

# Connecter son compteur Linky

L'idée est de connaître en temps réel sa consommation électrique. Du coup, on peut:

- Afficher les données, les courbes, les graphes
- Utiliser la consommation instantanée dans les scénarios de chauffage, pour ne pas allumer un radiateur si par rapport au contrat il n'y a pas assez (délestage logiciel)
- etc.

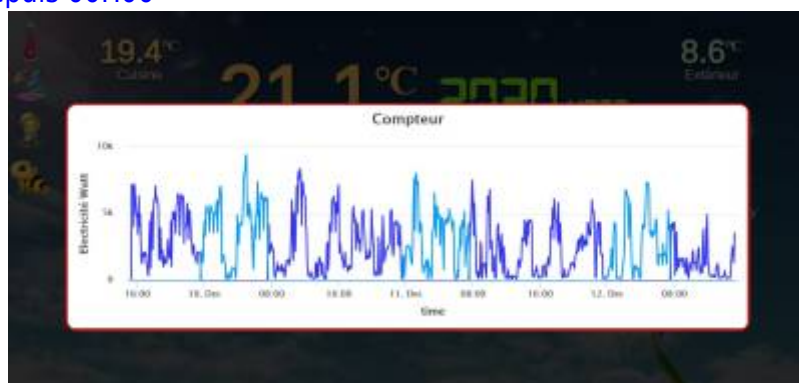
## Exemples

### Monitor

La consommation en temps réel



La consommation depuis 00H00



### Domoticz

Consommation par mois depuis le début de l'année en heures creuses en heures pleines et total des 2

Teleinfo kWh Total 2020						
Utilisation totale: T1: 6107.083 kWh, T2: 4556.255 kWh, Total: 10612.338 kWh Compteur: T1: 26010.090, T2: 17700.023 Coût annuel: 1536.92						
Mois	Utilisation T1	Coûts	Utilisation T2	Coûts	Total	
01. Janvier	938.822	149.55	588.384	73.86	223.22	
02. Février	782.292	124.62	479.007	59.87	184.59	
03. Mars	648.984	109.70	496.580	62.17	171.93	
04. Avril	352.082	56.09	269.077	33.89	89.78	
05. Mai	282.898	46.88	216.796	27.52	74.18	
06. Juin	237.284	37.80	191.811	24.01	61.81	
07. Juillet	222.070	35.36	234.834	29.36	84.70	
08. Août	236.576	37.89	175.456	21.87	59.65	
09. Septembre	276.304	44.02	229.042	28.66	72.69	
10. Octobre	625.230	99.60	572.280	71.65	171.25	
11. Novembre	936.982	149.26	706.015	88.39	237.65	
12. Décembre	517.573	82.45	343.181	42.87	125.42	

La même chose sous forme de graphique



Courbe de la consommation des 3 derniers jours



Courbe de consommation sur l'année



## Principes

la sortie **téléinfo** du **Linky** est une sorte de lien série **RS232** qui envoie en permanence de nombreuses informations.

**EDF** publie le contenu de ce protocole

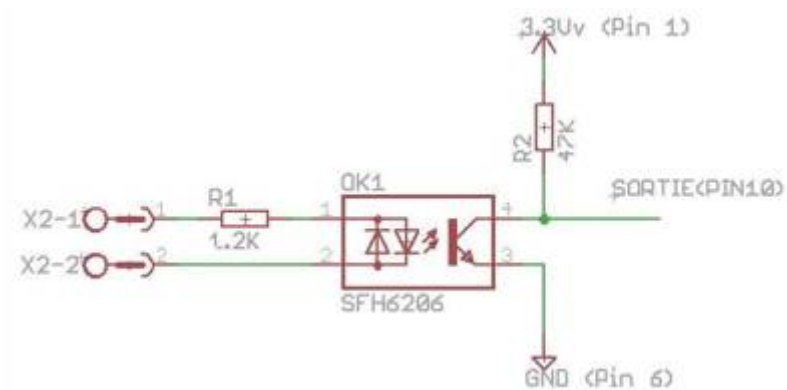
Le principe est donc d'adapter cette sortie **Linky** avec une entrée **UART** du **Raspberry** et de récupérer le flux de données. Ces données sont ensuite récupérées et mises en base de données par **Domoticz**

