# Modular Control Enclosures
## CC-4000 / CC-4000 SL

Modern industrial design

# Modular Control Enclosures
# at the highest level

The **CC-4000 / CC-4000 SL** are modular aluminium control enclosure systems. With their outstanding technical features, the enclosures simply and efficiently encapsulate industrial controllers and operator control panels for centralised and decentralised automation in production processes.

The enclosure depth of the **CC-4000** can be adapted precisely to your controller. Based on aluminium frame sections with depths of 52, 80, 140, 200 and 290 mm with extension sections with depths of 68, 128 and 228 mm, depending on the size of the controller, you can choose **depths** between **52 mm** and **646 mm**. Your selected width or height is produced by correspondingly cutting and machining the aluminium sections.

Thanks to its **elegant**, **slimline** design, the **CC-4000 SL** is the ideal addition to the BERNSTEIN CC-4000 range of control enclosures.

The modern, dynamic industrial design of the enclosure gives the entire machine or system a high-quality appearance. Tailored to the size of the controller or operator control panels, a corresponding aluminium section configuration can be selected from the extended range of enclosures. Two enclosure depths (external dimensions: **55** and **99** mm) are possible.

In most applications it is necessary to mount the enclosure on a machine or wall. The following BERNSTEIN **suspension systems** are ideally suited for this purpose:

- Light-duty suspension system CS-2000 SL
- Suspension system CS-3000
- System 80 suspension system

Selection of the suitable system depends on the arm length and the total weight of the enclosure. The enclosure sections are prepared (machined) corresponding to the specific suspension system. We would be pleased to assist you in selecting the right system for your application.

## Product features

- Modern monitor-based industrial design
- Modular system made from high-grade cast aluminium with functional surface finish
- Choice of other colours (RAL)
- Heat dissipation suitable for industrial applications without reducing protection class
- Integrated handle elements that make the enclosure easy to handle while underscoring the monitor characteristics
- Protection class IP 65
- All-round mounting grooves for built-in components, no need for modifications

- Internally and externally mounted front panel possible
- Door configurations for direct access

## Approvals

- UL 50 Type 12 (label on demand)

# CC-4000 / CC-4000 SL

**BERNSTEIN System Solutions**

Expertise from under one roof

## Comprehensive range of services from BERNSTEIN

Thanks to a comprehensive range of accessories, the modular control enclosures concept can be perfectly adapted to your requirements:

- Suspension system components for attaching on the top and on the bottom
- Different keyboard solutions
- Connecting elements for console versions
- Different interface solutions
- Internal, external fans or air conditioner
- Cable routing components

# Modular Control Enclosure CC-4000



Opening CC-4000 enclosure from front with hinged frame section.
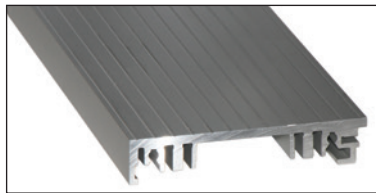


Opening CC-4000 enclosure from rear with flush-closing door.



Opening CC-4000 enclosure and detaching entire frame section at articulated hinges.



The ergonomically formed handles at the front of the enclosure make safe handling easy.



External view of aluminium section. Generously sized cable channels on the inside. Direct screw mounting of components or mounting with easy-to-fit spring nuts.



Combined, frame and expansion sections with different widths make up your specified control enclosure depth.

## You determine the type of access

- Hinged rear panel
- Frame sections as front door, also for hinge-mounted controller
- Frame or extension section (rear door) with articulated hinge (fixed or detachable)

  The detachable version makes it possible to replace the complete module together with the built-in controller for servicing purposes.

## System features

The single-walled aluminium section offers outstanding heat dissipation properties which are significantly superior to two-walled enclosures where the air trapped between the walls acts as an insulator.

For more demanding requirements, the heat dissipation can be further enhanced and adapted to defined operating conditions by incorporating optional measures such as heat sink rear panel, internal fans or even an air conditioner.

You will find further details in our range of accessories for control enclosures in our catalogue Enclosure systems.

We would be pleased to assist you in selecting the right system for your application.

# Stand / console version



## BERNSTEIN CS-3000
## Curved tube

Attractive design,
easy installation,
easy cleaning

## Your benefits

- Ergonomically arranged and attractive
  industrial PC workstation

- Adjustable inclination of the control enclosure
  and of the keyboard console for the benefit of
  the users

- Cable duct integrated at the rear, concealed
  by a cover panel

- Cables and connectors can be routed directly
  to the attached control enclosure or keyboard
  console through the coupling head

- Vertically adjustable support feet as well as a set
  of castors for mobile applications that can be
  fitted directly to the stand are available as
  accessories.

