



STRUMENTO DI BORDO

191 - Giulietta

INSTRUMENT PANEL - DESCRIPTION

The control panel is installed behind the steering wheel.It is connected to the CAN and includes 4 gauges produced using stepper motors.

The control panel display is available in two versions depending on the vehicle's on-board technological specifications:

- Multifunction alphanumeric display - "Comfort" version
- Reconfigurable multifunction display - "Matrix" version

In both configurations a single instrument contains:

- electronic speedometer
- fuel level gauge (with insufficient fuel level warning light)
- engine coolant temperature gauge (with overheating warning light)
- electronic rev counter
- display (available in two different versions)
- warning lights

A buzzer inside the instrument can produce signals of different intensities to perform the following functions:

- alarm/warning/danger signals
- parking sensor signalling
- Seat Belt Reminder
- direction indicators/hazard warning lights acoustic signals
- push button roger beep

The instrument panel is a CAN node through which information is exchanged with the Body Computer and with the other electronic units.

- Speedometer: the function of the speedometer includes displaying the vehicle speed in the instrument panel: this information comes from the ABS and engine management control units, via the Body Computer.
- Engine rpm: this function involves the display on the instrument panel of the engine rotation speed by means of the message sent via the CAN from the engine management control unit.
- Milometer: this function involves the display and memorising of the total and trip mileage: mileage information is processed by the Body Computer by means of a counter that is sent to the instrument panel via the CAN.The trip counter that forms part of the Trip Computer can be reset using the special TRIP button for the right steering column switch unit lever.
- Fuel level: the Body Computer receives the signal from the sensor built into the pump assembly inside the fuel tank and processes it to guarantee suitable filtering/damping for the instrument panel gauge; it also controls the lighting of the reserve warning light. The circuit is capable of detecting a fault in the wiring or in the sensor and providing the instrument panel with a suitable reading: if there is a system malfunction, the pointer is at the start of the scale and the reserve warning light flashes.
- Engine coolant temperature: this function involves the display of the engine coolant temperature in the instrument panel and the overheating warning light coming on by means of messages sent via the CAN from the engine management control unit. The temperature reading is always guaranteed, even in extreme operating conditions.
- Minimum engine oil pressure: this function involves the display in the instrument panel of the engine oil pressure warning light by means of the message sent via the CAN from the engine management control unit.
- Brake pad wear status: this function involves the dedicated warning light coming on: the Body Computer detects the brake pad wear status when braking (signal from the brake pedal) in a prolonged manner (occasional signals are ignored).
- Handbrake applied: the Body Computer acquires the handbrake status from a special switch and notifies the instrument panel of activation via the CAN.The function turns on the low brake fluid level warning light in the instrument panel.A buzzer is also activated if this signal is associated with the exceeding of a set speed threshold.
- Insufficient brake fluid: this function involves the insufficient brake fluid level warning light in the instrument panel coming on; the signal sent by the Body Computer via the CAN.
- Inertia switch status: the Body Computer receives a signal from the switch and communicates activation via the CAN to the instrument panel, which emits a signal (warning light + message).

For more details

See descriptions 5560 INSTRUMENTS

The general fault signal summarises the faults detected by a set of systems and components:

- "Fuel cut off" function intervention
- Engine oil pressure sensor failure
- Parking sensors failure
- Rain sensor failure
- Dusk sensor failure
- Adaptive light failure
- Anti-crush safety function failure
- Start&Stop failure

