Baumer
Passion for Sensors

Operating Manual

NE1218

Multifunction display

EN-US

V1 | 2/7/2024

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List of illustrations

1 About this document

1.1 Purpose and scope of application

This document enables safe and efficient sensor parameterization using various interfaces. The manual describes the available functions to support installation and software use via the interfaces.

The illustrations are examples only. Deviations are at the discretion of Baumer at all times. The manual is a supplementary document to the existing product documentation.

1.2 Applicable documents

- Available for download at www.baumer.com:
  - Data sheet
  - Functional and interface description
  - EU Declaration of Conformity
- Attached to product:
  - Quickstart
  - General information sheet (11042373)

1.3 Labels in this manual

Identifier	Usage	Example
Dialog element	Indicates dialog elements.	Click the ***OK*** button.
Unique name	Indicates the names of products, files, etc.	*Internet Explorer* is not supported in any version.
`Code`	Indicates entries.	Enter the following IP address: `192.168.0.250`

1.4 Warnings in this manual

Warnings draw attention to potential personal injury or material damage. The warnings in this manual indicate different hazard levels:

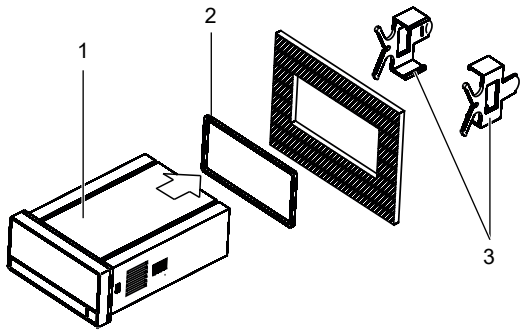
Symbol	Warning term	Explanation
	**DANGER**	Indicates an imminent potential danger with high risk of death or serious personal injury if not being avoided.
	WARNING	Indicates potential danger with medium risk of death or (serious) personal injury if not being avoided.
	CAUTION	Indicates a danger with low risk, which could lead to light or medium injury if not avoided.
	NOTE	Indicates a warning of material damage.
	**INFO**	Indicates practical information and tips that enable optimal use of the devices.

2 General functionality

The multifunction display is intended for visualizing, monitoring, control and calculation of measured values in industrial applications.

- For universal counting inputs
- For tachometer and frequency
- Display range can be linearized
- Three control inputs, programmable
- Display of stabilization filter
- LED display, 5-digit, 3 colors, programmable
- Min, Max function
- DIN housing 96 x 48 mm

3 Mounting the multifunction display



Instruction:

a) Prepare the cut-out according to the dimensions.

b) Push device (1) with seal (2) into the cut-out.

c) Secure the device from behind using the clamping frame (3).

d) Perform the electrical connection.

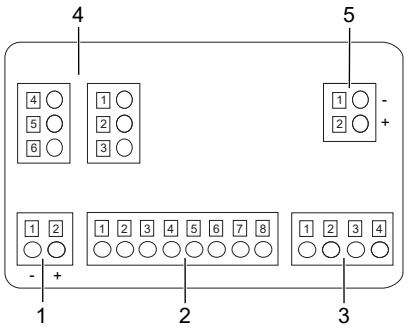
4 Connecting the multifunction display to electricity

Instruction:

a) Make sure the device is disconnected from power supply and not live.

b) Connect the device according to the pin assignment.

Pin assignment (at rear)



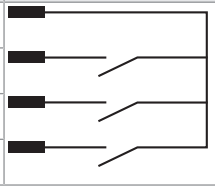
Operating voltage (1)

Pin	VAC	VDC
1	Phase	-
2	Neutral	+

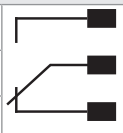
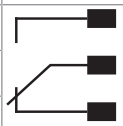
Input signal (2)

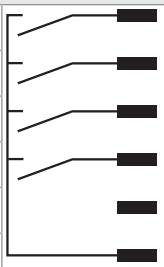
Pin	
1	n.c.
2	Sensor supply +20V
3	Sensor supply +8.2V
4	Sensor supply- / IN-
5	Track B +
6	Track A +
7	n.c.
8	Input 10-300 VAC

Control input (3)

Pin		
1	Common	
2	IN1	
3	IN2	
4	IN3	

Relay outputs (4), optional

Pin	Two relays	
1	normally closed 1	
2	Inverter 1	
3	normally open 1	
4	normally closed 2	
5	Inverter 2	
6	normally open 2	

