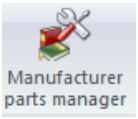
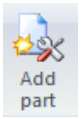
elecworks™ Tips & Tricks

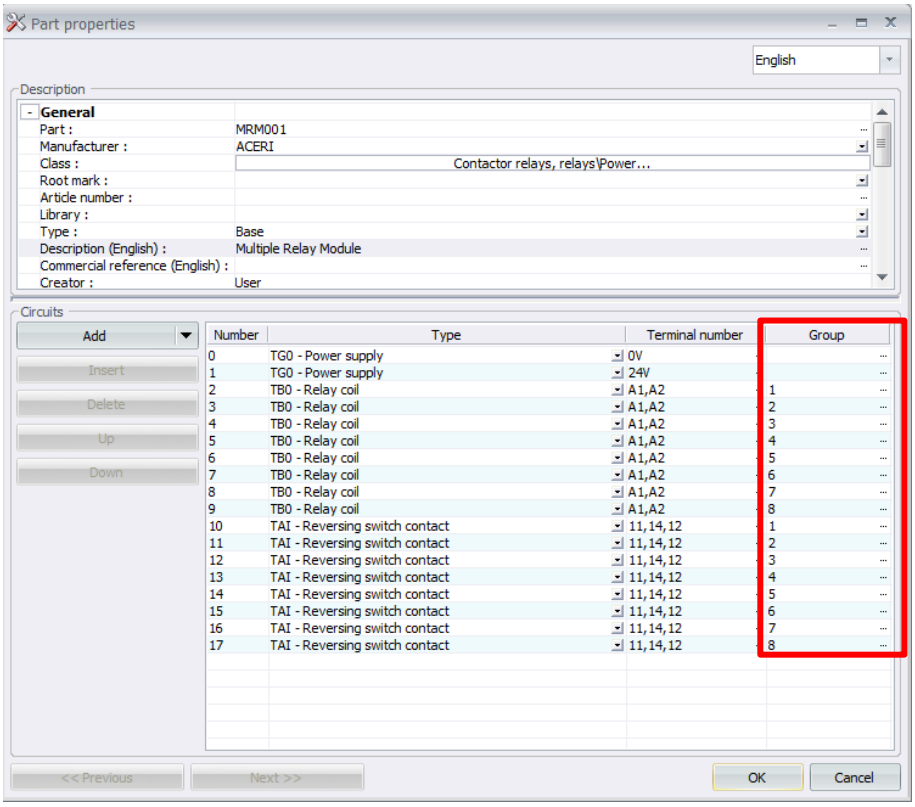
How to Create a Relay Card e.g. Multiple Relay Module, A.C.B.

The solution is ideal for air circuit breakers or any devices where there are multiple coils within the one device e.g. multiple relay module, A.C.B. etc.
The relays and their contacts are within the same component and therefore only one manufacturer's part is to be defined

Select the ***Library*** ribbon tab > 

> 

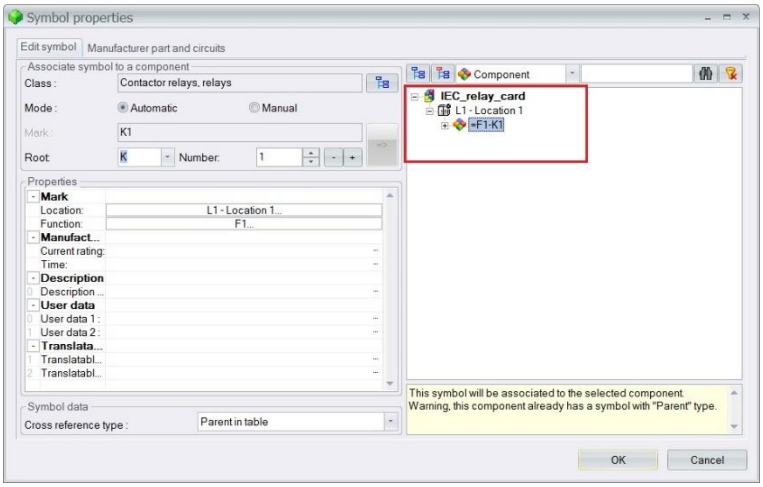
Define the part as follows (as an example):



