BODAS Display DI4
Universally usable operating and display unit

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Customer benefits

▶ Free programming as well as individual visualization and allocation of functions through CODESYS development environment
▶ Improved ease of use by ergonomic design
▶ Flexible application and integration options
▶ Diagnosis, parameterization and flashing of BODAS controllers without additional service tools
▶ Large number of integrated interfaces as well as inputs and outputs (e.g. USB, video)

Applications

In everyday work, the simple and intuitive operation of mobile working machines is getting more and more important. Consequently there is an increasing demand for operating units with freely programmable functions and visualizations as well as the opportunity of flexible integration in the respective driver's cab.

Therefore Rexroth expands its BODAS modular system for mobile electronics with the new BODAS DI4 display, an almost universally useable operating unit for construction machinery, material handling, agricultural and municipal vehicles. The robust high-resolution color display is freely programmable and flexible to use in every cabin. It also convinces by its ergonomic design and its simple ease of use.

Function and benefits

The BODAS display DI4 is setting new standards in the field of vehicle operation. The new Rexroth display is developed and designed according to the results of detailed user feedbacks and practical tests. The result is an ergonomic and symmetrical design that decisively improves the display's handling. The installation in the cab is possible as stand-alone unit or integrated in the dashboard. The DI4 can be rotated in 90-degree steps (portrait or landscape) and thereby all symbols are readable in any position, in order to reduce the number of variants. Furthermore the display features an ambient light sensor that adjusts the brightness of the back-light intensity depending to its environment. Also the illumination of all integrated control elements can be set individually (color, intensity, day / night settings). In addition, there are integrated 4 color LEDs in the front of the display that can be used to show further status information.
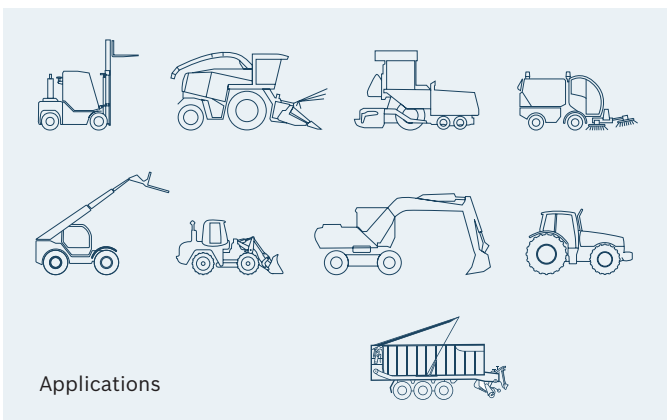
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Technical data

Screen size and type:	7'' transmissive with LED backlite
Resolution / brightness:	800 x 480 Pixel / max. 500 cd/m^2
Processor:	CPU i.MX6 solo / Linux OS with Codesys RTS
Memory:	256 MB RAM, 512 MB Flash
Softkeys:	6 + 6 (freely configurable)
Hardkeys:	2 (freely configurable)
Rotary/push button:	1 (freely configurable)
Protection class:	IP6k5
Dimensions (L x B x H):	ca. 268 x 136 x 65 mm
Weight:	ca. 1.100 g
Operational temperature:	-30°C ... +70°C
Rated voltage:	12V / 24V (9V – 32V permitted)
CAN 2.0B:	2 (up to 1 Mbit/s)
USB 2.0:	1 via plug contact
Loud speaker / Audio out:	Integrated / via plug contact
Analog Video	2 (PAL or NTSC)
Inputs (analog / digital):	3
Outputs (digital):	2
Status-LEDs single color:	3 (green, yellow, red)
LED multi-color:	1 (RGB color range)
Optional DI4-PRO	Touch control, Ethernet / Bluetooth interface (in development)

Variable lighting of all control elements and symbols
by using the integrated ambient light sensor
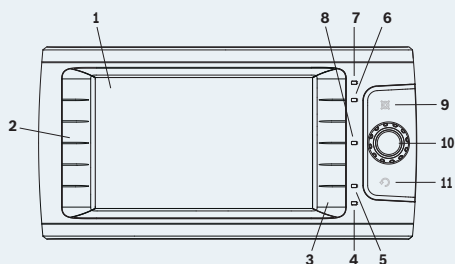
1 Display 7", 800 x 480 Pixel **2** Keypad left side, 6 freely configurable softkeys
3 Keypad right, 6 freely configurable softkeys **4** Status LED green **5** Status
LED yellow **6** Status LED red **7** Multi-color status LED **8** Ambient Light sensor
9 Hardkey „home" **10** Rotary-/push button **11** Hardkey „Escape/back"

The programming and design of the surfaces screen content (screen = 800 x 480 pixels) and also the realization of the logical behavior are implemented by CODESYS 3.5 development environment. Therefore extensive opportunities of individual function allocation are offered. Any of the machine functions can be both visualized statically or dynamically. Camera signals can be shown on the display via the integrated video interface as picture-in-picture or in full screen mode. The DI4 offers two hardkeys for fixed functions and additionally 12 freely programmable function buttons. Moreover the driver can intuitively select functions without visual contact to the control panel by a rotary/push button.

Easy servicing without external service tools

The display DI4 also simplifies the diagnosis and new parameterization of BODAS controllers in the vehicle. In conjunction with the integrated BODAS-service communication and service interface the DI4 serves as central access point to the CAN bus network of the machine. Without any external diagnosis device, the operator is able to access active and saved errors via the display and thus speed up the diagnosis. New parameters can be easily transferred via the integrated USB interface. Furthermore, the DI4 offers the possibility to transmit new application programs to the connected BODAS controllers by flashing.

Additional features

The BODAS display DI4 is available in two different versions (Standard and Professional). The standard version includes two CAN2.0 B and one USB interface as well as numerous analog and digital inputs and outputs. The Pro version also includes a touch display (PCT – Projected Capacitive Touch), with which you can swipe through functions, an Ethernet and it will also have a Bluetooth interface in future. Via the pre-installed PDF viewer and the existing audio and video player the machine manufacturers are able to provide multimedia based content. This will support the driver in the proper use of seldom-used functions and simplifies the learning curve.