## NEW at BERNSTEIN:
## CS-3000 curved tube

- Special design

- Ease of assembly and installation thanks
  to the bent tube version

- Simple cable routing without any joint

- Protection from impact and injury to the
  operator when using suspension system elements
  on the bottom of the enclosure

# Modular Control Enclosure CC-4000 SL for high-quality machines and installations



Comparison of handle sections:
Left: CC-4000 SL      Right: CC-4000



Variety of mounting options thanks to all-round mounting grooves.



Flush-closing door in the rear.

## Product features

Thanks to its elegant, slimline design, the CC-4000 SL is the ideal addition to the BERNSTEIN CC-4000 range of control enclosures.

The modern, dynamic industrial design of the enclosure gives the entire machine or system a high-quality appearance. Tailored to the size of the controller or operator control panels, a corresponding aluminium section configuration can be selected from the extended range of enclosures.

With its many outstanding technical features the enclosure makes it easy to encapsulate the controllers cost-effectively.

## Open for your applications

The control enclosure range CC-4000 SL ensures absolute flexibility with its extensive range of accessories and coordinated system consisting of control enclosures, suspension system components and stand.

Without the need for mechanical modifications, built-in components are easy to mount and remove with the aid of spring nuts in the all-round mounting grooves in the enclosure.

Rationalisation effects thanks to timesaving installation and servicing.

**Modern industrial design**

## System features

- Modern monitor-based industrial design

- Slimline design for configuring small visualisation systems

- Two enclosure depths

- Variety of mounting options thanks to all-round mounting grooves

- Heat dissipation suitable for industrial applications without reducing protection class
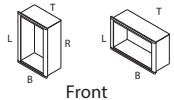
- Protection class IP 65

| Customer | *Product group | *Code | *Article number |
|---|---|---|---|

Address      Customer No.

Telephone    Telefax    Industry

Contact person      Department

☐ **Pricing enquiry**

Target price    Quantity

☐ **Enquiry**

*Enquiry No.    Annual requirement

☐ **Order**

Delivery date

**❶ Enclosure**

☐ **Standard**
☐ Console encl., upper section
☐ Console encl., lower section

Anticipated installation weight

_____ kg

**❷ Dimensions (mm)**

**External encl. dimensions**
Width x height (W x H)   _____ x _____

**19" Enclosure**   W x H   _____ x _____
$H = (n \times HM) + 97 - 1 \quad HM = 44{,}45$   HM = _____

***Front panel dim.** (e x f)   _____ x _____
$e \times f = W - 111 \times H - 97$

****Rear panel dim.** (w x h)   _____ x _____
$W \times H = W - 61 \times H - 47$
$W \times H = W - 63 \times H - 47$ (hinged rear panel)
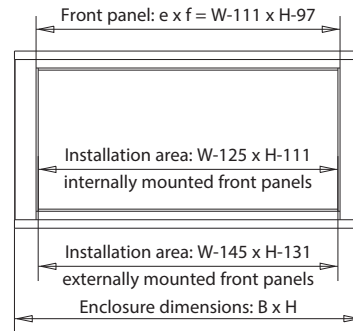
Front panel: e x f = W-111 x H-97

Installation area: W-125 x H-111 internally mounted front panels

Installation area: W-145 x H-131 externally mounted front panels
Enclosure dimensions: B x H

**❸ Type of section**   ☒ Section without ribbing

**❹ Enclosure depth, ext.**

| Frame section | Extension |
|---|---|

_____ ➔ with 3 mm deep FP support
☐ 140   ☐ 200   ☐ 290     ☐ 68   ☐ 128   ☐ 228   ☐ 128   ☐ 68

or _____ ➔ with 6.5 mm deep FP support
☐ 52   ☐ 80     ☐ 68   ☐ 128   ☐ 228   ☐ 128   ☐ 68

