

Electronic Throttle Body

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BOSCH
Invented for life



- Many bore diameters available
- Throttle position sensor is redundant
- For flex-fuel, CNG, LPG
- Idle default position

The throttle body is designed to control the fresh air of spark ignition engines in combination with an electronic throttle control system. ETB applications with flex-fuel, CNG and LPG are permissible if injected in the air flow after the throttle body.

A typical ETC system includes the following components: electronic throttle body, accelerator pedal module and electronic control unit.

You will find the available bore diameters in the variations table.

Application

| | |
|-------------------|--|
| Temperature range | -40 to 140°C |
| Max. vibration | 50 to 250 m/s ² at 50 Hz to 2 kHz |

Technical Specifications

Mechanical Data

| | |
|--------------------------|-------|
| Available bore diameters | 32 mm |
| | 40 mm |
| | 44 mm |
| | 46 mm |
| | 50 mm |
| | 52 mm |
| | 54 mm |
| | 60 mm |

82 mm

Electrical Data

| | |
|--------------------------------|-----------|
| Supply voltage | 6 to 16 V |
| Supply voltage sensor | 5 ± 0.2 V |
| Max. allowed generator current | <10.0 A |

Characteristic

| | |
|------------------|-----------------------|
| Output signal I | 0 to 5 V for 0 to 90° |
| Output signal II | 5 to 0 V for 0 to 90° |

Connectors and Wires

Various motorsport and automotive connectors are available on request.

Please specify the required wire length with your order.

Installation Notes

For correct mounting please respect the hints on the next page "Mounting position".

The ETB can be connected directly to control units with ETC functionality.

Please find further application hints in the offer drawing at our home-page.

Two redundant sensors control the up to date throttle position.

All ETBs have an idle air position.

Ordering Information

Electronic Throttle Body 32 mm

Order number **0 280 750 148**

Electronic Throttle Body 40 mm

Order number **0 280 750 149**

Electronic Throttle Body 44 mm

Order number **0 280 750 137**

Electronic Throttle Body 46 mm

Order number **F 02U V01 171-01**

Electronic Throttle Body 50 mm

Order number **0 280 Y05 107-10**

Electronic Throttle Body 52 mm

Order number **F 02U V01 184-01**

Electronic Throttle Body 54 mm

Order number **0 280 750 150**

Electronic Throttle Body 60 mm

Order number **0 280 750 151**

Electronic Throttle Body 68 mm

Order number **0 280 750 156**

Electronic Throttle Body 82 mm

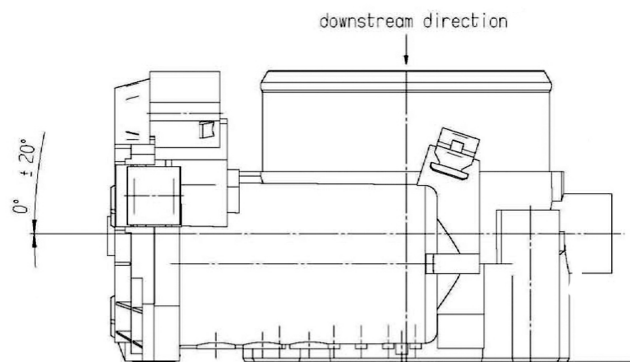
Order number **0 280 750 101**

Dimensions

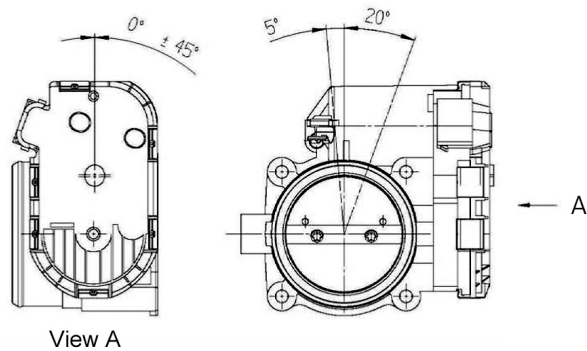
Mounting position

Mounting position of the Throttle Actuator




- Horizontal inclination of the Throttle shaft: $\pm 20^\circ$
- Horizontal inclination of the cover: $\pm 180^\circ$
- Mounting positions which deviate from this need separate testing.
- It has to be prevented that when mounted in the vehicle, no condensed moisture can soak into the Throttle shaft bore holes (e.g. from the crankcase ventilation)








IN CASE OF MOUNTING POSITION WITH DC-MOTOR ON TOP
A COMBINATION OF THE ANGLES SHOWN BELOW IS NOT ALLOWED!