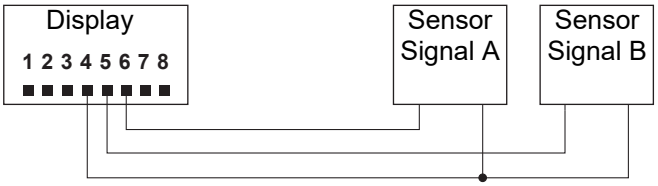
Pin	Four relays	
1	normally closed 1	
2	normally closed 2	
3	normally closed 3	
4	normally closed 4	
5	n.c.	
6	Common	

Analog output (5), optional

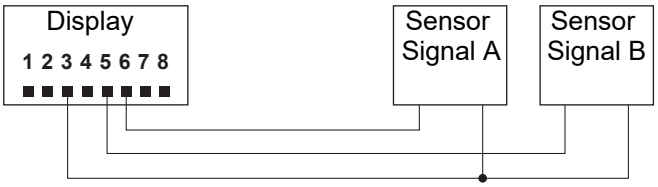
Pin	
1	(-) 4...20 mA / 0...10 V
2	(+) 4...20 mA / 0...10 V

4.1 Connection examples

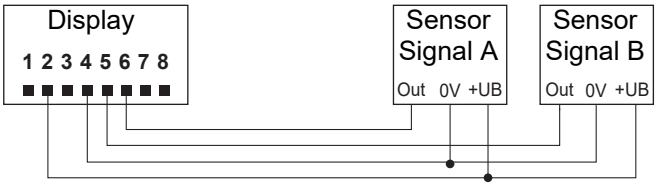
Magnetic sensor



NAMUR-Sensor

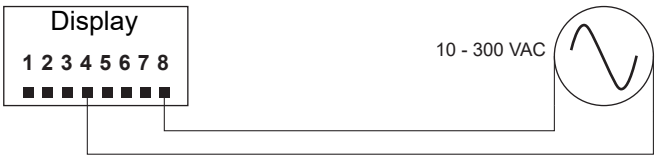


Sensor PNP/NPN



Encoder PNP/ NPN

Contact input NPN



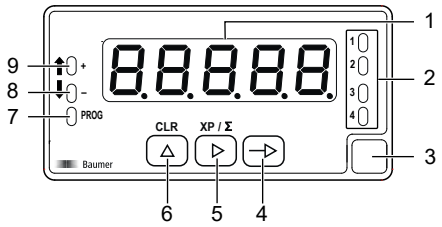
5 Interfaces

This section describes the interfaces via which you can communicate with the device.

All functions can be set directly on the device via the display and the membrane buttons.

5.1 LED indicator

The device's LED display makes it easy to operate and monitor measured values.



After power on the device is in **RUN** mode. The current value (actual value) is displayed.

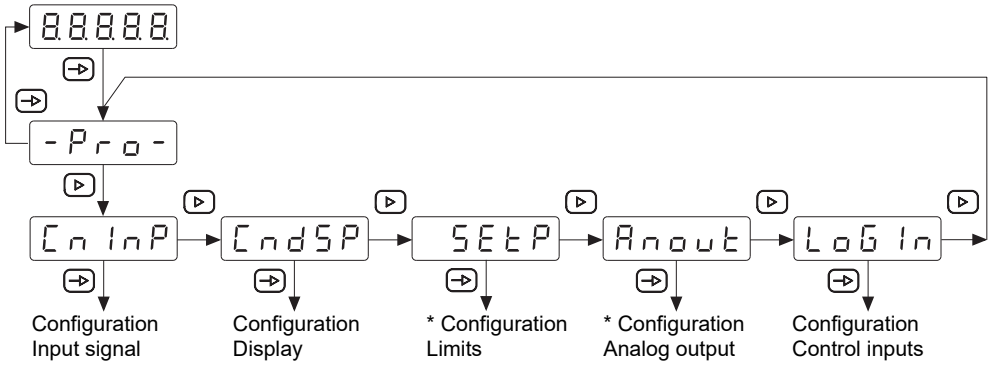
Mode **PROG** enables the entire device configuration.

No.	Designation	Function in mode	
		RUN	**PROG**
1	Display	5-digit LED display	
2	LED 1 to 4	Output 1 ... 4 active	
3	Label	Position for unit sticker	
4	Button ⊣▷	Call mode **PROG**	Programming line selection
5	Button ▷	Display as totalizer and time/ hour counter	Digit/Function selection
6	Button △	Reset	Incrementing the selected digit
7	LED PROG		Programming mode active
8	LED -	Counter - Tachometer direction -	
9	LED +	Counter + Tachometer direction +	

Mode PROG (programming mode)

The programming mode allows the entire configuration of the multifunctional display. It comprises several modules:

- Input signal configuration
- Configuration of the display
- Limit value output configuration
- Analog output configuration
- Control input configuration



Ill. 1: Block diagram of the configuration modules

* As an option, according to product variant (see data sheet)

Programming procedure

Instruction:

a) Press ⇨ to have -Pro- appear on the display as initial view of the programming level.

b) Select the required configuration module with button ▷. The individual modules provide short descriptions. (`CnInP`, `CndSP`, etc.).

c) Confirm selected module with ⇨ and start parameterization of the desired functions using buttons ⇨, ▷ and △. Having confirmed the final parameter, -Pro- appears again on the display. Press button ⇨ to select another configuration module or to exit the programming level.

