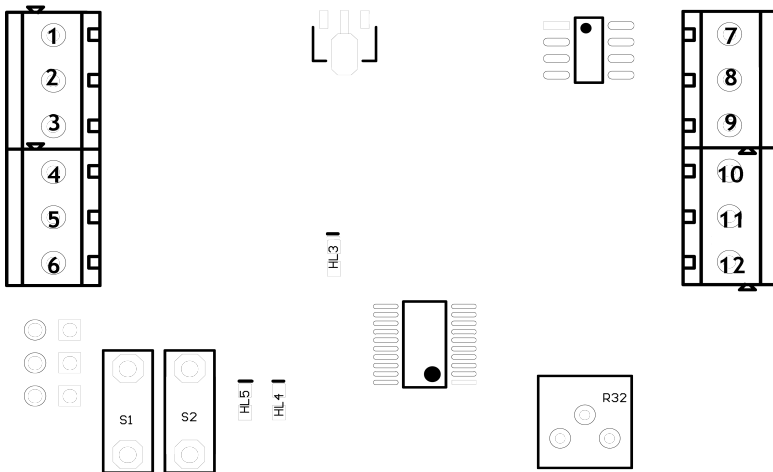


Signal converter for instrument panel, ECU and A/C
“U707” for Lexus IS / Toyota Altezza / Toyota GX110 / JZX110 *
With fully digital (MPX) in/out or analogue \Leftrightarrow MPX function
Wiring manual



Board side view (pop the lid to access)

HL3 MPX status
 on – failure
 slowly blinks – no instr.panel detected
 quickly blinks – MPX connection ok

S1,S2,R32 not used for MPX-MPX variant

Some of device's pins are not used
 Always refer to this manual only

Setup instruction for fully digital variant (MPX-MPX)

1. Connect either **MPX1** or **MPX2** of your new Toyota engine ECU to car's MPX network (either or both MPX1,2 wires that were originally connected to the car's stock ECU). MPX1 and MPX2 pins are shorted together both in ECU and instrument panel, so you may use either one.

At this point., you should see limited functioning compared to stock 1-gen IS, depending on engine model installed, as described below:

1UZ, 1JZ S17x: shifter ok, oil level/pressure ok, no water temp, no ambient temp, no a/c, no ECT mode, incorrect fuel gauge operation, low fuel light

1UZ UCF20/21, 3UZ UCF30 pre-f/l: everything is ok except water temp. Oil warning is always on with 1UZ

1JZ JZX110: no a/c, no ECT PWR mode operation, the rest is ok

2JZ JZS16x: no water temp, no ECT mode operation, oil level warning always on, the rest is ok

Speedometer operation is normally not affected by engine conversion

RPM counter, oil pressure dial (if present) and engine warning light are analogue signals

Make sure there are no other aftermarket devices connected to MPX network of the car

Make sure that only one ECU is connected to the car's MPX network, the one that actually controls the engine

Having confirmed A/C, ECU and instrument panel operation is as outlined, **connect device's pin #9 «MPX» to the MPX vehicle network mentioned above**

2. Connect power lines to the device. +12V (ignition on) — pin #1 «+B» and earth — pin #2 «E1» — can be tapped to corresponding wires of either ECU or instrument panel. Do not connect earth to arbitrary point, that may lead to unpredictable operation.

Place the device in a spot without direct exposure to dust and/or water. Absolute maximum allowed ambient temperature is 90 C / 194 F

3. **Only for 1UZ, 1JZ out of Toyota Crown S17x.** Connect A/C pressure sensor to pin **IN1L** (#10) of the device. Make sure that the pressure is ok (sensor is shorted to earth). The sensor was originally connected to pin “PRE” of stock ECU

4. **Only for 1UZ-FE VVTI out of Toyota Celsior UCF20/21.** Connect ECT mode button directly to corresponding inputs of the ECU. Pin **IN1L** (#10) of the device should be connected to low oil pressure sensor (sends “-” when the pressure is low). Make sure that Alternator Failure and Oil Level Low wires are connected to corresponding pins of UCF20 ECU (RL, MOL) per UCF20 wiring diagram.

5. Make sure that A/C related pins of ECU are wired properly: TAM – ambient sensor (its second wire should be connected in parallel to pin E2 of ECU), LCKI – a/c compressor lock sensor (second wire goes to E1), PRE (except UZS171, JZS171) – a/c pressure sensor, ACMG – active low output controlling a/c magnetic clutch relay

6. If **RPM signal conversion** is needed, connect engine RPM signal (usually TACH pin of ECU) to device's pin TACH (#12). Then connect OUT2 (#8) to instrument cluster's RPM input pin.

7 Pin #7 (OUT1) is assigned for fan relay control for MPX/MPX variant of the device. It is active low, 94 C on, 90C off. Will go on if: temp is higher than Ton, or water temp sensor is faulty/disconnected (failsafe), or A/C is on. No setting is needed, works automatically.

At this point, wiring is complete and the device should work right away

Setup instruction for analogue \Leftrightarrow MPX variant

7. Power lines (+B, E1) and MPX pin should be T-connected (tapped) to corresponding pins of instrument panel. The device can be located remotely, for example in engine bay. Read step (2) above. MPX1 and MPX2 pins of instrument panel are shorted together, so you may use either one.

8. Connect RPM signal to the device as described in step 6. If RPM signal correction is not required, skip connecting of pin #8 but **connect pin #12 anyway**.

9. Connect low oil level sensor as described in step 4

10. Connect temperature sender to pin #3 “THW”. When using 2-wire sender, the other wire should be T-connected (tapped) to E1 pin of the device. If no water temp sensor is present (for example, wire is damaged), the device outputs maximum temperature for attention.

11. Charge light works automatically. It senses battery voltage at +B pin of the device. Threshold is set at 11.8V

12. Pin #7 (OUT1) reflects A/C state. When A/C button is depressed and A/C light is “ON”, pin #7 sends low voltage level. Current is enough to drive a relay.

13. Water temp reading and MPG reading can be adjusted. Press S1 to enter adjustment mode. LED “HL3” will blink once followed by a pause, indicating that setup mode 1 is active. Use R32 to adjust reading. Press and hold S2 to store the setting, or press S1 once again to move on to mode 2 without saving. In mode 2, MPG reading can be adjusted. This setting is normally best left intact. Press S1 again to leave setup mode.

14. Ambient temperature will have fixed reading. It is not sensed and is not adjustable.

15 Water temp is adjustable for analogue to mpx variant

Tech support

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Response time 24 hours typ.

No tech support is provided on social networks, messengers, etc

* This device was previously available as CANVerter2 and CANVerter 1 .

What you have is an improved variant with more specialized hardware

