



### **DRIVE AUTHORIZATION SYSTEMS**



# → WHEN INTELLIGENCE OPENS DOORS TO NEW POSSIBILITIES.

### **Electronic steering column locks (ESCL)**

- → Anti-theft protection of the highest quality
- → Years of experience in supplying over 23 million drive authorization systems
- → More than 75 billion operating hours in the field



### **Start-Stop-systems**

- → Solutions ranging from simple Start-Stop-switches to highly integrated systems
- → Customer-specific operating concepts
- → Individual surface piece designs
- → Robust construction of the highest precision
- → Top-quality illumination

# First of its kind – display key

- → Electronic key with TFT- colour display
- → Access to vehicle data
- → Optionally with Carfinder, Drive & Pay, Carsharing etc.
- → Control of vehicle features
- → Bi-directional radio connection data exchange



# → Accurate performance

- → Highly integrated features resulting in less installation space
- → Suitable for different Bus-systems (CAN, LIN, Flexray, MOST etc.)

### **DISCRIPTION OF STREET OF STREET**



# **尽** BECAUSE RELIABLE CONTROL CONCEPTS CREATE AN ATMOSPHERE.

#### **Multifunctional switches**

→ Different control concepts: from a simple rotary handling to a multi-layered-operating device element for tilting/turning/pressing

→ Optional Touch-feature











### Marquardt operating components can be adjusted to the demands of each customer:

- → Value and haptics matching each vehicle
- → From single switch to complex control panel
- → Operating concepts: tilting, turning, pressing
- → Electronic interfaces: LIN, CAN, discrete, radio communication
- → Wide variety of surface designs: plastics, genuine metalls, galvanised, wood, leather, foil, varnish, closed integrated surfaces etc.
- → Various illuminations, e.g. with fading-effect, multi-metals illumination etc.

### **DEVELOPMENT TRENDS**



# → WHEN DECADES OF EXPERIENCE DEVELOP THE FUTURE.





### **Touchpad**

- → Closed operating panel surface
- → Tactile feedback
- → Character recognition
- → Intuitive operating capabilities
- → Alternatively with contact-free activation
- → Gesture recognition

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

of annual sales in this forward-looking field. Our employees in the development department produce both customized and self-initiated solutions to meet customer requirements and wishes. We align our core competencies and technology portfolio accordingly.

Know-how, creativity and motivation are essential factors for the success of our products. About 500 engineers worldwide are currently working in our areas of development. About 150 employees alone work in the software development department so as to provide the necessary artificial intelligence for every product. Due to the close collaboration with our customers we are able to introduce new technologies to the market as quickly as possible.

In 2010 alone, we registered a total of 51 new patents in order to expand competitive advantages in the coming years through industrial property rights. The automotive industry was the primary focus.

With the latest equipment, we are able to achieve our ambitious but always

realistic goals. A test field for testing and development-related qualifications, for instance, makes this possible. It allows us to perform nearly all of the tests required for the serial production without external help. Moreover, we have equipment for all necessary measurements and analyses at our disposal, ranging from optics simulation, luminance measurements, beam calculations, snap hook calculations, software-supported spring-calculations to rapid prototyping.

Development – owing to progress – accompanies Marquardt day after day, for over 85 years. This experience helps us offer our customers the maximum benefit, which they pass on to their customers and thereby passing it on to you.

The Marquardt group was established in 1925 and has, in spite of becoming a Global Player, 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 and has offices at 11 locations with more than 5000 employees in all.

According to our tradition, we've always seen ourselves as pioneers and drivers of innovation in the automotive, electrical engineering and electronics industry. Therefore, we pursue our development activities in a sustainable manner and invest around 10 percent

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# **AUTOMOTIVE LOCATIONS.**

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