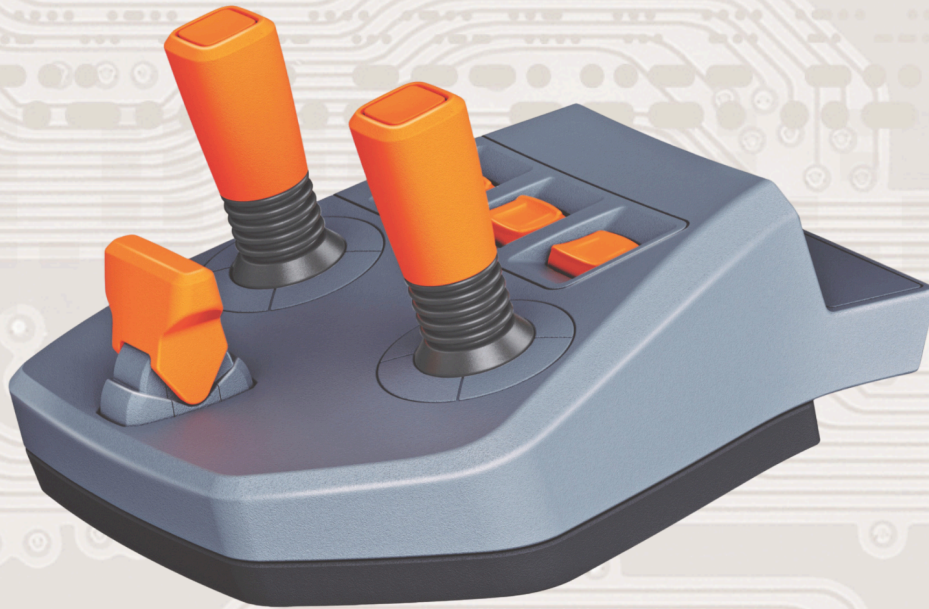




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BRAVA ACTRA JOY PLUS MULTIFUNCTION ARMREST

The ACTRA JOY operation unit offers two two-axis joysticks and four control elements a wide range of functions. The outstanding ergonomics and sensitive controls ensure fatigue-free and precise work.

- Two joysticks with push button
- Optional up to three buttons
- Additional fingertip
- Customer-specific colours and symbols
- Communication via CANopen interface

Control unit ACTRA JOY



Technical data

Operation elements

Two-axis Finger Joystick	Contactless via Hall sensors
Joystick limiter	Round, square, cross
Joystick push button	Tactile switch
Direction switch (momentary / latched)	Contactless via Hall sensors
Push button	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors

Electrical data

Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)

Mechanical data

Dimensions	See drawings
Mounting screws	3 x Ø 9.0 mm

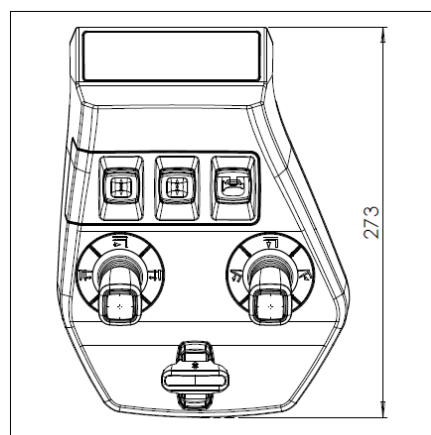
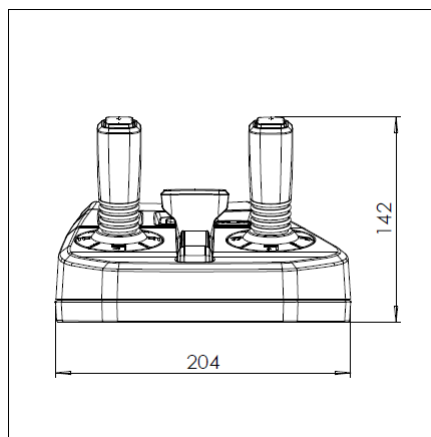
Operating conditions

Operating temperature	-30°C to +65°C
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Order data

Part-No.	Designation
3108-00xxx-xx	ACTRAJOY

Dimensions [mm]





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ACTRA MONO 300 CONTROL UNIT

The ergonomically shaped ACTRA MONO 300 control unit enables all truck functions to be operated with the right hand. The control unit has a maximum of four single-axis finger joysticks. The thumb-operated control unit has three control elements. The control unit can be screwed on the BRAVA armrest with four x M5 screws.