Internal depth for internally mounted FP with 3 mm deep FP support
When using 6,5 mm FP support, the internal depth is reduced by 3,5 mm

| Sec-tion | 52 | 80 | 120 | 140 | 148 | 180 | 188 | 200 | 208 | 216 | 248 | 268 | 276 | 280 | 290 | 308 | 328 | 336 | 348 | 358 | 368 | 376 | 396 | 408 | 418 | 426 | 428 | 436 | 456 | 486 | 496 | 518 | A** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 66 | 106 | 126 | 134 | 166 | 174 | 186 | 194 | 202 | 234 | 254 | 262 | 266 | 276 | 294 | 314 | 322 | 334 | 344 | 354 | 362 | 382 | 394 | 404 | 412 | 414 | 422 | 442 | 472 | 482 | 504 | I** | |
| 52 | • | | • | | | • | • | | • | | | | | • | | • | | • | | | | • | | | | | | | | | | | | Expansion |
| 80 | | • | | • | | | | | ◆ | • | | ◆ | | | | ◆ | | ■ | | | | • | | | | | | ◆ | | | | | | |
| 140 | | | • | | | • | | | | | • | • | | | | • | | | • | | • | | | | | | | • | | | • | | | |
| 200 | | | | | • | | | | ◆ | | | | | | | ◆ | • | | | | | ◆ | | | | • | | | • | | ◆ | | | |
| 290 | | | | | | | | | | | | | | • | | | | • | | | | | | | • | • | | | | • | | • | | |
| 68 | | • | | • | | • | | • | • | • | ◆ | ◆• | | | | ◆• | • | • | | ◆ | | | | | • | | • | | | • | ◆ | | | Frame section |
| 68 | | | | | | • | | | | • | | | • | | | ◆ | | | | | | | | | • | | | | | | | | | |
| 128 | | | | | • | | | ◆ | | • | • | ◆ | | | | •■• | | | | | ◆• | • | • | | | | ◆ | • | • | • | | | | |
| 128 | | | | | | | | • | | | | ■ | | | | | | | | ◆ | | | | | | | • | | | | | | | |
| 228 | | | | | | | • | | ◆ | | | | • | | | • | • | | | • | | | | • | • | ◆• | | | | ◆• | • | | | |

** A = External depth, I = Internal depth     Internal depth is increased by **6 mm** for external mounting.     ◆■ = Alternative combination

* Completed by BERNSTEIN AG

**❺ Door mount. (susp. syst.)**

☐ Automotive version

☐ Rear panel    ☐       Rear panel    ☐

☐ 2$^{nd}$ extension    ☐     2$^{nd}$ extension    ☐    ☐ 2$^{nd}$ extension

☐ 1$^{st}$ extension    ☐      ☐    ☐ 1$^{st}$ extension

Section/fixed rear panel     1$^{st}$ extension     ☐ Fr. sect. (from 140)

Door mounting    L     R    Door mounting    Suspension syst. position

Frame section
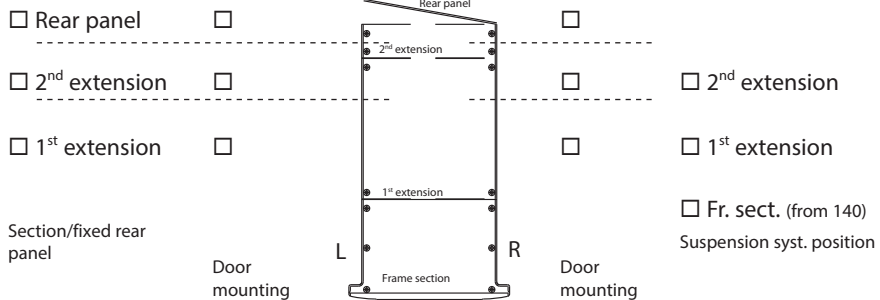
**❻ Partition**    ☐ not mount.                      ☐ Operator panel, anodis., int. mount.

☐ **vertical**    ☐ mount.on right    ☐ **horizontal**    ☐ bottom mount.    Dim.: g x h (g = Width, h = Height)

Qty ____    ☐ mount. on left    Qty ____    ☐ top mounted    ☐ 1$^{st}$ operator panel ____ x ____

☐ 2$^{nd}$ operator panel ____ x ____

(**Important!** Partition height for frame section with 3 mm FP support = 20 mm/front panel support 6.5 mm = 25 mm)    ☐ 3$^{rd}$ operator panel ____ x ____

**❼ Front panel**    ☐ none      **Rear panel**    ☐ none    ☐ standard hinge

with    ☐ 3 mm, int. mount.    ☐ ext. screw-mounted    ☐ screw-moun. rear pan. art hinge

