Control Box CA30 - CA40
Data sheet
The control boxes CA30 and CA40 are developed as part of a new control box platform for the care and rehab industry. The control boxes can be mounted separately on the application by means of unique slide-on brackets, but also on several actuator models using a specially designed actuator bracket.

The CA30 and CA40 control boxes are equipped with SMPS (Switch Mode Power Supply) for worldwide operation and optimised performance. The power outputs for channels 1 – 4 are located inside the box. The box has 3 cable exits which make it easy to choose the most suitable cable layout in the application. The control box lid has a double cover and cable lock function. FETs (Field-Effect Transistors), IPX6 Washable DURA™ and a battery port are all standard options.

The CA30 and CA40 communicate with the actuator by means of the built-in end stop switches.

**Features:**
- Power supply: Universal, 120 W power output (Switch Mode Power Supply) 100-240 VAC, 50/60 Hz
- Mains indicator: Yes
- Actuator interface: 2 or 4 channels, 6-pin minifit
- Hand-control interface: 1 port, 10-pin modular plug
- Battery interface: 1 port, 4-pin minifit, (Output 300 mA - no actuator running)
- Standby power: Approx. 0.5 W (230 V)
- Colour: Light grey (RAL 7035)
- Output short circuit protected: Yes
- Control concept: FET (no relay noise)
- Duty cycle: 10 % - 2/18 min. on/off continuous use. Maximum power is 120 W for 80 seconds and 60 W for 40 seconds at 25°C
- Weight: Low weight 0.5 kg
- Actuator compatibility: All standard actuators (signal and power switch)
- Battery charger: Battery input available, No charger, but supports battery with internal charger
- EOP: Yes
- IP-Rating: IPX6 Washable DURA™
- Operation: Simultaneous drive (no feedback)

**Usage:**
- Operation temperature: +5 °C to +40 °C
- Storage temperature: -10 °C to +50 °C
- Relative humidity: 20% - 90% at 30 °C - not condensing
- Atmospheric pressure: 700 to 1060 hPa
- Meters above sea level: Max. 2000 meters
  CAN/CSA-22.2 No 60601-1:2008
  DENAN Technical Requirements Ministerial Ordinance Appendix 8, 10
CA30 - CA40
Dimension:

Ordering example:

9 = 2 Pole (Without earth, Class II) Without cable

N = None

1 = 100 - 240VAC +15%/-10%

1 = 120W

2 = 2 Channels

4 = 4 Channels

9 = IPX6 Washable DURA™

0 = Half bridge

+ = RAL7035 light grey

3 = CA30 (2 channel)

4 = CA40 (4 channel)

A = Basic - Analogue input

C = Control Box
CA30 - CA40 Platform - System Overview

CA30-CA40 is meant for use with:
LA23 std. motor
LA27 std. motor (cable type '0 or B')
LA31 std. / fast motor
LA34 std. / small motor
LA40 std. motor
LA43 std. motor
LA44 std. / fast motor (fast motor not max. load)
BL1
HB30, HB/HL7X, HB/HL8X, FS3, ACM/ACP
BA21
BA19
CA30 - CA40 mounting

The light weight of CA30/CA40 allows for mounting on a wide range of actuators. For mounting on a LINAK actuator (LA27, LA31 or LA40), a CA30/CA40 mounting bracket is required.

Dimensions - mounted with LA40

Min. built-in dimensions

<table>
<thead>
<tr>
<th>Actuator</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA27</td>
<td>314</td>
</tr>
<tr>
<td>LA31</td>
<td>333</td>
</tr>
<tr>
<td>LA40</td>
<td>354</td>
</tr>
</tbody>
</table>
The adapter 1015W9003 includes a screw that is halfway mounted, thus everything as one part.

Screw head torx size: T15
Screw torque: 1.2 ± 0.2 Nm
CA30-CA40 - mounted on frame:

Mounting bracket (frame flat)

Very small built-in dimension:
Height: Min. 90 mm (lid can be removed)
Length: +20 mm (locking system)

Release hook

3-way cable exit

Mounting bracket (frame flat)

It is recommended that the CA30/CA40 is mounted in a position that allows water to escape.
Recommended torque: 0.6 Nm +/-0.1

The bracket can be mounted to the bed frame or any other application by means of one of the following mounting procedures:
1) M6 nut to be placed in bracket and fixed with M6 bolt from the rear side.
2) M5 machine screw with flat washer to be fixed through bracket with nut on the rear side.
3) Self-tapping screw to be placed through bracket and onto the frame.
Mounting of cables and cable lock:

The control boxes CA30/CA40 have a uniquely designed cable lid. The lid also works as an integrated cable lock when closed.