Result:

✓ StorE appears briefly on the display and parameterization is being saved.

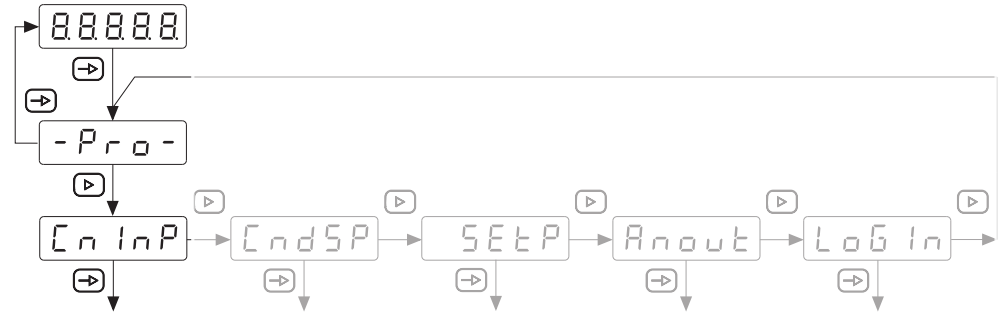
NOTICE

Access to programming can be blocked at programming level. The various programming lines can then only be visualized but not changed. When entering the programming level, dAtA then appears instead of -Pro-.

6 Operating functions

6.1 Configuration of inputs and count mode

This function is used to configure the input signal.



Configuration
Input signal

CnInP Select the input signal type with ▷ I.

- -1- Voltage 10 to 300 VAC – 1 specific input
- -2- Magnetic sensor
- -3- Namur sensor
- -4- PNP sensor
- -5- NPN sensor
- -6- Inputs 2x90° TTL or HTL
- -7- Contact input NPN

Confirm with .

Operating mode

ModE Use button ▷ to select the operating mode.

- Count Pulse counter
- CHron Hour counter
- FrEC Frequency meter
- tACH Tachometer

Confirm with .

6.1.1 Operating mode pulse counter

Count

Use button ▷ to select the count mode.

- UP Adding
- do Subtracting
- UPdo Adding / subtracting

Confirm with →.

Counting method [UP] or [do]

Use button ▷ to select the counting direction.

- In A Track A: Count input
- In Ab Track A: Count input
  Track B : Stop input if enabled

Confirm with →.

Count mode [UPdo]

Use button ▷ to select the counting direction.

- IndEP 2 tracks A - B
- dLrEC Count input A + counting direction B
- PHASE Track A 90° B

Confirm with →.

6.1.2 Operating mode hour counter

CHron

Use button ▷ to select the operating mode.

- In A Counting while track A is active
- In Ab Counting operation is started via track A and stopped via track B.
  Track A and B edge-triggered

Confirm with →.

Use button ▷ to select the presentation on the display.

- Hr 99999 hours
- HMn 999 hours 59 minutes
- nSS 999 minutes 99 seconds
- 0.01-S 999.99 seconds

Confirm with →.

UPdo Use button ▷ to select the counting direction.

UP Adding

do Subtracting

Confirm with →▷ .

6.1.3 Operating mode frequency meter

dECP Use button ▷ to select the measuring range.

88.88 Max. 999.99 Hz to min. 0.01Hz

Max. 9 999.9 Hz to min. 0.1Hz

Max. 10 000 Hz to min. 1Hz

Confirm with →▷ .

6.1.4 Operating mode tachometer

Tachometer is automatically in operating mode:

- Count mode = *UPdo*
- Counting direction = *PHASE*; if used with track A only, connection of input B not required

tACH Use button ▷ to select the operating mode.

rPM Angular speed [revolutions per minute]

rAtE Speed ratio

dUt4 Duty cycle - PWM function

Confirm with →▷ .

The content of the following programming lines depends on the programmed display mode.

Angular speed

Display of speed, linear speed or cadence.

rPM Number of pulses per unit displayed

PPr Configurable from 1 to 99999 for speed display in rpm or m/min, cadence in strokes/min.

