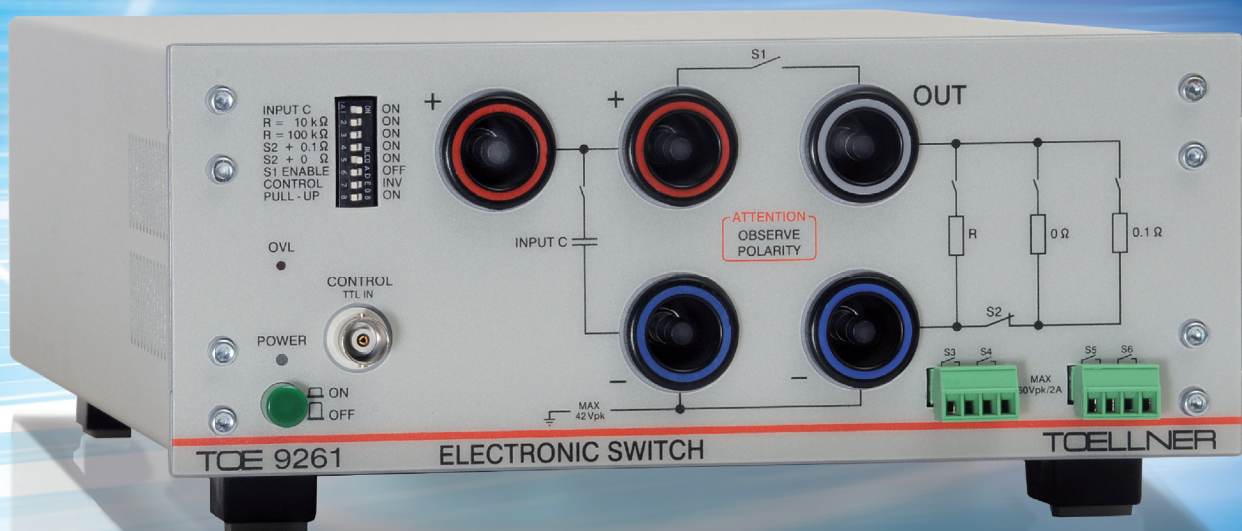




## Automotive - High Speed - Power

Electronic Switch for micro interruptions



# MICRO INTERRUPTIONS

Micro-Switch **TOE 9261**

# Micro-Switch TOE 9261

## Electronic switch for micro interruptions in supply and ground lines up to 100 A

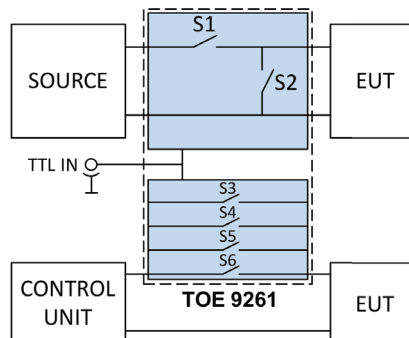
The Micro-Switch TOE 9261 is the first choice for generating short interruptions in supply voltages and therefore ideally suitable for testing vehicle electrics according to standards.

Depending on the model, currents up to 100 A can be switched at a rated voltage of up to 60 V.

### Special features

- Input voltage max. 60 V
- Output current TOE 9261-50 max. 50 A
- Output current TOE 9261-100 max. 100 A
- Rise / fall time < 500 ns
- Short-circuit-proof
- Switchable discharge of load circuit
- Interruption in supply and ground lines up to 50 A or 100 A
- Switchable buffering of input circuit
- 4 signal line switches
- Control with any signal generators (TTL level)

While testing vehicle electric power systems according to standards, it is necessary to momentarily interrupt supply voltages. Using the Micro-Switch TOE 9261, switching operations between < 10 µs and nearly unlimited duration are possible without problem.



Any voltage source of up to 60 V with appropriate current rating provides the supply voltage.

Using an external signal generator, the current flow can be interrupted using switch S 1. Discharging the load circuit is possible during the interruption of the load current by using another internal switch (S 2).

In addition, a configuration can be selected for interrupting the negative return line of the load (ground interruptions).

