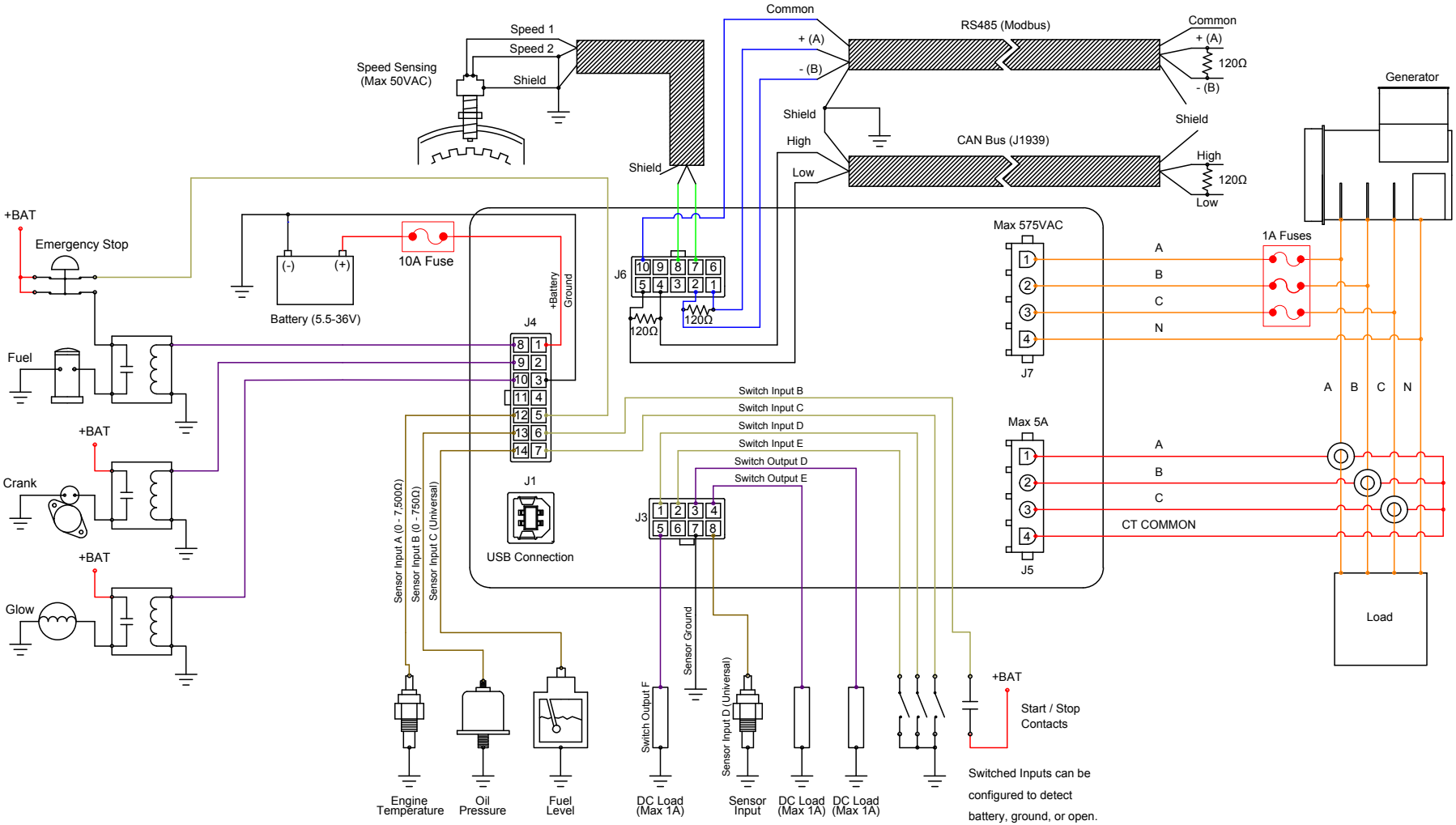

Speed Sensing Notes
(1) Input is to be used for a magnetic pickup (MPU) sensor, alternator, or tach output.
(2) Not required if using AC Voltage for speed sensing.
(3) The polarity of the inputs does not matter.
(4) Use twisted pair shielded cable. Leave one side of shield unterminated.
(5) If using 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) Connection Notes
(1) A 120 Ohm impedence 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) Notes
(1) If current readings are unstable attemp connecting the CT Common's to ground. Ensure the connecting wire is as short as possible.

Sensors
(1) 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.

Main Connector	
J4-1	+Battery
J4-2	+Battery
J4-3	Ground
J4-4	Ground
J4-5	Switch Input A
J4-6	Switch Input B
J4-7	Switch Input C
J4-8	Switch Output A
J4-9	Switch Output C
J4-10	Switch Output B
J4-11	Sensor Ground
J4-12	Sensor Input A
J4-13	Sensor Input B
J4-14	Sensor Input C

Expansion Connector	
J3-1	Switch Input D
J3-2	Switch Input E
J3-3	Switch Output D
J3-4	Switch Output E
J3-5	Switch Output F
J3-6	Sensor Power (5V)
J3-7	Sensor Ground
J3-8	Sensor Input D

Communication Connector	
J6-1	RS485-A
J6-2	RS485-B
J6-3	Reserved
J6-4	CAN High
J6-5	CAN Low
J6-6	CAN Ground
J6-7	Speed Input
J6-8	Speed Reference
J6-9	Reserved
J6-10	RS485 Ground

Generator Connector (A)	
J5-1	Gen. Current (A)
J5-2	Gen. Current (B)
J5-3	Gen. Current (C)
J5-4	CT Common

Generator Connector (V)	
J7-1	Gen. Phase A
J7-2	Gen. Phase B
J7-3	Gen. Phase C
J7-4	Neutral

TG410 Example
DWG-1501R3.0