



## Delta 900 - ECU Pinout

Connector A: AMPSeal 776164-1

Connector B: AMPSeal 776163-4

Connector C: AMPSeal 776163-2

Terminal Pins 770520-3

CAN Connector: Female DB9/Female DTM

Connector A			
Pin	Name	Description	Notes
1	Battery	Direct Battery Supply (15A fuse)	Direct Battery Power 6-15V
2	Ignition	Ignition Switched Supply (10A fuse)	Ignition Key Input
3	Power Ground 1	Power Ground	Power Ground
4	Low Side Output 1	3A Open Collector	Injector 1
5	Low Side Output 2	3A Open Collector	Injector 2
6	Low Side Output 3	3A Open Collector	Injector 3
7	Low Side Output 4	3A Open Collector	Injector 4
8	Crank/Cam Ground	Digital Ground	Crank/Cam Sensor Ground
9	Crank Input	VR/Hall - Software Selectable	Crank Sensor Input
10	Cam Input 1	VR/Hall - Software Selectable	Inlet Cam Sensor 1 Input
11	NTC Input 1	3.16K pull-up to VREF	Coolant Temp Input
12	NTC Input 2	3.16K pull-up to VREF	Air Temp Input
13	Ignition 1	TTL/Power Ignition Output	Ignition 1
14	Ignition 2	TTL/Power Ignition Output	Ignition 2
15	Ignition 3	TTL/Power Ignition Output	Ignition 3
16	Ignition 4	TTL/Power Ignition Output	Ignition 4
17	Analog Input 1	47k pull-up to VREF	User Configurable 0-5V Analog Input
18	Cam Input 2	VR/Hall - Software Selectable	Cam 2 / Wheel Speed
19	Analog Ground 1	Analog Ground	Analog Ground
20	Lambda 1 Input	Weak bias to 450mV	0-5V Analog Input
21	CAN 1H	120 Ohm Terminated	To PC comms DB9
22	CAN 1L		To PC comms DB9
23	Low Side Output 5	3A Open Collector	MFIO Injector 5 and Lambda 3 Input
24	Low Side Output 7	3A Open Collector w/ recirc diode	Main Relay/PWM1
25	Low Side Output 8	3A Open Collector w/ recirc diode	Fuel Pump Relay/PWM2
26	Low Side Output 9	3A Open Collector w/ recirc diode	PWM3
27	Low Side Output 10	3A Open Collector w/ recirc diode	PWM4
28	Low Side Output 11	3A Open Collector with pull-up to VB	Tacho Output
29	Low Side Output 6	3A Open Collector	MFIO Injector 6 and Lambda 4 Input
30	Analog Ground 2	Analog Ground	Analog Ground
31	NTC Input 3	3.16K pull-up to VREF	NTC1
32	Analog Input 2	47k pull-up to VREF	TPS1
33	Analog Input 3	47k pull-up to VREF	MAP
34	VREF	500mA 5V supply to sensors	5V Reference
35	Power Ground 2	Power Ground	Power Ground 2

Connector B			
Pin	Name	Description	Notes
B1	H Bridge 1 M+	5A H-Bridge	Throttle 1 +
B2	H Bridge 1 M-	5A H-Bridge	Throttle 1 -
B3	H Bridge 2 M+	5A H-Bridge	Throttle 2 +
B4	H Bridge 2 M-	5A H-Bridge	Throttle 2 -
B5	Bipolar Output 1	3A Hi Side/Lo Side Drive	PWM5
B6	Bipolar Output 2	3A Hi Side/Lo Side Drive	PWM6
B7	Bipolar Output 3	3A Hi Side/Lo Side Drive	PWM7
B8	Bipolar Output 4	3A Hi Side/Lo Side Drive	PWM8
B9	Low Side Output 12	3A Open Collector	Injector 7
B10	Low Side Output 13	3A Open Collector	Injector 8
B11	Cam Input 3	VR/Hall - Software Selectable	Cam 3
B12	Cam Input 4	VR/Hall - Software Selectable	Cam 4
B13	Ignition 5	TTL/Power	Short circuit protection for Power
B14	Ignition 6	TTL/Power	Short circuit protection for Power
B15	Ignition 7	TTL/Power	Short circuit protection for Power
B16	Ignition 8	TTL/Power	Short circuit protection for Power
B17	Hall Input 1	Hall Effect Input	Wheel Speed LR
B18	Hall Input 2	Hall Effect Input	Wheel Speed RR
B19	Hall Input 3	Hall Effect Input	Wheel Speed LF
B20	Hall Input 4	Hall Effect Input	Wheel Speed RF
B21	Knock 1 +		
B22	Knock 2 +		
B23	Knock Ground	Digital Ground	
B24	Lambda 2 Input	Weak bias to 450mV	Lambda 2
B25	Analog Input 4	47k pull-up to VREF	TPS2
B26	Analog Input 5	47k pull-up to VREF	PPS1
B27	Analog Input 6	47k pull-up to VREF	PPS2
B28	NTC Input 4	3.16k pull-up to VREF	NTC2
B29	NTC Input 5	3.16k pull-up to VREF	NTC3
B30	Analog Input 7	47k pull-up to VREF	TPS3
B31	Analog Input 8	47k pull-up to VREF	TPS4
B32	Analog Input 9	47k pull-up to VREF	Linear 7
B33	Analog Input 10	47k pull-up to VREF	Linear 8
B34	CAN 2L	120 Ohm Terminated	
B35	CAN 2H		