- Maximum of four single-axis joysticks arranged next to each other
- Actuator caps available in various colours
- Customer-specific laser inscription possible
- Thumb pad with three control elements (momentary rocker switches and latched rocker switches with two and three positions)
- Ergonomically shaped handrest
- Protection class IP 65

Control units



www.frei.de

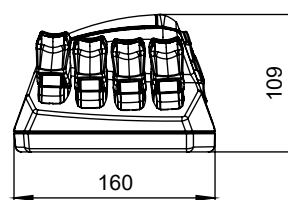
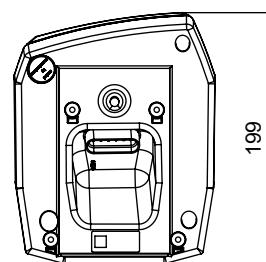
All control units are designed so that the hand rests comfortably. Due to sensitive control and ergonomic layout, the joysticks can be operated with a natural finger movement. The caps on the finger-operated joysticks are interchangeable, allowing the customer to define the colour and the symbols used. The large selection of symbols and colours allows rapid implementation of individual customer requirements.



Technical data	
Operation elements	
Single-axis Finger Joystick	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors
Electrical data	
Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)
Mechanical data	
Mounting screws	4 x M5
Dimensions	See drawings
Operating conditions	
Operating temperature	-30°C to +65°C
Protection class according to EN 60529	IP 65 (Electronic) IP 3X (Mechanic)

Order data	
Part-No.	Designation
3108-00041-xx	ACTRAMONO 300
3303-00526-xx	BRAVA Joystick lever

Dimensions [mm]





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ACTRA MONO 400 CONTROL UNIT

The ergonomically shaped ACTRA MONO 400 control unit enables all truck functions to be operated with the right hand. The control unit has a maximum of four single-axis finger joysticks. The thumb-operated control unit has two control elements and a two-axis thumb joystick. The control unit can be screwed on the BRAVA armrest with four x M5 screws.

- Maximum four single-axis joysticks arranged next to each other
- Actuator caps available in various colours
- Customer-specific laser inscription possible
- Thumb pad with two control elements (momentary rocker switches and latched rocker switches with two and three positions) and a two-axis joystick.
- Ergonomically shaped handrest
- Protection class IP 65

Control units



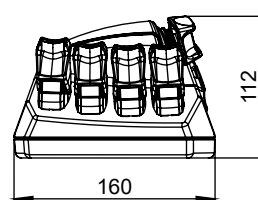
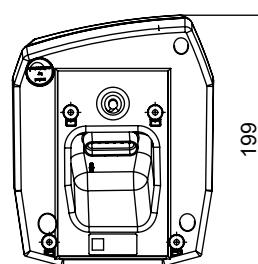
www.frei.de

All control units are designed so that the hand rests comfortably. Due to sensitive control and ergonomic layout, the joysticks can be operated with a natural finger movement. The caps on the finger-operated joysticks are interchangeable, allowing the customer to define the colour and the symbols used. The large selection of symbols and colours allows rapid implementation of individual customer requirements.

