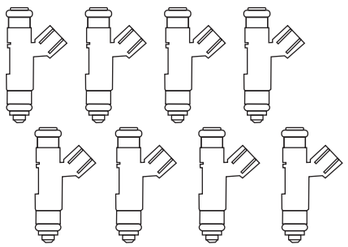
ELITE 2500 WIRING DIAGRAM

Haltech ENGINE MANAGEMENT SYSTEMS

EXAMPLE CONNECTIONS



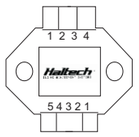
INJECTORS

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

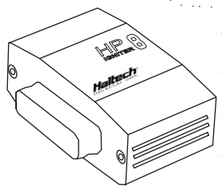
ALL SPARE INJECTOR OUTPUTS CAN BE USED AS GENERIC DPO'S WITH 1A MAX OUTPUT

OUTPUT: GROUND

[L]	INJECTOR #1	19	
[L/B]	INJECTOR #2	20	
[L/BR]	INJECTOR #3	21	
[L/R]	INJECTOR #4	22	
[L/O]	INJECTOR #5	27	
[L/Y]	INJECTOR #6	28	
[L/G]	INJECTOR #7	29	
[L/V]	INJECTOR #8	30	



IGNITION MODULE



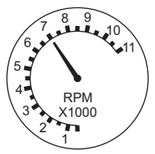
HALTECH HPI

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

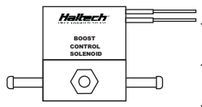
ALL SPARE IGNITION OUTPUTS CAN BE USED AS GENERIC DPO'S WITH 1A MAX OUTPUT

OUTPUT: GROUND

[Y/B]	IGNITION #1	3	
[Y/R]	IGNITION #2	4	
[Y/O]	IGNITION #3	5	
[Y/G]	IGNITION #4	6	
[Y/BR]	IGNITION #5	7	
[Y/L]	IGNITION #6	8	



TACHOMETER

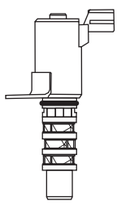


BOOST CONTROL SOLENOID

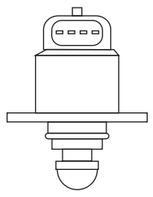
DPO
6 X DIGITAL PULSED OUTPUTS
- LOW SIDE DRIVE
- 1A MAX CURRENT
- OVERCURRENT PROTECTED

OUTPUT: GROUND

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



VTEC SOLENOIDS



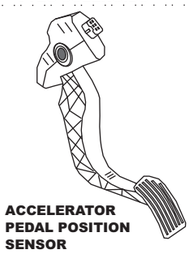
IDLE MOTOR

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

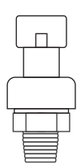
SPECIFICATIONS
- 1A MAX CURRENT DRIVE
- 1A MAX CURRENT SINK
- OVERCURRENT PROTECTED

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	

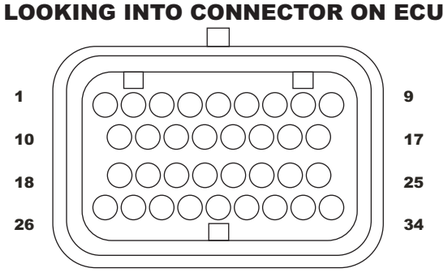
+5V SENSOR SUPPLY
- 100mA MAX OUTPUT CURRENT

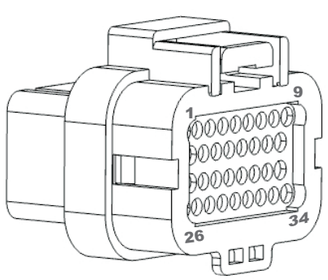
[O]	+5V SENSOR SUPPLY	9	

+8V SENSOR SUPPLY
- 1A MAX OUTPUT CURRENT

[O/W]	+8V SENSOR SUPPLY	12	

LOOKING INTO CONNECTOR ON ECU

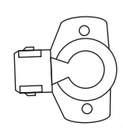




34 PIN CONNECTOR (A)

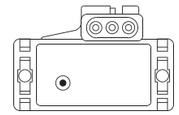
	SIGNAL GROUND FROM ECU PIN B15	[B/W]	
14	AVI 10 (TPS *1)	[W]	
9	+5V SENSOR SUPPLY	[O]	
	SIGNAL GROUND FROM ECU PIN B15	[B/W]	
15	AVI 9 (MAP*1)	[Y]	
9	+5V SENSOR SUPPLY	[O]	

EXAMPLE CONNECTIONS

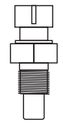


THROTTLE POSITION SENSORS

FUEL LEVEL SENSOR

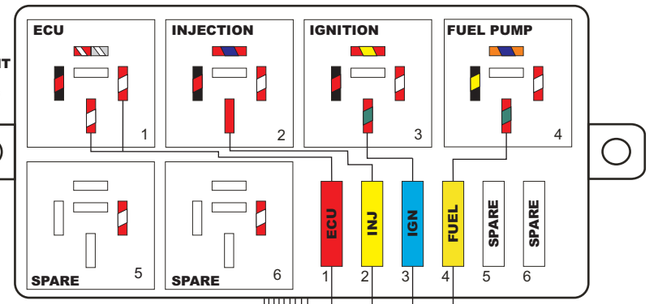


MANIFOLD ABSOLUTE PRESSURE SENSOR



TEMPERATURE SENSORS

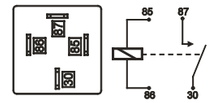
HALTECH 6 CIRCUIT FUSE BLOCK PART #HT030102



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

	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	ECU INJECTOR POWER INPUT (DBW AND STEPPER SUPPLY, CURRENT RETURN PATH)	[R/L]	
10	BATTERY GROUND	[B]	
11	BATTERY GROUND		
13	12V IGNITION INPUT		

[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 (+)	
[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

Haltech ENGINE MANAGEMENT SYSTEMS

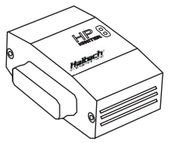
ELITE 2500 (2.5M) PREMIUM HARNESS #HT-141304

HALTECH ENGINE MANAGEMENT SYSTEMS

DOCUMENT REVISION: 3	HARNESS REVISION: 3
DATE: 1ST SEPTEMBER 2015	SHEET 1 OF 2

ELITE 2500 WIRING DIAGRAM

EXAMPLE CONNECTIONS



HALTECH HPI

IGNITION MODULE

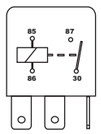
IGNITION
8 X IGNITION DRIVERS
- 1A MAX CURRENT
- OVERCURRENT PROTECTED

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

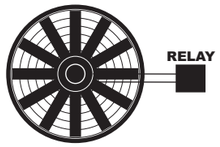
OUTPUT: GROUND

[Y/V] → IGNITION #7 (17)

[Y/GY] → IGNITION #8 (18)



RELAYS


RELAY

THERMOFAN RELAY

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

OUTPUT: GROUND

[V/O] → DPO4 (19)


OIL TEMPERATURE SENSOR

A/C SWITCH

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

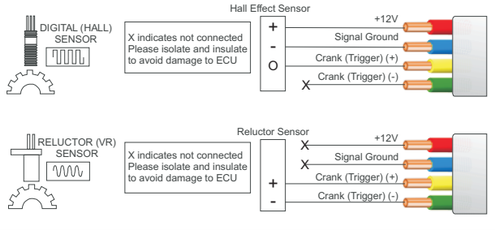
+12V SWITCHED [R]
SIGNAL GROUND [L]
CAM (HOME) (+) [Y]
CAM (HOME) (-) [G]

4 CORE [GY/B]

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

SIGNAL GROUND (15)

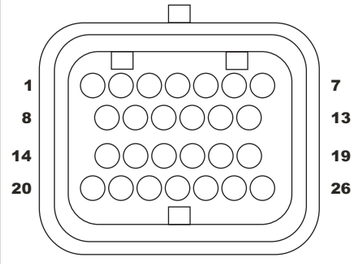
CRANK AND CAM SENSOR WIRING INFORMATION

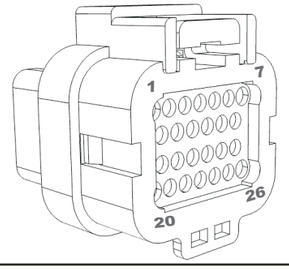


MAIN HARNESS CAN CONNECTOR (DTM04-4P)

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

LOOKING INTO CONNECTOR ON ECU





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

26 PIN CONNECTOR (B)

15	SIGNAL GROUND	[B/W]	
3	AVI 7 (AIR TEMPERATURE *1)	[GY]	
15	SIGNAL GROUND	[B/W]	
4	AVI 8 (COOLANT TEMPERATURE *1)	[V]	
25	DBW 1 / DPO	[BR/B]	
26	DBW 2 / DPO	[BR/R]	
12	AVI 6 (O2 INPUT 1*1)	SHIELDED [GY/O]	
13	AVI 1 (O2 INPUT 2*1)	SHIELDED [GY/Y]	
8	SPI 1	SHIELDED [GY]	
9	SPI 2	SHIELDED [GY/B]	
10	SPI 3	SHIELDED [GY/BR]	
7	SPI 4	SHIELDED [GY/R]	
21	KNOCK 1	SHIELDED [GY/G]	
22	KNOCK 2	SHIELDED [GY/L]	
16	SIGNAL GROUND		
15	SIGNAL GROUND		
14	SIGNAL GROUND	[B/W]	TO SENSORS
11	+12V SWITCHED ECU SUPPLY (ECU POWER)	[R/W]	FROM ECU RELAY IN FUSE BLOCK (R1)

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

OUTPUT: BATT V OR GROUND

AVI
10 X ANALOGUE VOLTAGE INPUTS
- SWITCHABLE 1K PULL-UP
- 20V MAX INPUT VOLTAGE
- 1.5KHz MAX INPUT FREQUENCY
- AVI 1 AND AVI 6 ARE COMPATIBLE WITH NARROBAND 02 SENSORS

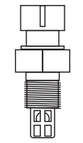
INPUT: 0V - 5V (20V MAXIMUM)

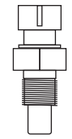
SPI
4 X SYNCHRONISED PULSED INPUTS
- SUPPORTS RELUCTOR INPUTS
- SUPPORTS DIGITAL INPUTS
- 50KHz MAX FREQUENCY
- 25V DC MAX INPUT VOLTAGE
- SWITCHABLE 10K PULL-UP

KNOCK
2 X KNOCK INPUTS
- SUPPORTS PIEZO KNOCK SENSORS
- SYNCHRONISED TO ENGINE POSITION

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

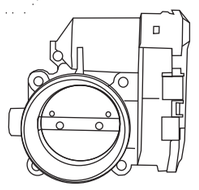
EXAMPLE CONNECTIONS

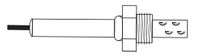

AIR TEMPERATURE SENSOR

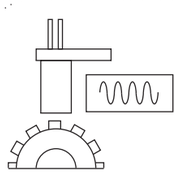

COOLANT TEMPERATURE SENSOR

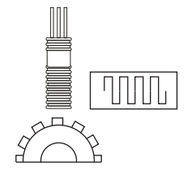
DBW RECOMMENDED WIRING INFORMATION

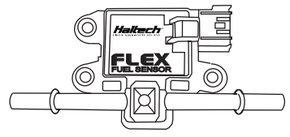
TPS 1	[O/B]	AVI 2	
TPS 2	[O/R]	AVI 3	
APP 1	[O/Y]	AVI 4	
APP 2	[O/G]	AVI 5	
MOTOR 1	[BR/B]	DBW 1	
MOTOR 2	[BR/R]	DBW 2	


DRIVE BY WIRE THROTTLE

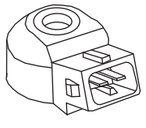
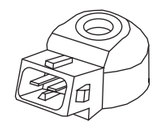

NARROWBAND O2 SENSORS


VEHICLE SPEED SENSORS RELUCTOR


VEHICLE SPEED SENSORS HALL EFFECT



FREQUENCY BASED FLEX FUEL SENSOR



KNOCK SENSORS

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

ELITE 2500 (2.5M) PREMIUM HARNESS #HT-141304

HALTECH ENGINE MANAGEMENT SYSTEMS

DOCUMENT REVISION: 3	HARNESS REVISION: 3
DATE: 1ST SEPTEMBER 2015	SHEET 2 OF 2