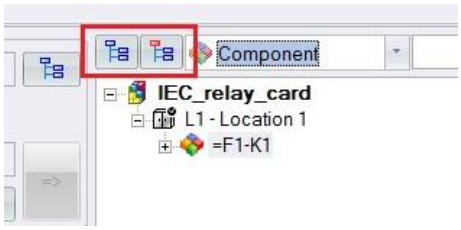
*N.B: You must use the **Group** column to link the coils with the contacts assigning the same value for the coil/contact link. It does not have to be a numerical value for the group and can be an abbreviation e.g. UVT = under voltage trip*

In a schematic, insert a relay and assign the part created in the previous step.

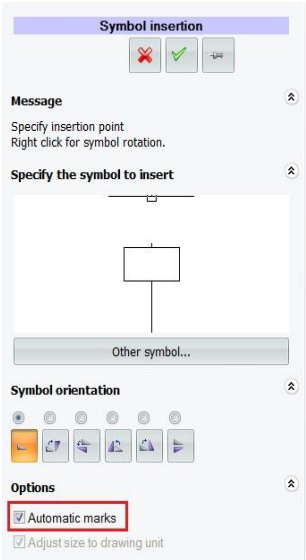
Insert a second relay, and associate with **-K1.**
You must use the list on the right in the insertion **Symbol properties** dialogue:



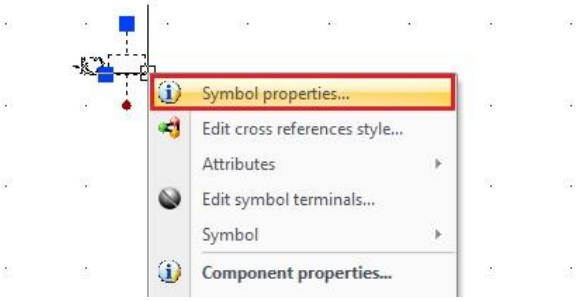
If you have several components you can use the filters in order to show only components with the same class or base class:



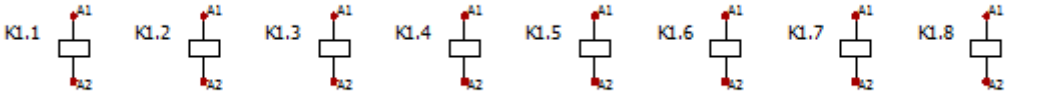
If you are using the **Automatic marks** while inserting:



You can also associate the additional relay coils to the same component –K1 by *Right click* > ***Symbol properties***

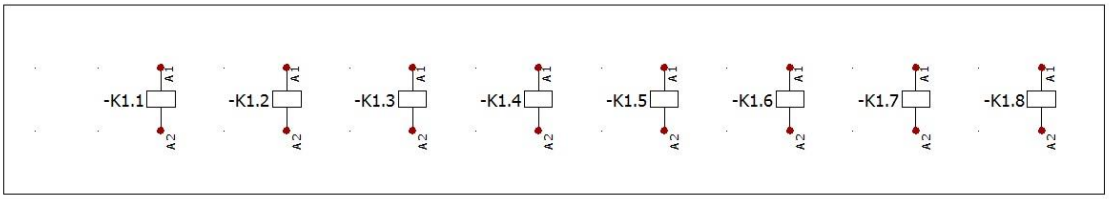


Repeat until eight relays are placed associated to the **-K1** component:

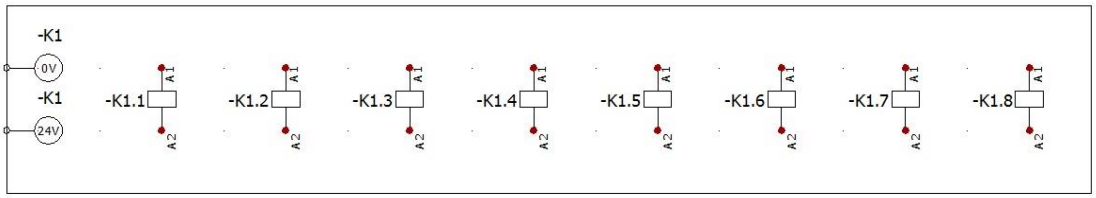


You can see that each relay has its own contact and that the circuit **Group** is added to component mark for a unique identification.