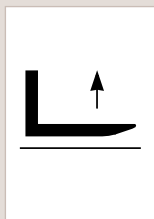


Technical data	
Operation elements	
Single-axis finger joystick	Contactless via Hall sensors
Two-axis thumb joystick	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors
Electrical data	
Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)
Mechanical data	
Mounting screws	4 x M5
Dimensions	See drawings
Operating conditions	
Operating temperature	-30°C to +65°C
Protection class according to EN 60529	IP 65 (Electronic) IP 3X (Mechanic)
Order data	
Part-No.	Designation
3108-00040-xx	ACTRA MONO 400
3303-00526-xx	BRAVA Joystick lever

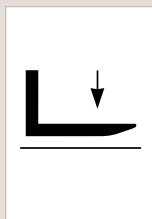
Dimensions [mm]



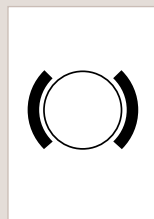
STANDARD-SYMBOLS



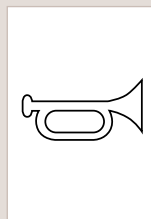
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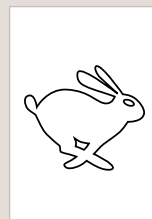
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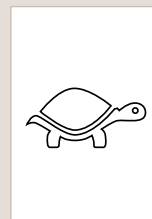
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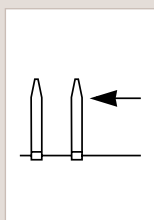
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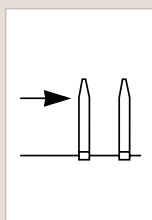
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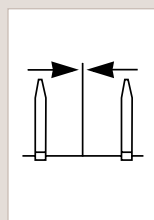
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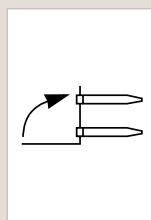
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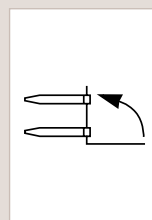
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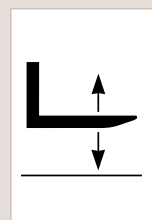
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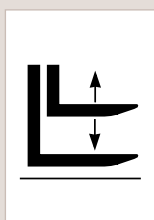
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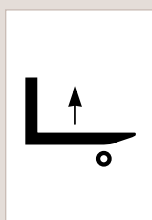
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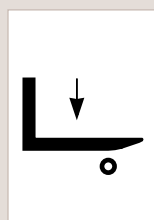
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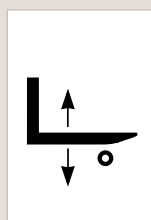
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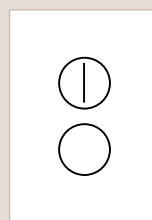
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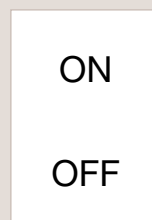
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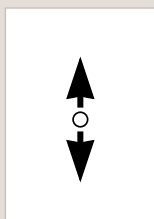
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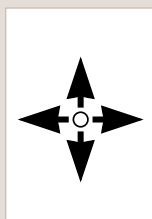
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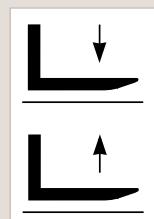
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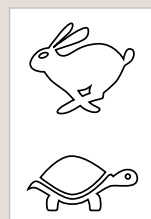
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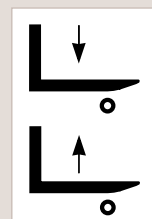
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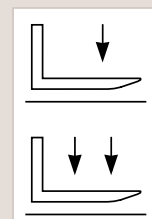
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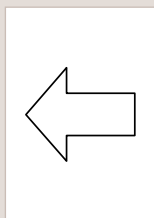
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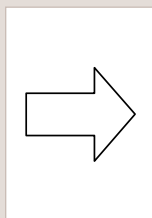
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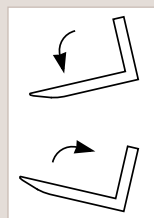
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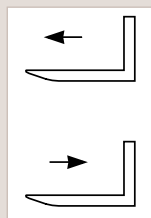
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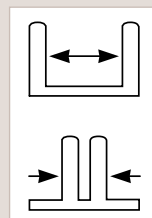
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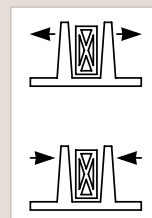
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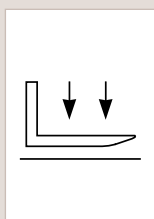
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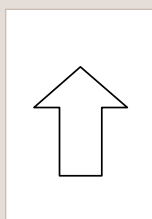
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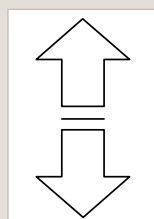
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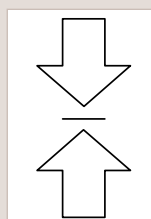
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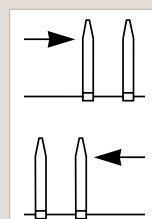
Symbol AI