- Exterior lights failure

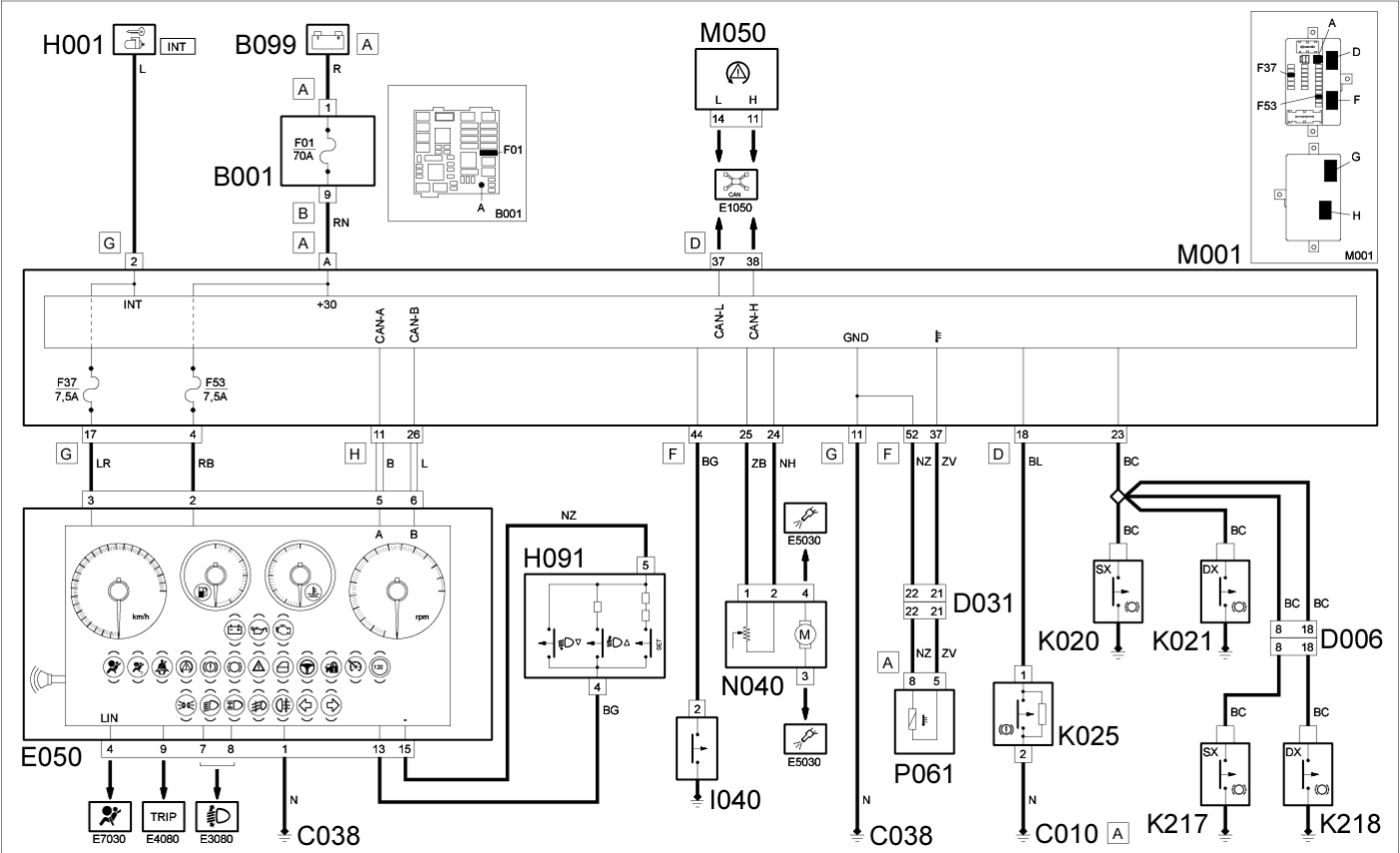
Exterior lights failure: The Body Computer contains a check function that specifically monitors exterior light operation and turns on a warning light if a fault is detected: side lights, number plate, rear fog, direction indicator and brake light faults (including brake light fuse failure).

 The operation of the warning lights which do not come under any other functions is illustrated below: the other warning lights and displays are described and illustrated in the diagrams for the components to which they refer.