1) Mount cable plugs in control box
2) Close lid until lock snaps into place (see red arrows)

To allow free access to the cables, the lid has a rest position when completely opened. It is possible to remove the lid by lifting it a few degrees and pulling it away from the housing under tight mounting conditions.

See illustrations:

Cable management:

It is recommended that the CA30/CA40 is mounted in a position that allows water to escape. Recommended torque: 0.6Nm +/- 0.1

The bracket can be mounted to the bed frame or any other application by means of one of the following mounting procedures:
1) M6 nut to be placed in bracket and fixed with M6 bolt from the rear side.
2) M5 machine screw with flat washer to be fixed through bracket with nut on the rear side.
3) Self-tapping screw to be placed through bracket and onto the frame.

Mounting bracket (frame flat) w/M4 nuts

Mounting of cables and cable lock:

The control boxes CA30/CA40 have a uniquely designed cable lid. The lid also works as an integrated cable lock when closed.

1) Mount cable plugs in control box
2) Close lid until lock snaps into place (see red arrows)

To allow free access to the cables, the lid has a rest position when completely opened. It is possible to remove the lid by lifting it a few degrees and pulling it away from the housing under tight mounting conditions.

See illustrations:
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FOR MOUNTING INSTRUCTIONS AND GUIDANCE IN USAGE, PLEASE SEE THE RELEVANT USER’S MANUALS
Control Box CB8-A
Data sheet
The CB8A is a battery powered control box operating up to 3 actuators individually. One of these channels can be used either as an external emergency stop device or for battery charging.

Simple design and high quality construction make the CB8A an ideal control box choice for mains-free operation of beds, chairs, tables and many other mobile applications.

**Features and Options:**
- Connection of up to 3 actuators
- Output voltage 24 V DC
- Colour: black
- High-capacity (2.9 Ah) batteries enable long period of operation between charges
- 8 Pin DIN-socket for handset
- Snap-fit top battery compartment for easy battery removal
- Recharging through external charger CH01 plugged into handset HB40A or directly into the CB8A
- Acoustic alarm sounds when batteries are low and recharging should be started. The alarm level corresponds to approx. 17-18 VDC
- Extremely compact design
- Electronic overload protection (EOP) prevents overload of the actuator

**Usage:**
- Duty cycle: Max 10% or 2 min. in use followed by 18 min. not in use
- Ambient temperature +5° to +40° C
- Approvals: IEC60601-1:2005 3rd edition approved
  ANSI/AAMI ES60601-1:2005 3rd edition approved
CB8-2A - for two channels
Ordering example:

- **IP protection:** 0 = Not defined
- **Colour:** 0 = RAL9005 Black
  1 = RAL7035, light grey
- **Current CH2:** 0 = One channel version, CH2 not available
  y = Value between 2.0A & 6.0A in 1A increments
- **Current CH1:** x = Value between 2.0A & 6.0A in 1A increments
- **Version:**
  A = Mounted with batteries (standard)
  P = Mounted with batteries and emergency button mounted
  B = Mounted with batteries and charging socket fitted
  C = Mounted with batteries, charging socket and emergency button mounted
  M = Prepared for batteries
  H = Prepared for batteries and emergency stop button mounted
  Q = Prepared for batteries and charging socket fitted
  R = Prepared for batteries, charging socket and emergency button mounted
- **Channels:**
  1 = 1 CH
  2 = 2 CH

Max. connection of one 6 amp actuator to CB08002A.
Chargers to be ordered separately.
Battery kit (BA0801) has to be ordered separately for M, H, Q, R-versions.