Symbol AJ



Symbol AK

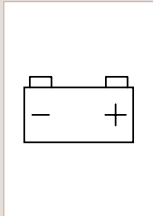


Symbol CP



Symbol AR

STANDARD-SYMBOLS



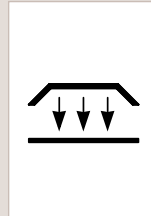
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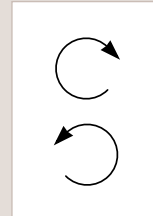
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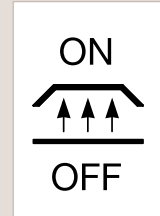
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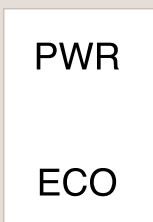
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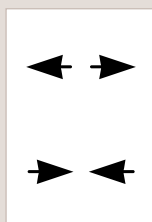
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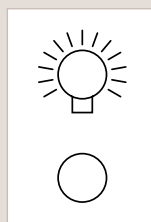
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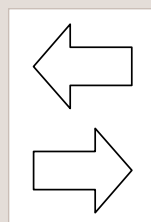
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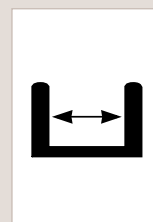
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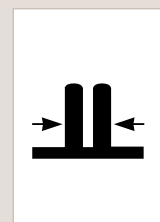
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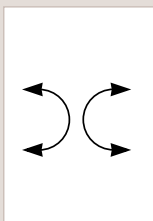
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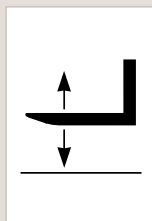
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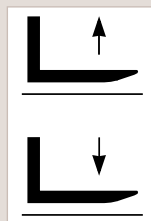
Symbol BM



Symbol BN



Symbol BP



Symbol BU



Pushbuttons, rocker switch and latched rocker switch



Thumbwheel with short lever



Thumbwheel with long lever



The symbols are also available in horizontal format



Creep speed



Horn

The symbols can be laser-etched on all pushbuttons, rocker switches, latched rocker switches and thumbwheels. The laser inscription is exceedingly resistant to environmental influences. We are, of course, also able to use your in-house symbols provided in .dxf format.



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BRAVA ACTRA MONO PLUS 300 MULTIFUNCTION ARMREST

The BRAVA multifunction armrest stands out due to its high degree of modularity. It can be used in a wide range of applications in industrial trucks, agricultural and construction machinery as well as a great many industrial applications. The armrest comprises several modular elements. It can be equipped with two different control units. A panel located between the control unit and the arm support allows to install additional control elements. The armrests can be adjusted horizontally, and a height adjustment is available as an option (BRAVA PLUS).

