Image 1: ECU PR-4

- 100 MHz dual-core processor
- Integrated lambda control
- 250 kPa integrated MAP sensor
- Up to 4 injectors (sequential)
- Peak and Hold capability
- Continuous datalogging
- Programmable user functions
- 3D Tables

General

Pro Tune PR-4 is an electronic engine management system with integrated data acquisition. It has been developed to serve engines up to 4 cylinders in sequential mode, or up to 8 in semi-sequential mode. Variable cam control, drive-by-wire, closed-loop lambda, boost control among others, are native system functions.

Technical Specifications

Outputs

7 general purpose outputs - max current 3 A

4 ignition outputs

4 injectors outputs - max current 4,5 A

Inputs

9 analog inputs (0-5V)

6 analog inputs with a 2k7 ohms pull up resistor (0-5V)

2 digital inputs - (0,5 - 6500 Hz)

10 inputs max

Inputs	Pull-up	High speed	12V	Digital
IN_1	×			×
IN_2	×	×		
IN_3	×			
IN_4	×			
IN_5	×		×	
IN_6	×		×	
IN_7		×		
IN_8		×		
IN_9		×		
DIG_IN2				×

ENGINE CONTROL UNIT PR-4

Functions

Dual boost control

Launch control

Quick shift

Dual cam control

CAN Custom

Odd fire

Traction control

Secondary injector rail

Long term lambda learn

Anti Lag

Idle control

Dual Lambda Control

Dual ETC control

Engine running time

Internal datalog

Peak and hold

Some functions need to be activated by their activation codes - sold separately

Mechanical characteristics

Enclosure built of custom CNC machined aluminum

Fixing bracket

Automotive 48-way connector

Weight: 396 g

Size: 93 mm x 126 mm x 40 mm
Temperature range from -10°C up to 105°C

Electrical characteristics

Max current: 20 A @ 12 V

2 digital inputs, (0,5 - 6500 Hz)

7 analog inputs (0-12V)

2 analog inputs (0-12V)

2 ETC control outputs up to 5 A

Software

Pro Tune Workbench

Pro Tune Analyzer

Resources

250 kPa integrated MAP sensor

Connect Box (CB1204) interface

Integrated lambda controller (LSU 4.2, LSU 4.9, NTK and narrowband)

32 Mb internal datalogging

Communication

USB

CAN protocol (100 - 1000 kbps)

Serial protocol (115.2 - 500 kbps)

Pin	Function
A1	INJ_1
B1	INJ_2
C1	INJ_3
D1	INJ_4
H1	IGN_1
J1	IGN_2
K1	IGN_3
H2	IGN_4
F4	CKP+
G4	CKP-
H4	CMP+
J4	CMP-
C2	IN_1
D2	IN_2
E2	IN_3
F2	IN_4
G2	IN_5
G3	IN_6
F3	IN_7
H3	IN_8
J3	IN_9

Pin	Function
G1	OUT_1
F1	OUT_2
E1	OUT_3
L1	OUT_4 5A
M1	OUT_5 5A
M3	OUT_6
K4	MAIN RELAY
A3	LA_HT-
B3	LA_SEN_0V
C3	LA_RCAL
D3	LA_IP
E3	LA_VS
A2	CAN/SP Tx
B2	CAN/SP Rx
M4	12V SWITCH
K3	SENSOR 5V
L3	PWR_GND
L4	PWR_GND
L2	SEN_GND
E4	DIG_IN_2
N/C	N/C

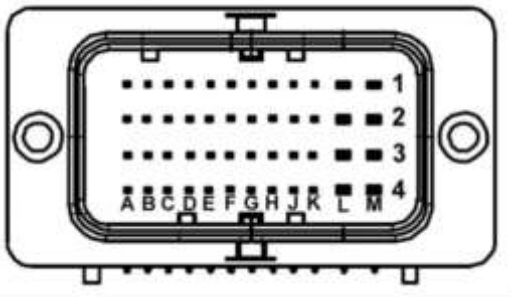

Image 2 – PR-4 Connector

This connector uses a letter and number system to identify each pin, with the columns being identified by letter A to M and lines identified by numbers 1 to 4.