**International University of Ecuador**

School of Mechatronics Engineering

# Industrial Automation Lab's report practice No. 1

*CADeSIMU Software and circuits implementation.*

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# CADeSIMU software and circuits implementation*

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## 1 CADeSIMU

- Using CADeSIMU software, implement the following circuit.Fig 1
- Place the correct referencing, numbering, labeling, location in the circuit to be simulated. Explain how the circuit would work.
- Submit: Electric diagram implemented in CADeSIMU software in pdf format, CADeSIMU program in cad format.
- Make a summary table, indicating: nomenclature, symbols and a real image of each of the elements present in the scheme or diagram.
- Comment on the importance of labeling the terminals of the elements, contacts, coils, terminal blocks and connection cables in a control panel and electrical diagrams under the standard indicated in the previous literal.

**Fig. 1.** Circuit meant to be replicated.

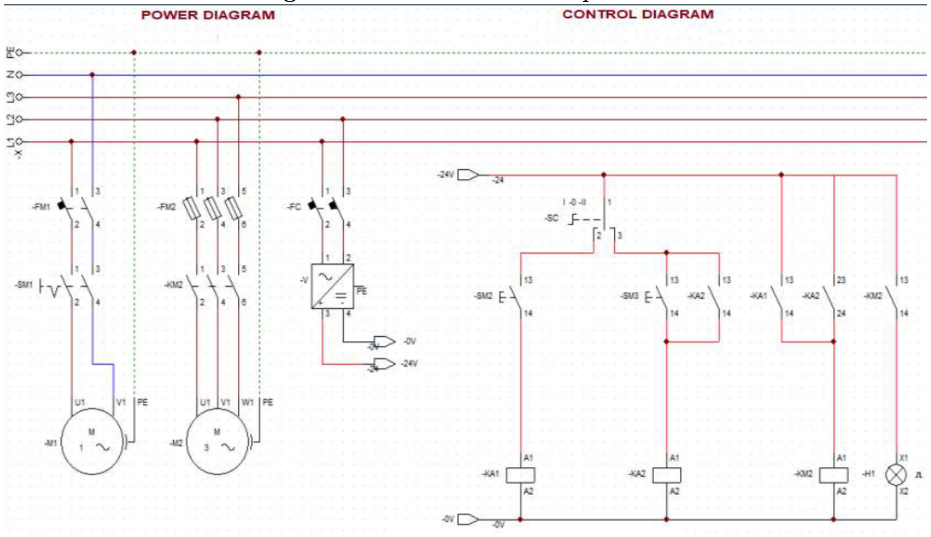


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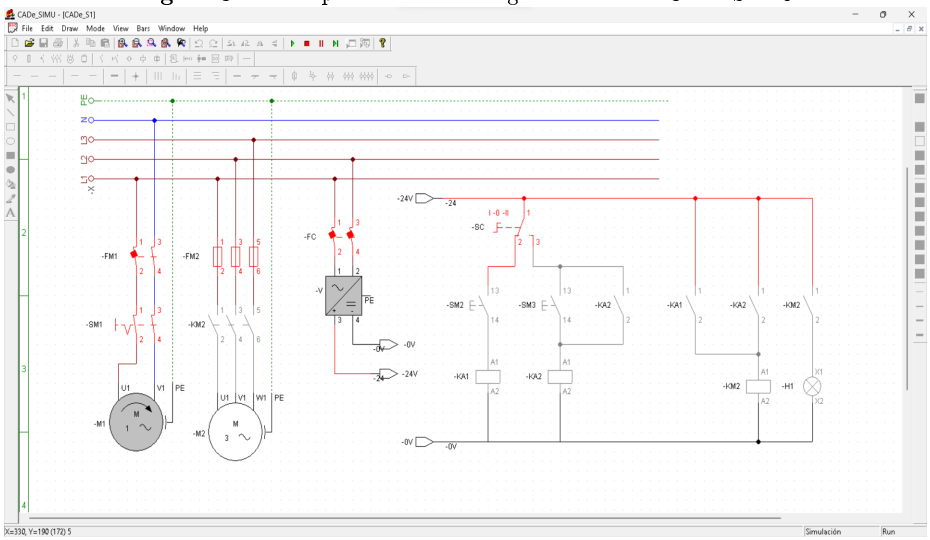
**Fig. 2.** Circuit replicated and being simulated in CADeSIMU




## 1.1 Summary of the circuit components

Table 1: Components summary.