# Matériels

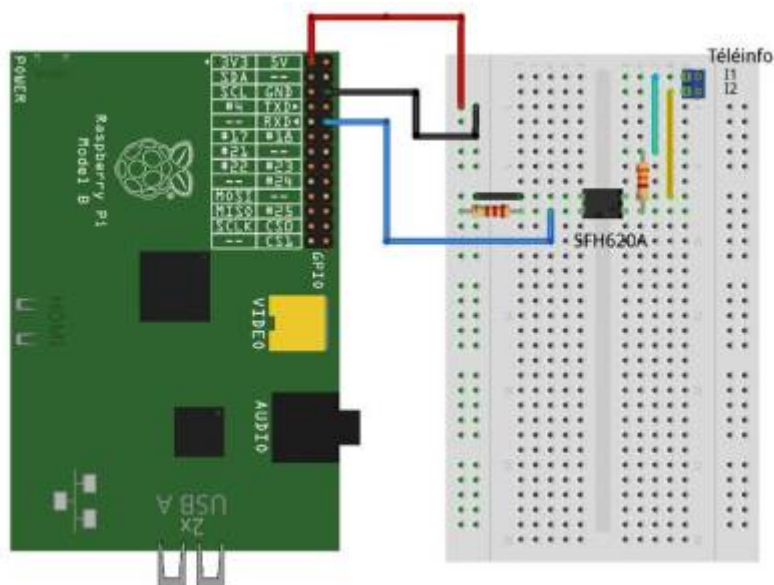
## Compteur Linky



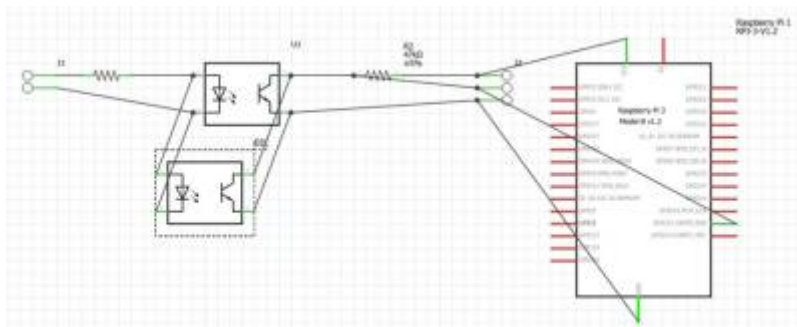
## Schéma de principe



## Montage



Comme je n'avais pas d'optocoupleur SFH620A, j'ai pris 2 PC817 en tête bêche.



## Liste des composants

### Liste des composants

Composant	Quantité
Circuit imprimé	1
Optocoupleur PC817	2
Résistance 1,5K (R1 de 1,2K à 2,2K)	1
Résistance 47K	1
Bornier 2 lignes	1
Bornier 3 lignes	1

## Logiciel domotique

### Domoticz

J'ai choisi le logiciel Open Source **Domoticz** pour les raisons suivantes:

- Le seul qui n'a pas besoin de serveur, il est donc indépendant
- On peut faire des réseaux, c'est le cas chez moi où 2 Raspberry assure le fonctionnement complet de la maison
- Il y a une **communauté** très active
- Il est ouvert à tous les **protocoles**
- Il permet le développement en langage **LUA**
- Il permet d'utiliser le **shell** du système d'exploitation qui l'héberge permettant donc la possibilité d'utiliser n'importe quoi comme interface. J'ai par exemple réussi à utiliser une vieille centrale X10 en RS232 via un vieux code linux, le tout ayant plus de 25 ans.

Je ne décris pas ici l'installation et l'utilisation de Domoticz mais seulement les particularités liées au sujet.

### Ajouter nouveau matériel de type Téléinfo EDF

Idx	Nom	Activé	Type	Adresse	Port	Délai d'inactivité
10	rfx meter counter	Oui	Dummy (Does nothing, use for virtual switches only)			Désactivé
9	Raspi	Oui	Motherboard sensors			Désactivé
8	teleinfoEDF	Oui	Teleinfo EDF		/dev/ttyAMA0	5 Minutes
7	DS18B20	Oui	1-Wire (System)			10 Minutes

### le widget téléinfo EDF



### Logs qui arrivent en temps réel:

Domotizic		Dashboard	Plans	Interpreters	Scénarios	Températures	Méteo	Mesures	Réglages
Touil		Statut	Evén	Filtre					
2020-12-12 16:01:42.209	OK	OK	Current (Voltage Current)						
2020-12-12 16:01:42.212	OK	OK	General/Percentage (Voltage/Power/Charge)						
2020-12-12 16:01:42.245	OK	OK	General/VM (Voltage VM/Power/Current)						
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2020-12-12 16:01:42.265	OK	OK	PI Smart Meter (Voltage VM/ Total)						
2020-12-12 16:01:44.238	OK	OK	Current (Voltage Current)						
2020-12-12 16:01:45.259	OK	OK	General/Percentage (Voltage/Power/Charge)						
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Last update: **2023/01/27 16:08**

