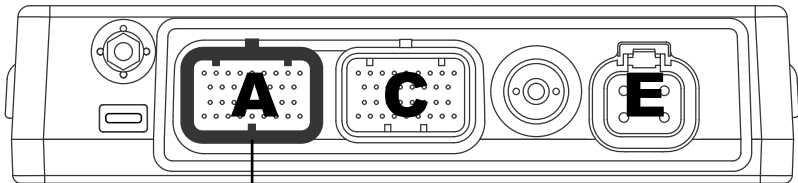
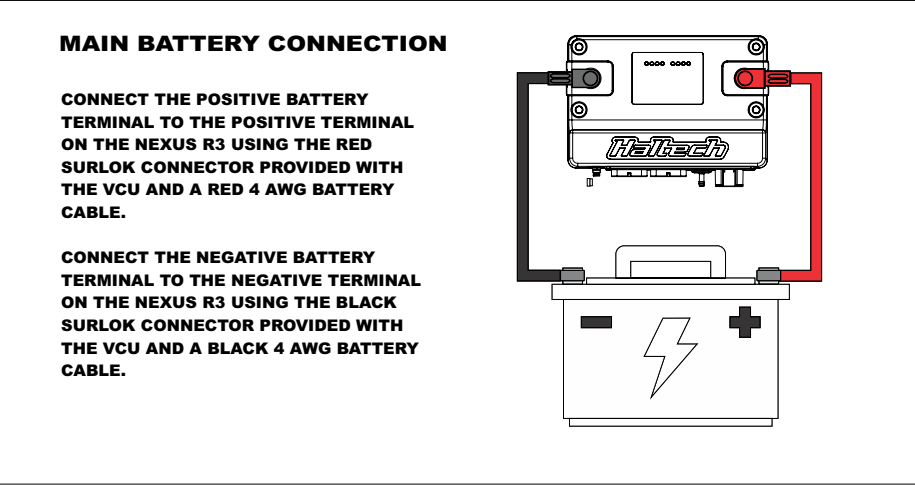
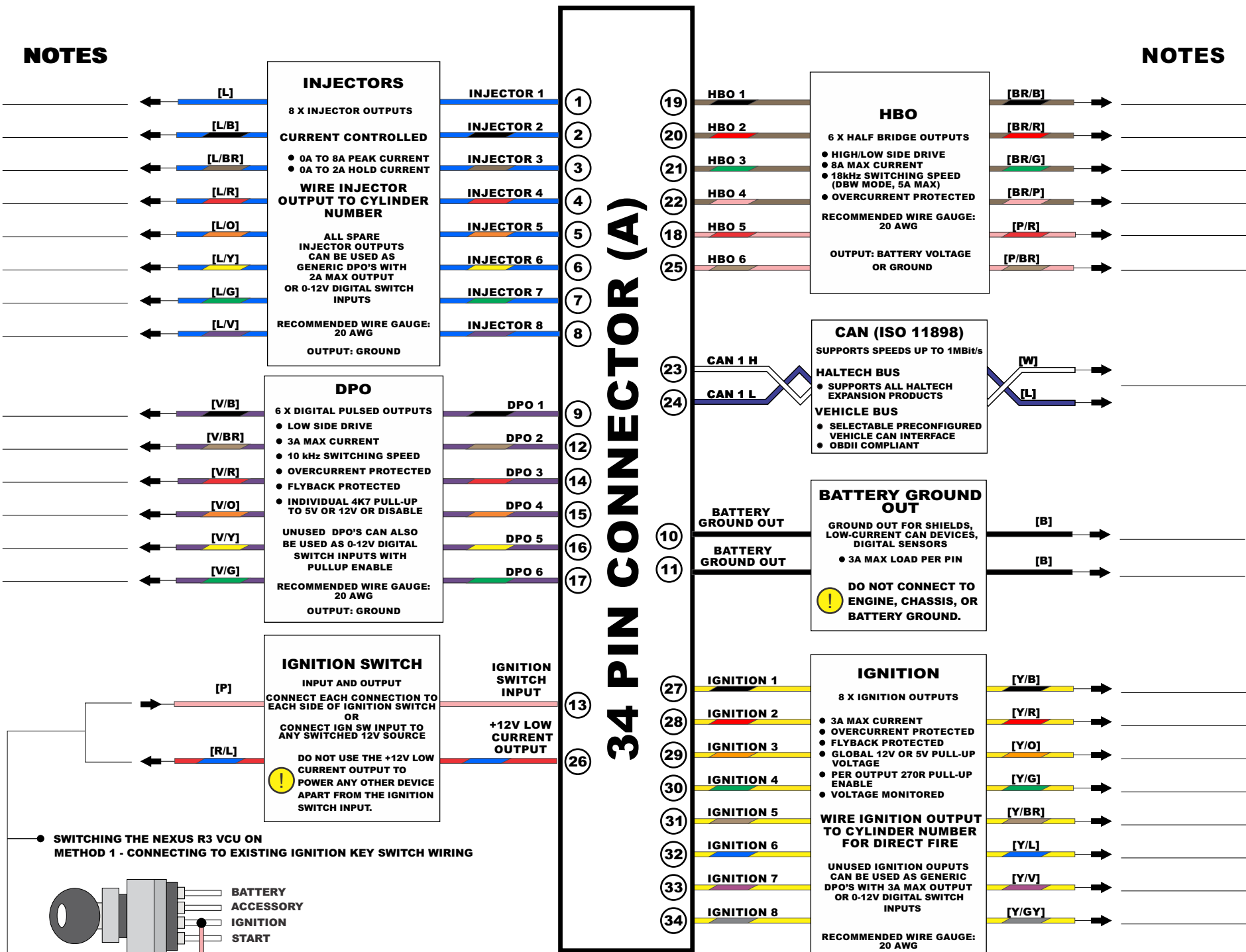