Electronic Throttle Body Variations

| | Electronic Throttle Body 32 mm | Electronic Throttle Body 40 mm | Electronic Throttle Body 44 mm | Electronic Throttle Body 46 mm | Electronic Throttle Body 50 mm |
|----------------------|---|---|---|---|---|
| |  |  |  |  |  |
| Bore diameter (mm) | 32 | 40 | 44 | 46 | 50 |
| Connector | D 261 205 358-01 | D 261 205 358-01 | D 261 205 358-01 | D 261 205 356-01 | D 261 205 356-01 |
| Pin 1 A | Motor - | Motor - | Motor - | Poti 1 | Poti 2 |
| Pin 2 B | Poti - | Poti - | Poti - | Poti - | Poti - |
| Pin 3 C | Poti + | Poti + | Poti + | Motor - | Motor + |
| Pin 4 D | Motor + | Motor + | Motor + | Poti 2 | Poti 1 |
| Pin 5 E | Poti 2 | Poti 2 | Poti 2 | Motor + | Motor - |
| Pin 6 F | Poti 1 | Poti 1 | Poti 1 | Poti + | Poti + |
| Flange diameter (mm) | 40 | 50 | 50 | 58 | 58 |
| Weight (kg) | 0,9 | 0,9 | 0,9 | 0,95 | 0,95 |
| Max. air flow rate* | 394 kg/h at 85° angle | 695 kg/h at 85° angle | Not specified | 978 kg/h at 85° angle | Not specified |
| Opening direction ** | counterclockwise | counterclockwise | counterclockwise | clockwise | counterclockwise |

| | Electronic Throttle Body 52 mm | Electronic Throttle Body 54 mm | Electronic Throttle Body 60 mm | Electronic Throttle Body 68 mm | Electronic Throttle Body 82 mm |
|----------------------|---|---|---|---|---|
| |  |  |  |  |  |
| Bore diameter (mm) | 52 | 54 | 60 | 68 | 82 |
| Connector | D 261 205 356-01 | D 261 205 358-01 | D 261 205 358-01 | D 261 205 358-01 | D 261 205 358-01 |
| Pin 1 A | Poti 1 | Motor - | Motor - | Motor - | Motor - |
| Pin 2 B | Poti - | Poti - | Poti - | Poti - | Poti - |
| Pin 3 C | Motor - | Poti + | Poti + | Poti + | Poti + |
| Pin 4 D | Poti 2 | Motor + | Motor + | Motor + | Motor + |
| Pin 5 E | Motor + | Poti 2 | Poti 2 | Poti 2 | Poti 2 |
| Pin 6 F | Poti + | Poti 1 | Poti 1 | Poti 1 | Poti 1 |
| Flange diameter (mm) | 58 | 70 | 68,5 | 75 | 90 |
| Weight (kg) | 0,95 | 0,95 | 0,95 | 1,1 | 1,1 |
| Max. air flow rate* | Not specified | Not specified | Not specified | Not specified | Not specified |
| Opening direction ** | clockwise | counterclockwise | counterclockwise | counterclockwise | counterclockwise |

* ambient conditions: Air pressure $p=1000$ mbar, Differential pressure $\Delta p=600$ mbar ± 25 mbar, rel. humidity $rF=40$ %, Air temperature $T=24^{\circ}\text{C}$

** Opening direction is related to view A. See drawings on bottom of chapter “Dimensions”.

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