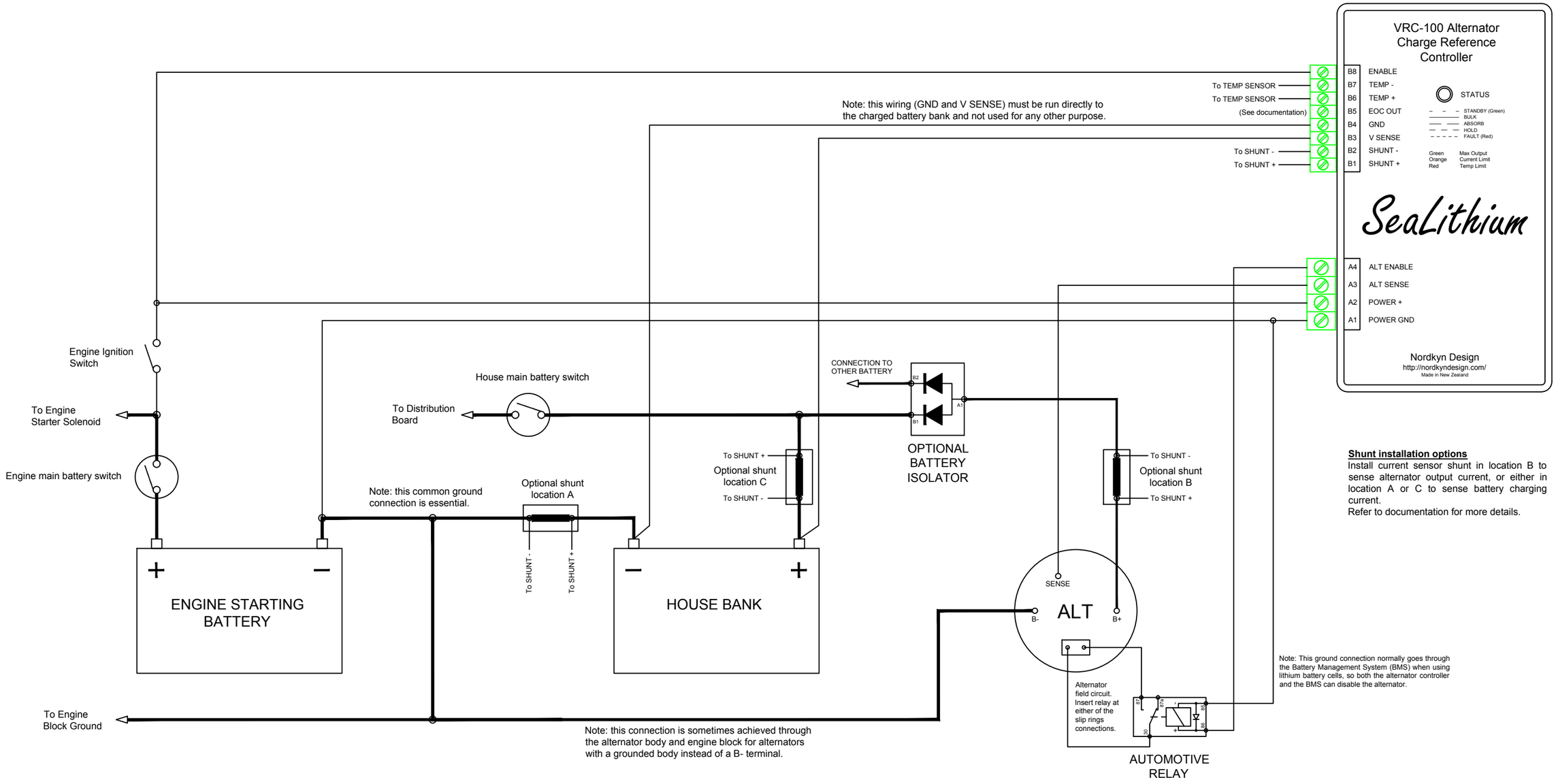


NOT TO SCALE UNLESS OTHERWISE INDICATED

0 10 20 30 40 50 60 70 80 90 100mm

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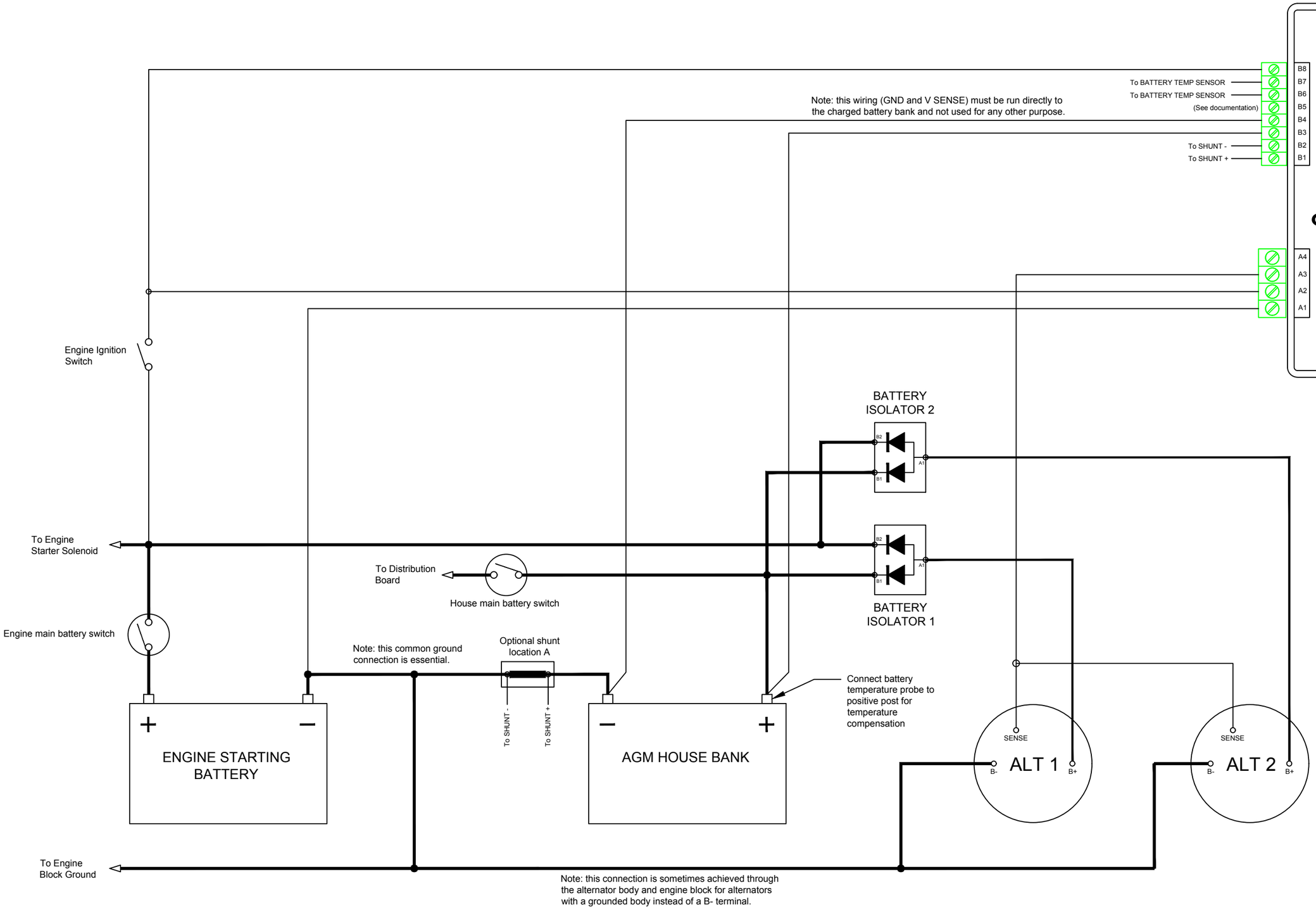
DESIGN: Eric Bretscher	DESIGNED DATE: 12/2015	A3
DRAWING STATUS: Issued for Construction	STATUS DATE: 14/10/2018	NTS

SeaLITHIUM Module VRC-100
Alternator Voltage Reference Controller

GENERIC WIRING DIAGRAM FOR SINGLE ALTERNATOR AND MULTI-BATTERY BANK SYSTEMS, INCLUDING LiFePO4 BATTERIES

NORDKYN DESIGN
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1	E15-07	R- 1



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Eric Bretscher	10/2016	A3
DRAWING STATUS	STATUS DATE	
Issued for Construction	14/10/2018	NTS

SeaLITHIUM Module VRC–100
Alternator Voltage Reference Controller

WIRING DIAGRAM FOR SINGLE ENGINE, SHARED DUAL ALTERNATOR, DUAL LEAD–ACID BATTERY SYSTEMS

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2	E15–07	R– 1

Connect to Pin #1 of Volvo Penta EVC instruments bus. The connector is 3-pin TE-Connectivity AMP Superseal 1.5. Refer to documentation Appendix B for details.

