

New off-road-control panels are as tough as they are flexible

## **Endurance test passed**

*Rietheim-Weilheim, April 2019.* Off-road enthusiasts know that the rougher the terrain, the more stable and reliable the material and technology must be. Innovative mechatronics specialist, Marquardt, has developed new control units and keypads robust enough to withstand any endurance test. These components are highly sought from manufacturers in a wide-range of industries, as they can be easily integrated into construction and agricultural machinery, commercial and leisure vehicles, electric vehicles, and boats. Additionally, municipal vehicles, such as snow ploughs, street cleaning equipment or Unimogs, all benefit from the technology as do excavators, shovel loaders, cranes or other equipment used for material handling. In addition, the globally positioned family enterprise adapts its products to specific customer requirements in terms of functionality and design. This provides manufacturers and mechanical engineers with specific, tailor-made solutions.

### **One platform, two operating concepts**

An attractive standard solution is the series 3584 off-road keypad. The CAN-based 2x3 button interface withstands harsh conditions, thanks to extreme dust and water protection. Its resistance to heat and cold makes it suitable for every climate, from the Arctic to the desert. The non-slip keyboard grip offers additional security. It also features up to three possible function displays per key. The customer can define the key in question, and the symbol will be adapted accordingly.

Flexibility is also evident in the series 3583 central control unit (CCU). Companion to the 3584 series, both can be used for the same applications, while only differing in operating concepts. The CCU allows for a screen-based menu control. The rotary pushbutton has a four-way tilt function that gives quick access to surrounding keys, allowing the user to jump to the corresponding menu item. Especially

## Press release

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advantageous for vehicle manufacturers: Both control units – keypad and CCU – are each produced on a single platform. This saves on costs for manufacturers and also allows the operating concept, key design and functions to be adapted to customer requirements accordingly.

### **Individualized symbol lighting**

Lighting concepts for both components are user-definable. The colored RGB lighting, with LEDs surrounding the rotary pushbutton of the central control unit and symbol lighting on the series 3584 keypad, can be matched to the customer's corporate design. It is also possible to change the color if the status changes. As with the keypad, the CCU has a high degree of protection. This ensures that every variation of the operating concept has the safety and durability that Marquardt customers can expect from an off-road product – in every terrain.

## Press release

	Keypad	Central Control Unit (CCU)
Life endurance in actuations	200,000	Keypad <ul style="list-style-type: none"> <li>• Presses: 200,000</li> </ul> Rotary pushbutton <ul style="list-style-type: none"> <li>• Presses: 1,000,000</li> <li>• Turns: 1,000,000 (360°)</li> <li>• Tilts: 250,000 in every direction</li> </ul>
Supply voltage	12 / 24 V DC (8 – 36 V DC)	12 / 24 V DC (8 – 36 V DC)
Power consumption sleep mode	< 300 µA at 12 V DC	< 300 µA at 12 V DC
Operating temperature	-40°C ... +85°C	-40°C ... +85°C
Storage temperature	-40°C ... +85°C	-40°C ... +85°C
Terminal type	4-pin MQS connector	-40°C ... +85°C
Protection type	IP 69	IP 67
CAN protocol	J1939 (other protocols on request)	J1939 (other protocols on request)
Illumination	<ul style="list-style-type: none"> <li>• Flexible symbol illumination (RGB-LEDs)</li> <li>• Red function illumination</li> </ul>	Flexible symbol illumination (RGB-LEDs)
Mounting	3 threaded inserts M6	3 threaded bars M6

You can download the press release and the pictures via the following link: <https://us.marquardt.com/meta-header/press/press-releases>

**About Marquardt**

Marquardt, a family-run company founded in 1925 and based in Rietheim-Weilheim, Germany, is one of the world's leading manufacturers of electromechanical and electronic switches and switching systems. The products of the mechatronics expert are used by many well-known customers in the automotive industry and include operating components, vehicle access, driver authorization systems and battery management systems. The company's systems are also used in household appliances, industrial applications, power tools, and e-bikes. Marquardt Group employs more than 11,000 members of staff worldwide at 20 locations in four continents. The company generated 1.3 billion euros sales revenue in the fiscal year 2018. Each year, Marquardt invests around ten percent of its revenues in research & development.

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Visit our Facebook page at [www.facebook.com/Marquardt.Career](https://www.facebook.com/Marquardt.Career).

**Photos**



***Marquardt\_Press\_Keypad.jpg:*** Robust in every terrain: Design and haptic of the Series 3584 off-road keypad offer safety and comfort. Illumination can be adapted to customer requirements.



***Marquardt\_Press\_Central\_Panel.jpg:*** Flexible and well-designed: The Series 3583 central control Unit allows the customer to choose between a screen-based menu control and quick key access.