

CODIX 529

Ordering code: 6.529.012.300

1.1 Safety instructions and warnings

Only use this display



- in a way according to its intended purpose
- if its technical condition is perfect
- adhering to the operating instructions and the general safety instructions.

1.2 General safety instructions

1. Before carrying out any installation or maintenance work, make sure that the power supply of the digital display is switched off.
2. Only use this digital display in a way according to its intended purpose: If its technical condition is perfect. Adhering to the operating instructions and the general safety instructions.
3. Adhere to country or user specific regulations.
4. The digital display is not intended for use in areas with risks of explosion and in the branches excluded by the standard EN 61010 Part 1.
5. The digital display should only operate if it has been correctly mounted in a panel, in accordance with the chapter "Technical features".

1.3 Use according to the intended purpose

The digital display may be used only as a panel-mounted device. Applications of this product may be found in industrial processes and controls, in manufacturing lines for the metal, wood, plastics, paper, glass, textile and other processing industries.

Over-voltages at the terminals of the digital display must be kept within the limits in Category II.

If the digital display is used to monitor machines or processes in which, in case of a failure of the device or an error made by the

operator, there might be risks of damaging the machine or causing accidents to the operators, it is your responsibility to take appropriate safety measures.

1.4 Description

- 5-digit digital display with analogue inputs
- LED-Display with 8 mm high characters and very high luminosity
- Display range -19999...99999 with leading zero blanking
- Programming of functions and operating parameters via the two setting keys. During programming the display guides the user with text prompts.
- Programmable features:
 - Range
 - Max. value display yes/no
 - Max. value reset yes/no
 - Min. value display yes/no
 - Min. value reset yes/no
 - Decimal point
 - Min. input signal
 - Displayed value at min. input signal
 - Max. input signal
 - Displayed value at max. input signal

2. Inputs

LATCH (Connect 4)

Static input freezing the displayed value. If this input (pnp) is supplied with 4...30 V DC the actual value is frozen until the input is released or the signal level gets below 2 V DC. The calculating of max. and min. value is not affected.

CURRENT INPUT (Terminal 5)

Analogue current input with reverse connection protection and current limitation to max. 50 mA. Connect the signal line with the analogue + signal with this input.

4.4 Min. value display

Min. value display

4.55

Min. value can be displayed

no

Min. value will not be displayed, next menu item is skipped

4.5 Min. value reset

Min. value reset

4.55

Min. value can be reset by pressing the red button (current value becomes new min. value).

no

Min. value cannot be reset.

4.6 Decimal point

Decimal point

0

The decimal point indicates the number of decimal places.

0.0000

0 no decimal place
0.0 one decimal place
0.00 two decimal places
0.000 three decimal places
0.0000 four decimal places

4.7 Min. input signal (only if input signal range is 4...20 mA or 2...10 V)

This menu item allows a limitation of the display range (refer to 4.9 and 9.4)

Min. input signal

a) 0.4000

If, with the input range 4...20 mA, the input signal level becomes smaller than this value, the display shows „lo“.

2.0000

b) 2.0000

If, with the input range 2...10 V, the input signal level becomes smaller than this value, the display shows „lo“.

1.0000

4.8 Displayed value at min. input signal

Displayed value at min. input signal

-99999

A corresponding display value between -19999 and 99999 can be assigned to the lowest input signal. The decimal point position is considered.

99999

4.9 Max. input signal (only if input signal range is 4...20 mA or 2...10 V)

This menu title allows a limitation of the display range (refer to 4.7 and 9.4)

Max. input signal

a) or b) is selected depending on the chosen input range

a) 0.4000

If, with the input range 4...20 mA, the input signal level exceeds this value, the display shows „hi“.

2.0000

b) 2.0000

If, with the input range 2...10 V, the input signal level exceeds this value, the display shows „hi“.

1.0000

4.10 Displayed value at max. input signal

Displayed value at max. input signal

-99999

A corresponding display value between -19999 and 99999 can be assigned to the highest input signal. The decimal point position is considered.

99999

4.11 End of programming

End of programming

no

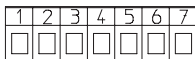
Programming routine will be passed through once again. All parameters can be checked.

4.55

Programming routine will be left and the new parameters will be stored. Afterwards the device is ready to use.

5. Connections

- 1 10–30 VDC
- 2 GND
- 3 GND
- 4 LATCH
- 5 0 (4)–20 mA
- 6 Analogue GND
- 7 0 (2)–10 V DC



6. Technical data

Display: 5-digit 7-segment red
LED-Display,
8 mm high characters

Range of input signals

- 0...10 V DC
- 2...10 V DC
- 0...20 mA
- 4...20 mA

Resolution: 14 bits

Linearity: < 0.1% ± 1 digit at an ambient temperature of 20°C

Zero adjustment: automatic

Temperature drift:

<70ppm/K

Measuring rate: 0.5 measurement/sec
2 measurements/sec

Current measurement:

Voltage drop:
max. 2.0 V at 20 mA
Current limitation: 50 mA

Voltage measurement:

Input resistance: >1 MΩ
Max. voltage: 30 V

Elimination of power line hum:

digital filter at 50 Hz

Supply voltage: 10...30 VDC,
galvanically isolated

Current consumption:

max. 50 mA

Ambient temperature:

-10°C...+50°C

Storage temperature:

-25°C...+70°C

Data retention: via EEPROM 1 Million of
memory cycles or 10 years

Weight: approximately 50 g

Protection: IP65 (front)

EMC:

Noise emission: EN 55011 Class B

Noise immunity: EN 61000-6-2

Cleaning:

The front of the unit is only to be cleaned with a soft wet (water!) cloth.

