CLASS – A CHOPPER
Chopper can increase or decrease the DC voltage level at its opposite side. So, chopper serves the same purpose in DC circuit transfers in case of AC circuit. So it is also known as DC transformer.

In chopper circuits for the high power applications GTO, Mosfet, IGBT, power switching devices and for the low power applications semiconductor devices like Thyristor, Scr and some transistors are used.

Basically chopper is a switching device, which works on the pulse control method, by the on and off pulse with of the pulse, the semiconductor devices triggers.
The circuit that is implemented in the Activate tool as below is known as first-quadrant chopper or type A chopper.

When chopper is ON, supply voltage V is connected across the load. When chopper is OFF, output voltage is zero and the load current continues to flow in the same direction through the free wheeling diode.

The average values of output voltage and current are always positive. Class A Chopper is a first quadrant chopper.

Class A Chopper is a step-down chopper in which power always flows from source to load. It is used to control the speed of dc motor.

The output waveform equations obtained in step down chopper with R-L load can be used to study the performance of Class A Chopper.
Circuit Topology
Conclusion

- Class-A choppers are basically used for the control speed of the DC motor drive which operated in the first quadrant of the system. These choppers are not capable of changing the direction of the output voltage or output current.

- Thus the Class A chopper with the Resistance and the inductance load connection is implemented using the Activate tool.