



MARQUARDT INNOVATIONS

➤ SOLUTIONS FOR LAWN & GARDEN APPLIANCES



MARQUARDT



➤ WHEN COMFORTABLE SOLUTIONS ARE FUN.

Rocker switch 3250

- ➔ Extremely reliable, self-cleaning snap-action switching system
- ➔ Dust and water protection IP 66/IP 68
- ➔ Wide variety
- ➔ Up to four built-in LEDs
- ➔ Wide range of accessories
- ➔ Individual rocker design possible



Engine starter switch

- ➔ Safety switch with high reliability
- ➔ Normally open and normally close versions
- ➔ Complete module with flexible cable assembly
- ➔ Compact and price attractive solution



HMI module

- ➔ Ergonomic design with remote control
- ➔ High visibility with backlighting
- ➔ Communication via CANBUS, optionally Energybus
- ➔ Integrated charging function for smartphones and USB devices (5V/1A)
- ➔ Vibration and water resistant



Micro-signal switches 1065/1075

- ➔ For signal currents
- ➔ Self-cleaning, redundant contact system with double contacting
- ➔ Noiseless switching system with large overtravel
- ➔ Versions with center off position, cable assembly or diagnostic capability
- ➔ With dust and water protection IP 67

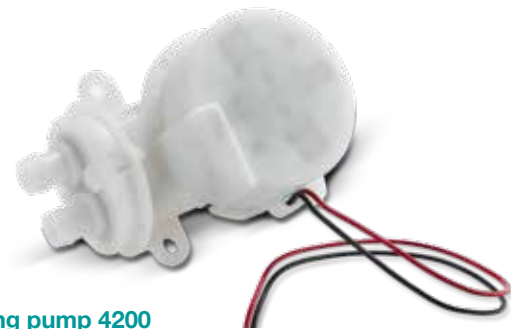




➤ **BECAUSE EXTREME CONDITIONS CALL FOR THE UTMOST RELIABILITY.**

Rocker switch 1830/1930

- ➔ With dust and water protection IP 65/IP 67
- ➔ Innovative sealing solutions
- ➔ Multiple design versions available
- ➔ Optionally with functional lighting
- ➔ Versions with IEC approval up to 400 V AC



Dosing pump 4200

- ➔ Precisely and need-based dosing, dosing accuracy $\pm 10\%$
- ➔ Low viscosity dependence
- ➔ High speed stability of the actuator, hereby simple time control is sufficient



Push-button switch 1683

- ➔ Versions with dust and water protection IP 65/IP 67
- ➔ Single- and double-pole in the same compact design
- ➔ Optionally with illumination/lighting (LED, glow lamp and bulb)
- ➔ Double lifting, powerful switching system for currents up to 16 A



Pressure sensor 2066

- ➔ Analog output signal
- ➔ Robust design and easy assembly
- ➔ Fully automatic 100% testing and calibration
- ➔ Linear measuring range 0 – 4.5 bar/450 kPa/65 psi
- ➔ Burst pressure > 9 bar/0.9 MPa/ 130 psi
- ➔ Dedicated for water, heating water and air
- ➔ Plug-in and screw-flange versions

Snap-action switch 1045

- ➔ With dust and water protection IP 67
- ➔ Built-in separation aid for contact welding
- ➔ Rating spectrum of DC signal currents up to 10 (3) A 250 V AC

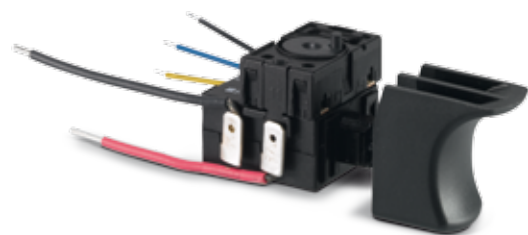


Versions on request:

- ➔ Alternative measuring ranges e.g. 0 – 10 bar/1 MPa/145 psi
- ➔ Burst pressure > 42 bar/4,2 MPa/609 psi
- ➔ Suitable for drinking water
- ➔ Different voltage supplies
- ➔ Other output signal characteristics



➤ WHERE HIGH QUALITY SAFETY IS GUARANTEED.