00001

---

dECP Decimal digits

88.88 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →▷ .

Value *PPr* corresponds to the number of pulses generated per display unit: revolutions, meters, etc. as required.

Example: Displaying the rotation speed of a shaft connected to an encoder that delivers 500 pulses/revolution. The display unit revolutions per minute means total of pulses per display unit = 500.

Speed ratio

Programming of the display range that establishes the relationship between displayed values and input frequency.

rAtE Use button ▷ to select the scaling type.

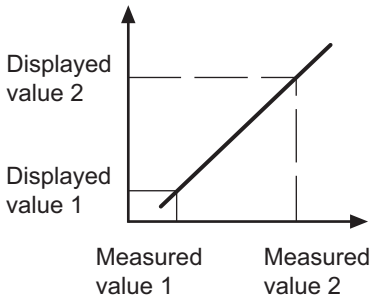
dLr Direct scaling - ascending

InU Inverse scaling - descending

LIn Scaling with 2 known interpolation points

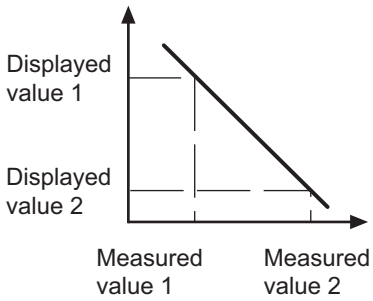
Confirm with ⇥ .

Direct scaling



The display value increases with the input frequency, e.g. to display an hourly production rate.

Inverse scaling



The values displayed decrease with the input frequency, e.g. to show throughput time in a cooking tunnel.

In these 2 modes, the display range is passing the point input frequency = 0 Hz.

Scaling [dLr] or [InU]

InP	Programmable from 1 to 9999
0001	
0000.0	Decimal point of input frequency value Decimal point position in the previously programmed input frequency.
dSP	Displayed value
00000	The value entered here will be displayed upon the input signal reaching the measured value. Ranging from -19999 to 19999
0000.0	Decimal point in the displayed value Decimal point position for the previously programmed display value.

Example of direct scaling:

To be displayed is production output per hour of a punching press producing 2 parts with every stroke. An encoder generating 500 pulses per revolution is attached to the handwheel of the press.

At nominal speed, the press completes 1 stroke per second:

- 1 stroke of the press would generate 500 imp/sec.
- At this speed, the hourly output is 2 (pieces) x 3600 (sec) = 7200 pieces/hour

Programming:

- Display range = Direct
- InP = 500
- dSP = 7200

Example of inverse scaling:

To be displayed is the baking time in the oven. An encoder with 50 pulses per revolution is attached to the drive wheel of the conveyor.

At nominal speed, the cycle time through the oven is 75 s at a wheel speed of 300 rpm. The pulse input frequency is 300 / 60 = 5 rpm and 5 x 50 pulses = 250 pulses per second.

Programming:

- Display range = inverse
- [InP] = 250
- [dSP] = 75

Scaling with 2 known interpolation points

2 interpolation points define the display range to establish a proportional relationship between the input signal value and the displayed value.

LIn

InP1 Value 1st input frequency value

00000 Programmable from 0 to 99999

00000 Decimal point InP1

Decimal point position for InP1

dSP1 Display value for the first measured value

00000 The value entered here will be displayed upon the input signal reaching the first measured value. Ranging from 0 to 99999

00000 Decimal point

Positioning decimal point, applies to `dSP1` and `dSP2`.

InP2 Value 2nd input frequency value

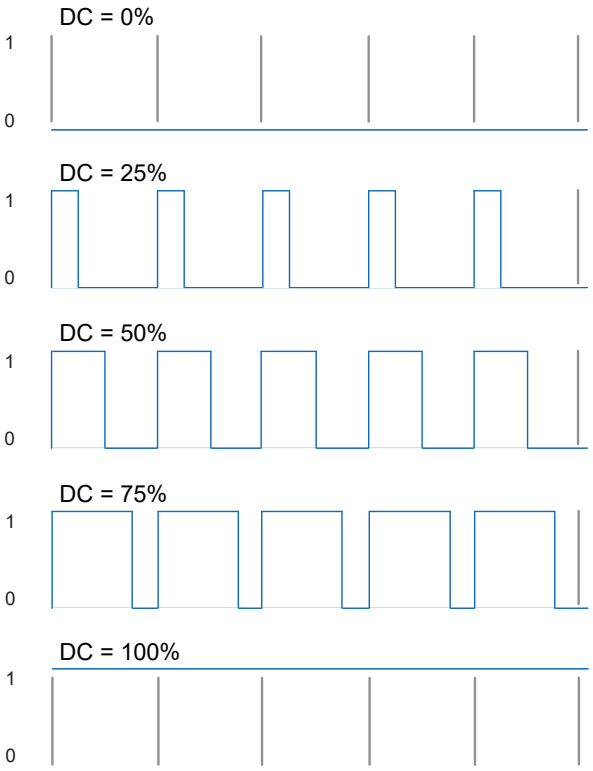
00000 Programmable from 0 to 99999

dSP2 Display value for the second measured value

00000 The value entered here will be displayed upon the input signal reaching the second measured value. Ranging from 0 to 99999