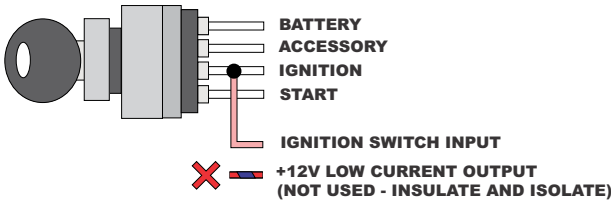
NEXUS R3 VCU WIRING DIAGRAM

NOTES

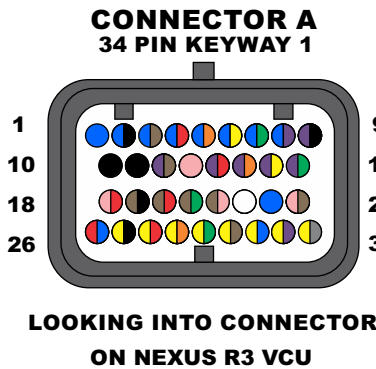
NOTES



SWITCHING THE NEXUS R3 VCU ON METHOD 1 - CONNECTING TO EXISTING IGNITION KEY SWITCH WIRING



SWITCHING THE NEXUS R3 VCU ON METHOD 2 - USING A GENERIC TOGGLE SWITCH



LEGEND - WIRE COLOUR	
B = BLACK	BR = BROWN
G = GREEN	GY = GREY
L = BLUE	LL = LIGHT BLUE
LG = LIGHT GREEN	LY = LIGHT YELLOW
O = ORANGE	P = PINK
R = RED	V = VIOLET
Y = YELLOW	W = WHITE
WHEN TWO COLOURS ARE USED IN A WIRE BY THE ALPHABETICAL CODE, THE FIRST LETTER INDICATES THE BASIC WIRE COLOUR, THE SECOND COLOUR INDICATES THE COLOUR OF THE STRIPE.	

Haltech	
NEXUS R3 VCU WIRING DIAGRAM	
DOCUMENT REVISION: 1.2	HT-193000
DATE: JANUARY 2026	SHEET 1 OF 2

NEXUS R3 VCU WIRING DIAGRAM

NOTES

TRIGGER AND HOME INPUTS

- SUPPORTS RELUCTOR INPUTS
- SUPPORTS DIGITAL INPUTS
- SELECTABLE GROUND REFERENCE AND PULLUP TO 5V
- 48kHz MAX SIGNAL FREQUENCY

NOTE: SHIELDED CABLES SHOULD BE EARTHED AT ONE END OF CABLE ONLY

SPI

6 X SYNCHRONISED PULSED INPUTS

- SUPPORTS RELUCTOR INPUTS
- SUPPORTS DIGITAL INPUTS
- SUPPORTS 0-5V ANALOG INPUTS
- 22.5kHz MAX FREQUENCY
- 25V MAX INPUT VOLTAGE
- SWITCHABLE 1K PULL-UP