VRC-100 Alternator Charge Reference Controller

B8	ENABLE	
B7	TEMP -	To BATTERY TEMP SENSOR
B6	TEMP +	To BATTERY TEMP SENSOR
B5	EOC OUT	(See documentation)
B4	GND	
B3	V SENSE	
B2	SHUNT -	To SHUNT -
B1	SHUNT +	To SHUNT +

STATUS
STANDBY (Green)
BULK
ABSORB
HOLD
FAULT (Red)

Green Max Output
Orange Current Limit
Red Temp Limit

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A4	ALT ENABLE
A3	ALT SENSE
A2	POWER +
A1	POWER GND

Nordkyn Design
http://nordkyndesign.com/
Made in New Zealand

Note: this wiring (GND and V SENSE) must be run directly to the charged battery bank and not used for any other purpose.

BATTERY ISOLATOR 2 (120A)

BATTERY ISOLATOR 1 (120A)

New wiring from controller

NOTE:
The absorption and holding voltage setpoints must be set above about 13.4V on Volvo Penta EVC systems to prevent spurious charging alarms. Using excessive voltages may also result in alarms.

To Engine Starter Solenoid

To Distribution Board

House main battery switch

Engine main battery switch

Note: this common ground connection is essential.

Optional shunt location A

To SHUNT -

To SHUNT +

SLA ENGINE STARTING BATTERY

AGM HOUSE BANK

Connect battery temperature probe to positive post for temperature compensation

SENSE
ALT 1
B-
B+
D+

SENSE
ALT 2
B-
B+
D+

Existing wiring to Volvo Penta EVC Engine Management Module

To Engine Block Ground

Mitsubishi A003TR0093ZT Alternators

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SeaLITHIUM Module VRC–100
Alternator Voltage Reference Controller

WIRING DIAGRAM FOR SINGLE VOLVO PENTA WITH EVC ENGINE MANAGEMENT, SHARED TWIN ALTERNATORS AND TWIN LEAD–ACID BATTERY BANKS

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3	E15–07	R– 1

Connect to Pin #1 of Volvo Penta EVC instruments bus. The connector is 3-pin TE-Connectivity AMP Superseal 1.5. Refer to documentation Appendix B for details.

VRC-100 Alternator Charge Reference Controller

B8	ENABLE	
B7	TEMP -	To BATTERY TEMP SENSOR
B6	TEMP +	To BATTERY TEMP SENSOR
B5	EOC OUT	(See documentation)
B4	GND	
B3	V SENSE	
B2	SHUNT -	To SHUNT -
B1	SHUNT +	To SHUNT +

STATUS
STANDBY (Green)
BULK
ABSORB
HOLD
FAULT (Red)

Green	Max Output
Orange	Current Limit
Red	Temp Limit

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A4	ALT ENABLE
A3	ALT SENSE
A2	POWER +
A1	POWER GND

Nordkyn Design
http://nordkyndesign.com/
Made in New Zealand

Note: this wiring (GND and V SENSE) must be run directly to the charged battery bank and not used for any other purpose.

New wiring from controller

Note: this configuration provides standard Volvo charging at 14.3V to the starting battery from alternator #2 and the controller delivers multi-stage charging to the house bank from alternator #1.
Refer to Sheet 1 for field disconnect details if using a lithium house bank.

To Engine Starter Solenoid

To Distribution Board

House main battery switch

Engine main battery switch

Note: this common ground connection is essential.

Optional shunt location A

To SHUNT -

To SHUNT +

SLA ENGINE STARTING BATTERY

HOUSE BANK

To SHUNT +

Optional shunt location C

To SHUNT -

Shunt installation options
Install current sensor shunt in location B to sense alternator output current, or either in location A or C to sense battery charging current.
Refer to documentation for more details.

To SHUNT -

Optional shunt location B

To SHUNT +

SENSE
B-
ALT 1
B+
D+

SENSE
B-
ALT 2
B+
D+

Existing wiring to Volvo Penta EVC Engine Management Module

To Engine Block Ground

Mitsubishi A003TR0093ZT Alternators

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0 10 20 30 40 50 60 70 80 90 100mm

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SeaLITHIUM Module VRC-100
Alternator Voltage Reference Controller

WIRING DIAGRAM FOR SINGLE VOLVO PENTA WITH EVC ENGINE MANAGEMENT, DUAL BATTERY BANKS AND SEPARATE ALTERNATORS

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4	E15-07	R- 1