Duty cycle - PWM function

Display range configuration to establish the relationship between the displayed values and the PWM duty cycle time.



Ill. 2: Duty cycle modulation (Duty Cycle)

dUt4

InP1 Value 1. duty cycle

00000 Programmable from 0 to 100.0%

dSP1 Display value for the first measured value

00000 The value entered here will be displayed once the input signal is reaching the first duty cycle. Ranging from 0 to 99999

0000.0 Decimal point

Positioning decimal point, applies to `dSP1` and `dSP2`.

InP2 Value 2nd duty cycle

00000 Programmable from 0 to 100.0%

dSP2 Display value for the second measured value

00000 The value entered here will be displayed once the input signal is reaching the second duty cycle. Ranging from 0 to 99999

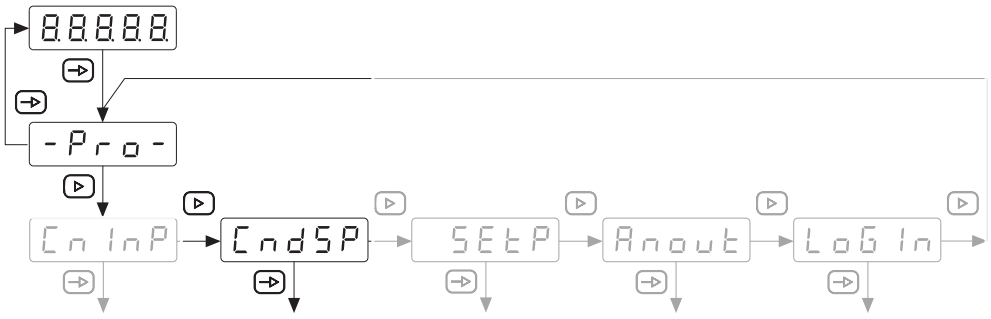
---

tLIn Time base of PWM function

10 Programmable from 1 to 99 s, this time corresponds to the maximum time for duty cycle measurement = 100%

6.2 Configuration of the display

This function is used to configure the representation of the input signal on the display.



Configuration Display

INFO

Only the configuration parameters for the selected input signal can be selected.

CndSP Select the parameter to be configured with button ▷.

ProC Main counter XP

totAL Totalizer Σ

diSPL Colors and display settings

Confirm with →.

Main counter XP, totalizer Σ

Main counter XP can be configured for use in four operating modes:

- Pulse counter
- Hour counter
- Tachometer
- Frequency meter

The totalizer Σ acts as a pulse counter or operating hour counter, according to the operating mode selected for main counter XP.

Using totalizer Σ as a pulse counter like main counter XP, it may also act as a batch counter. In this mode, the totalizer Σ is incremented every time the main counter XP is reaching one of the selected limits.

Example: Main counter XP is to measure a cutting length and totalizer Σ is to count the number of parts produced.

6.2.1 Used as pulse counter

Main counter XP

PrOC

dECP Decimal digits

88888 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

---

oFFS Offset

88888 A reset operation will reset the main counter to this value.

FACt Use button ▷ to select the scaling factor.

FMuLt Multiplying scaling factor

FdIU Dividing scaling factor

Confirm with →.

88888 Programmable from 00001 to 99999

88.88 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

Example for multiplying scaling factor:

An encoder with 1000 pulses/revolution is attached to the shaft end of a spindle with 5 mm pitch. To show the displacement in 1/100 mm, the factor is calculated 500 (1/100) / 1000 = 0.500.

Dividing scaling factor example:

An encoder with 300 pulses/revolution is attached to a shaft. The number of counted revolutions is to be displayed. Factor calculation is 300 / 1 = 300.

Totalizer Σ

Programming of the display range that establishes the relationship between displayed values and input frequency.

tOtAL Enable/disable totalizer with ▷.

no Totalizer disabled

YES Totalizer is enabled, configuration follows in the next steps

——— Confirm with →.

dECP Decimal digits

88888 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

---

oFFS Offset

H8888 A rest operation will set the totalizer to this value.