CB8-3A - for three channels
Ordering example:

- **IP protection:** 0 = Not defined
- **Colour:** 0 = RAL9005 Black
- **Current CH3:** N = Prepared for emergency stop
  0 = One or two channel version, CH3 not available
  z = Value between 2.0A & 6.0A in 1A increments
- **Current CH2:** 0 = One channel version, CH2 not available
  y = Value between 2.0A & 6.0A in 1A increments
- **Current CH1:** x = Value between 2.0A & 6.0A in 1A increments
- **Version:**
  A = Mounted with batteries (standard)
  B = Mounted with batteries and charging socket fitted
  M = Prepared for batteries
  Q = Prepared for batteries and charging socket fitted
- **Channels:**
  (N version max. 2 channels)
  1 = 1 CH
  2 = See opposite page
  3 = 3 CH

Max. connection of one 6 amp actuator to CB08003A.
Chargers to be ordered separately.
Battery kit to be ordered separately for M, Q-version.

Pls. note: It's only possible to charge CB0800xA, CB0800xM through HB4xA.
Dimensions CB8A with 2 channels:

Dimensions CB8A with emergency stop button + charging connection:
Dimensions CB8A with 3 channels:

Dimensions CB8A + charging connection:
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For mounting instructions and guidance in usage, please see the relevant user’s manuals.
Control Box CARELINE® Basic CB9
Data sheet
The CARELINE® Basic CB9 has been developed for use together with LA31 and LA34 in the Care & Rehab industry. CB9 and LA31 can be fully integrated thus saving mounting and wiring or they can be installed separately. Exchangeable mains cables, Electronic Overload Protection (EOP) and earth connection (Class 1) mains fuse makes CB9 a good choice for simple hospital and care beds. The CARELINE® Basic CB9 series is only available as an analogue (Ax) type. Consult the ordering example for a detailed description of the article number.

Features:

- Connection of max. 4 actuators, type LA31 and LA34 via 4-pole DIN sockets
- Extremely compact design
- Mains voltage: 230 V AC 50-60 Hz
- Output voltage 24V DC
- Protection class: IPX4 or X6 (not for wash tunnels)
- Colour: Grey or black
- DIN-socket for handsets HB40, HB70, DP or FS
- 3.2 m fixed straight mains cable
- EOP = Electronic Overload Protection * - AJ type CH1+2 (3.4A) and CH3+4 (7.0A) via common current cut-off
- Locking mechanism for DIN plugs and mains cable
- Electronic protection of the relays for extended lifetime, EAS (simple EAS).
- Double power control (FET + relay) monitoring on all AJ and K types.
- Class 1 or 2 protection
- External battery backup and internal charger; use notation A when ordering
- External battery backup (no internal charger); use notation B when ordering
- External battery backup (and internal charger); use notation C when ordering
- All functionalities are compatible with mains cut-off
- All functionalities short cut protection 15A

* Electronic Overload Protection
AJ: Means separate current measurement on CH1+2 and CH3+4. The current will be cut off when the total current on CH1+2 reaches approx. 3.4A and when total current on CH3+4 reaches approx. 7.0A.
AK: Means a common current measurement on all channels. The current will be cut off when the total current on all channels reaches approx. 7.0A.
Example of EOP: CH1 = 3A, CH2 = 4A = 7.0A in total.

Options (have to be stated separately):

- Can be mounted on the LA31
- 100V type can be ordered as a special article, 120V type, please refer to CB9 Careline

Usage:

- Duty cycle: Max. 10% or 2 min. continuous use followed by 18 min. not in use.
- Ambient temperature: +5° to +40°C
- Compatible with up to 4 actuators, type LA31 and LA34 via 4-pole DIN sockets
- Medically approved according to EN 60601-1/UL 60601-1
LA34 fast motor is not compatible with any standard versions of CB9, due to high current consumption. For use of LA34 standard motor and small motor always use a CB9 with EAS. Additionally, actuators with reed switch may not be connected to AD or AE types because of a conflict between the CB-signal wires and the reed wires!

**Various information:**

- It is possible to order blind plugs for CB9 CARELINE IPX6.

  Order number:
  
<table>
<thead>
<tr>
<th>Color</th>
<th>Bag of 100 pcs.</th>
<th>Singles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey</td>
<td>00931082</td>
<td>00931143</td>
</tr>
<tr>
<td>Black</td>
<td>00931081</td>
<td>00931142</td>
</tr>
</tbody>
</table>

  O-rings are not needed for these rubber plugs.

