

Setpoint adjuster

LED setpoint adjuster **Analogue signal output for mA or V, also time-controlled (DC)** **Codix 533**



The setpoint adjuster Codix 533 triggers a standard analogue signal or a freely programmable signal sequence from 0 ... 12 V or from 0 ... 24 mA.

The setpoint adjuster is a real innovation, opening up new application potentials in process technology and automation.



DIN 48 x 24	4 LED	DC	Menu-driven programming	IP65	-20° + 65°	mA, V	Galvanic isolation
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Innovative

- Function of a digital time controller with analogue output
- Manual functions with direct input or stepped incremental output of the setpoint
- 4-digit, 8 mm high top-quality LED display
- Physical variables output / 0 ... 12 V or 0 ... 24 mA analogue signals
- Units of display can be freely programmed and displayed – no conversion of the specified output value required
- Ideal for simulation runs without the need for expensive, time-consuming running-in of processes

Powerful

- Simpler to run processes than with a PLC or process controller
- Everything can be programmed easily by means of 2 keys and the text menu
- Digital setting - no additional DIP switches or potentiometers
- Display allows simple monitoring of the specified setpoint output
- User-friendly display form as direct digital value
- 3 separate functions integrated as standard in the Codix 533
- High accuracy of < 0.2% of the final value

Order specifications

Setpoint adjuster	6.533.012.300 ¹⁾	Delivery specification – Setpoint adjuster – Mounting clip / Gasket – Instruction manual, multilingual – 1 set of self-adhesive symbols	– Front bezel for screw mounting (T008181) 56 x 40 mm [2.20 x 1.57"], panel cut-out 50 x 25 mm [1.97 x 0.98"] – Front bezel for clip mounting (T008180) 53 x 28 mm [2.09 x 1.10"], panel cut-out 50 x 25 mm [1.97 x 0.98"]
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Accessories	Dimensions in mm [inch]	Order-No.
Adapter front bezel, 72 x 36 [2.83 x 1.42]	For cut-out 68 x 33 [2.68 x 1.30] to cut-out 45 x 22.2 [1.77 x 0.87], for counters 48 x 24 [1.89 x 0.94], as set	162704 Set
Adapter front bezel, 48 x 48 [1.89 x 1.89]	For cut-out 45 x 45 [1.77 x 1.77] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94]	T008883
Adapter front bezel, 60 x 50 [2.36 x 1.97]	For cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting and gasket for counters 48 x 24 [1.89 x 0.94]	N003001
Transparent cover, lockable, IP65	For cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]	N003002
Sealing cover type K1, IP65	Suitable for front bezel 60 x 50 [2.36 x 1.97], for screw mounting of electromech. counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	G008301
Mounting frame with cut-out 50 x 25 [2.36 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	G300004

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

1) Stock types

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Technical data

General technical data	
Display	4 digits, red 7 segment LED display; 8 mm [0.32"] high
Data backup	EEPROM
Operating temperature	-20°C ... +65°C [-4°F ... +149°F] (non-condensing)
Storage temperature	-25°C ... +85°C [-13°F ... +185°F]

Mechanical characteristics	
Housing	front panel mount 48x24 mm [1.89 x 0.94"] acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 50 g [1.76 oz]
Connections	screw terminal, pitch 5.08 mm [2"], 7 pin

Electrical characteristics	
Power supply	10...30 VDC, galvanically isolated with integrated reverse polarity protection
Power consumption	max. 1 W
Test voltage	500 V, 50 Hz, 1 min.
EMC	Emitted interference EN 55011 class B Immunity to interference EN 61000-6-2
Device safety	Designed to EN 61010 part 1 Protection class 2 Application area Pollution level 2

General information about the measuring inputs	
Current output	0 ... 24 mA, increment 10 µA load 20 mA: ≤ 500 Ohm > 20 mA: ≤ 400 Ohm
Voltage output	0 ... 12 V, increment 10 mV load ≥ 2 kOhm
Control input	HIGH 4 ... 30 V DC Hold (HIGH active) LOW 0 ... 2 V DC
Accuracy	< 0.2% of the full scale value ±0.02 %/K

3 operating modes programmable

Manual direct input (Setp)

- Fast adjustment and manual approach to the desired setpoint value.
- Setpoint value can be specified directly during operation via the keys in V or mA.
- Output of the value 3 seconds after the last key actuation.

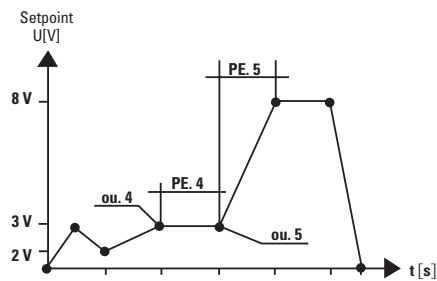
Manual ramping function (Man)

- Possibility of a stepped, incremental approach to the desired setpoint value using the keys on the front.
- Input of the minimum and maximum setpoint values and the increment by key actuation in the programming level.
- During operation the device starts with the minimum setpoint value – the right key is used to increase the value by the amount of the increment; the left key decreases the value.
- The programmed maximum value cannot be exceeded.