L8888 Value range -9999 9999 to +9999 9999

Enter the first 4 digits in `[H0000]` and the last 4 digits in `[L0000]`.

Use ▷ to select + or -.

Confirm with →.

FACt Use button ▷ to select the scaling factor.

FMULt Multiplying scaling factor

FdIV Dividing scaling factor

Confirm with →.

88888 Programmable from 00001 to 99999

88.888 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

6.2.2 Used as hour counter

Hour counter XP

`ProC`

`88888` A reset operation will set the hour counter to this value.

Hour counter totalizer Σ

`totAL` Use button ▷ to enable/disable the hour counter totalizer.

`no` Hour counter totalizer disabled

`YES` Hour counter totalizer is enabled, configuration is in the next steps

Confirm with ⇥ .

`oFFS` Offset

`L8888` A rest operation will set the totalizer to this value.

`H8888` Value range -9999 9999 to +9999 9999

Enter the first 4 digits in `[H0000]` and the last 4 digits in `[L0000]`.

Use ▷ to select + or -.

Confirm with ⇥ .

6.2.3 Used as frequency meter

Frequency meter XP

`FACt` Scaling factor

`88888` Programmable from 00001 to 99999

`8888.8` Use button ▷ to select the position of the decimal point (number of decimal digits).

`tAUG` Display refresh time

`0.0` Programmable from 0.0 to 9.9 s

`tLIn` Timeout

`0.10` Programmable from 0.1 to 99.9 s

Time after which the display is set to zero if there is no pulse present at the input,

6.2.4 Used as tachometer

Tachometer XP

FACt — Scaling factor

88888 — Programmable from 00001 to 99999

88.888 — Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

---

tAUG — Display refresh time

0.0 — Programmable from 0.0 to 9.9 s

---

tLIM — Timeout

0.10 — Programmable from 0.1 to 99.9 s

Time after which the display is set to zero if there is no pulse present at the input,

Totalizer Σ

totAL — Enable/disable totalizer with ▷.

no — Totalizer disabled

YES — Totalizer is enabled, configuration follows in the next steps

Confirm with →.

UPdo — Use button ▷ to select the count mode.

IndEP — 2 tracks A - B

dLrEC — Count input A + counting direction B

PHASE — Track A 90° B

Confirm with →.

ModE — Use button ▷ to select the operating mode.

rEL — Similar to main counter XP (adding / subtracting)

Abs — The count pulses are always added

Confirm with →.

---

dECP — Decimal digits

88.88 — Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

oFFS Offset

88888 A rest operation will set the totalizer to this value.

FACt Use button ▷ to select the scaling factor.

FMuLt Multiplying scaling factor

FdIU Dividing scaling factor

Confirm with →.

88888 Programmable from 00001 to 99999

88.888 Use button ▷ to select the position of the decimal point (number of decimal digits).

Confirm with →.

6.2.5 Colors and display settings

brIGH Use button ▷ to select the display brightness.

-Hi- Higg brightness

-Lo- Low brightness

Confirm with →.

CoLor Use button ▷ to select the display color: red, green or amber.

RUn In RUN mode

ProG In PROG mode

totAL Display of totalizer Σ

Confirm each selection with →.

ECo Use button ▷ to select the display color: red, green or amber.

-oFF- Function disabled

-on- Function enabled

01 Programmable from 1 to 99 s

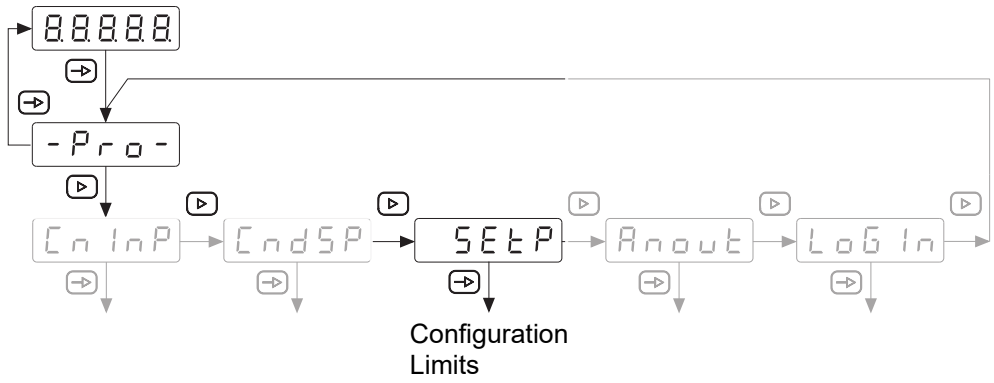
Having elapsed this time the display will swich off. If the display is dark, the decimal at right will be on to indicate that the device is on.

