533K.2

Setpoint Generator/ Time Based Process Adjuster

FEATURES

- Function of a digital time controller with analog 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 in the form of 0 to 12 V or 0 to 24 mA analogue signals.
- Units of display can be freely programmed and displayed – no conversion of the specified output value required.
- High accuracy of < 0.1% of the final value.

RoHS c UL us -pending

COST-SAVING AND COMPACT:

- Ideal for simulation runs without the need for expensive, time-consuming running-in of processes.
- Processes become more cost-effective
- DIN 48 x 24 mm panel-mount housing with installation depth of only 59 mm.

USER-FRIENDLY:

- 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.
- Comfortable display form as direct digital value

DESCRIPTION

The set-point generator / adjuster 533k.2 triggers a standard signal or a freely programmable signal sequence from 0 ... 12 V or from 0 ... 24 mA The set-point generator / adjuster 533K.2 is a real innovation opening up new application potentials in process technology and automation. .

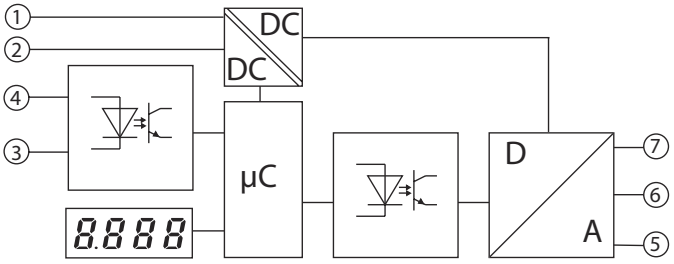
DIN front panel | 4 LEDs | Supply voltage | Menu text programming | High IP value | Temperature-range | Output

SPECIFICATIONS

Supply voltage:	10 ... 30 V DC, galvanically isolated with integrated protection against incorrect polarity
Power consumption:	max. 1W
Display:	4-digit display, red 7-segment LEDs; height 8 mm [0.35"]
Data backup:	EEPROM
Housing:	housing for control panel 48 x 24 mm [1.89 x 0.945"] accord. to DIN 43 700; RAL 7021, dark grey
Protection:	IP65 (front)
Operating temperature:	-20 ... +65 °C [-4 ... +149 °F]
Storage temperature:	-25 ... +85 °C [-13 ... +185 °F]
Conformity:	conforms to CE requirements acc. to the EC directive 89/36/EEC
EMC:	interference emissions EN 55011 class B interference resistance EN61000-6-2

Test voltages:	EN 61010-1, degree of soiling 2 and overvoltage category 2
Test voltage:	500 V, 50 Hz, 1 min.
Current output:	0 ... 24 mA, increment 10 µA load 20 mA up to ≤ 500 Ohm, > 20 mA up to≤ 400 Ohm
Voltage output:	0 ... 12 V, increment 10 mV load ≥ 2 kOhm
Control input Hold (high active):	High: 4 ... 30 V DC Low: 0 ... 2 V DC
Accuracy:	< 0.1 % of the terminal value ±0.01 %/K
Weight:	approx. 50 g [1.764 oz.]
Connections:	screw terminal, pitch 5.08 mm, 7 poles

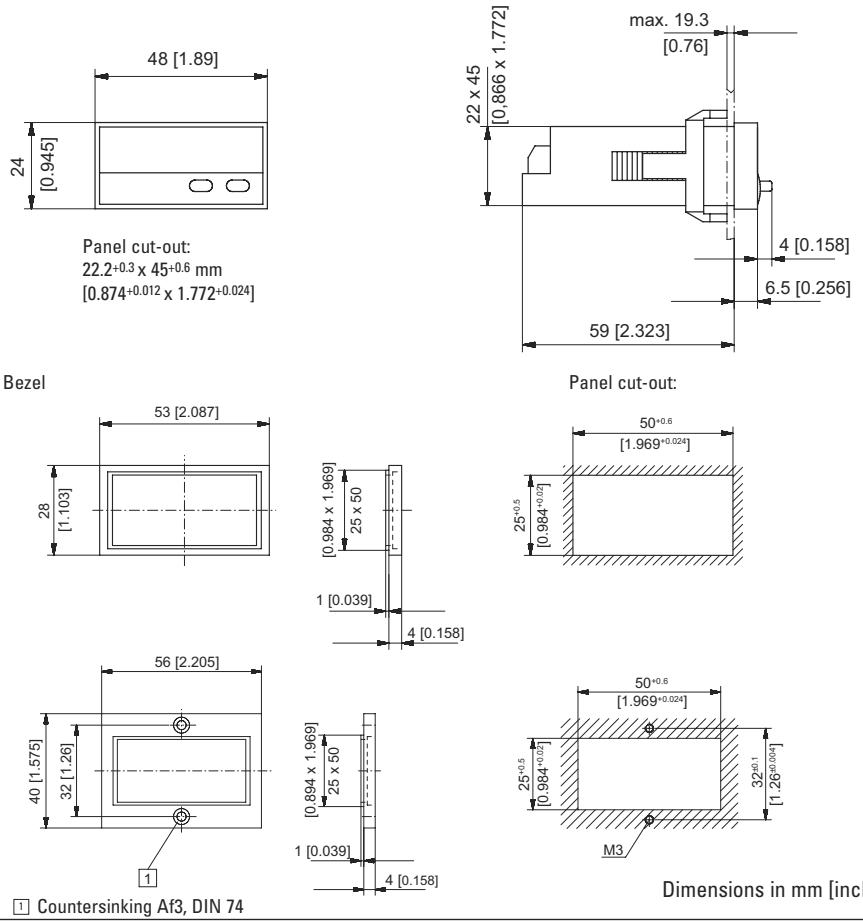
Block diagram:



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

Outputs
5: 0 ... 24 mA (I_{out})
6: GND_3
7: 0 ... 12 V DC (U_{out})

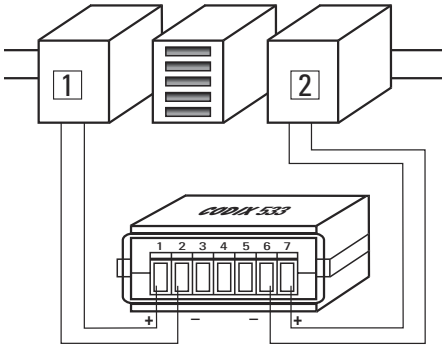
Dimensions:



1 Countersinking Af3, DIN 74

Terminal assignment:

1 10 ... 30 VDC	5 0 ... 24 mA
2 GND 1	6 Analog GND 3
3 GND 2	7 0 ... 10 V DC
4 Hold	



1 Power supply
2 Analogue input

Delivery includes:

Digital display
Panel mounting clip
Bezel for clip mount,
panel cut-out 50 x 25 mm [1.969 x 0.984“]
Bezel for screw mount,
panel cut-out 50 x 25 mm [1.969 x 0.984“]
Seal
1 set of self-adhesive symbols
Multilingual operating instructions

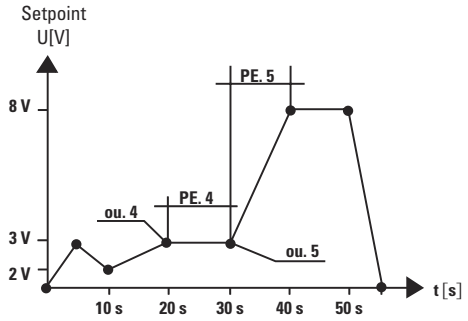
3 operating modes programmable

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

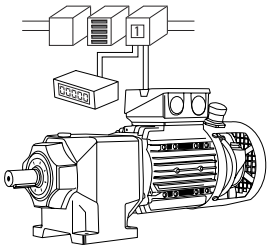
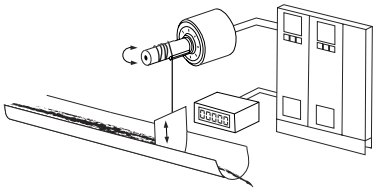
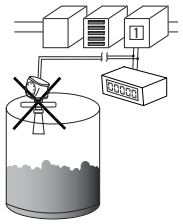
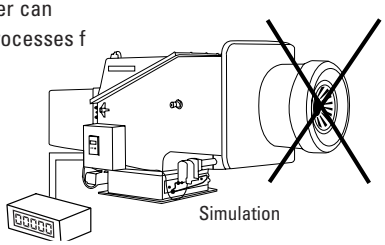
Manual ramping function (Man):
- Possibility of a stepped, incremental approach to the desired set-point value using the keys on the front.
- Input of the minimum and maximum setpoint values and the increment by key actuation in the programming level.
- During operation the device starts with the minimum 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

<table>
<tr><td rowspan="6">Applications:</td><td>Simple controller (fixed installations) in plant, machinery and equipment.</td><td>For use in setting up plant, machinery and equipment.</td></tr>
<tr><td>Time based or manual ramping up or ramping down of:</td><td>Manual (direct) input or time based/manual set-up (ramping up or ramping down) of:</td></tr>
<tr><td colspan="2">Rotary speeds (e.g. frequency inverters), flow rates, temperature, position, pressure, level, i.e. all physical variables that can be displayed via analogue signals)</td></tr>
<tr><td>Simple time-switch with analogue output</td><td></td></tr>
<tr><td>Starting and running-in or speed control of motors via setpoint specification
 
1 frequency inverters
Control of simple time-dependent processes by means of an analogue signal, e.g. ramping control for locks and sluices, flow valves etc..
  </td><td>Calibration of fill levels and flow rates: the setpoint adjuster simulates the output signals of a level or flow sensor for configuring a PLC.
 
Simulation
Adjustment of temperature-dependent processes, without the need to heat up the plant. Plant commissioning: the setpoint adjuster can simulate various processes f or test purposes.
 
Simulation</td></tr>
<tr><td>Solution with various modes:</td><td>To do this 2 selectable operating modes are provided</td><td>To do this, the following operating modes are provided</td></tr>
<tr><td></td><td>- Manual ramping function
- Automatic ramping function</td><td>- Manual direct input
- Manual ramping function
- Automatic ramping function</td></tr>
<tr><td rowspan="3">Benefits:</td><td>Our Setpoint Adjuster can undertake this task as a stand-alone device, instead of having to use an expensive, complex, difficult-to-programme PLC. The user saves on costs and the job can be carried out quickly and flexibly – without specialised training being necessary.</td><td>The Setpoint Adjuster simulates the sensor signal, which detects the physical process, e.g. ramping up of temperature, filling of tanks. The expensive, time-consuming running-in of processes can be eliminated by using the Setpoint Adjuster to simulate the function.</td></tr>
<tr><td colspan="2">The output signal can be displayed directly or can be scaled to any desired engineering unit. The user can see exactly what is happening at that particular moment in time.</td></tr>
<tr><td colspan="2">An easy-to-programme controller with three selectable modes is available.</td></tr>
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