

C-DIAS Current Output Module

CCO 042

The CCO 042 is a C-DIAS module used to control up to four valves.

The four output stages are short-circuit and overload protected.

The CCO 042 serves as the interface between the Sigmatek control and the module for the micro-dose valves. Here, fast digital outputs are needed (turn on/off delay <math>< 10 \mu\text{s}</math>).

The minimum control pulse is $50 \mu\text{s}$. The control signals must be simultaneous or switched with a defined offset (control such as CCO 041).



Technical Data

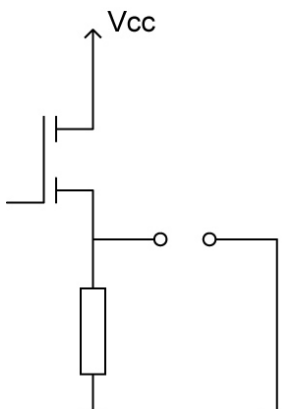
Digital output

Number of outputs	4
Supply voltage	18 – 30 V DC
Turn-on delay	< 10 μ s
Turn-off delay	< 10 μ s (up to 5 V)
Min. Turn-on time	50 μ s
Status display	4 x LED (yellow)
Typical load resistance	2.2 KOhm

Valve control unit specifications

Type	DCON
Valve control off	0 – 5 V
Valve control on	15 – 24 V
Internal valve control resistance	100 k Ω

Schematic diagram of the output



To prevent thermal problems, the temperature of the CCO 042 is controlled. At 120 °C (on the circuit board), the card is deactivated by the hardware.

Electrical requirements

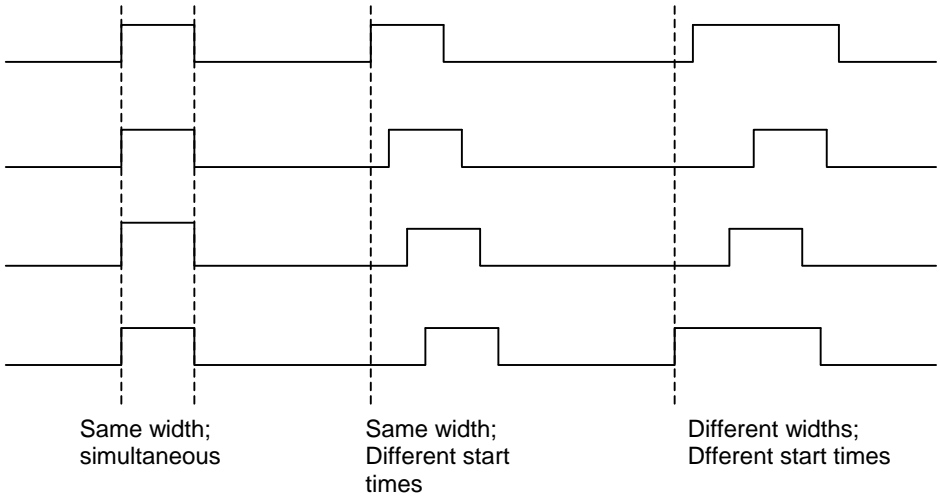
Valve control supply voltage	18 – 30 V	
Current consumption of the Valve control supply voltage	Typically 70 mA	Maximum 100 mA
Voltage supply from C-DIAS bus	+5 V	
Current consumption of C-DIAS bus (+5 V supply)	Typically 95 mA	Maximum 120 mA

Miscellaneous

Article number	12-030-042
Hardware version	1.x

Environmental conditions

Storage temperature	-20 – +85 °C	
Operating temperature	0 – +60 °C	
Humidity	0 - 95 %, uncondensed	
EMV stability	According to EN 61000-6-2:2001 (industrial area)	
Shock resistance	EN 60068-2-27	150 m/s ²
Protection Type	EN 60529	IP 20

