

Micro-power module: E60, E61, E63, E64

Installation location

- > up to 09/2005: The micro-power module (MPM) is located in the spare-wheel well.
- > From 09/2005: The MPM function is integrated into the body-gateway module (KGM).

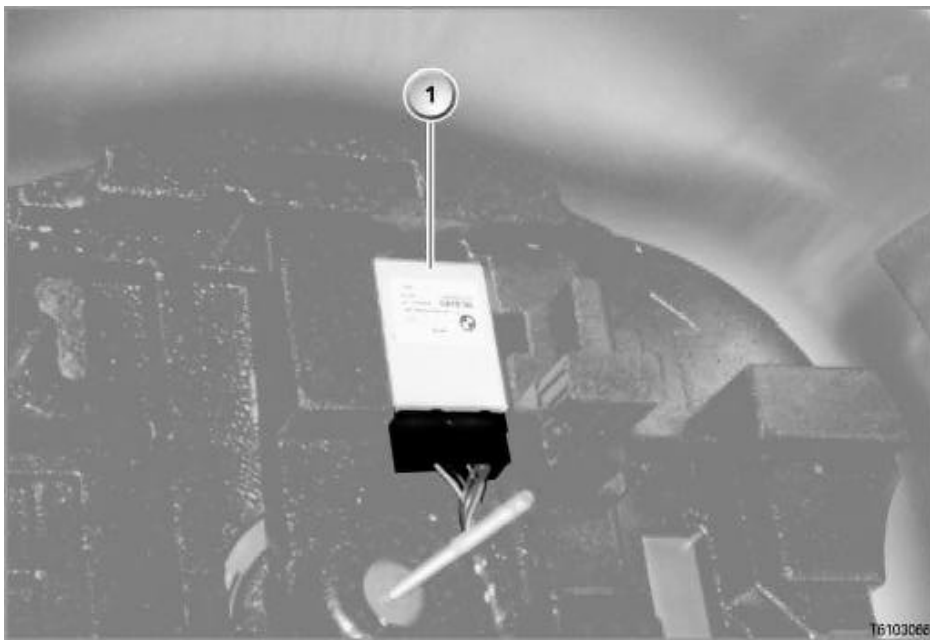
Example: E60 until 09/2005



Item	Description	Item	Description
1	Micro-power module (MPM)	2	Battery
3	PDC control unit (Park Distance Control)		

Construction

Example: E60 until 09/2005



A 15-pin connector links the MPM to the vehicle electrical system and the K-CAN. The K-CAN connection allows the exchange of CAN messages between the control units of the body electronics.

Pin assignment X16021, 15-pin multi-pin connector

Pin	Type	Description
1	---	---
2	---	---
3	E/A	K-CAN Low
4	M	Earth
5	---	---
6	---	---
7	E	Continuous positive
8	E	Input power supply from rear fuse carrier
9	---	---
10	---	---
11	E/A	K-CAN High
12	---	---
13	---	---
14	E	Terminal 15
15	A	Output power supply for terminal 30g-f
		A = Output E = Input E/A = Input and output M = Earth V = Supply For current specifications regarding pin assignments, please refer to BMW diagnosis system

How it works

The micro-power module (MPM) enables consumers to be switched off in a defined manner if a fault develops while the vehicle is out of use. The MPM is linked with other control units in the vehicle to allow it to transmit and receive CAN messages via the K-CAN. The MPM has a bistable relay which controls terminal 30g-f. If the MPM detects a fault, the relay will switch terminal 30g-f off. The reason for the deactivation will be stored in the MPM.

The following consumers are connected to terminal 30g-f:

- Multi-audio system controller (M-ASK)
- Car Communication Computer (CCC)
- CD changer (CDC)
- Japan navigation system (JNAV), Korea navigation system (KNAV)

Conditions required for switch-on

The switch-on conditions for the bistable relay are:

- Battery connected
- Vehicle unlocked
- Change in condition of door contacts or boot-lid switch

The MPM is woken up by activity in the K-CAN. After being "woken up", the bistable relay returns to the switch state it was in before it was "woken up".

Conditions required for switch-off:

The switch-off conditions for the bistable relay are:

- Off-load current too high (more than 80 milliampères) and battery's starting limit reached
- Undervoltage
- Permissible number of "wake-up" actions in K-CAN exceeded
- Bus active after 60 minutes with terminal R OFF without any switch-on conditions being satisfied.

The time is reset by switch-on conditions, e.g. by a door being opened. This means: The vehicle is unable to go into sleep mode after terminal R is switched OFF.

There is no limit to the number of times this process can be repeated. It could thus cause the battery to become discharged!

The MPM goes into sleep mode approx. 1 second after the K-CAN goes into sleep mode. Before the MPM goes into sleep mode, the current switch state of the bistable relay is stored.