Automatic ramping function (Auto)

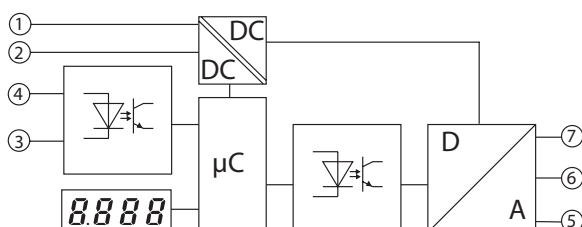
- Function of a digital time based controller with analogue output. Setpoint values can be programmed and carried out for process sequences, either cyclic or time dependent: irrigating, dosing, lubricating, filling, venting, mixing.
- With max. 20 current or voltage values.
- Cyclically limited (time) or unlimited.

Example of an automatic ramping function



Example with 8 points	
ou. 1	0 V
PE 1	5 s
ou.2	3 V
PE 2	5 s
ou. 3	2 V
PE 3	10 s
ou. 4	3 V
PE 4	10 s
ou. 5	3 V
PE 5	10 s
ou. 6	8 V
PE 6	10 s
ou. 7	8 V
PE 7	10 s
ou. 8	0 V
PE 8	5 s

Block diagram



Inputs

1	2	3	4
10 ... 30 V DC	GND_1	GND_2	Hold

Outputs

5	6	7
0 ... 24 mA (Iout)	GND_3	0 ... 12 V DC (Uout)

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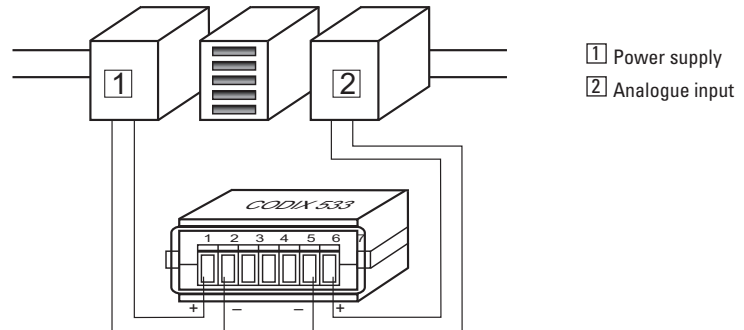
Terminal assignment

Inputs

1	2	3	4
10 ... 30 V DC	GND_1	GND_2	Hold

Outputs

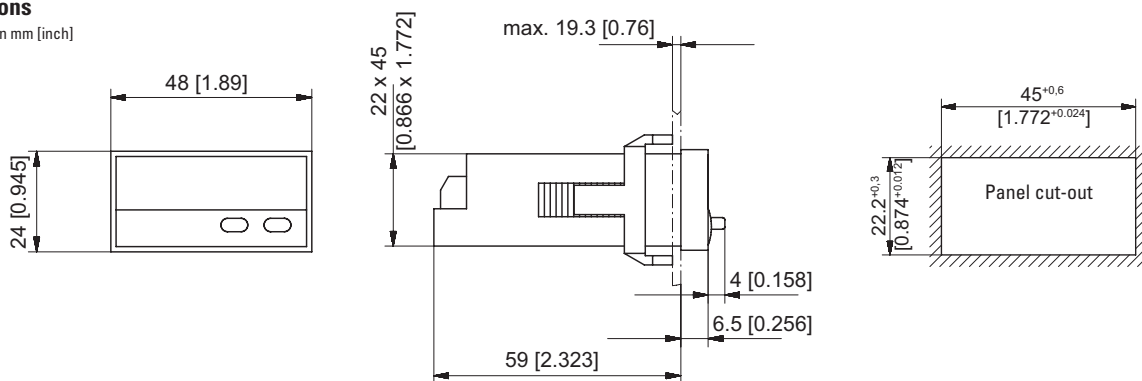
5	6	7
0 ... 24 mA	Analogue GND_3	0 ... 12 V DC