INSTRUMENT PANEL - FUNCTIONAL DESCRIPTION

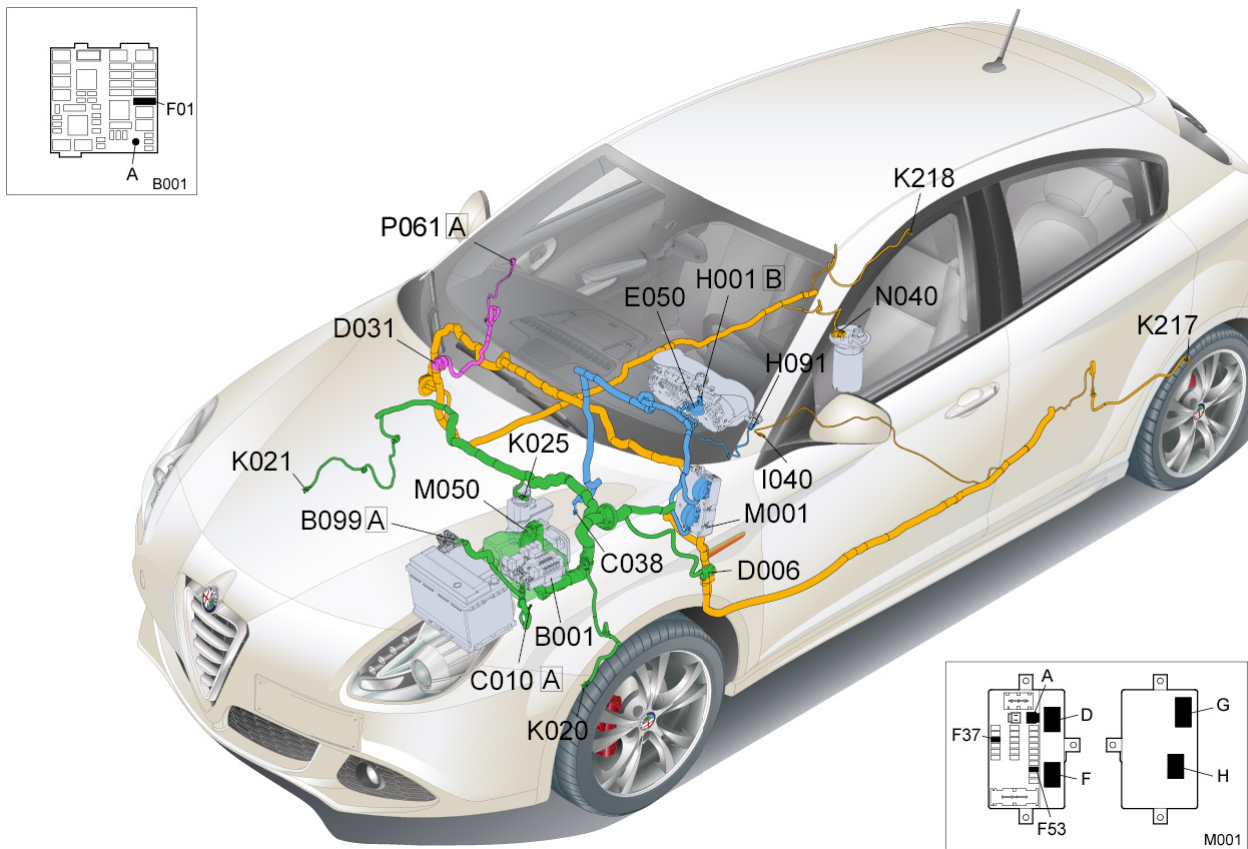
- The ignition-operated supply (INT) for the instrument panel E050 reaches pin 3 of the Body Computer M001 - pin 17 of connector G - through the line for fuse F37 of the Body Computer itself.
- The direct power supply reaches pin 2 from the Body Computer M001 - pin 4 of connector G - through the line for fuse F53 of the Body Computer itself.
- Pin 1 of E050 is earthed.
- The Body Computer M001 - connector A - receives a direct power supply from the battery through the line protected by maxi fuse F01 of the engine compartment junction unit B001.
- The Body Computer M001 receives an ignition-operated power supply (INT) at pin 2 of connector G: this signal is used, amongst other things, to "wake up the network".
- Pin 11 of connector G of M001 provides the Body Computer with a reference earth.
- The instrument panel E050 is connected from pins 5 and 6 with the Body Computer M001 - pins 11 and 26 of connector H - and through the latter to the entire CAN: the signal reaches the electronic speedometer (from the ABS control unit M050) through the CAN:
- The electronic rev counter receives the engine rpm signal received from the engine management control unit M010 via the CAN.
- The fuel level gauge is controlled by means of signals coming from the level gauge located in the fuel pump assembly N040 - at pins 24 (signal) and 25 (earth) of connector F of the Body Computer M001 and from there through the CAN to the instrument panel E050.
- The insufficient brake fluid level/handbrake warning light is lit by an earth signal from the handbrake switch I040 that reaches pin 44 of connector F of the Body Computer M001 or from the earth signal from the brake fluid level sensor K025 that reaches pin 18 of connector D of M001.
- The brake pad wear warning light is controlled on the basis of the earth signal that reaches pin 23 of connector D of the Body Computer M001 from the front sensors K020 and K021 or from the rear sensors K217 and K218.
- The outside temperature sensor signal, located in the passenger side door mirror P061 is sent to the Body Computer M001 - pin 37 of connector F - whilst pin 52 provides the reference earth.
- All these signals are transferred via the CAN to the instrument panel E050.
- The "SET" "+" and "-" controls of the unit H091 send analogue signals to the instrument panel E050, to pins 13 and 15 of the instrument panel E050.
- E050's internal logic, which also manages the headlamp adjustment function: sends a control signal to the motors in the lamps from pin 7 of E050, whilst the enablement signal reaches pin 8 (dipped headlamps on).
- See E3080 HEADLAMP AGLINMENT CORRECTOR
- The Trip Computer zeroing button, located in the steering column switch unit H005, sends an earth signal to pin 9 of connector A of instrument panel E050.
- See E4080 TRIP COMPUTER
- The LIN serial line leaves pin 4 of the instrument panel E050 connected to the "seat belts unfastened display" E083 located near the interior rear view mirror.
- See E7030 AIRBAG

