

## C4

Battery Based Actuator  
Control System

concens®



The C4 system is a versatile solution for the control of electric actuators. The unique design, strong power supply system and the option of controlling multiple actuators makes the C4 system ideal for use in various applications. Certified to medical standard (IEC60601-1).

The C4 system consists of:

- Controller
- Handset
- Battery
- Battery charger

The C4 solution is designed for optimal flexibility making configuration, programming and installation very easy. Additionally, service and replacement of e.g. batteries are extremely easy with the patented magnetic principle. No tools are required.

The C4 Controller is designed to handle up to four actuators in groups, synchronous or individually. It is controlled with a wired handset, which can be delivered in five different button layouts depending on customer needs. Furthermore, the C4 can be equipped with an external emergency stop.

The C4 system contains a rechargeable 24 VDC NiMH or Li-Ion battery, enabling the actuator solution to be fully mobile.

Standard C4 solution includes IP50 protection with IP65 protection available.

This datasheet is related to C4 firmware version 659 (v659) only.

## Features

- 4-channel fully programmable controller
- Battery powered for mobile use
- 24 VDC NiMH or Li-Ion replaceable battery
- Patented battery system
- Customized colors and foil design
- Wired handset
- Adjustable soft- start and stop
- Adjustable current limit in and out
- Adjustable calibration speed and current
- Adjustable virtual min/max-position
- Individual or synchronous operation for drive 2 - 3 - 4 or 2 + 2 actuator
- Audible and visual status signal
- Version certified according to IEC60601-1, ANSI/AAMI/ES60601-1, CAN/CSA-22.2 No60601-1 available (24 VDC only)

## Technical Data

Supply	24 VDC NiMH or Li-Ion battery
Idle current	< 5 mA
Current limit	8 A/ch max. total 12 A
Current trip delay	30 ms
Ramps	0 - 3 sec
Operating temp.	5 ... 40 °C
Connector type	Molex Mini-Fit 6 pin
Weight	Controller: 430 g NiMH Battery Charger: 430 g Li-Ion Battery Charger: 410 g Battery: 530 g (Li-Ion: 400 g)
Battery Capacity	NiMH: 1400 mAh Li-Ion: 2150 mAh

C4

## System Components



Controller



Brackets



Handsets



Customizable Foils



Battery Charger



Battery

## Electrical Connections



- ① Actuator 1
- ② Actuator 2
- ③ Actuator 3
- ④ Actuator 4
- ⑤ Handset,  
External Power  
Emergency Stop

## System Parameters

Concents C4 configuration tool V2.02

File Special functions

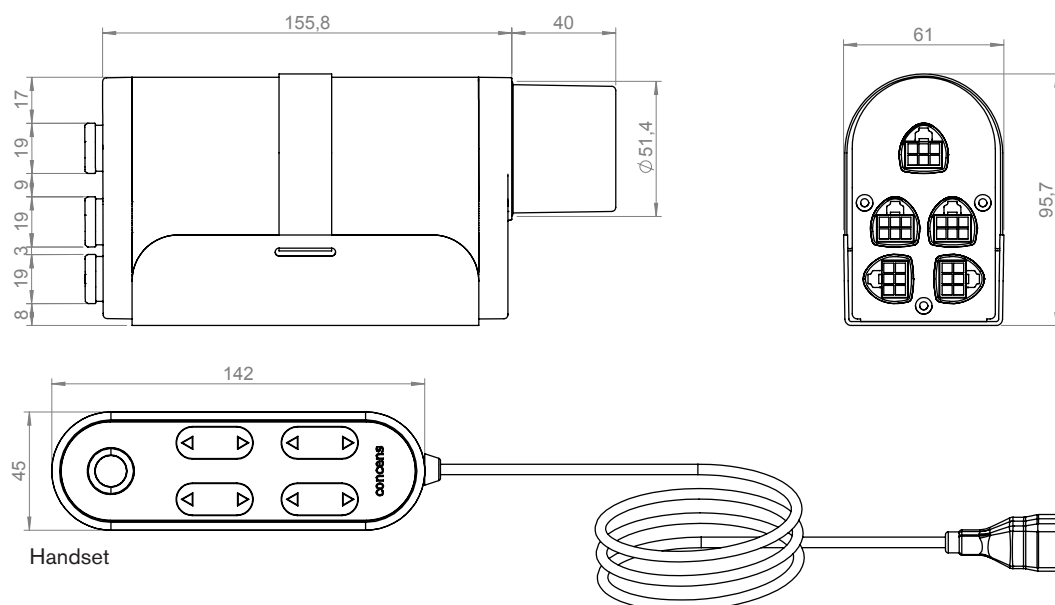
☒ Update Parameter: ComPort Project file: - Connect