- Ergonomically shaped armrest
- High degree of modularity
- Horizontal adjustment
- Stepless height adjustment supported by a gas strut
- Control Unit ACTRA MONO 300 and ACTRA MONO 400 available
- Panel for additional functions
- Communication via CANopen interface
- Contactless Hall-effect sensor technology

**Control unit
ACTRA MONO 300**



**Control unit
ACTRA MONO 400**



**Height adjustment
BRAVA**



**Panel for optional
functions**



Technical data

Operation elements

Single-axis Finger Joystick	Contactless via Hall sensors
Two-axis Thumb Joystick	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors

Electrical data

Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)

Mechanical data

Dimensions	See drawings
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Operating conditions

Operating temperature	-30°C to +65°C
Protection class according to EN 60529	IP 65 (Electronic) IP 3X (Mechanic)

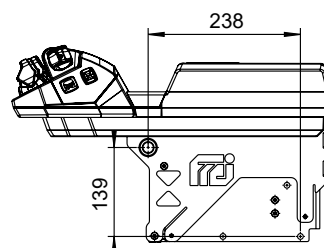
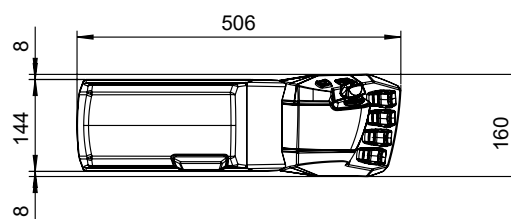
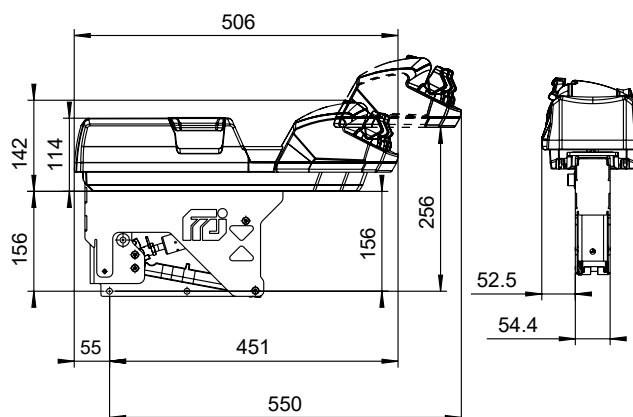
Special versions

- Two different control units available: ACTRAMONO 300 and ACTRAMONO 400
- The panel can be equipped with additional control elements by the customer

Order data

Part-No.	Designation
3108-00040-xx	ACTRAMONO 400
3108-00041-xx	ACTRAMONO 300
3303-00526-xx	BRAVA Joystick lever
3303-00517-xx	Panel for optional functions
3202-00563-00	BRAVA arm support
3202-00131-00	BRAVA height adjustment

Dimensions [mm]





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BRAVA ACTRA MONO PLUS 400 MULTIFUNCTION ARMREST

The BRAVA multifunction armrest stands out due to its high degree of modularity. It can be used in a wide range of applications in industrial trucks, agricultural and construction machinery as well as a great many industrial applications. The armrest comprises several modular elements. It can be equipped with two different control units. A panel located between the control unit and the arm support allows to install additional control elements. The armrests can be adjusted horizontally, and a height adjustment is available as an option (BRAVA PLUS).

- Ergonomically shaped armrest
- High degree of modularity
- Horizontal adjustment
- Stepless height adjustment supported by a gas strut
- Control Unit ACTRA MONO 300 and ACTRA MONO 400 available
- Panel for additional functions
- Communication via CANopen interface
- Contactless Hall-effect sensor technology

**Control unit
ACTRA MONO 300**



**Control unit
ACTRA MONO 400**



**Height adjustment
BRAVA**



**Panel for optional
functions**



Technical data

Operation elements

Single-axis Finger Joystick	Contactless via Hall sensors
Two-axis Thumb Joystick	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors

Electrical data

Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)

Mechanical data

Dimensions	See drawings
------------	--------------

Operating conditions

Operating temperature	-30°C to +65°C
Protection class according to EN 60529	IP 65 (Electronic) IP 3X (Mechanic)