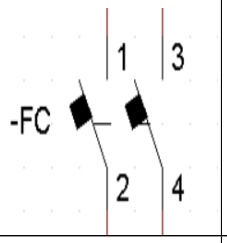
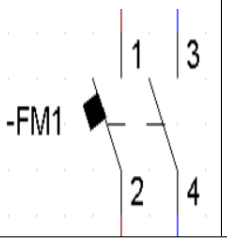
| No | Name | Nomenclature | Symbol | Real Image |
|---|---|---|---|---|
| 1 | Automatic Switch II | hola |   | AutomaticSwitchII |
| 2 | Automatic Switch IN | hola |   | AutomaticSwitchIN |

**Table 1 continued from previous page**

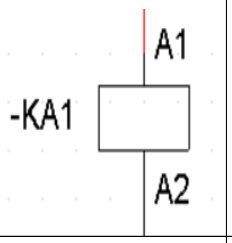
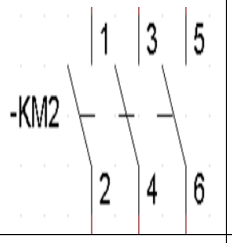
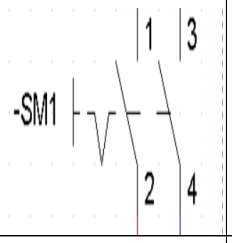
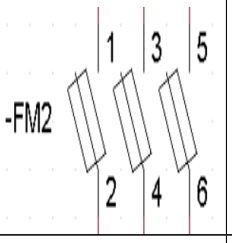
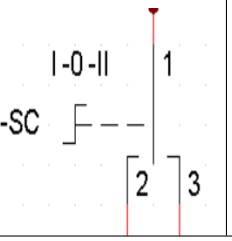
| No | Name | Nomenclature | Symbol | Real Image |
|---|---|---|---|---|
| 3 | Coil contactor relay | - |  | CoilContactorRelay |
| 4 | Contactor III | - |  | ContactorIII |
| 5 | Double Interruptor | - |  | doubleInterruptor |
| 6 | Fuse III | - |  | FuseIII |
| 7 | I O II Switch | - |  | I_0_II_Switch |

**Table 1 continued from previous page**

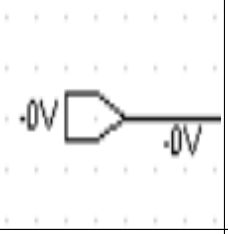
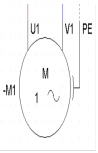
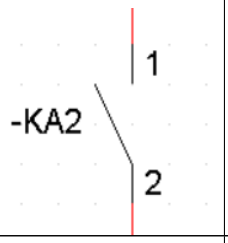
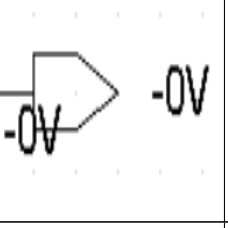
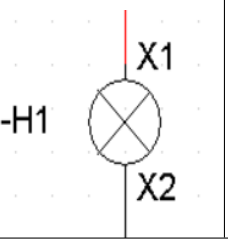
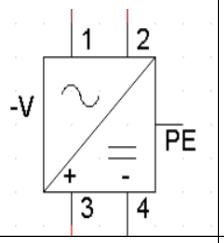
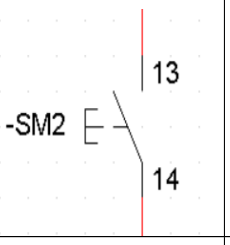
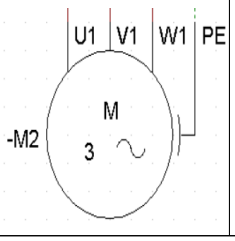
| No | Name | Nomenclature | Symbol | Real Image |
|---|---|---|---|---|
| 8 | Input Conector | - |  | inputConection |
| 9 | Mono-Phase Motor | - |  | monoPhaseMotor |
| 10 | N-O Contact | - |  | NO_Contact |
| 11 | Output Conector | - |  | outputConector |
| 12 | Pilot Signal | - |  | PilotSignal |

**Table 1 continued from previous page**

| No | Name | Nomenclature | Symbol | Real Image |
|---|---|---|---|---|
| 13 | Power supply | - |  | powerSupply |
| 14 | Push button | - |  | pushbutton |
| 15 | Three phase motor | - |  | ThreePhaseMotor |

## 2 Conclusions and recommendations

CADeSIMU is a very useful tool for electrical engineers, as it allows us to simulate any circuit and see if it works properly. It has a very intuitive interface and is very easy to use, it also has a lot of components that can be used to simulate any circuit. However, it is important it is important to understand and make use IEC 60617 standard in order to have a good labeling of the components like: contacts, coils, terminal blocks and connection cables. They must be used correctly hence it helps to comprehend these diagrams and furthermore have an appropriate implementation of the circuit. Moreover, it is important to have a good understanding of the components and how they work in order to be able to replicate the circuit. Also it is important to have a good understanding of the software and how to use it in order to be able to replicate the circuit.