

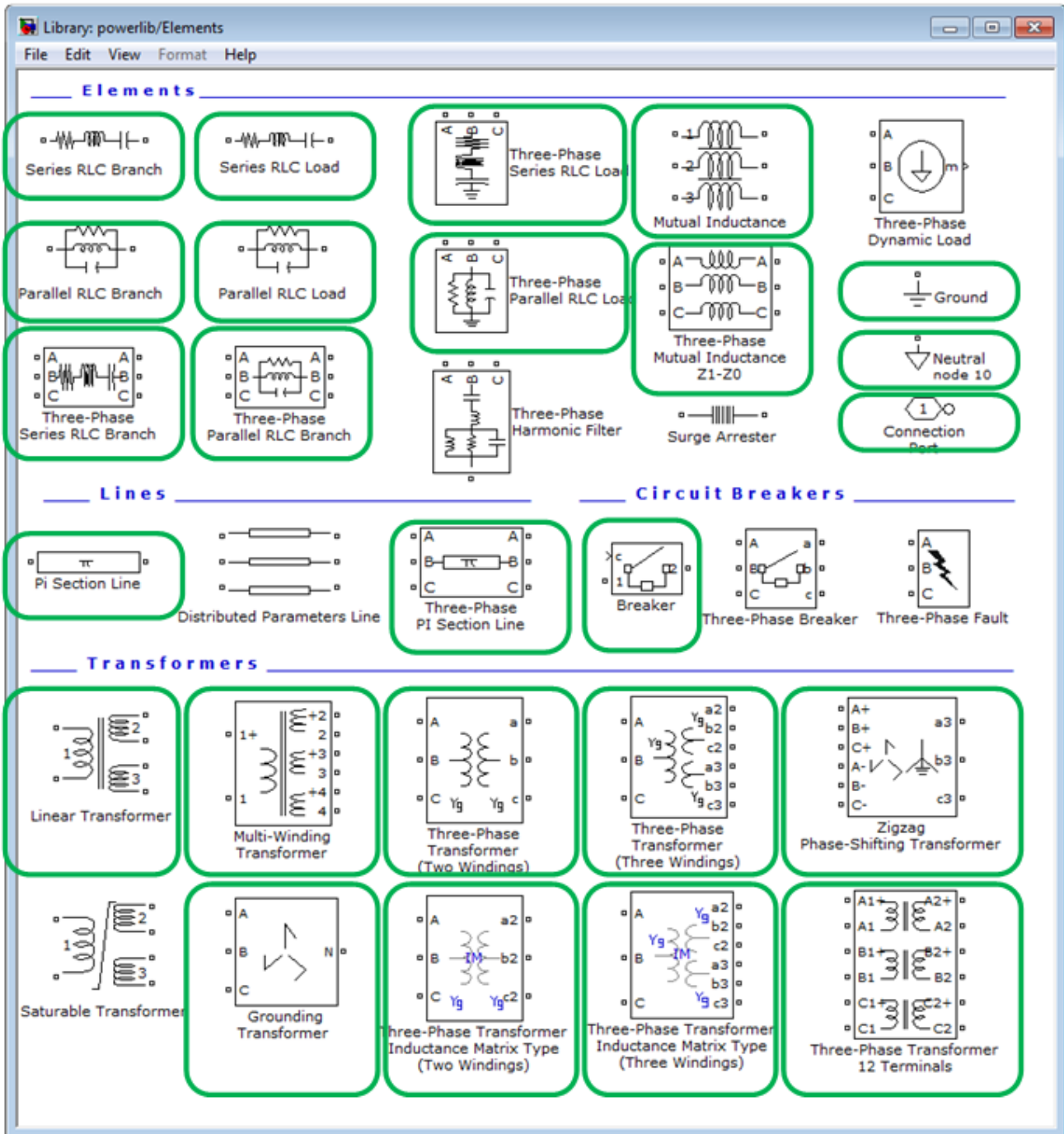
# Simscape Electrical Specialized Power Systems Simulink Blockset

MATLAB®/Simulink® is a software package developed by MathWorks® used for modeling, simulation and analysis of dynamic systems. The Simscape Electrical Specialized Power Systems Simulink Blockset is used to define electrical models for simulation purposes using the Add-On. Users are expected to have a clear understanding of Simulink operation, particularly regarding model definition and simulation parameters. The Simscape Electrical Specialized Power Systems Simulink Blockset provides the libraries and analysis tools to model and simulate electrical systems. It is used by the Add-On only as a circuit description environment. The Simscape Electrical simulation engine can also be used to validate the results of the Add-On in an offline mode.