PC Comms DB9 Female Connector	
Pin	Name
1	Ground
6	CAN High
7	CAN Low
8	Battery Voltage
DTM Connector	

Connector C		
Pin	Name	Description
C1	Wideband Lambda 1 Heater	1.7A Open collector with recirc diode (LSU Pin 3)
C2	Wideband Lambda Ip	LSU Pin 1
C3	Wideband Lambda Ia	LSU Pin 5
C4	Wideband Lambda Virtual Ground (Vm)	LSU Pin 2
C5	Wideband Lambda 1 Nernst (Un)	LSU Pin 6
C6	Hall Input 6	
C7	Hall Input 7	
C8	LIN	
C9	L/S Output 14	0.75A Open collector with recirc diode
C10	L/S Output 15	0.75A Open collector with recirc diode
C11	VREF2	200mA 5V supply to sensors
C12	Analog Ground 2	Analog Ground
C13	Wideband Lambda 2 Heater	1.7A Open collector with recirc diode (LSU Pin 3)
C14	Wideband Lambda Ip	LSU Pin 1
C15	Wideband Lambda Ia	LSU Pin 5
C16	Wideband Lambda Virtual Ground (Vm)	LSU Pin 2
C17	Wideband Lambda 2 Nernst (Un)	LSU Pin 6
C18	Analog Input 11	47k pull-up to VREF
C19	Analog Input 12	47k pull-up to VREF
C20	Analog Input 13	47k pull-up to VREF
C21	Low Side Output 16	1.5A Open collector with recirc diode
C22	Low Side Output 17	1.5A Open collector with recirc diode
C23	Low Side Output 18	1.5A Open collector with recirc diode
C24	Low Side Output 19	1.5A Open collector with recirc diode
C25	Low Side Output 20	1.7A Open collector
C26	Low Side Output 21	1.7A Open collector
C27	Low Side Output 22 (Relay Drive)	0.75A Open collector with recirc diode
C28	Low Side Output 23 (Relay Drive)	0.75A Open collector with recirc diode
C29	Low Side Output 24 (Relay Drive)	0.75A Open collector with recirc diode
C30	Low Side Output 25 (Relay Drive)	0.75A Open collector with recirc diode
C31	Low Side Output 26 (Relay Drive)	0.75A Open collector with recirc diode
C32	Hall Input 5	Hall Effect Input (2k7 Pull-up to 5V)
C33	NTC Input 6	3.16k pull-up to VREF
C34	VREF3	200mA 5V supply to sensors
C35	Analog Ground 3	Analog Ground

**Notes**

Wideband Lambda Sensor Heater Output  
Wideband Lambda Sensor Ip  
Wideband Lambda Sensor Ia  
Wideband Lambda Sensor Vm  
Wideband Lambda Sensor Un  
Cam Sensor 3 Input  
Cam Sensor 4 Input

Wideband Lambda Sensor Heater Output  
Wideband Lambda Sensor Ip  
Wideband Lambda Sensor Ia  
Wideband Lambda Sensor Vm  
Wideband Lambda Sensor Un