INSTRUMENT PANEL - WIRING DIAGRAM



Component Code	Description	Reference to the operation
B001	JUNCTION UNIT	Op. 5505A28 CONTAINER FOR ADDITIONAL JUNCTION UNIT IN ENGINE COMPARTMENT - R.R.
B099	MAXI FUSE BOX ON BATTERY	Op. 5530B40 SUPPLY BOX ON BATTERY (LINK BATTERY AND FUSE BOX) - R R
C010	LEFT FRONT EARTH	-
C038	EARTH ON CENTRE TUNNEL	-
D006	FRONT/REAR COUPLING	-
D031	RIGHT FRONT DOOR COUPLING	-
E050	INSTRUMENT PANEL	Op. 5560B10 CONTROL PANEL - R+R
H001	IGNITION SWITCH	Op. 5520A18 IGNITION SWITCH CONTACT CARRIER LOCK BARREL - R.R.
H091	LEFT CONTROL UNIT	Op. 7040A82 SWITCH UNIT ON LEFT SIDE OF DASHBOARD - R.R.
I040	HANDBRAKE APPLIED SWITCH	Op. 5550D18 HANDBRAKE ON WARNING LIGHT SWITCH - R+R
K020	LEFT BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310A60 FRONT BRAKE PADS - REPLACE
K021	RIGHT BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310A60 FRONT BRAKE PADS - REPLACE
K025	BRAKE FLUID LEVEL SENSOR (SWITCH)	Op. 3330C44 BRAKE FLUID MINIMUM W/L SWITCH - R + R
K217	LEFT REAR BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310B62 REAR BRAKE PADS - REPLACE
K218	RIGHT REAR BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310B62 REAR BRAKE PADS - REPLACE
M001	BODY COMPUTER	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.
M050	ABS CONTROL UNIT	Op. 3340A20 ABS ELECTRONIC CONTROL UNIT - R+R
N040	FUEL PUMP AND LEVEL GAUGE	Op. 1040A70 SUBMERGED PUMP ASSEMBLY COMPLETE WITH LEVEL GAUGE CONTROL - R + R
P061	PASSENGER DOOR MIRROR	Op. 7005R30 ELECTRICALLY CONTROLLED DOOR MIRROR (ONE) - R+R

INSTRUMENT PANEL - COMPONENT LOCATION



Component Code	Description	Reference to the operation
B001	JUNCTION UNIT	Op. 5505A28 CONTAINER FOR ADDITIONAL JUNCTION UNIT IN ENGINE COMPARTMENT - R.R.
B099	MAXI FUSE BOX ON BATTERY	Op. 5530B40 SUPPLY BOX ON BATTERY (LINK BATTERY AND FUSE BOX) - R R
C010	LEFT FRONT EARTH	-
C038	EARTH ON CENTRE TUNNEL	-
D006	FRONT/REAR COUPLING	-
D031	RIGHT FRONT DOOR COUPLING	-
E050	INSTRUMENT PANEL	Op. 5560B10 CONTROL PANEL - R+R
H001	IGNITION SWITCH	Op. 5520A18 IGNITION SWITCH CONTACT CARRIER LOCK BARREL - R.R.
H091	LEFT CONTROL UNIT	Op. 7040A82 SWITCH UNIT ON LEFT SIDE OF DASHBOARD - R.R.
I040	HANDBRAKE APPLIED SWITCH	Op. 5550D18 HANDBRAKE ON WARNING LIGHT SWITCH - R+R
K020	LEFT BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310A60 FRONT BRAKE PADS - REPLACE
K021	RIGHT BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310A60 FRONT BRAKE PADS - REPLACE
K025	BRAKE FLUID LEVEL SENSOR (SWITCH)	Op. 3330C44 BRAKE FLUID MINIMUM W/L SWITCH - R + R
K217	LEFT REAR BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310B62 REAR BRAKE PADS - REPLACE
K218	RIGHT REAR BRAKE PAD WEAR SENSOR (SWITCH)	Op. 3310B62 REAR BRAKE PADS - REPLACE
M001	BODY COMPUTER	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.
M050	ABS CONTROL UNIT	Op. 3340A20 ABS ELECTRONIC CONTROL UNIT - R+R
N040	FUEL PUMP AND LEVEL GAUGE	Op. 1040A70 SUBMERGED PUMP ASSEMBLY COMPLETE WITH LEVEL GAUGE CONTROL - R + R
P061	PASSENGER DOOR MIRROR	Op. 7005R30 ELECTRICALLY CONTROLLED DOOR MIRROR (ONE) - R+R