A press on any button will light up the display again in the selected color.

Confirm each selection with →.

6.3 Configuration of the limits

This function is used to configure the limits.



SEtP Select the limit to be configured with button ▷.

- SEt1 Limit P1
- SEt2 Limit P2
- SEt3 Limit P3
- SEt4 Limit P4

Confirm with ⇥.

INFO

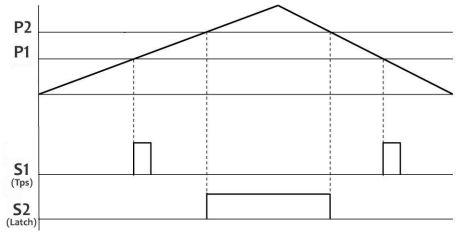
If the counter features 2 relay outputs, only configuration of the corresponding submodules is enabled.

6.3.1 Operation mode pulse counter/ hour counter

The device features 2 or 4 optional limits with relay outputs. These can either be assigned to main counter XP or totalizer Σ. The limits P1, P2, P3 and P4 are assigned to the outputs S1, S2, S3 and S4.

Both operating mode of the limits and the output switching time can be configured:

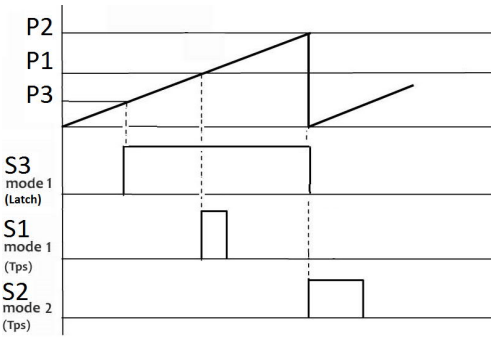
Step preset [IndEP] - mode 1



The output is enabled:

- upon reaching the limit in direction count up or count down and if the output switching time is programmed as wiper signal (Tps).
- if the counted value is ≥ limit and the output switching is programmed as latch signal (permanent).

Step preset [rESEt] - mode 2



The output is enabled when the number of counts has reached the limit. The counter will automatically go back to the offset. This switching mode only allows for output programming as a wiper signal (Tps). The remaining outputs configured as latch signals (permanent) are disabled.

Step preset [StoP] - mode 3

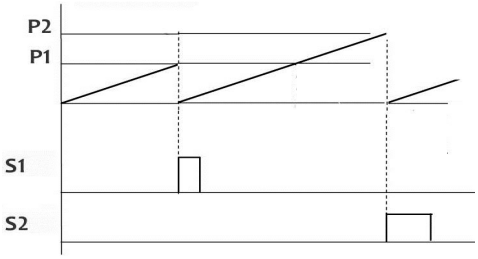
The output is enabled either as a wipe signal or continuous signal when the limit value is reached by counting. The counter stops counting and wil not restart until receiving a reset command.

Step preset [CLEAr] - mode 4

The output is enabled either as a wipe signal or continuous signal when the limit value is reached by counting. The output of the previous limit is disabled:

- P2 deactivating S1
- P3 deactivating S2
- P4 deactivating S3
- P1 deactivating S4

Main preset [CSCdE] - mode 5



Limits P1, P2, P3, P4 will be checked by the counter based on the offset value. If configured in [CSCdE] mode, the counter executes an automatic reset to the offset once the respective limit has been reached.

The remaining outputs configured outputs as latch signals (permanent) are disabled.

Limit P1

SEt 1 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit enabled

Confirm with →.

Limit function

Select the function with button ▷.

PrOC Main counter XP

totAL Totalizer Σ

Confirm with →.

Limit of main counter XP

00000 Adjustable from -99999 to 99999

or

Limit of totalizer Σ

H8888 Value range -9999 9999 to +9999 9999

L8888 Enter the first 4 digits in `[H0000]` and the last 4 digits in `[L0000]`.

Use ▷ to select + or -.

Confirm with →.

ModE **Operating mode**

Select the operating mode with button ▷.

IndEP Step preset

rESEt Step preset & remainders

StoP Step preset & stop

CLEAr Step preset & Clear

CSCdE Main preset

Confirm with →.

Limit output enable

Select with button ▷ when the limit output will be enabled.

-Hi- HIGH = Enabled at display value ≥ limit

-Lo- LOW = Enabled at display value ≤ limit

Confirm with →.

Output signal

Use the button ▷ to select the type of output signal.

