

## IP68-rated and with up to four LEDs

**The E31 keypads by Eaton provide J1939-connectivity. The products provide tactile, audible, visual feedback.**

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Keypad with up to four daylight-visible indicator LEDs per switch for status, mode, and scaling (Photo: Eaton)

The keypads by Eaton (USA) are also available from B-Plus (Germany). They are available in different versions. The E31 3x5 Keypad Master Module can be expanded by 2x4 modules without the need of an additional CAN interface. The E31 Keypad eSM is designed to communicate via [LIN](#) with the E32 and E33 rocker expansion module, as well. The E31 4x3 Keypad eSM can also be expanded by the mentioned modules. The products feature a large switch surface area and the alignment ridges for ease of gloved hand use.

Each J1939 message contains 8 byte of parameter data. The first data byte is used to define the type of data carried in byte 2 through byte 8. This difference compared to common J1939 message structure allows a single J1939 PG to support all of the data needed for switch status, LED status, system status, dimmer level, and all other data.

The keypads are suitable for any kind of commercial vehicles. This includes tractors, wheel loaders, refuse collecting vehicles, concrete mixers, street sweepers, mining machines, etc. The products support a sleep mode, in order to save energy. They are waked-up by pushing them or a user-defined events. An example: The headlight switch can wake the system to allow them to be turned on without the key, but the mirror heat could be disabled because it should only be active if the vehicle is running.

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