Four signal line switches (S 3–S 6) additionally enable precise switching and interruption of signal and control lines in any current flow direction. Control of these switches is synchronous with S 1.

### Covered test standards

| 12 V vehicle electrics     |
|----------------------------|
| BMW GS 95024-2-1           |
| LV 124                     |
| Mercedes-Benz MBN 10615    |
| Mercedes-Benz MBN LV 124-1 |
| VW 80000-1                 |
| 48 V vehicle electrics     |
| BMW GS 95026               |
| LV 148                     |
| VDA 320                    |
| VW 82148                   |

### Technical specifications

|                              | TOE 9261-50            | TOE 9261-100           |
|------------------------------|------------------------|------------------------|
| <b>Power switch</b>          |                        |                        |
| Input voltage                | max. 60 V              | max. 60 V              |
| Output current               | max. 50 A              | max. 100 A             |
| Peak switch-on current       | max. 300 A             | max. 300 A             |
| Rise time / fall time        |                        |                        |
| tr / tf @ 1 Ω / 100 Ω / 1 kΩ | < 0.5 µs / < 0.5 µs    | < 0.5 µs / < 0.5 µs    |
| <b>Signal line switches</b>  |                        |                        |
| Input voltage                | max. ± 60 V            | max. ± 60 V            |
| Output current               | max. ± 2 A             | max. ± 2 A             |
| Rise time / fall time        |                        |                        |
| tr / tf @ 1 Ω (V = 2 V)      | < 2.5 µs / < 1.5 µs    | < 2.5 µs / < 1.5 µs    |
| tr / tf @ 1 kΩ               | < 0.1 µs / < 6.5 µs    | < 0.1 µs / < 6.5 µs    |
| Control voltage (trigger)    | TTL-level, max. ± 20 V | TTL-level, max. ± 20 V |

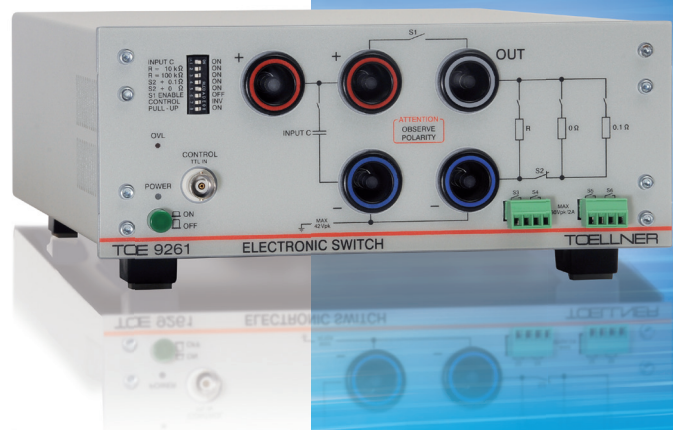
# Micro-Switch TOE 9261

## General data

|                                  |                                 |
|----------------------------------|---------------------------------|
| Supply voltage                   | 90 – 264 V, 47 – 63 Hz          |
| Power consumption                | max. 35 VA                      |
| Operating temperature            | 0 °C to 40 °C                   |
| Storage temperature              | -20 °C to 70 °C                 |
| Reference temperature            | 23 °C ± 1 °C                    |
| Cooling                          | Thermostatically-controlled fan |
| Overall dimensions (WxHxD)       | 224 x 103 x 348 mm              |
| Rack mounting dimensions (WxHxD) | 224 x 88 x 325 mm               |
| 19" system                       | ½ 19", 2 HU                     |
| Weight                           | Approx. 4 kg                    |
| Enclosure                        | Metal                           |

## Ordering data

| Micro-Switch |              |
|--------------|--------------|
| TOE 9261-50  | 60 V / 50 A  |
| TOE 9261-100 | 60 V / 100 A |



