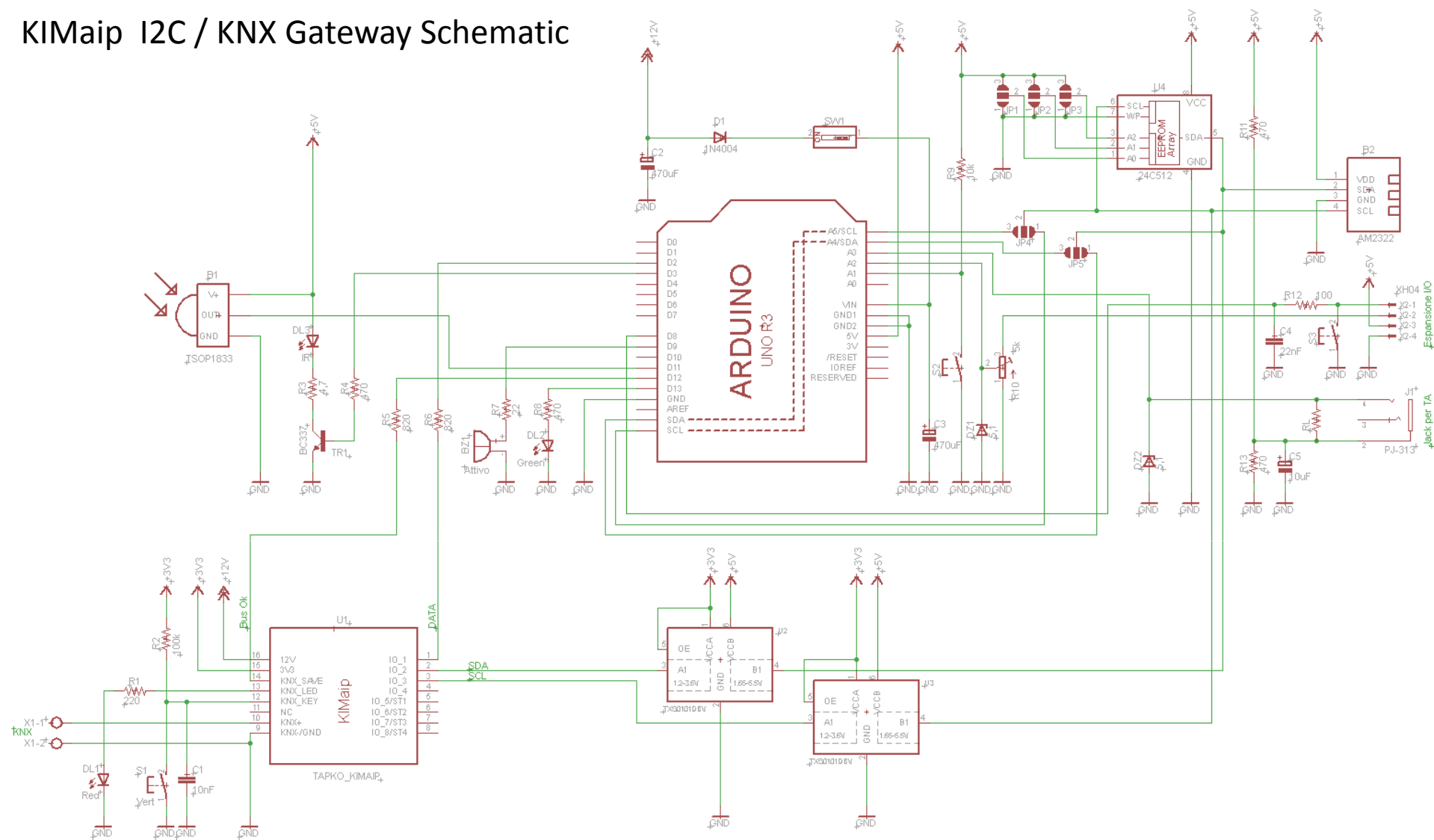
Topologia Table:

Numero	Nome	Funzione Oggetto	Descrizione	Indirizzo di Gi	Lunghe	C	R	W	T	U
0	Object 0	1 bit	Comando BuildIn Led	0/0/1	1 bit	C	-	W	T	U
1	Object 1	1 bit	Stato BuildIn Led	0/0/2	1 bit	C	R	-	T	-
2	Object 2	1 bit	Commutazione Button D8	0/0/1	1 bit	C	R	-	T	-
3	Object 3	1 bit	Stato toggle Button D8	0/0/2	1 bit	C	-	W	T	U
4	Object 4	1 bit	Comando Relè 1 (D7)	0/1/1	1 bit	C	-	W	T	U
5	Object 5	1 bit	Stato Relè 1	0/1/2	1 bit	C	R	-	T	-
6	Object 6	1 bit	Comando Relè 2 (D6)	0/1/3	1 bit	C	-	W	T	U
7	Object 7	1 bit	Stato Relè 2	0/1/4	1 bit	C	R	-	T	-
8	Object 8	1 bit	Comando Relè 3 (D5)	0/1/5	1 bit	C	-	W	T	U
9	Object 9	1 bit	Stato Relè 3	0/1/6	1 bit	C	R	-	T	-
10	Object 10	1 bit	Comando Relè 4 (D4)	0/1/7	1 bit	C	-	W	T	U
11	Object 11	1 bit	Stato Relè 4	0/1/8	1 bit	C	R	-	T	-
12	Object 12	1 bit	Esempio 1 Bit Write	0/3/0	1 bit	C	-	W	T	U
13	Object 13	1 bit	Esempio 1 Bit Read	0/3/0	1 bit	C	R	-	T	-
14	Object 14	2 bit	Esempio 2 Bit Write	0/3/1	2 bit	C	-	W	T	U
15	Object 15	2 bit	Esempio 2 Bit Read	0/3/1	2 bit	C	R	-	T	-
16	Object 16	4 bit	Esempio 4 Bit Write	0/3/2	4 bit	C	-	W	T	U
17	Object 17	4 bit	Esempio 4 Bit Read	0/3/2	4 bit	C	R	-	T	-

Indirizzi di Gruppo Table:

Oggetto	Dispositivo	Trasmissi	Tipo Dato	C	R	W	T	U	Prodotto
0: Object 0 - 1 bit	10.10.50 Gateway I2C > KNX...	S	switch	C	-	W	T	U	KIMaip
2: Object 2 - 1 bit	10.10.50 Gateway I2C > KNX...	S	switch	C	R	-	T	-	KIMaip

KIMaip I2C / KNX Gateway Schematic



Gadget on board (full version)

Ir TX

Ir RX

512kb I2C Eeprom

Buzzer

Led Verde

Temperatura + Umidità I2C

Ingresso per TA (predisposizione per RL)

Pulsante con antirimbalzo

Pulsante

Switch per selezione Pwr Arduino (KNX /Vin)

Connettore per espansione DI + AI

Trimmer di regolazione Ext. Al