

# Multifunctional control grip Sense+

Scalable, robust, and ergonomic control grip with electronic CAN joystick 4THE5 series 42

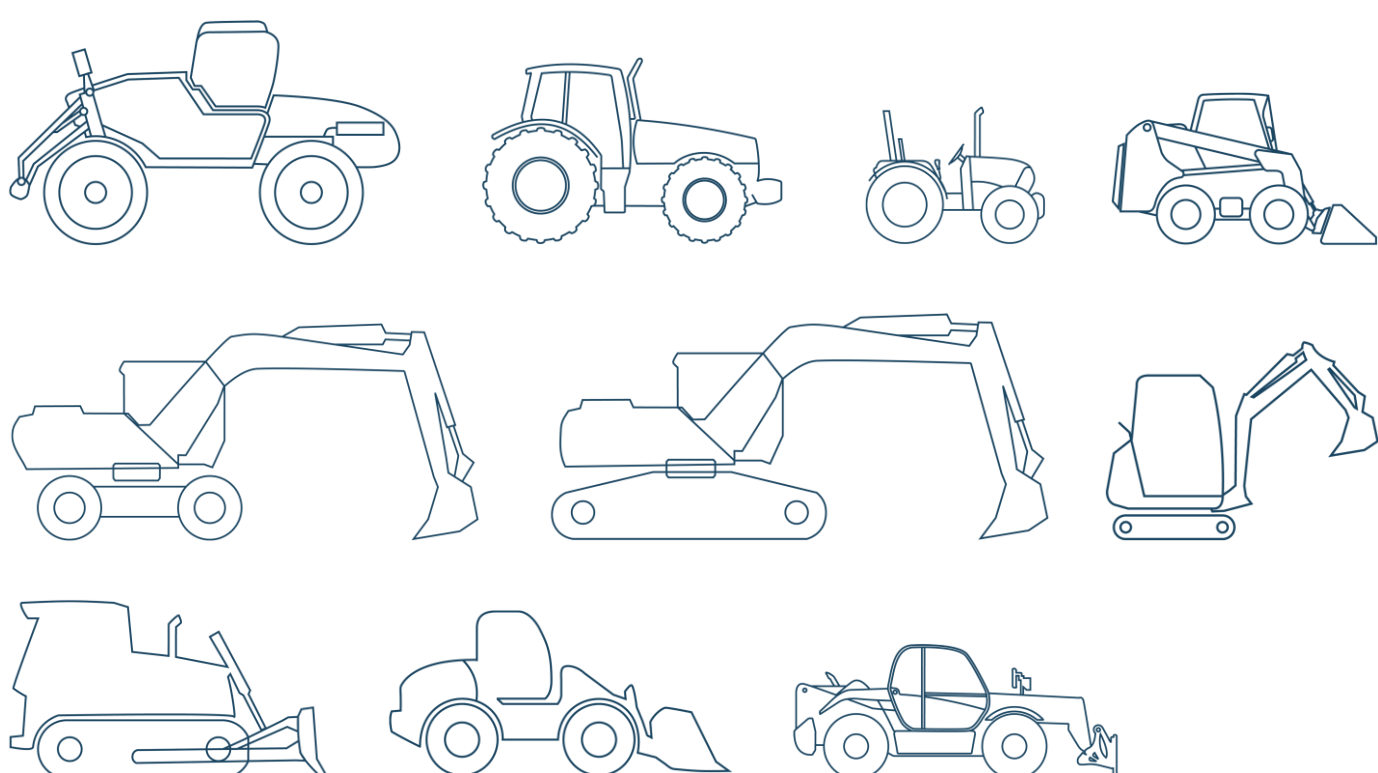


Easy and precise controllability of mobile machines is an important key to their performance, efficiency, and safety. Joysticks are essential for the perception of machine behavior. Due to the growing number of automation and operator assistance functions, the number of operating elements is also increasing. With the new Sense+, Bosch Rexroth has expanded the 4THE5 modular joystick portfolio with a robust, ergonomic, and multifunctional control grip that can be modified for different needs, applications, and a wide range of machine options.

## CUSTOMER BENEFITS

- Ultimate ergonomics for best-in-class daily driving
- Great scalability for basic to advanced machines
- Highly robust for extended durability and safety
- Enhanced machine/driver interaction thanks to feedback
- Easy integration with minimal wiring effort
- Easy parametrization and updates thanks to UDS compatibility
- Robust electronics with high electromagnetic compatibility

## APPLICATIONS



## FUNCTION AND BENEFITS

### Ultimate ergonomics for best-in-class daily driving

Tested by many users around the world, the unique left- and right-hand shape in an inclusive design fits all hand sizes. A combination of comfortable soft-touch textures enhances the prehension and feeling of the grip.

### Great scalability for basic to advanced machines

Multiple grip configurations with multiple component positions and orientations meet the needs of a diverse array of machine types and functions. Up to four rollers/rockers and seven buttons can be integrated to master the biggest challenges of feature integration, realize the highest productivity, and reduce operator fatigue.

### Highly robust for extended durability and safety

Lasts long, works safely: The Rexroth multifunctional control grip Sense+ not only features a new pushbutton design with a hard-touch snap-dome concept that improves the activation haptics; there are also new compact rollers and rockers for increased functional safety up to PLd-capable according to ISO13849. The entire control grip is also resistant to hydro-alcoholic gels: for example, hand sanitizer gels used as protection from COVID-19.

TECHNICAL DATA

4THE5 x42 Joystick with Sense+ control-Grip	
Output signals (joystick base):	CAN Plc or PLd-ready
Maximum Sense+ configurations:	Up to 4 rollers/rockers + 7 buttons
CE mark:	Complies with EMC Directive 2014/30/EU Complies with RoHS2 Directive 2011/65/EU
Data sheet:	4THE5 x42 29699   Sense+ 64092



Optionally integrated vibration feedback function provides information back from the machine and tasks



Enhanced machine/driver interaction thanks to feedback elements

Pushbuttons with a backlit logo controlled by the CAN base indicate the activation status of the functions to the driver.

The integrated vibration feedback function can be used to guide and warn the driver or provide feedback about the quality and progress of the work results. The distance from a target surface, a virtual wall, approaching obstacles, or simply the mechanical end positions are indicated in an intuitive way by different vibration patterns and by increasing the vibration frequency.

Easy integration with minimal wiring effort

Reduced harness size and wiring effort and fewer required machine controller inputs: Thanks to its Sense+ management, the 4THE5 joystick base series x42 from Bosch Rexroth converts the analog signals from the grip components to CAN bus. This means that the entire joystick can be integrated into the machine system with a single CAN interface connector.

Easy parametrization and updates thanks to UDS compatibility

Thanks to its UDS service compatibility, the entire Rexroth joystick facilitates an easy software parametrization via UDS protocol: for example, CAN Id, refresh rate, baud rate, and protocol updates.

Robust electronics with high electromagnetic compatibility

In order to comply with the most demanding environments, Bosch Rexroth designed a new joystick base sensing stage that can withstand up to 25mT of stray fields with no unwanted machine movement.