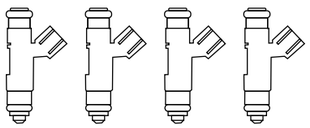
ELITE 1500 WIRING DIAGRAM

Haltech ENGINE MANAGEMENT SYSTEMS

EXAMPLE CONNECTIONS



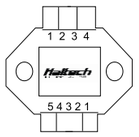
INJECTORS

INJECTORS
4 X INJECTOR DRIVERS
CURRENT CONTROLLED
- 0A - 8A PEAK CURRENT
- 0A - 2A HOLD CURRENT

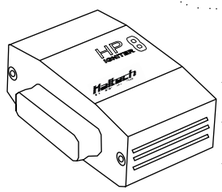
ALL SPARE INJECTOR OUTPUTS CAN BE USED AS GENERIC DPO'S WITH 1A MAX OUTPUT

OUTPUT: GROUND

[L]	INJECTOR #1	19	
[L/B]	INJECTOR #2	20	
[L/BR]	INJECTOR #3	21	
[L/R]	INJECTOR #4	22	



IGNITION MODULE



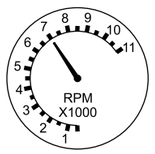
HALTECH HPI

IGNITION
4 X IGNITION DRIVERS
- 1A MAX CURRENT
- OVERCURRENT PROTECTED

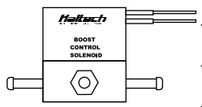
ALL SPARE IGNITION OUTPUTS CAN BE USED AS GENERIC DPO'S WITH 1A MAX OUTPUT

OUTPUT: GROUND

[Y/B]	IGNITION #1	3	
[Y/R]	IGNITION #2	4	
[Y/O]	IGNITION #3	5	
[Y/G]	IGNITION #4	6	



TACHOMETER

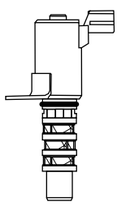


BOOST CONTROL SOLENOID

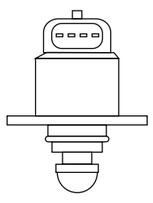
DPO
6 X DIGITAL PULSED OUTPUTS
- LOW SIDE DRIVE
- 1A MAX CURRENT
- OVERCURRENT PROTECTED

OUTPUT: GROUND

[V/B]	DPO 1	18	
[V/BR]	DPO 2	1	
[V/R]	DPO 3	23	



VTEC SOLENOIDS



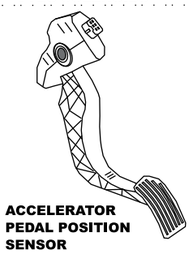
IDLE MOTOR

STEPPER 1 / DPO
CAN BE CONFIGURED AS
- 1 X STEPPER MOTOR DRIVER PAIRED P1 & P2 / P3 & P4
- 4 X HI/LOW SIDE DRIVERS

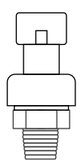
SPECIFICATIONS
- 1A MAX CURRENT DRIVE
- 1A MAX CURRENT SINK
- OVERCURRENT PROTECTED

OUTPUT: BATT V OR GROUND

[G]	STEPPER 1 P1 / DPO	31	
[G/B]	STEPPER 1 P2 / DPO	32	
[G/BR]	STEPPER 1 P3 / DPO	33	
[G/R]	STEPPER 1 P4 / DPO	34	



ACCELERATOR PEDAL POSITION SENSOR



PRESSURE SENSORS

AVI
10 X ANALOGUE VOLTAGE INPUTS
- SWITCHABLE 1K PULL-UP
- 20V MAX INPUT VOLTAGE
- 1.5KHz MAX INPUT FREQUENCY

INPUT: 0V - 5V (20V MAXIMUM)

[O/Y]	AVI 4	2	
[O/R]	AVI 3	17	
[O/B]	AVI 2	16	

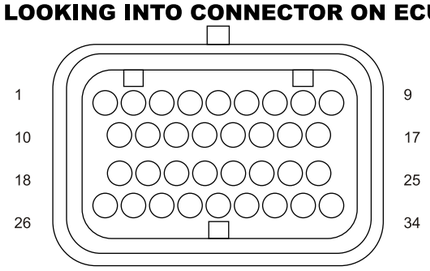
+5V SENSOR SUPPLY
- 100mA MAX OUTPUT CURRENT

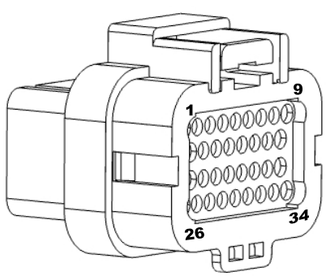
[O]	+5V SENSOR SUPPLY	9	

+8V SENSOR SUPPLY
- 1A MAX OUTPUT CURRENT

[O/W]	+8V SENSOR SUPPLY	12	

LOOKING INTO CONNECTOR ON ECU

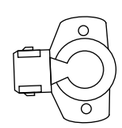




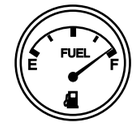
34 PIN CONNECTOR (A)

SIGNAL GROUND FROM ECU PIN B15	[B/W]		
AVI 10 (TPS *1)	[W]	14	
+5V SENSOR SUPPLY	[O]	9	
SIGNAL GROUND FROM ECU PIN B15	[B/W]		
AVI 9 (MAP*1)	[Y]	15	
+5V SENSOR SUPPLY	[O]	9	
TO 26 POSITION CONNECTOR ECU PIN B11			
+12V SWITCHED ECU SUPPLY	[R/W]	24	DPO 5 (FUEL PUMP TRIGGER) [B/Y]
		25	DPO 6 (ECR OUT) [B/R]
		26	*3 ECU INJECTOR POWER INPUT [R/L] (REQUIRED CONNECTION FOR ECU TO OPERATE)
		10	BATTERY GROUND
		11	BATTERY GROUND [B]
		13	12V IGNITION INPUT

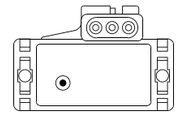
EXAMPLE CONNECTIONS



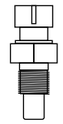
THROTTLE POSITION SENSORS



FUEL LEVEL SENSOR

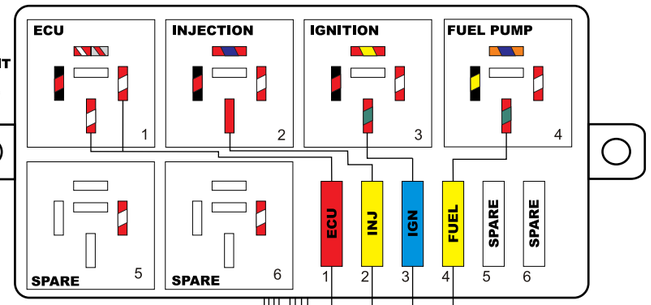


MANIFOLD ABSOLUTE PRESSURE SENSOR



TEMPERATURE SENSORS

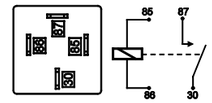
HALTECH 6 CIRCUIT FUSE BLOCK PART #HT030102



FUSE BLOCK NOTES:
15A CONTINUOUS, 20A PEAK
MAX CURRENT RATING PER CIRCUIT

FUSE ALLOCATIONS
FUSE 1: 10A - ECU
FUSE 2: 20A - INJECTION
FUSE 3: 15A - IGNITION
FUSE 4: 20A - FUEL PUMP
FUSE 5: SPARE
FUSE 6: SPARE

RELAY PIN LAYOUT & SCHEMATIC



SUITS 4 OR 5 PIN STANDARD BOSCH RELAY

[R/G]	FROM BATTERY POSITIVE (+) *2 [SEE NOTE]	
[R]	FROM BATTERY POSITIVE (+) *2 [SEE NOTE]	
[R/W]	FROM BATTERY POSITIVE (+) *2 [SEE NOTE]	
[O/L]	TO POSITIVE SIDE OF FUEL PUMP (+)	
[R/Y]	TO IGNITION COILS (+)	
[R/L]	TO INJECTORS (+) *3 [SEE NOTE]	
[GY/R]	13.8V OUTPUT TO SENSORS, RELAYS AND SOLENOIDS	
[B]	TO BATTERY (—) TERMINAL	
[P]	SWITCHED +12V SUPPLY FROM IGNITION SWITCH (12V ON IGN AND CRANKING ONLY)	

LEGEND - WIRE COLOUR
B = BLACK BR = BROWN G = GREEN GY = GREY L = BLUE
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.

NOTES:
*1 RECOMMENDED FUNCTION ALLOCATION, BUT NOT LIMITED TO
*2 CAN USE 75A CIRCUIT BREAKER
*3 DBW AND STEPPER SUPPLY, CURRENT RETURN PATH

Haltech ENGINE MANAGEMENT SYSTEMS	ELITE 1500 (2.5M) PREMIUM HARNESS #HT-140904
HALTECH ENGINE MANAGEMENT SYSTEMS	
DOCUMENT REVISION: 4	HARNESS REVISION: 3
DATE: 17TH MAY 2016	SHEET 1 OF 2

ELITE 1500 WIRING DIAGRAM

EXAMPLE CONNECTIONS

RELAYS

THERMOFAN RELAY

RELAY

OIL TEMPERATURE SENSOR

A/C SWITCH

DPO
6 X DIGITAL PULSED OUTPUTS
- LOW SIDE DRIVE
- 1A MAX CURRENT
- OVERCURRENT PROTECTED

OUTPUT: GROUND

[V/O] DPO4 19

AVI
10 X ANALOGUE VOLTAGE INPUTS
- SWITCHABLE 1K PULL-UP
- 20V MAX INPUT VOLTAGE
- 1.5KHz MAX INPUT FREQUENCY

INPUT: 0V - 5V (20V MAXIMUM)

[O/G] AVI 5 20

CRANK (TRIGGER) INPUT

+12V SWITCHED [R]
SIGNAL GROUND [L]
CRANK (TRIGGER) (+) [Y]
CRANK (TRIGGER) (-) [G]

4 CORE [GY]

+12V SWITCHED 11
SIGNAL GROUND 15
CRANK (+) 1
CRANK (-) 5

CAM (HOME) INPUT

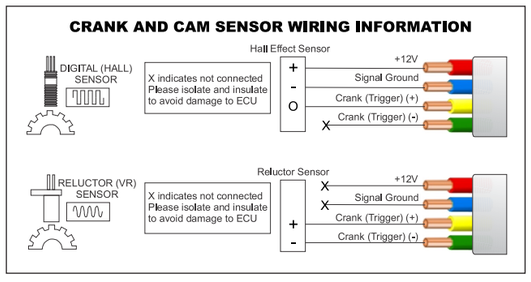
+12V SWITCHED [R]
SIGNAL GROUND [L]
CAM (HOME) (+) [Y]
CAM (HOME) (-) [G]

4 CORE [GY/B]

+12V SWITCHED 11
SIGNAL GROUND 15
CAM (+) 2
CAM (-) 6

SIGNAL GROUND 15

CRANK AND CAM SENSOR WIRING INFORMATION



MAIN HARNESS CAN CONNECTOR (DTM04-4P)

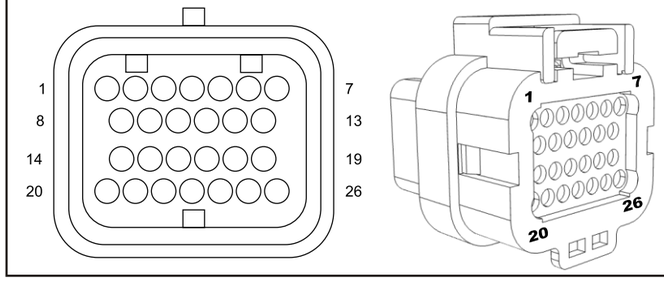
1 [GY/R] SWITCHED +13.8V SUPPLY FROM ECU RELAY
2 [B/W] SIGNAL GROUND 15
3 CAN LOW 24
4 CAN HIGH 23

CAN (ISO 11898)
SUPPORTS SPEEDS UP TO 1MBits/s

HALTECH BUS
- SUPPORTS ALL HALTECH EXPANSION PRODUCTS

VEHICLE BUS
- SELECTABLE PRECONFIGURED VEHICLE CAN INTERFACE
- OBDII COMPLIANT

LOOKING INTO CONNECTOR ON ECU



26 PIN CONNECTOR (B)

15 SIGNAL GROUND [B/W] — A/B
3 AVI 7 (AIR TEMPERATURE *1) [GY] — A/B

15 SIGNAL GROUND [B/W] — A/B
4 AVI 8 (COOLANT TEMPERATURE *1) [V] — A/B

AIR TEMPERATURE SENSOR

COOLANT TEMPERATURE SENSOR

25 DBW 1 / DPO
26 DBW 2 / DPO

DBW / DPO
2 X HIGH CURRENT HI/LOW SIDE DRIVERS
- 5A PEAK MAX CURRENT
- 1A AVERAGE CURRENT
- 100KHz MAX FREQUENCY

[BR/B]
[BR/R]

DRIVE BY WIRE THROTTLE

DBW RECOMMENDED WIRING INFORMATION

TPS 1	[O/B]	AVI 2
TPS 2	[O/R]	AVI 3
APP 1	[O/Y]	AVI 4
APP 2	[O/G]	AVI 5
MOTOR 1	[BR/B]	DBW 1
MOTOR 2	[BR/R]	DBW 2

12 AVI 6 (02 INPUT 1*1)
13 AVI 1 (02 INPUT 2*1)

AVI
2 X ANALOGUE VOLTAGE INPUTS (AVI 1 AND AVI 6) WHICH ARE COMPATIBLE WITH NARROWBAND 02 SENSORS
- CAN BE USED AS GENERIC AVI
- 20V MAX INPUT VOLTAGE
- 1.5KHz MAX INPUT FREQUENCY

INPUT: 0V - 5V (20V MAXIMUM)

SHIELDED [GY/O]
SHIELDED [GY/Y]

NARROWBAND O2 SENSORS

BRAKE OR CLUTCH SWITCHES

8 SPI 1
9 SPI 2
10 SPI 3
7 SPI 4

SPI
4 X SYNCHRONISED PULSED INPUTS
- SUPPORTS RELUCTOR INPUTS
- SUPPORTS DIGITAL INPUTS
- 50KHz MAX FREQUENCY
- 25V DC MAX INPUT VOLTAGE
- SWITCHABLE 10K PULL-UP

SHIELDED [GY]
SHIELDED [GY/B]
SHIELDED [GY/BR]
SHIELDED [GY/R]

VEHICLE SPEED SENSORS RELUCTOR

VEHICLE SPEED SENSORS HALL EFFECT

FREQUENCY BASED FLEX FUEL SENSOR

21 KNOCK 1

KNOCK
1 X KNOCK INPUT
- SUPPORTS PIEZO KNOCK SENSORS
- SYNCHRONISED TO ENGINE POSITION

SHIELDED [GY/G]

KNOCK SENSOR

16 SIGNAL GROUND
15 SIGNAL GROUND
14 SIGNAL GROUND [B/W] — TO SENSORS ONLY

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

NOTE: DO NOT CONNECT SENSOR GROUND TO BATTERY, CHASSIS OR ENGINE BLOCK

11 +12V SWITCHED ECU SUPPLY (ECU POWER) [R/W] — FROM ECU RELAY IN FUSE BLOCK (R1)

LEGEND - WIRE COLOUR
B = BLACK BR = BROWN G = GREEN GY = GREY L = BLUE
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.

NOTES:
- *1 RECOMMENDED FUNCTION ALLOCATION, BUT NOT LIMITED TO
- *2 CAN USE 75A CIRCUIT BREAKER
- *3 DBW AND STEPPER SUPPLY, CURRENT RETURN PATH

ELITE 1500 (2.5M) PREMIUM HARNESS #HT-140904

HALTECH ENGINE MANAGEMENT SYSTEMS

DOCUMENT REVISION: 4	HARNESS REVISION: 3
DATE: 17TH MAY 2016	SHEET 2 OF 2