The circuit must be designed using a special subset of blocks found in the Simscape Electrical Specialized Power Systems Simulink Blockset.

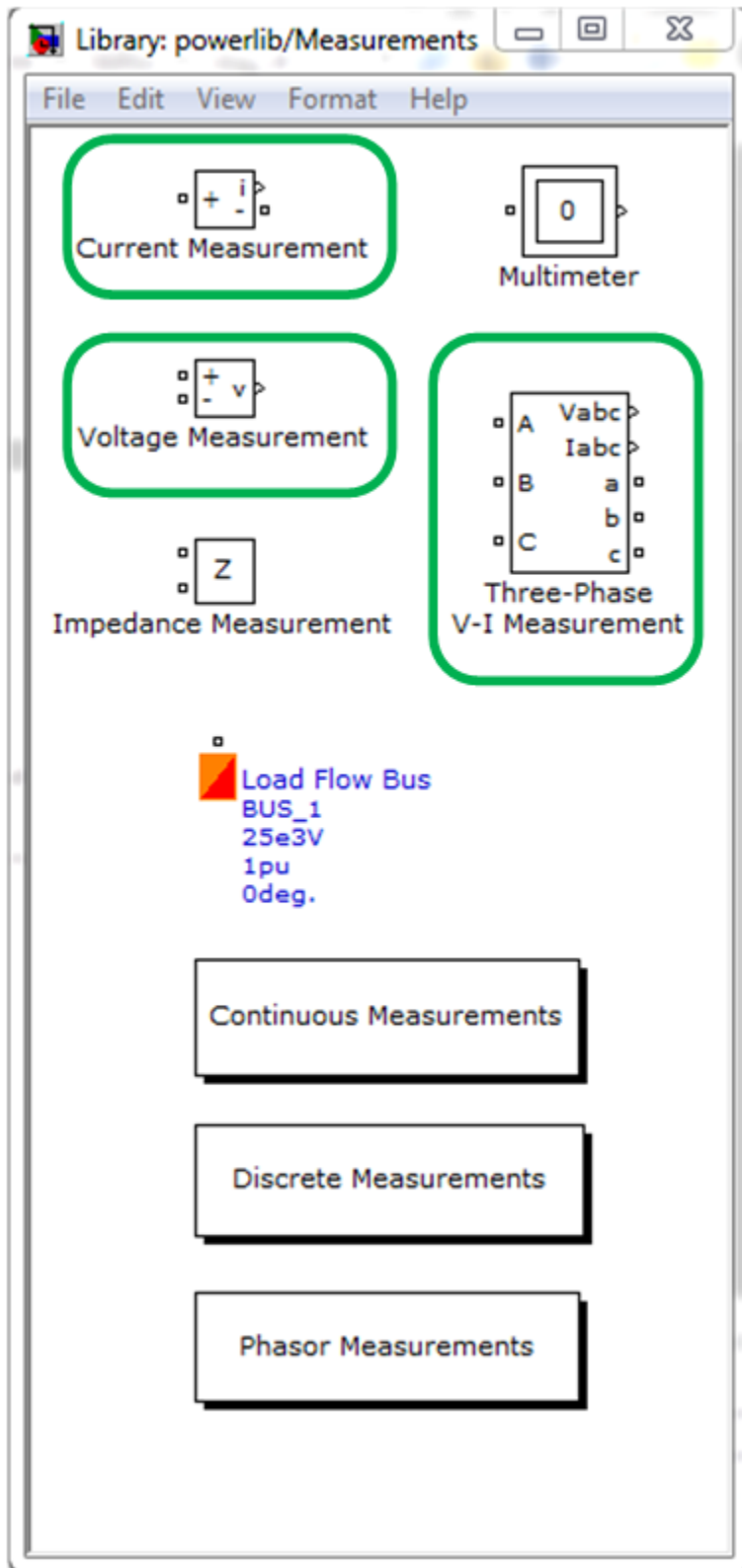
In the Simscape Electrical Elements library, the following blocks are supported:

- Series RLC Branch/Load
- Parallel RLC Branch/Load
- Ground/Neutral
- Breaker
- Pi section lines
- Linear Transformers
- Mutual Inductances
- Inductance Matrix Type Transformers



In the Simscape Electrical Measurements block library, the following blocks are supported:

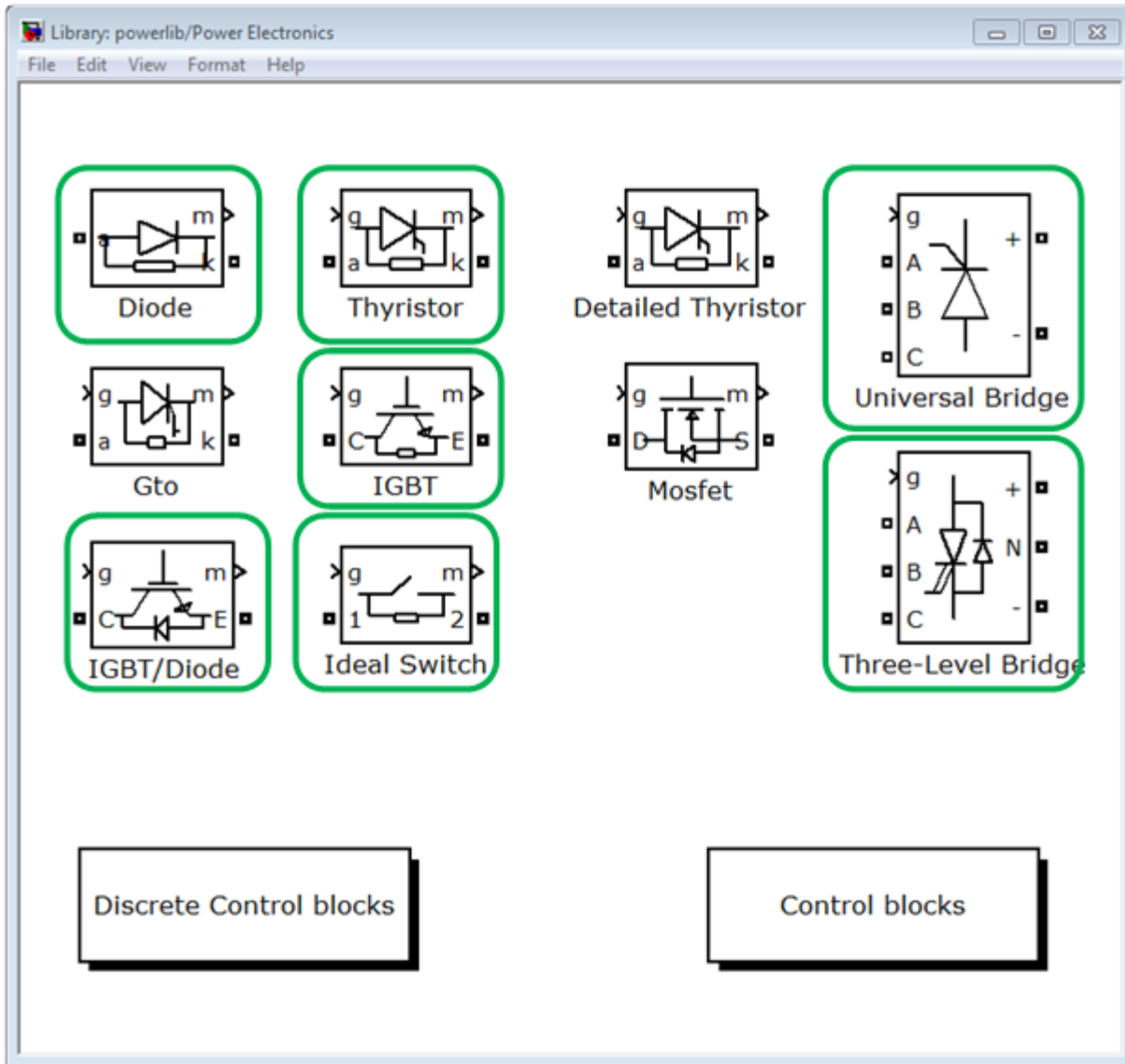
- Current Measurement
- Voltage Measurement
- Three-Phase VI Measurement



In the Simscape Electrical Power Electronics block library, the following blocks are supported (refer to Figure 4):

- Breaker
- Diode
- IGBT
- IGBT/Diode
- Ideal Switch

- Three-Level Bridge
- Thyristor
- Universal Bridge



In the Simscape Electrical Electrical Sources block library, the following elements are supported (refer to Figure 5):

- DC Voltage Source
- AC Voltage Source
- AC Current Source
- Controlled Voltage Source
- Controlled Current Source
- Three-Phase Source

Library: powerlib/Electrical Sources

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DC Voltage Source

AC Voltage Source

AC Current Source

Controlled Voltage Source

Controlled Current Source

Three-Phase Source

Three-Phase Programmable Voltage Source

Battery

Additional electrical source blocks available in electricdrivelib library