Error messages:

Err 0* A/D section error/defect
Err 3* EEPROM error/defect
Err 4** Analogue input exceeds the
measuring range
Err 5* EEPROM error/defect.
Device not calibrated

* Please send the device back for checking

** Please check input signal and programming

7. Delivery includes

- Digital display with analogue inputs
- Panel mounting clip
- Bezel for screw mount, panel cut-out
50 x 25 mm
- Bezel for clip mount, panel cut-out 50 x 25 mm
- Sealing
- Tack dry symbols

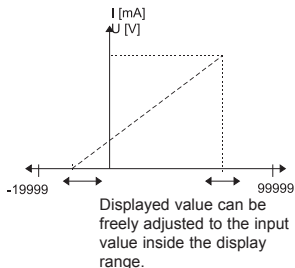
8. Examples

8.1 Temperature measurement

A temperature sensor with linear characteristic (non-linear sensors, e.g. thermocouples have to be linearised) supplies 0 V at -10°C and 10 V at 80°C.

0...10 V is chosen as input range.

Assign -10 as „displayed value at min. input signal“ to the lowest input level (0 V) and 80 as „displayed value at max. input signal“ (10V). The device is now tuned to the sensor, intermediate measurement values and their corresponding display values can be calculated.



8.2 Level measurement

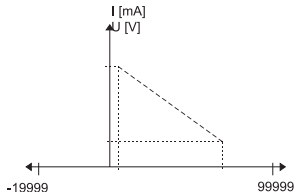
A level sensor with linear characteristic (non-linear sensors have to be linearised) supplies 19 mA at full tank and 5 mA at empty tank. If the tank is filled up, 10 m^3 should be displayed and if the tank is empty 0 m^3 should be displayed. $4 \dots 20 \text{ mA}$ is chosen as input range.

Assign 0 as „displayed value at min. input signal“ to the lowest input level (5 mA) and 10 as „displayed value at max. input signal“ (19 mA). The device is now tuned to the sensor, intermediate measurement values and their corresponding display values can be calculated.

8.3 Drawn quantity

Instead of the level, the drawn quantity should be displayed.

Again $4 \dots 20 \text{ mA}$ is chosen as input range. Assign 10 as „displayed value at min. input signal“ to the lowest input level (5 mA) and 0 as „displayed value at max. input signal“ (19 mA).

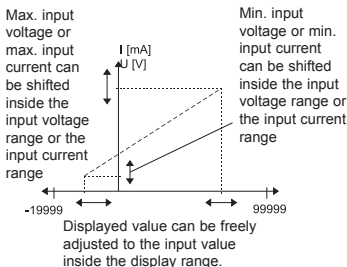


8.4 Level measurement with limited display range

A third example is level measurement with limited display range, that means a tank with 10 m^3 have to be filled up at best to 8 m^3 and its level should not decrease below 1 m^3 . At values $> 8 \text{ m}^3$ the display is to show „hi“ and at values $< 1 \text{ m}^3$ the display is to show „lo“. $4 \dots 20 \text{ mA}$ is chosen as input range.

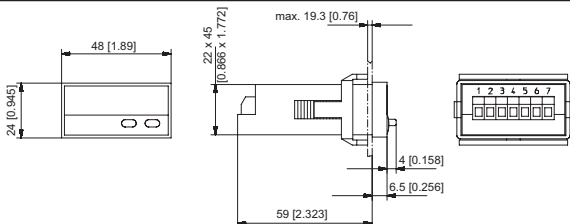
Assign 0 as „displayed value at min. input signal“ to the lowest input level and 10 as „displayed value at max. input signal“ to the highest input level.

Additionally, program for menu item „min. input signal“, the value of which corresponds to the 1 m^3 level, e.g. 5.6 mA. Do the same for menu item „max. input signal“ with the value which corresponds to the 8 m^3 level, e.g. 16.8 mA. At input levels $> 16.8 \text{ mA}$ „hi“ will be displayed and at input levels $< 5.6 \text{ mA}$ „lo“.



10. Abmessungen/Dimensions/Dimensions/Dimensioni/Dimensiones

Maße in mm [inch]/Dimensions in mm [inch]/Cotes en mm [inch]/Dimensioni in mm [inch]/
Cotas en mm [inch]



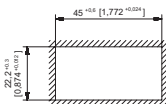
Schalttafelanschluss/
Front panel cut-out:

Découpe d'encastrement :

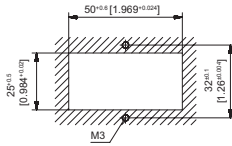
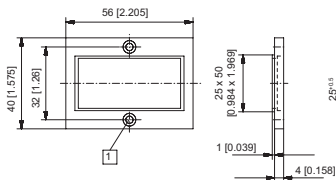
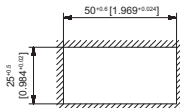
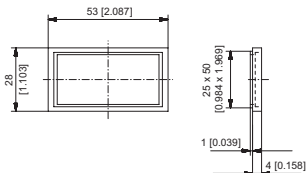
Misure d'incastro:

Recorte de cuadro de mando:

22,2^{+0,3} x 45^{+0,6} mm



Einbaurahmen/Bezel/Cadre de montage/Telaio di fissaggio/Marcos para encastrado



1 Senkung Af3, DIN 74
Countersinking Af3, DIN 74
Fraisure Af3, DIN 74
Svasatura Af3, DIN 74
Fresado Af3, DIN 74



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