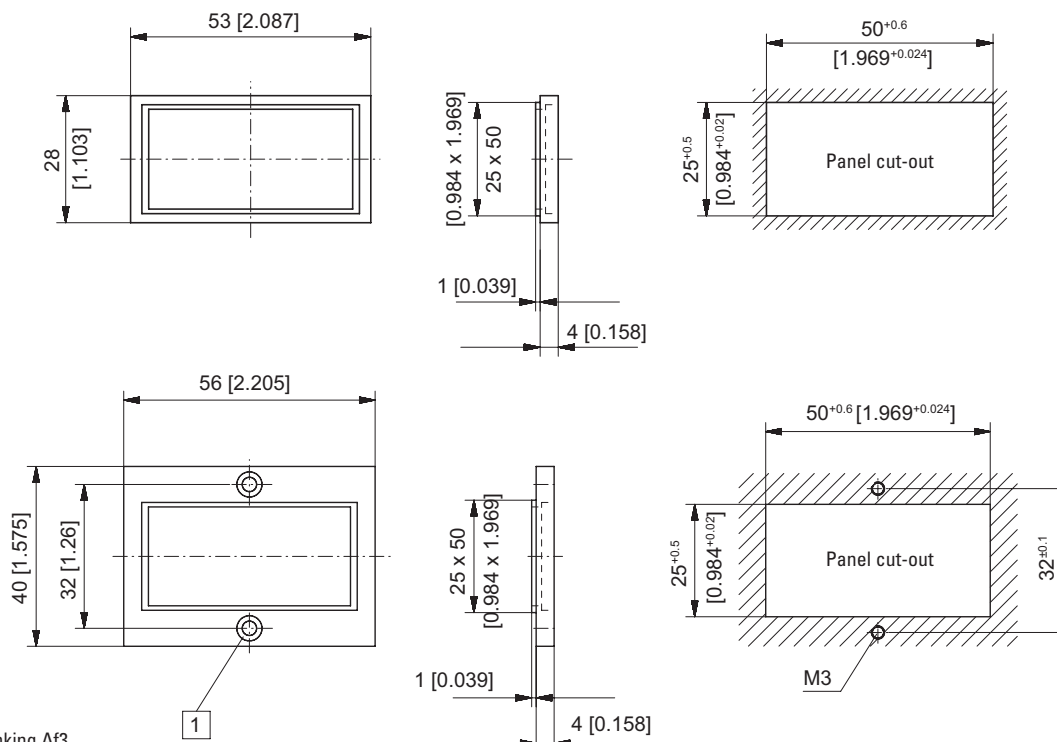
- 1 Power supply
- 2 Analogue input

Dimensions

Dimensions in mm [inch]



Front bezel



1 Countersinking Af3, DIN 74

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Areas of application / Applications

Simple control (fixed installation) in plants, machines and devices

Time-based ramping up or down of:

For use in set-up mode of plants, machines and devices

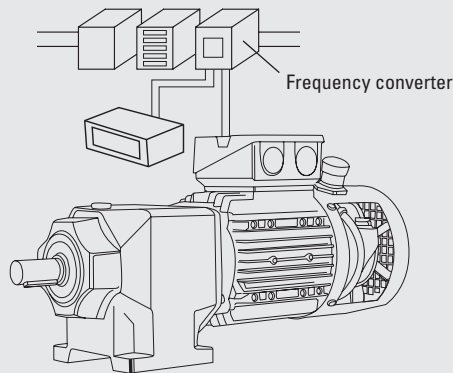
Manual (direct) specification or time-based or manual setting (ramping up or down) of:

Rotary speeds (e.g. frequency converter), flow rates, temperatures, positions, pressure and fill levels.
In short: all physical quantities that can be represented with analogue standard signals.

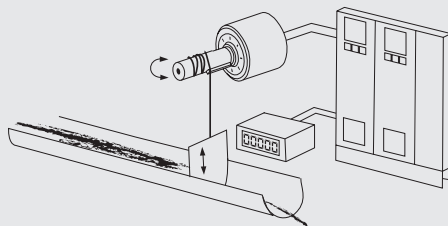
Applications

Simple time controller with analogue signal output

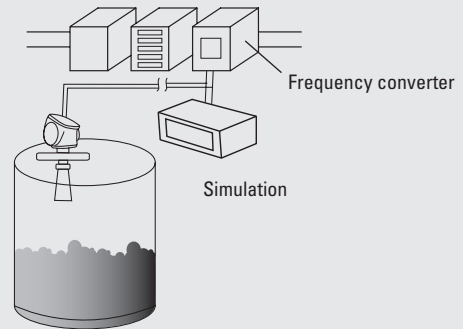
Commissioning, running-in processes or rotary speed control of motors through setpoint setting.



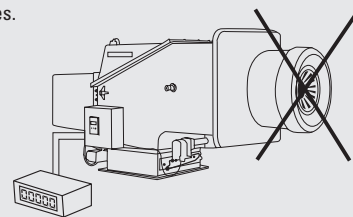
Control of simple, time-based processes by means of an analogue signal, e.g. ramping control for locks and sluices



Calibration of filling levels and flow rates: the setpoint adjuster simulates the output signals of a level or flow sensor for configuring a control.



Alignment for temperature-based processes without having to heat up the plant: the setpoint adjuster can simulate various processes for test purposes.



Solution with different modes

2 operating modes are provided for that purpose:

- Manual ramping function
- Automatic ramping function

The following operating modes are provided for that purpose:

- Manual direct input
- Manual ramping function
- Automatic ramping function

Advantages

Instead of using an expensive, complex and difficult-to-use PLC, our setpoint adjuster can handle this task as a standalone device. The user saves costs and the task can be performed in a flexible and quick way, even without any prior knowledge.

The setpoint adjuster simulates the sensor signal that is read by the physical process, e.g. the rise of the temperature, the filling of tank plants. Expensive and complex running-in of processes can be replaced with the simulation performed by the setpoint adjuster.

The output signal can be displayed directly or scaled in any desired unit.
The user always sees the exact progress.
An easy-to-use device with three selectable modes is available.