RECOMMENDED WIRE GAUGE: 22 AWG

MEASUREMENT RANGE: -10V TO 10V

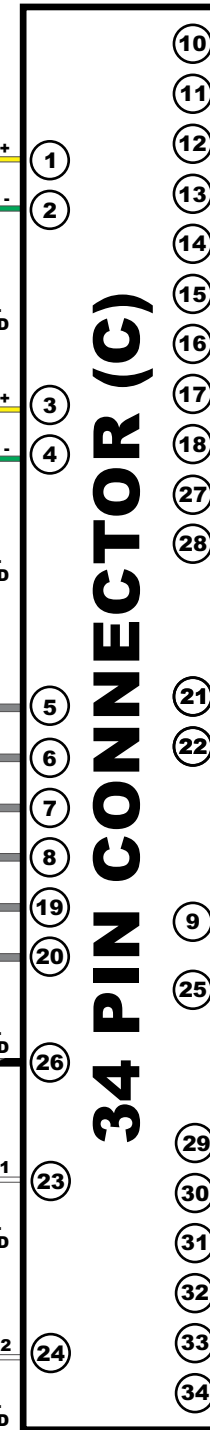
SIGNAL GROUND

- 500mA MAX OUTPUT CURRENT
- DO NOT CONNECT TO ENGINE, CHASSIS OR BATT. GROUND

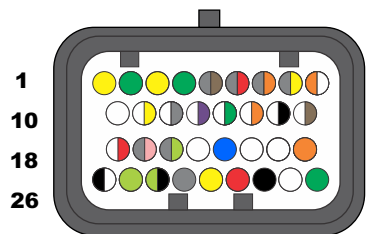
NOTE: SHIELDED CABLES SHOULD BE EARTHED AT ONE END OF CABLE ONLY

KNOCK INPUTS

- -2.5V TO +2.5V AC INPUT ONLY
- 160Hz TO 48kHz SIGNAL FREQUENCY



CONNECTOR C
34 PIN KEYWAY 2



LOOKING INTO CONNECTOR
ON NEXUS R3 VCU

NOTES

AVI

11 X ANALOG VOLTAGE INPUTS

- INDIVIDUAL SOFTWARE SELECTABLE 1K PULL-UP TO 5V
- USER DEFINABLE INPUTS CAN BE ALLOCATED TO AVAILABLE FUNCTIONS IN THE SOFTWARE
- 30V MAX INPUT VOLTAGE
- 1000 SAMPLES/SECOND
- 1.5kHz MAX INPUT FREQUENCY
- ALL AVIS CAN BE USED FOR NARROWBAND O2 AND DBW

RECOMMENDED WIRE GAUGE: 22 AWG

INPUT: -10V TO 30V

CAN (ISO 11898)

SUPPORTS SPEEDS UP TO 1Mbit/s

HALTECH BUS

- SUPPORTS ALL HALTECH EXPANSION PRODUCTS

VEHICLE BUS

- SELECTABLE PRECONFIGURED VEHICLE CAN INTERFACE
- OBDII COMPLIANT

+8V SENSOR SUPPLY

- 200mA MAX OUTPUT CURRENT

+5V SENSOR SUPPLY

- 200mA MAX OUTPUT CURRENT

WIDEBAND SENSOR INPUT

COMPATIBLE WITH BOSCH LSU 4.9 AND NTK SENSORS

SELECT WHICH SENSOR IS BEING USED IN THE SOFTWARE

- COMPATIBLE WITH ETHANOL
- MUST BE INSTALLED PRE CATALYTIC CONVERTOR
- OPTIONAL WIDEBAND HARDWARE PACK MAY BE PURCHASED IF REQUIRED (HT-010746 FOR LSU4.9) (HT-010747 FOR NTK)

NOTES

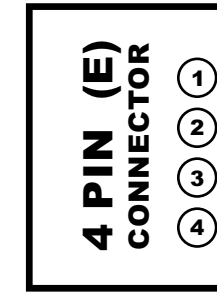
25A HCO

4 X 25A HIGH CURRENT OUTPUTS

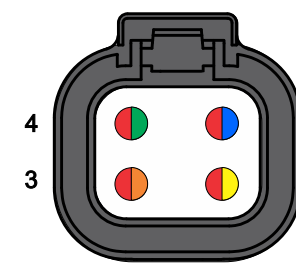
- HIGH/LOW SIDE DRIVE
- 25A MAX CURRENT
- CAPABLE OF 0-100% DUTY
- 5kHz SWITCHING SPEED
- SOFTWARE PROGRAMMABLE FUSE CURRENT, DELAY AND NO. OF RETRIES
- OVERCURRENT PROTECTION

RECOMMENDED WIRE GAUGE: 12 AWG

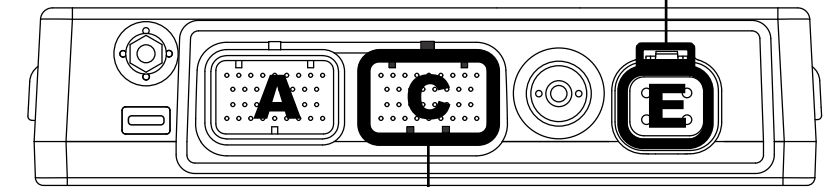
OUTPUT: BATTERY VOLTAGE OR GROUND



CONNECTOR E
4 PIN DTP



LOOKING INTO CONNECTOR
ON NEXUS R3



LEGEND - CONNECTION POINTS

- G** CONNECTION TO BATTERY GROUND
OUTPUT ON CONNECTOR A - SHEET 1
- H** CONNECTION TO ANY HBO ON CONNECTOR A - SHEET 1
(MUST BE ASSIGNED AS +12V ENGINE CONTROL RELAY FUNCTION IN NSP)

LEGEND - WIRE COLOUR

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LL = LIGHT BLUE LG = LIGHT GREEN LY = LIGHT YELLOW O = ORANGE
P = PINK R = RED V = VIOLET Y = YELLOW W = WHITE
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