**J1A**
rusefi_2x56_pin_conn

| Pin | Signal |
|---|---|
| A1 | |
| A2 | |
| A3 | GNDA_A3 |
| A4 | GND_A4 |
| A5 | GND_A5 |
| A6 | GND_A6 |
| A7 | A/C_PRESSURE |
| A8 | |
| A9 | |
| A10 | |
| A11 | IN_ANALOG |
| A12 | FUEL_LVL |
| A13 | IN_BRAKE |
| A14 | PEDAL_POSITION2 |
| A15 | MAIN_RELAY_CNTRL |
| A16 | VOLTAGE_FROM_KEY |
| A17 | |
| A18 | |
| A19 | A/C_PRESSURE |
| A20 | SWITCH_A20 |
| A21 | PEDAL_POSITION1 |
| A22 | |
| A23 | IN_A23 |
| A24 | |
| A25 | +5VP |
| A26 | +3V3 |
| A27 | K-LINE |
| A28 | OUT_TACH |

**J1B**
rusefi_2x56_pin_conn

| Pin | Signal |
|---|---|
| A29 | OUT_FUEL |
| A30 | |
| A31 | Conditioner_relay |
| A32 | CAN+ |
| A33 | |
| A34 | SWITCH_A34 |
| A35 | SWITCH_A35 |
| A36 | SWITCH_A36 |
| A37 | |
| A38 | ANALOG_TPS |
| A39 | |
| A40 | OUT_RELAY_A40 |
| A41 | ENGINE_RADIATOR_FAN |
| A42 | FUEL_PUMP_RELAY |
| A43 | |
| A44 | CAN- |
| A45 | |
| A46 | |
| A47 | SWITCH_A47 |
| A48 | |
| A49 | |
| A50 | |
| A51 | OUT_RELAY_A51 |
| A52 | OUT_RELAY_A52 |
| A53 | GND_A53 |
| A54 | GND_A54 |
| A55 | +12V |
| A56 | +12V |

**J1C**
rusefi_2x56_pin_conn

| Pin | Signal |
|---|---|
| B1 | CRANK_VR- |
| B2 | |
| B3 | THROTTLE_POSITION_1 |
| B4 | GND_B4 |
| B5 | GND_B5 |
| B6 | GND_B6 |
| B7 | GND_B7 |
| B8 | |
| B9 | |
| B10 | +5VP |
| B11 | |
| B12 | |
| B13 | CRANK_VR+ |
| B14 | |
| B15 | CLT |
| B16 | |
| B17 | |
| B18 | |
| B19 | MAP |
| B20 | THROTTLE_POSITION_2 |
| B21 | |
| B22 | |
| B23 | ANALOG_SUPPLY_MAP |
| B24 | |
| B25 | |
| B26 | |
| B27 | IAT |
| B28 | |

**J1D**
rusefi_2x56_pin_conn

| Pin | Signal |
|---|---|
| B29 | |
| B30 | |
| B31 | CAM |
| B32 | IN_VSS |
| B33 | ANALOG_MAF |
| B34 | |
| B35 | |
| B36 | |
| B37 | KNOCK1 |
| B38 | KNOCK2 |
| B39 | |
| B40 | |
| B41 | |
| B42 | INJ2 |
| B43 | INJ3 |
| B44 | INJ1 |
| B45 | INJ4 |
| B46 | OUT_LOW_SIDE |
| B47 | GND_B47 |
| B48 | |
| B49 | |
| B50 | GND_B50 |
| B51 | ETB+ |
| B52 | ETB- |
| B53 | COIL2 output |
| B54 | COIL3 output |
| B55 | COIL4 output |
| B56 | COIL1 output |

**Q1** ISL9V3040D3S — COIL1 output
R5 DNP → IN1
R1 22
R2 100k
GND

**Q2** ISL9V3040D3S — COIL2 output
R6 DNP → IN2
R3 22
R4 100k
GND

**Q3** ISL9V3040D3S — COIL4 output
R11 DNP → IN3
R7 22
R8 100k
GND

**Q4** ISL9V3040D3S — COIL3 output
R12 DNP → IN4
R9 22
R10 100k
GND

**J2**
6437288-2

| Pin | Signal |
|---|---|
| 1 | IN4 |
| 2 | IN2 |
| 3 | GND_B50 |
| 4 | OUT_LOW_SIDE |
| 5 | ETB- |
| 6 | GND_B5 |
| 7 | IAT |
| 8 | KNOCK2 |
| 9 | THROTTLE_POSITION_1 |
| 10 | IN3 |
| 11 | IN1 |
| 12 | GND_B47 |
| 13 | INJ2 |
| 14 | |
| 15 | GND_B4 |
| 16 | CLT |
| 17 | KNOCK1 |
| 18 | |
| 19 | ANALOG_MAF |
| 20 | IN_VSS |
| 21 | CAM |
| 22 | ANALOG_SUPPLY_MAP |
| 23 | MAP |
| 24 | ETB+ |
| 25 | CRANK_VR+ |
| 26 | |
| 27 | |
| 28 | INJ1 |
| 29 | INJ3 |
| 30 | SWITCH_A36 |
| 31 | THROTTLE_POSITION_2 |
| 32 | GND_B7 |
| 33 | GND_B6 |
| 34 | CRANK_VR- |

**J3**
6437288-2

| Pin | Signal |
|---|---|
| 1 | SWITCH_A47 |
| 2 | SWITCH_A34 |
| 3 | CAN+ |
| 4 | FUEL_PUMP_RELAY |
| 5 | OUT_FUEL |
| 6 | OUT_RELAY_A51 |
| 7 | OUT_RELAY_A40 |
| 8 | +3V3 |
| 9 | +5VP |
| 10 | +12V |
| 11 | SWITCH_A35 |
| 12 | CAN- |
| 13 | OUT_RELAY_A52 |
| 14 | OUT_TACH |
| 15 | K-LINE |
| 16 | ANALOG_TPS |
| 17 | FUEL_LVL |
| 18 | GND_A54 |
| 19 | GND_A53 |
| 20 | Conditioner_relay |
| 21 | ENGINE_RADIATOR_FAN |
| 22 | IN_A23 |
| 23 | SWITCH_A20 |
| 24 | PEDAL_POSITION1 |
| 25 | IN_ANALOG |
| 26 | GNDA_A3 |
| 27 | IN_BRAKE |
| 28 | PEDAL_POSITION2 |
| 29 | MAIN_RELAY_CNTRL |
| 30 | GND_A4 |
| 31 | GND_A5 |
| 32 | VOLTAGE_FROM_KEY |
| 33 | GND_A6 |
| 34 | A/C_PRESSURE |