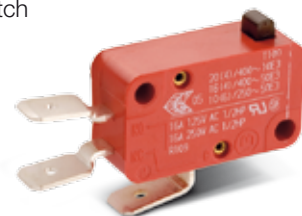


DC Pot-switch 2750

- ➔ Small potentiometer switch for DC applications up to 28 V DC
- ➔ Compact/slim design for ergonomic grip
- ➔ Stepless resistance track for highly sensitive control speed
- ➔ Optionally with or without adapted reversing switch

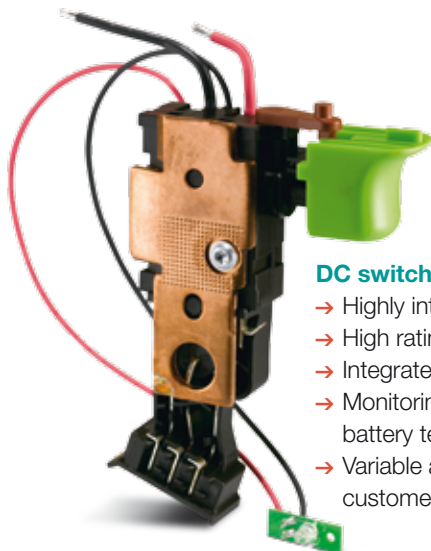
Motor control

- ➔ Up to 500 W nominal power/peak power up to 1000 W
- ➔ Sinus commutation/space vector modulation
- ➔ Energybus/CANopen, alternatively RS232/485
- ➔ Compact design with robust connection technology
- ➔ Good vibration resistance
- ➔ Integration in motor possible



Snap-action switch 1005

- ➔ Extremely high motor rating up to (16) A 250 V AC
- ➔ Contact distances less and greater than 3 mm
- ➔ Design with side bearing connections
- ➔ Extremely high rating for DC loads



DC switch 2711/Electronic switch 2711

- ➔ Highly integrated DC variable speed switch
- ➔ High rating up to 36 V DC/25 A (nominal)
- ➔ Integrated battery management for Li-Ion batteries
- ➔ Monitoring of undervoltage, overcurrent, battery temperature and MOSFET-temperature
- ➔ Variable auxiliary functions, extendable to meet customer-specific requirements

Control panel 2060

- ➔ With dust and water protection
- ➔ Optimized actuation characteristics
- ➔ Complete module with cable assembly
- ➔ Optionally available with integrated electronics



BECAUSE CUTTING-EDGE TECHNOLOGY IS BASED ON KNOWLEDGE AND INGENUITY.

The Marquardt Group was established in 1925 and, in spite of becoming a Global Player, has remained an independent family enterprise. With its two business areas – Automotive and Switches, Sensors & Controls, the Marquardt Group of companies is active all over the world in all the important markets. We have offices at 12 locations with more than 6,000 employees in all.

Every year, we invest about ten percent of our turnover in research and development – not to mention the use of modern development tools, simultaneous engineering and an efficient testing system. Moreover, our corporate culture offers ample scope for unfolding the inventive genius of our employees. As a result, new ideas come up time and again, which are materialized into marketable cutting-edge technologies.

The Switches, Sensors & Controls division develops, produces and sells its products in a number of industries and applications. Apart from industrial applications, our products are used in power tools, household appliances, cleaning systems, drive technology, heating and air-conditioning technology as well as off-road vehicles. We have the necessary technical know-how, innovative strength, long-term experience and comprehensive manufacturing expertise required in these fields.

This yields innovative and reliable products that feature promising designs tuned to individual requirements. Our products range from the standard switch to complex customer-specific systems. They are suitable for small-scale and large-scale production. With distinct production engineering, worldwide manufacturing options, high quality standards and durability of our products, we achieve customer satisfaction and thereby ensure our competitive ability.