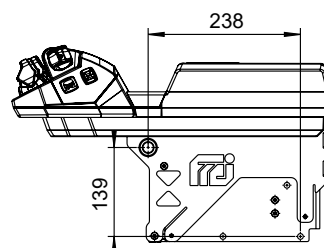
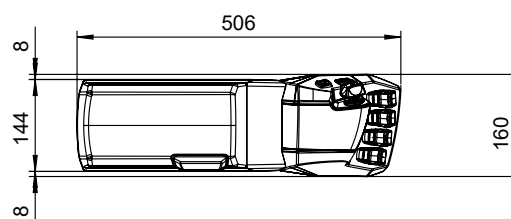
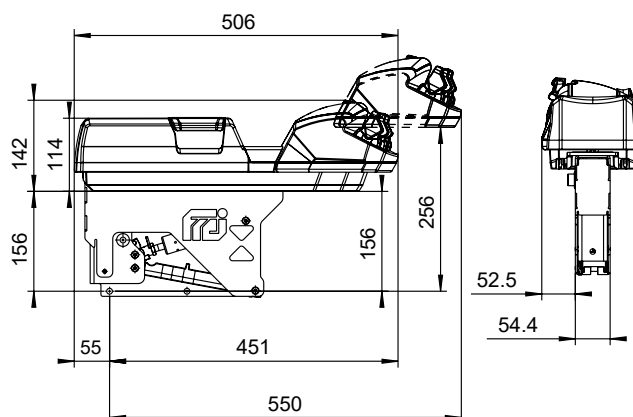
Special versions

- Two different control units available: ACTRAMONO 300 and ACTRAMONO 400
- The panel can be equipped with additional control elements by the customer

Order data

Part-No.	Designation
3108-00040-xx	ACTRAMONO 400
3108-00041-xx	ACTRAMONO 300
3303-00526-xx	BRAVA Joystick lever
3303-00517-xx	Panel for optional functions
3202-00563-00	BRAVA arm support
3202-00131-00	BRAVA height adjustment

Dimensions [mm]





CAN®



reddot design award
winner 2019

BRAVA ACTRA JOY PLUS MULTIFUNCTION ARMREST

Ideal for wide-ranging applications in harsh environments: The BRAVA multifunction armrest guarantees a high level of flexibility when equipping industrial trucks, agricultural and construction machinery as well as in numerous industrial applications. It comprises an arm support and a control unit, which can be selected and configured to suit the application.

The newly developed module "ACTRA JOY" ensures a maximum of variability: It can be equipped with two joystick, a travel direction switch and with up to three auxiliary buttons. The high degree of functionality, excellent ergonomics and sensitive control ensure fatigue-free and precise work.

- Ergonomically shaped armrest
- Horizontal and vertical adjustment
- Stepless height adjustment supported by a gas strut
- Customer-specific colours and symbols
- Communication via CANopen interface

Multifunction Armrests



www.frei.de

Armrest with control unit ACTRA JOY



Height adjustment BRAVA



Armrest with control unit ACTRA JOY



Technical data

Operation elements

Two-axis Finger Joystick	Contactless via Hall sensors
Joystick limiter	Round, square, cross
Joystick push button	Tactile switch
Direction switch (momentary / latched)	Contactless via Hall sensors
Push button	Contactless via Hall sensors
Momentary rocker switch with two positions	Contactless via Hall sensors
Momentary rocker switch with three positions	Contactless via Hall sensors
Latched rocker switch with two positions	Contactless via Hall sensors
Latched rocker switch with three positions	Contactless via Hall sensors

Electrical data

Voltage supply	7 V – 65 V
Nominal operating voltage	12 V / 24 V / 48 V
Transmission protocol	CANopen
Cable and plug-in connector	Superseal 6 pin, 1.5 series (injection-moulded on the housing)

Mechanical data

Dimensions	See drawings
Mounting screws	3 x Ø 9.0 mm

Operating conditions

Operating temperature	-30°C to +65°C
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Order data

Part-No.	Designation
3108-00xxx-xx	ACTRA JOY
3202-00563-00	BRAVA arm support
3202-00131-00	BRAVA height adjustment

Dimensions [mm]