☐ 3 mm, ext. mount.    ☐ heat sink rear panel

**Access., front panel**

☐ for INTERNALLY mounted panels: seal strip and mounting material

☐ for EXTERNALLY mounted panels:seal strip/washers/nuts M5

☐ 19" installation kit (9806232000): screws and captive nuts M6

☐ set of clamping elements for SIMATIC Panel PC

**Keyboarddrawer from 180 mm depth**

(2HM = 89 mm, 3HM = 134 mm)

☐ without keyboard, 0°, without lock, 2HM

☐ without keyboard, 20°, without lock, 3HM

☐ with keyboard, 0°, without lock, Germ., PS2, 2HM

☐ with keyboard, 20°, without lock, Germ., PS2, 3HM

☐ to customer specification (description under ⓭)

**❽ Lock**

Square (mm):    ☐ 6    ☐ 7    ☐ **8 (Standard)**    Triangle (mm):    ☐ 7    ☐ 8

Two-way bit (mm):    ☐ 3    ☐ 5

☐ Daimler Benz    ☐ T-handle without lock    ☐ T-handle with lock    ☐ Customer specification

**❾ Preparation for susp. syst.**

☐ **No**      **System**      ☐ **Top**    ☐ **Bottom**

**Type of coupling**

☐ Turn/tilt coupling (from section 128)    ☐ WS coupling    ☐ SL (only section 80)

☐ Flange (see System)    ☐ CS-3000/48    ☐ CS-3000 (fr. sect. 128)

☐ Tilt adapter (from section 200)    ☐ Special preparation    ☐ 80 (from section 128)

☐ Coupling head CC-4000     to customer specificat.    ☐ SS cover, top

☐ Console connector    ☐ SS cover, bottom

☐ Automotive adapter    ☐ SS in section ____

☐ KDL 16/4    ☐ KDL 24/5

only with automotive adapter without SS preparation (KDL = cable gland strip)

☐ Grommet 3-4 mm    ☐ Grommet 6-7 mm    ☐ Dummy grommet

____ Qty      ____ Qty      ____ Qty

**❿ Surface finish**    **Standard**    **Customer specification**
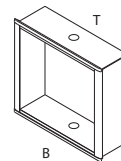
| | Standard | Customer specification |
|---|---|---|
| Horizontal sections: | ☐ RAL 7043, power-coated | ☐ _____ |
| Vertical sections: | ☐ anodised, natural | ☐ _____ |
| Partition: | ☐ RAL 7043, power-coated | ☐ _____ |
| Front panels: | ☐ anodised, natural | ☐ _____ |
| Rear panels: | ☐ anodised, natural | ☐ _____ |

⓫ ☐ Automotive version: double GK seal, braided earthing strap, front door arrester

⓬ ☐ Climate control data for checking heat dissipation over enclosure surface

____ (Pv) total installed power loss      ____ (°C) ambient temperature at enclsoure location

____ (°C) max. temperature, installation (e.g. PC)      ____ (V) power supply for active cooling

**⓭ Accessories, Remarks**    ☐ annexes    ☐ no annexes
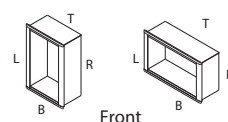
| | | | |
|---|---|---|---|
| Customer | *Product group | *Code | *Article number |
| Address | | | Customer No. |
| Telephone | Telefax | Industry | |
| Contact person | | | Department |

☐ **Pricing enquiry**

| | | |
|---|---|---|
| | Target price | Quantity |

☐ **Enquiry**

| | | |
|---|---|---|
| | *Enquiry No. | Annual requirement |

☐ **Order**

Delivery date

**❶ Enclosure**

☐ Standard
☐ Console enclosure, upper section
☐ Console enclosure, lower section

Front

Anticipated installation weight
_____ kg

**❷ Dimensions (mm)**

**External enclosure dimensions**
Width x height (w x h)          _____ x _____

**19" Enclosure**          _____ x _____

$H = (n \times HM) + 73 - 1$   $HM = 44{,}45$          HM = _____
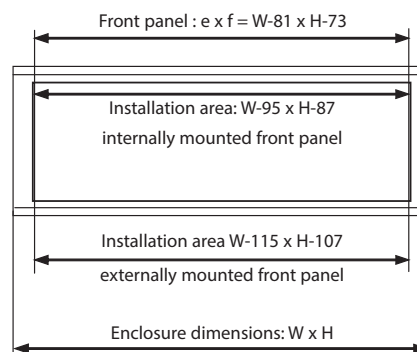
**Front panel dim.** (e x f)          _____ x _____
$e \times f = B - 81 \times H - 73$