Possible control signals

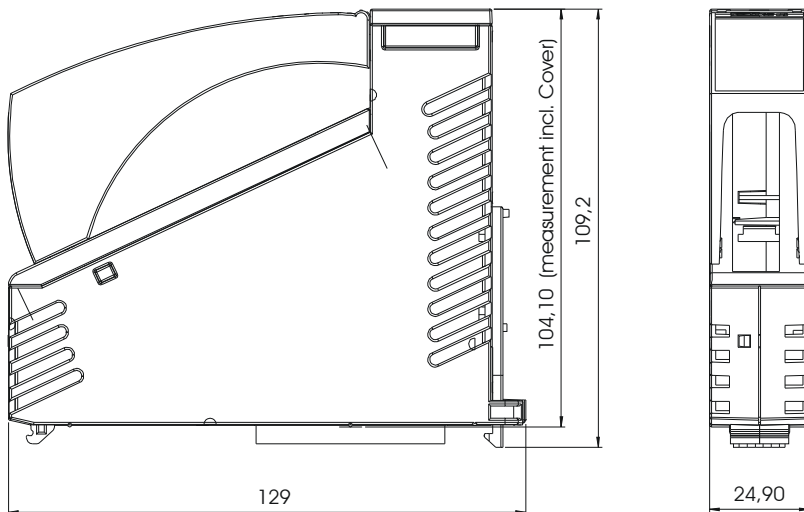
Same width;
simultaneous

Same width;
Dfferent start
times

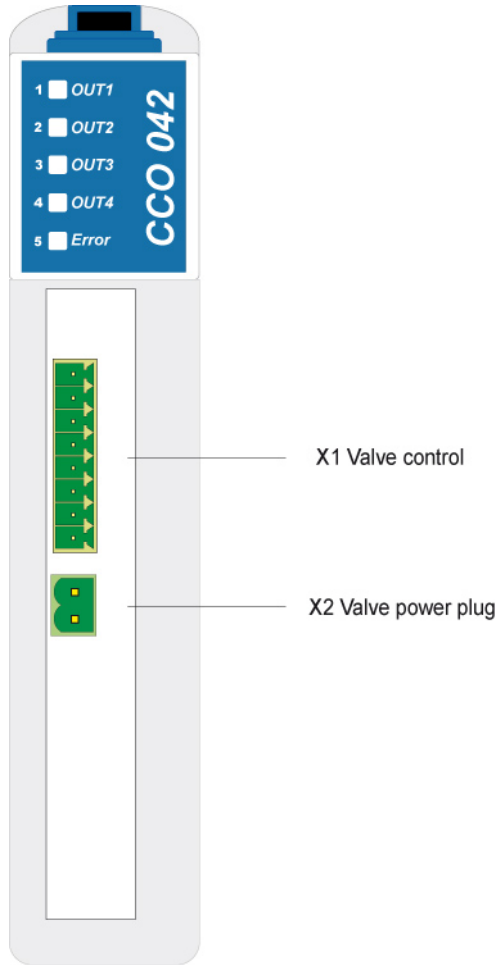
Different widths;
Dfferent start
times

!!!FPGA file is the same as the CCO 041!!!
The HW class must use the same access types as the CCO 041.
The function is also the same as the CCO 041.

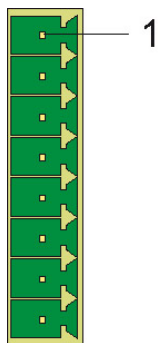
Mechanical Dimensions



Connector Layout



X1: Valve control



Pin	Function
1	DO1
2	GND
3	DO2
4	GND
5	DO3
6	GND
7	DO4
8	GND

X2: External supply



Pin	Function
1	24 V
2	GND

Applicable connectors

X1: 8-pin Phoenix plug FK-MCP1.5/8-ST-3.5

X2: 2-pin Phoenix plug FKC2,5/2-ST-5,08

The complete C-DIAS CKL 162 connector set is available from SIGMATEK under the article number 12-600-162.

Status Displays



LED-Nr.	LED color	Definition
1	Yellow	Output 1
2	Yellow	Output 2
3	Yellow	Output 3
4	Yellow	Output 4
5	Red	Error (supply control voltage monitor, temperature cut-off , CPU in reset)