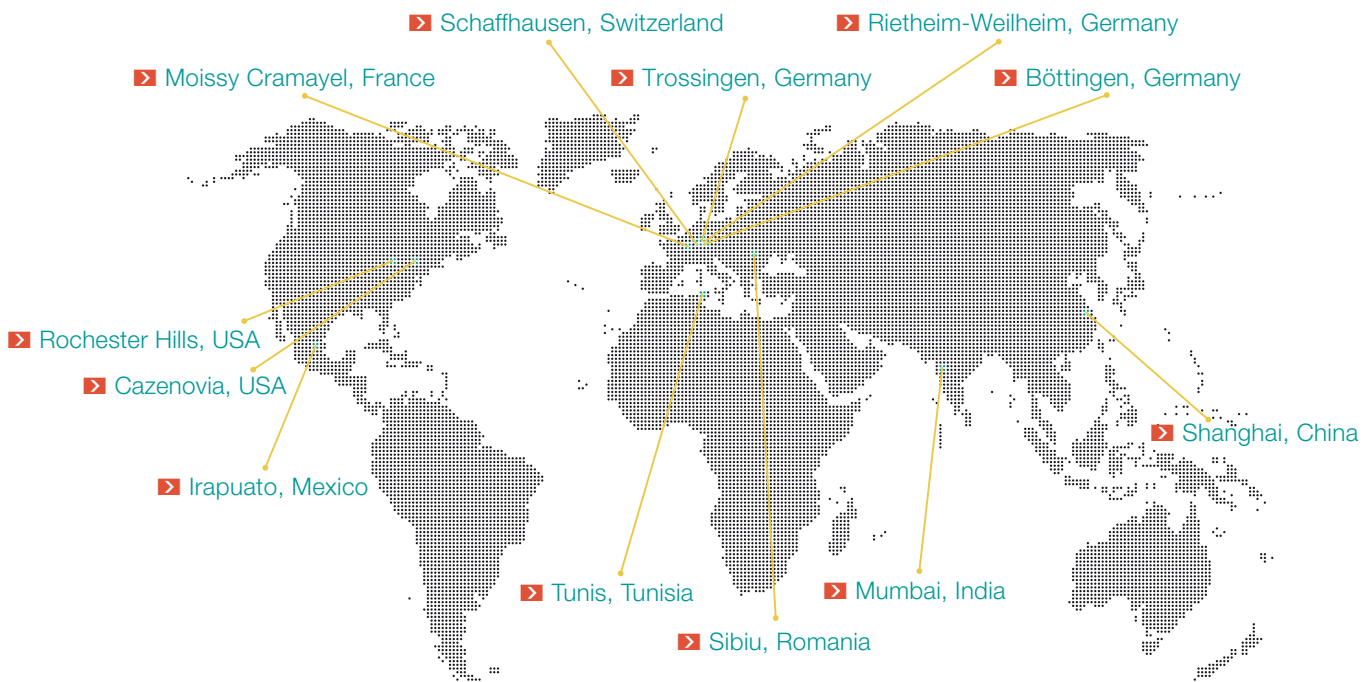
These customer- and market-specific solutions have made Marquardt a strong partner of the power tool and electrical industry as well as a technology leader. We are at your service in all the international markets.

Garden tools and their built-in components are often subject to raw environments in the outdoors. They need to fill advanced requirements for dust and water resistance, offer a high level of safety and reliability, and distinguish themselves with ergonomic design and user friendliness.

The Marquardt product portfolio offers numerous solutions for these special requirements and includes, in addition to the recognized standard products, a variety of complex and customer-specific systems. Modern remote and control electronics, as well as the newest display and visualization technology, offers the user the highest level of operating comfort.

Marquardt is a world-leader in the market of electrical power tool switches and the technology leader in the area of standard appliance switches. As a manufacturer of end-user products for gardening and landscaping, we have a lot to offer and we view customer-specific requirements as a challenge.

MARQUARDT INTERNATIONAL.



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