## Options / accessories

| Micro-Switch |   |
|--------------|---|
| TOE 9260/22  | 0.50 m cable with 1 safety socket, red                  |
| TOE 9260/23  | 0.50 m cable with 1 safety socket, blue                 |
| TOE 9260/24  | 1.20 m cable with 1 safety socket, red                  |
| TOE 9260/25  | 1.20 m cable with 1 safety socket, blue                 |
| TOE 9521     | 19" adapter 2 HU, for single installation               |
| TOE 9522     | 19" adapter 2 HU, parallel installation set for 2 units |
| TOE 9260/100 | Reference resistor unit 1 Ω, 100 Ω, 1k Ω                |

## Supplied accessories

- 1 Instruction manual
- 2 Connector sockets for S3–S6



## Our customers

|  |   |  |  |
|--|---|--|--|
| AEG<br>A.M.S. Software GmbH<br>Alps Electric GmbH<br>artesy<br>ASKON<br>Atlas Elektronik<br>Audi   | EADS<br>ebm-papst Gruppe<br>ELMOS<br>elster<br>Endress+Hauser<br>e-on<br>Eurocopter GmbH  | Kabelmetal electro GmbH<br>Kathrein-Werke KG<br>KES<br>KMW<br>Knorr Bremse AG<br>KOSTAL<br>Krupp GmbH<br>KUHNIKE   | Rockwell Automotive<br>Rohde & Schwarz<br>RUAG<br>RUB LEMS   |
| BASF AG<br>Bayer AG<br>Behr Hella Thermocontrol<br>Beiersdorf AG<br>BENDER<br>Beru AG<br>BIOMET<br>Blaupunkt<br>Boehringer Ingelheim KG<br>Boombardier<br>Robert Bosch GmbH<br>B. Braun Melsungen AG<br>Brose Fahrzeugteile<br>Bugatti Engineering GmbH<br>Busch-Jaeger GmbH<br>Bühler Motor | FH Braunschweig/Wolfenbüttel<br>Fachhochschule Dortmund<br>Ferrari<br>FESTO<br>Fiat Automobile AG<br>Ford-Werke AG<br>Fraunhofer Gesellschaft<br>Karl Freudenberg<br>fuba<br>Fujitsu GmbH   | Labom<br>Leica Camera GmbH<br>Ernst Leitz Wetzlar GmbH<br>Lenze<br>Linde<br>Lucas Automotive GmbH<br>Lufthansa Technik AG  | H.-J. Schleißheimer<br>S&K Prüftechnik<br>SENNHEISER<br>SIEMENS<br>Skoda<br>ST Microelectronics GmbH<br>Stocko   |
| CERN<br>Continental AG   | Gidemeister Automation GmbH<br>GÖPEL electronic<br>Gossen-Metrawatt<br>Gould<br>GSI   | MAN technologie<br>Maserati<br>MAXIMATOR<br>Max-Planck-Institute<br>Mercedes-Benz AG<br>E.Merck<br>Motorola<br>mtu   | Takati Petri AG<br>TU Darmstadt<br>Tektronix GmbH<br>theben<br>Thomas<br>Thyssen AG<br>TRW Automotive<br>TT electronics<br>TÜV-Rheinland<br>Tyco Electronics |
| Daimler AG<br>John Deere<br>Degussa Hanau<br>DELPHI<br>DeltaTech Controls<br>DESY<br>Deutsche Lufthansa AG<br>Diehl Avionik Systeme<br>Diehl GmbH & Co.<br>DLR<br>DMT<br>Dornier Luftfahrt GmbH<br>Dräger<br>dSpace GmbH<br>Du pont  | Haas Laser GmbH<br>Hahn-Meitner-Institut<br>HARMAN/BECKER<br>Hauni Werke, Körber<br>Hella KG Hueck & Co.<br>Heraeus Sepatech GmbH<br>HIMA<br>HIRSCHMANN<br>Hochschule Furtwangen<br>Hoechst AG<br>Hoffmann-La Roche AG<br>Hüls AG | NOKIA<br><br>Opel AG<br>Osram GmbH   | Valeo GmbH<br>VDE<br>Vickers System GmbH<br>Voith Sulzer GmbH<br>Voith Turbo GmbH<br>Volkswagen AG   |
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