**Rear panel dim.** (w x h)          _____ x _____
$w \times h = W - 31 \times H - 23$
$w \times h = W - 33 \times H - 23$ (hinged rear panel)

Front panel : e x f = W-81 x H-73

Installation area: W-95 x H-87
internally mounted front panel

Installation area W-115 x H-107
externally mounted front panel

Enclosure dimensions: W x H

**❸ Type of section**          ☒ Section without ribbing

**❹ Enclosure depth, ext.** (frame section with 6.5 mm deep FP support)

☐ 55          ☐ 99

| Section | 55 | 99 | External depth (mm) |
|---|---|---|---|
| | 35 | 79 | Internal depth (mm) |

(Internal depth increased by 6 mm for external mounting)
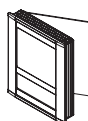
**❺ Door mounting**

Door mounting, **left**          Door mounting, **right**

☐ Fixed rear panel

☐ Standard hinge          ☐ Standard hinge
☐ Screw-mount. rear pan. articul. hinge          ☐ Screw-mounted rear panel articulated hinge

* Completed by BERNSTEIN AG

**❻ Partition** (**Important!** Partition height for frame section = 25 mm)

☐ not mounted**(Standard)**

☐ **vertical**      ☐ mounted on right

_____ Qty.      ☐ mounted on left

☐ **waagerecht**      ☐ bottom mounted

_____ Qty.      ☐ top mounted

☐ operator panel anodised, natural
(not mounted for inside) s = 3 mm

Dimension: g x h      1$^{st}$ operator control pan. \_\_\_\_\_ x \_\_\_\_\_
(g = Width, h = Height)      2$^{nd}$ operator control pan. \_\_\_\_\_ x \_\_\_\_\_

**❼ Front panel**

☐ none      **with:** ☐ 3 mm, int. mounted
      ☐ 3 mm, ext. mounted

**Rear panel**

☐ none      **with:** ☐ 3 mm, externally screw-mount.
      ☐ 3 mm, hinged

**Accessories, front panel**

☐ for INTERNALLY mounted panels: seal strip and mounting material

☐ for EXTERNALLY mounted panels: seal strip/washers/nuts M5

☐ 19" installation kit (9806232000): screws and captive nuts M6

☐ set of clamping elements for SIMATIC Panel PC 670/870

**❽ Lock**      Square (mm):      ☐ 6      ☐ 7      ☐ **8 (Standard)**      ☐ T-handle without lock
      Triangle (mm):      ☐ 7      ☐ 8      ☐ E1
      Two-way bit (mm): ☐ 3      ☐ 5      ☐ Special lock/customer specification
      Daimler Benz:      ☐

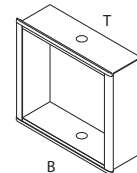**❾ Preparation for suspension syst.**      ☐ **No**      ☐ **Top**

**Type of coupling/system**

☐ SL flange / turn/tilt coupling (only section 99)

☐ Coupling head CC-4000

☐ Special preparation to customer specification

Side:

☐ **Bottom**



**❿ Surface finish**

| | Standard | Customer specification |
|---|---|---|
| Horizontal sections: | ☐ RAL 7043, power-coated | ☐ _____ |
| Vertical sections: | ☐ anodised, natural | ☐ _____ |
| Partition: | ☐ RAL 7043, power-coated | ☐ _____ |
| Front panels: | ☐ anodised, natural | ☐ _____ |
| Rear panels: | ☐ anodised, natural | ☐ _____ |

**⓫ EMV Version** (**electromagnetic compatibility**)

☐ Conductive connection between enclosure body, door, FP and RP

⓬ ☐ Automotive version; braided earthing strap

⓭ ☐ Climate control data for checking heat dissipation over enclosure surface

_____ (PV) total installed power loss

_____ (°C) ambient temperature at enclosure location

_____ (°C) max. temperature of installation (e.g. PC)

_____ (V) power supply for active cooling

**⓮ Accessories, Remarks** ☐ annexes ☐ no annexes

# BERNSTEIN

**Switch systems –
Economy meets safety**

**Sensor systems –
Compact intelligence**

**Enclosure systems –
Function and design**

**www.bernstein.eu**

700 0001 059 . 10.2012 . We reserve the right to make changes

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