Device Settings

Software rev: 00	Actuator 1	Actuator 2	Actuator 3	Actuator 4
Error code 00	Button Out 24 00	Button Out 24 00	Button Out 24 00	Button Out 24 00
Battery Voltage 00	Button In 21 00	Button In 21 00	Button In 21 00	Button In 21 00
PwrCycles 00	Start Ramp (Acc.) 0	Start Ramp (Acc.) 0	Start Ramp (Acc.) 0	Start Ramp (Acc.) 0
	Stop Ramp (Dec.) 0	Stop Ramp (Dec.) 0	Stop Ramp (Dec.) 0	Stop Ramp (Dec.) 0
Max Total current 10	Speed In 100	Speed In 100	Speed In 100	Speed In 100
Opr.Delay 0-10 0	Speed Out 100	Speed Out 100	Speed Out 100	Speed Out 100
Group 1 max dev. 200	Max Current In 180	Max Current In 180	Max Current In 180	Max Current In 180
Group 2 max. dev 200	Max Current Out 180	Max Current Out 180	Max Current Out 180	Max Current Out 180
	Virtual max 99999	Virtual max 99999	Virtual max 99999	Virtual max 99999
	Virtual min 0	Virtual min 0	Virtual min 0	Virtual min 0
	Calib. Speed % 80	Calib. Speed % 80	Calib. Speed % 80	Calib. Speed % 80
	Calib. Current 200	Calib. Current 200	Calib. Current 200	Calib. Current 200
	Sync Group 0	Sync Group 0	Sync Group 0	Sync Group 0
	Hall Sensors <input type="checkbox"/>	Hall Sensors <input type="checkbox"/>	Hall Sensors <input type="checkbox"/>	Hall Sensors <input type="checkbox"/>
	Current load 00	Current load 00	Current load 00	Current load 00
	Peak load 00	Peak load 00	Peak load 00	Peak load 00
	Current Spd 00	Current Spd 00	Current Spd 00	Current Spd 00
	Current Pos. 00	Current Pos. 00	Current Pos. 00	Current Pos. 00
	Current Pwr% 00	Current Pwr% 00	Current Pwr% 00	Current Pwr% 00
	Movements 00	Movements 00	Movements 00	Movements 00

RESET C4 Default Program

## Mechanical Dimensions

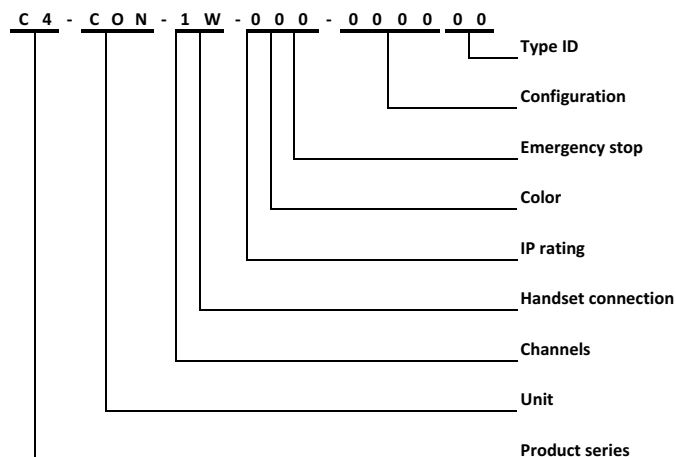


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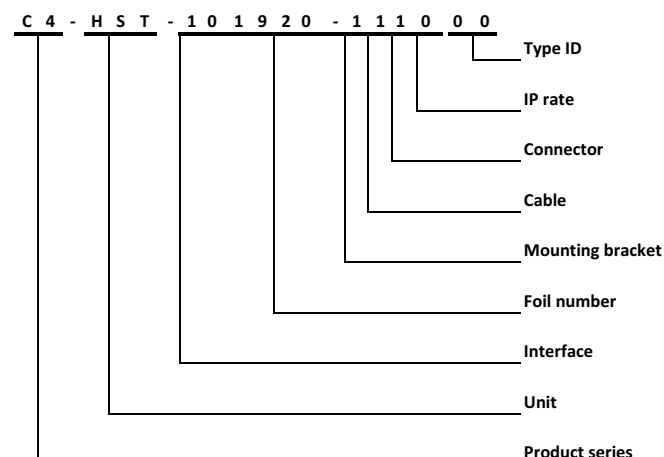


## C4 Item Number Combination

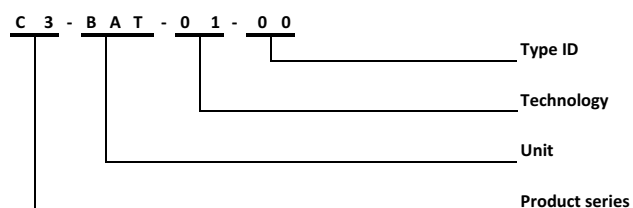
### Controller



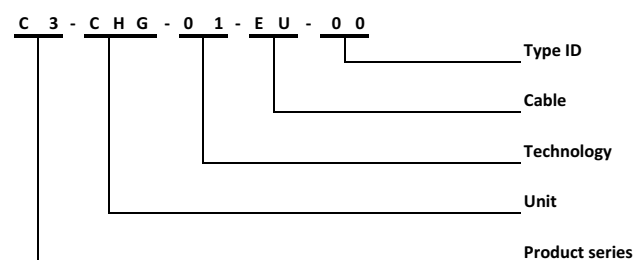
### Handset



### Supply



### Charger



## C4 Accessories

C4-PROG

**Programming-cable for the C4 controller**

C4-YCBL

**Splitter-cable for the C4 controller**

C4-YCBL-EMS

**Splitter cable for "Emergency Stop"**

C4-LOCK

**Clip for securing the C4 controller in the mounting bracket.**

## Recommendations and warnings

- If power is cut while actuators are travelling, the new position is not memorized. Hence calibration or learning must be performed to bring system back on track.
- To secure long lifetime of both NiMH and Li-ion batteries, we strongly recommend to recharge the batteries at least every 3 months.

## Disclaimer

- Concents products are continuously developed, built and tested for highest requirements and reliability but it is always the responsibility of the customer to validate and test the suitability of our products in a given application and environment. Concents products must not be used in safety critical applications.
- We do our utmost to provide accurate and up-to-date information at all times. In spite of that, Concents cannot be held responsible for any errors in the documentation. Specifications are subject to change without prior notice.

For more information, please visit our website at [www.concents.com](http://www.concents.com)

