Speed Sensing:
(1) Input is to be used for a magnetic pickup (MPU) sensor, alternator, or tach output.
(2) Not required if using AC Voltage for speed sensing.
(3) The polarity of the inputs does not matter.
(4) Use twisted pair shielded cable. Leave one side of shield unterminated.
(5) If using a MPU:
   (a) A shielded MPU is recommended.
   (b) One side of the mag. pickup also has to be connected to ground in addition to the controller.

CAN (TG350/TG410) and RS485 (TG410):
(1) A 120 Ohm impedance twisted pair cable is required.
   (a) Examples are Belden 9841 (single twisted pair) and Belden 7895A (two twisted pair).
(2) RS485 requires an extra wire or twisted pair in the cable for RS485 common.
(3) To prevent noise affecting controller operations bring the shielded cable within at least 6 inches of the terminal. Closer to 3 inches is better.
(4) Terminate the bus on each end with a 120Ohm resistor.
(5) Ground the shield on one end. Leave the other end unconnected.

AC Current (CTs): If current readings are unstable try connecting the CT Common’s to ground. Ensure the connecting wire is as short as possible.

Sensors: For hardware revisions below 2.0, if using non-isolated (one-wire) sensors connect sensor common to battery negative. Make connection at the same point the main ground connection is made.

Switched Inputs: For runs longer than 20 feet or in noisy environments place a relay in circuit close to controller to prevent false triggering due to noise. See the autostart example in this drawing.

Switched Outputs: Relay drivers. When using to trigger logic a 2.2 kOhm, 1 W resistor is required to be installed from output to ground to ensure the output goes to 0 VDC in off state.