- It is also possible to order blind plugs for the external battery box outlet (for BA1800)

  Order number:
  
<table>
<thead>
<tr>
<th>Color</th>
<th>Singles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey</td>
<td>00918035</td>
</tr>
<tr>
<td>Black</td>
<td>00918034</td>
</tr>
<tr>
<td>O-rings</td>
<td>0007018</td>
</tr>
</tbody>
</table>

- When ordering a CB with mains cable the O-ring and locking ring are automatically included (to maintain the IP degree). When ordering a mains cable you only need to specify if the O-ring and / or locking ring are required.

  Order number:
  
<table>
<thead>
<tr>
<th>Component</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-ring</td>
<td>0007029</td>
</tr>
<tr>
<td>Locking ring</td>
<td>00912007</td>
</tr>
</tbody>
</table>
**CB9 CARELINE® BASIC**

Ordering example:

<table>
<thead>
<tr>
<th>CB9</th>
<th>2</th>
<th>6</th>
<th>0</th>
<th>AD</th>
<th>4</th>
<th>+</th>
<th>0</th>
<th>0</th>
<th>1A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**Mains cable:**

- **CARELINE Basic, LINAK connector, with earth:**
  - 1A = Straight, EU, angled mains-plug-end and straight CB-end: Black Grey 0015183 0015184
  - 1B = Coiled, EU, angled mains-plug-end and straight CB-end: Black Grey 0015191 0015198
  - 1D = Straight, UK, angled mains-plug-end and straight CB-end: Black Grey 0015275
  - 1F = Straight, USA, straight mains-plug-end and straight CB-end (not with mains cut-off): Black Grey 0015195
  - 1G = Straight, CH, straight mains-plug-end and straight CB-end: Black Grey 0015242
  - 1H = Straight, Aus, straight mains-plug-end and straight CB-end: Black Grey 0015241
  - 1J = Without cable

- **CARELINE Basic, non-detachable, without earth:**
  - 20 = Straight, EU, straight mains-plug-end and straight CB-end: Black Grey 0015262 0015295
  - 21 = Straight, CH, straight mains-plug-end and straight CB-end: Black Grey 0015542
  - 23 = Straight, UK, angled mains-plug-end and straight CB-end: Black Grey 0015504
  - 24 = Straight, Japan, straight mains-plug-end and straight CB-end: Black Grey 0015502
  - 25 = Straight, USA, straight mains-plug-end and straight CB-end: Black Grey 0015503
  - 27 = Straight, Aus, straight mains-plug-end and straight CB-end: Black Grey 0015505

- **CARELINE Basic, mains cut-off, non-detachable, without earth:**
  - 1F0 = Straight, EU: Black Grey 00WP039C00-00

- **CARELINE, mains cut-off, non-detachable, without earth:**
  - FA = Straight, EU: Black Grey 00WP39C00-0A

- **Mains voltage:**
  - 0 = CB9 trafo 230V

- **Fuse cover:**
  - 0 = No

- **Battery:**
  - 0 = No battery
  - A = Connection for external 24V battery and internal charger (not with mains cut-off)
  - B = Connection for external 24V battery (no internal charger)

- **Colour:**
  - + = Grey
  - - = Black

- **Channels:**
  - 1 - 4

- **Functionality:**
  - Without microprocessor (analog)
    - **Current cut-off**
      - AJ 3.4A on ch1 & 2 and 7.0A on ch3 & 4 X
      - AK 7.0A on all channels X
  - Not used: 0

- **Protection class:**
  - 4 = IPX4
  - 6 = IPX6

- **Plastic housing:**
  - 2 = CARELINE Basic wo/mains-indicator

- **Type:**
  - CB9

State separately if CB9 and LA31 must be mounted together.
BA1800 - External battery box
Ordering example:

BA18 0 0 - 0200 - 0 0 0

0 = Not used
0 = Not used
Cable type: 0 = Standard
1 = CB7 (Only IPX1, 700 mm)
- = Not used
Cable length: From 200 mm to 1300 mm with steps of 50 mm
- = Not used
IP Protection: 0 = IPX1
1 = IPX5
2 = IPX6
Colour: 0 = Black
1 = Grey
Type: BA18

An external charging device is not available as a standard article.
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