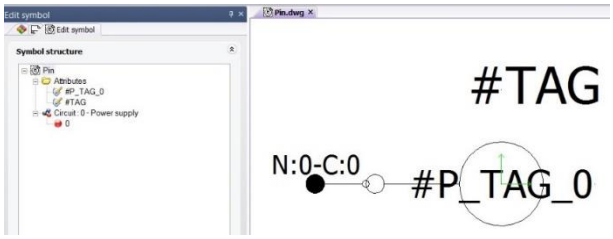
Draw the card's body from ***Drawing*** menu > ***Rectangle***:



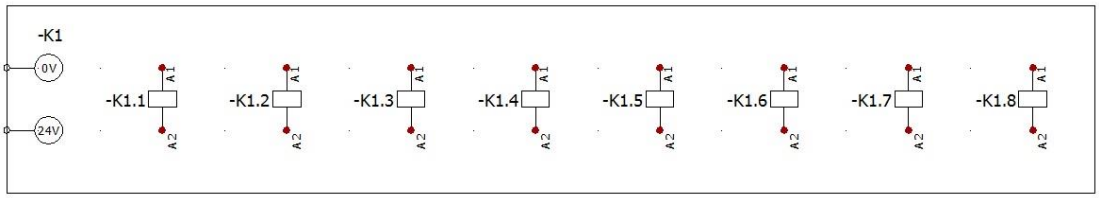
Insert the power supply pins, and assign them to **-K1**



The power supply circuits have no **Group** so the mark is the main one (**-K1**). You can customize the power supply pin symbol as you need. In this case we have created it in this manner:

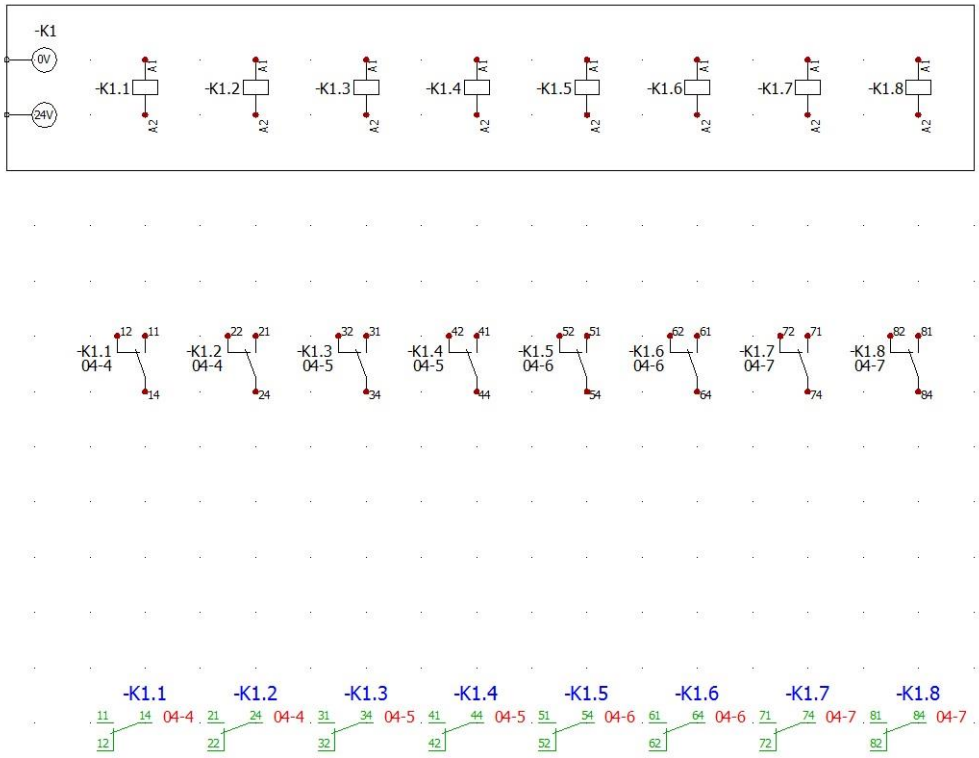


Select 24V pin > *right click* > ***Attributes*** > *uncheck* **Symbol mark: "-K1"** in order to make it invisible:



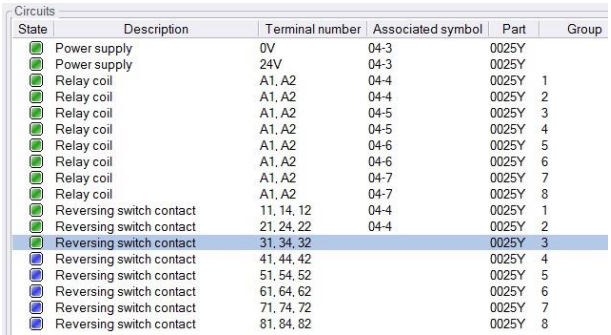
In this manner you only have one main mark for the card.

Insert the contacts and assign them to **-K1**:



The contacts are linked with the relays in order of insertion, based on the **Group** field information.

You can select the contact you want to use, during the insertion or once the contact is inserted, go to ***Symbol properties*** dialogue > ***Manufacturer part and circuits*** tab, select the current circuit:


Circuits

State	Description	Terminal number	Associated symbol	Part	Group
	Power supply	0V	04-3	0025Y	
	Power supply	24V	04-3	0025Y	
	Relay coil	A1, A2	04-4	0025Y	1
	Relay coil	A1, A2	04-4	0025Y	2
	Relay coil	A1, A2	04-5	0025Y	3
	Relay coil	A1, A2	04-5	0025Y	4
	Relay coil	A1, A2	04-6	0025Y	5
	Relay coil	A1, A2	04-6	0025Y	6
	Relay coil	A1, A2	04-7	0025Y	7
	Relay coil	A1, A2	04-7	0025Y	8
	Reversing switch contact	11, 14, 12	04-4	0025Y	1
	Reversing switch contact	21, 24, 22	04-4	0025Y	2
	Reversing switch contact	31, 34, 32		0025Y	3
	Reversing switch contact	41, 44, 42		0025Y	4
	Reversing switch contact	51, 54, 52		0025Y	5
	Reversing switch contact	61, 64, 62		0025Y	6
	Reversing switch contact	71, 74, 72		0025Y	7
	Reversing switch contact	81, 84, 82		0025Y	8

Drag and drop it to the required one

Circuits

State	Description	Terminal number	Associated symbol	Part	Group
	Power supply	0V	04-3	0025Y	
	Power supply	24V	04-3	0025Y	
	Relay coil	A1, A2	04-4	0025Y	1
	Relay coil	A1, A2	04-4	0025Y	2
	Relay coil	A1, A2	04-5	0025Y	3
	Relay coil	A1, A2	04-5	0025Y	4
	Relay coil	A1, A2	04-6	0025Y	5
	Relay coil	A1, A2	04-6	0025Y	6
	Relay coil	A1, A2	04-7	0025Y	7
	Relay coil	A1, A2	04-7	0025Y	8
	Reversing switch contact	11, 14, 12	04-4	0025Y	1
	Reversing switch contact	21, 24, 22	04-4	0025Y	2
	Reversing switch contact	31, 34, 32		0025Y	3
	Reversing switch contact	41, 44, 42		0025Y	4
	Reversing switch contact	51, 54, 52		0025Y	5
	Reversing switch contact	61, 64, 62		0025Y	6
	Reversing switch contact	71, 74, 72		0025Y	7
	Reversing switch contact	81, 84, 82		0025Y	8

You will note that the colour changes from blue to green in the used circuit and from green to blue to the reserved circuit

Result in the scheme: