

Wiring Information:

Stud – ASH0014-1PN

Pin	Gauge	Signal Name	Signal Notes
1	-	+12V Supply	Positive battery supply

Connector 1 – AS020-16SN

Pin	Gauge	Signal Name	Signal Notes
A	16AWG	Output 1	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
B	16AWG	Output 2	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
C	16AWG	Output 3	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
D	16AWG	Output 4	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
E	16AWG	Output 5	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
F	16AWG	Output 6	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
G	16AWG	Output 7	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
H	16AWG	Output 8	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
J	16AWG	Output 9	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
K	16AWG	Output 10	High Side, Low Side, Low Side PWM, Half Bridge, Full Bridge, Soft start ⁽¹⁾⁽²⁾
L	16AWG	Output 11	High Side
M	16AWG	Output 12	High Side
N	16AWG	Output 13	High Side
P	16AWG	Output 14	High Side
R	16AWG	Output 15	High Side
S	16AWG	Power Ground	Negative battery supply

Connector 2 – AS020-16SA

Pin	Gauge	Signal Name	Signal Notes
A	16AWG	Output 16	High Side
B	16AWG	Output 17	High Side
C	16AWG	Output 18	High Side
D	16AWG	Output 19	High Side
E	16AWG	Output 20	High Side
F	16AWG	Output 21	High Side
G	16AWG	Output 22	High Side
H	16AWG	Output 23	High Side
J	16AWG	Output 24	High Side
K	16AWG	Output 25	High Side
L	16AWG	Output 26	High Side
M	16AWG	Output 27	High Side
N	16AWG	Output 28	High Side
P	16AWG	Output 29	High Side
R	16AWG	Output 30	High Side
S	16AWG	Power Ground	Negative battery supply

Logic Power In

Logic power in exists to allow the PDU electronics supply to be protected from voltage drops due to large current demand at the positive power connector. The idea is to run a small (~0.5A) wire back to the master or the battery separately from the main power connection. The logic will not see the voltage drop caused on the main power line by big current spikes and will therefore be less likely to be reset by them. This also allows the PDU logic to be alive (for communications and programming) while the main power connection is disconnected, which can be useful in-car and also for bench power-up looms.

WakeUP Pin

Wake pin is active-high, will always turn the device on (unlike wake on inputs 13..16 which are optional wake). Does not need to be connected if 'always on' is set in the power config in Pdu Setup; should not be connected if other wake source is used like wake-on-can for example.

Connector 3 – AS216-35PN

Pin	Gauge	Signal Name	Signal Notes
1	22AWG	INPUT #01 - Bipolar	Analogue or frequency; 0-5V, -5V to +5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
2	22AWG	INPUT #02 - Bipolar	Analogue or frequency; 0-5V, -5V to +5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
3	22AWG	INPUT #03 - Bipolar	Analogue or frequency; 0-5V, -5V to +5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
4	22AWG	INPUT #04 - Bipolar	Analogue or frequency; 0-5V, -5V to +5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
5	22AWG	INPUT #05 - Unipolar	Analogue or frequency; 0-5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
6	22AWG	INPUT #06 - Unipolar	Analogue or frequency; 0-5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
7	22AWG	INPUT #07 - Unipolar	Analogue or frequency; 0-5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
8	22AWG	INPUT #08 - Unipolar	Analogue or frequency; 0-5V, 3k Ω programmable pullup to 5V ⁽⁴⁾
9	22AWG	INPUT #09	Analogue 0-5V, 3k Ω programmable pullup to 5V
10	22AWG	INPUT #10	Analogue 0-5V, 3k Ω programmable pullup to 5V
11	22AWG	INPUT #11	Analogue 0-5V, 3k Ω programmable pullup to 5V
12	22AWG	INPUT #12	Analogue 0-5V, 3k Ω programmable pullup to 5V
13	22AWG	INPUT #13	Analogue 0-5V, 3k Ω programmable pullup to 5V, Wake ⁽⁵⁾
14	22AWG	INPUT #14	Analogue 0-5V, 3k Ω programmable pullup to 5V, Wake ⁽⁵⁾
15	22AWG	INPUT #15	Analogue 0-5V, 3k Ω programmable pullup to 5V, Wake ⁽⁵⁾
16	22AWG	INPUT #16	Analogue 0-5V, 3k Ω programmable pullup to 5V, Wake ⁽⁵⁾
17	22AWG	SENSOR GND	Protected sensor ground
18	22AWG	SENSOR GND	Protected sensor ground
19	22AWG	WAKEUP	Dedicated Wake, See page 3
20	22AWG	5V OUT	Regulated 5V sensor supply rail
21	22AWG	CAN #03 HI	NOT CURRENTLY IN USE
22	22AWG	CAN #03 LO	NOT CURRENTLY IN USE
23	22AWG	POWER GROUND	Negative battery supply
24	22AWG	12V OUT	Power stud voltage out
25	22AWG	LOGIC POWER IN	+12V Battery supply; must be connected – See page 3
26	22AWG	Output 31a	High Side (pin share 37)
27	22AWG	Output 32a	High Side (pin share 38)
28	22AWG	Output 33a	High Side (pin share 39)
29	22AWG	Output 34a	High Side (pin share 40)
30	22AWG	LIN	NOT CURRENTLY IN USE
31	22AWG	CAN #02 HI	ECU Slave (terminated)
32	22AWG	CAN #02 LO	ECU Slave (terminated)
33	24AWG	ETHERNET2 RX+	Ethernet communication port 2
34	24AWG	ETHERNET2 RX-	Ethernet communication port 2
35	24AWG	ETHERNET2 TX+	Ethernet communication port 2
36	24AWG	ETHERNET2 TX-	Ethernet communication port 2
37	22AWG	Output 31b	High Side (pin share 26)
38	22AWG	Output 32b	High Side (pin share 27)
39	22AWG	Output 33b	High Side (pin share 28)
40	22AWG	Output 34b	High Side (pin share 29)
41	22AWG	WARNING AND RESET SW	Warning output for an LED to ground. Short to ground for manual reset.
42	22AWG	RS232 TX	RS232 transmit
43	22AWG	RS232 RX	RS232 receive
44	22AWG	COMMS GROUND	Protected communication ground
45	22AWG	CAN #01 HI	CAN communication port 120 Ω software selectable termination ⁽³⁾
46	22AWG	CAN #01 LO	CAN communication port 120 Ω software selectable termination ⁽³⁾
47	24AWG	ETHERNET1 RX+	Ethernet communication port 1
48	24AWG	ETHERNET1 RX-	Ethernet communication port 1
49	24AWG	ETHERNET1 TX+	Ethernet communication port 1
50	24AWG	ETHERNET1 TX-	Ethernet communication port 1
51	22AWG	DIGITAL GROUND	
52	22AWG	POWER GROUND	Negative battery supply
53	22AWG	POWER GROUND	Negative battery supply
54	22AWG	POWER GROUND	Negative battery supply
55	22AWG	POWER GROUND	Negative battery supply

Footnotes:

⁽¹⁾PWM, Half Bridge and Full Bridge via ECU slaving only.

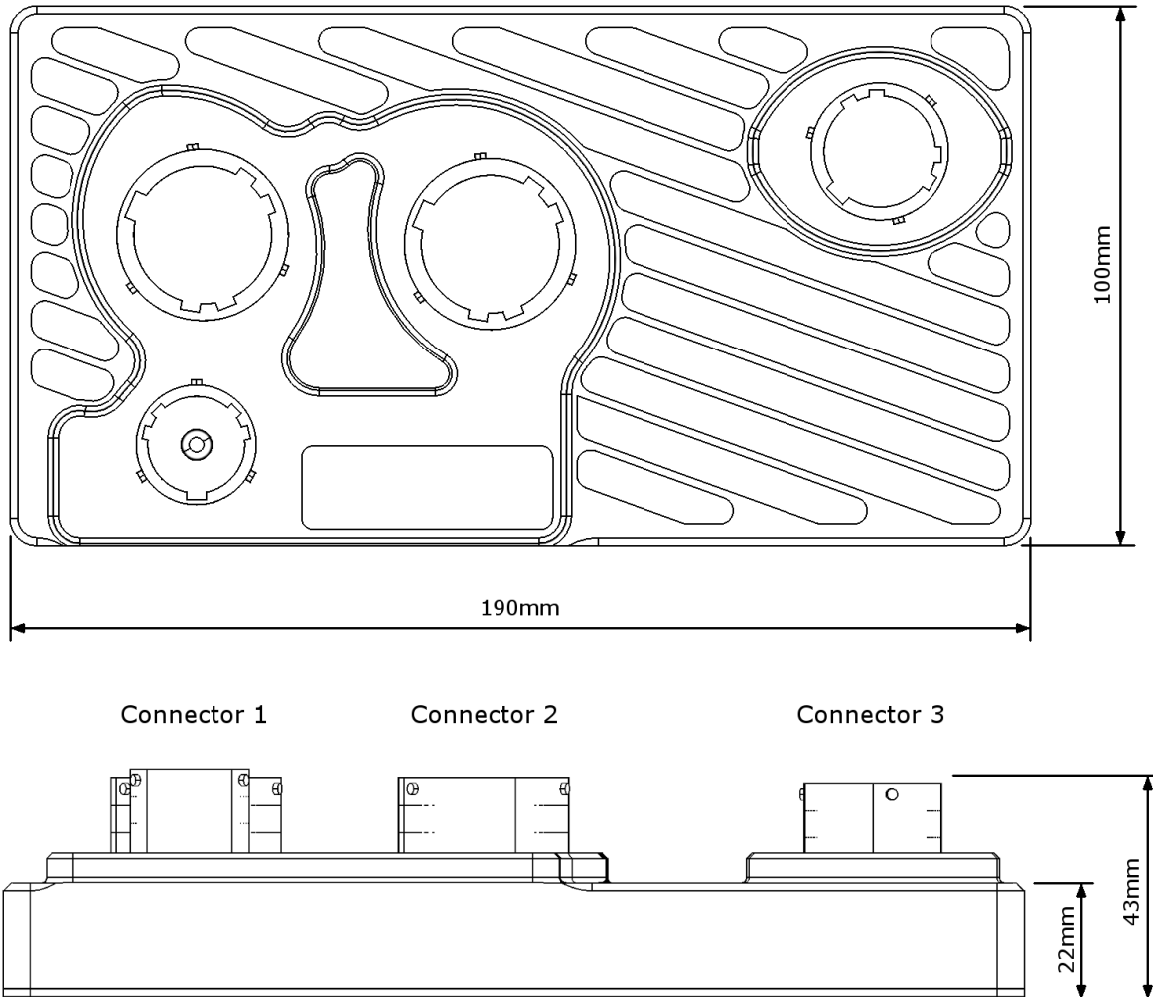
⁽²⁾Full Bridge control is on adjacent pairs only (1+2, 3+4, 5+6, 7+8, 9+10).

⁽³⁾Only active when not in sleep mode. If waking on CAN external termination will be required.

⁽⁴⁾Bipolar and Frequency inputs via ECU slaving only.

⁽⁵⁾Can be calibrated to bring unit out of sleep mode when driven high. Dedicated wake pin always active.

Dimensions:



Warranty and Servicing:

- This equipment comes with a 1 year warranty against manufacturing defects and failures however misuse or damage will not be covered under warranty.
- This PDU contains a battery which can be returned to Syvecs for a replacement, a charge may be made for this service.