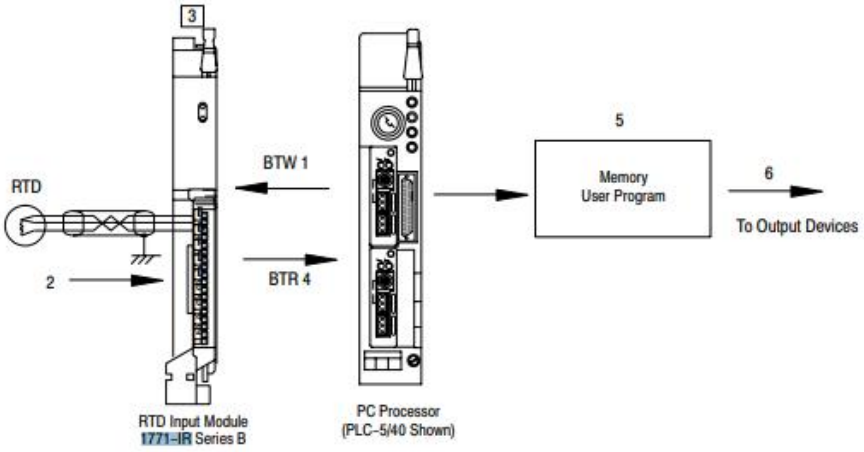
How Analog Modules Communicate with Programmable Controllers

The processor transfers data to and from the module using block transfer write (BTW) and block transfer read (BTR) instructions in your ladder diagram program. These instructions let the processor obtain input values and status from the module, and let you establish the module's mode of operation (figure 2.1).

1. The processor transfers your configuration data and calibration values to the module using a block transfer write instruction.

2. External devices generate analog signals that are transmitted to the module.

Figure 2.1
Communication Between Processor and Module



3. The module converts analog signals into binary or BCD format, and stores theses values until the processor requests their transfer.

4. When instructed by your ladder program, the processor performs a read block transfer of the values and stores them in a data table.

5. The processor and module determine that the transfer was made without error, and that input values are within specified range.

6. Your ladder program can use and/or move the data (if valid) before it is written over by the transfer of new data in a subsequent transfer.