LAtCH Latch signal

PuLSE Wiper signal

Confirm with →.

0.0 Time adjustable from 0.0 to 9.9 seconds

Display color

Use button ▷ to select the display color once limit has been exceeded.

no CH No color change when reaching the limit.

ALArM Display changes to the selected color if display value ≥ limit value

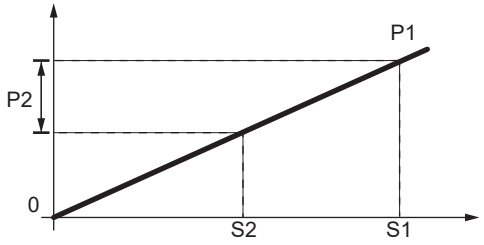
ALArM Each limit can be assigned a color.

ALArM

Confirm with →.

Trailing preset

Limit P2 is linked to limit P1. P2 corresponds to the trailing preset value, providing the option that output S2 will be always enabled at a defined difference before or after limit P1. Chaging P1 does not require changing P2 as well.



If limit P2 > 0, the preset value P1-P2.

If limit P2 < 0, the preset is P1+P2, independent of offset > or < at P1.

Limit P2

SEt2 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit is active (programming and operation identical to P1)

trACH Trailing preset enabled

Confirm with →.

Trailing preset of main counter XP

00000 Adjustable from -99999 to 99999

or

trailing preset of totalizer Σ

H8888 Value range -9999 9999 to +9999 9999

L8888 Enter the first 4 digits in [H0000] and the last 4 digits in [L0000].

Use ▷ to select + or -.

Confirm with ⇥ .

Display color

Use button ▷ to select the display color once limit has been exceeded.

no CH No color change when reaching the limit.

ALArM Display changes to the selected color if display value ≥ limit value

ALArM Each limit can be assigned a color.

ALArM

Confirm with ⇥ .

Limit P3

SEt3 Enable/disable the limit with button ▷ .

-oFF- Limit disabled

The other parameters for this area code do not appear.

-on- Limit is active (programming and operation identical to P1)

Limit P4

SEt4 Enable/disable the limit with button ▷ .

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit is active (programming and operation identical to P1)

trACH Trailing preset enabled

Programming and operation is identical to P2 as trailing preset. Limit P4 is linked to limit P3.

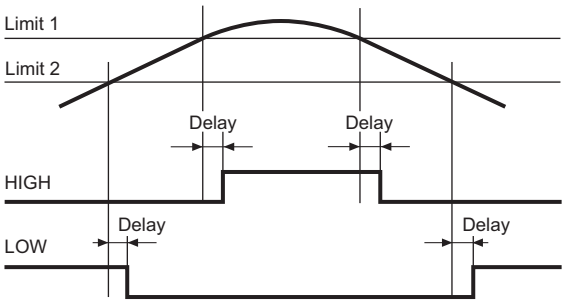
6.3.2 Operating mode frequency meter / tachometer

Similar to individual target values, the alarm outputs will be enabled when the displayed value is reaching the user-defined limit.

Configuration with *High* or *Low* defines output trigger either at display value ≥ or ≤ limit value. The outputs can be programmed with a time delay or with a hysteresis.

Time delay of the limit value outputs

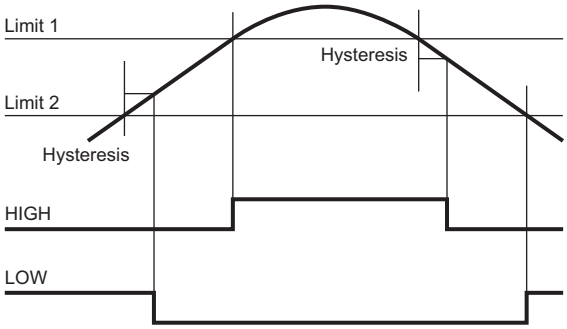
The time delay is programmable from 0 to 99 s. This acts both when the limit value outputs are switched on and off.



Ill. 3: Limit value outputs - Time delay

Asymmetric hysteresis

The hysteresis is programmed in display units from 0 to 9999. This only takes effect when the limit value outputs are switched off.



Ill. 4: Limit value outputs - asymmetrical hysteresis

Limit P1

SEt 1 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit enabled

Confirm with →.

Limit used as (only seen in tachometer mode)

ProC Main counter XP

totAL Totalizer Σ

Programming and operation is identical to "Configuration as pulse counter or hour counter"

Confirm with →.

Limit frequency or tacho XP

00000 Adjustable from -99999 to 99999

Limit output enable

Select with button ▷ when the limit output will be enabled.

-Hi- HIGH = Enabled at display value ≥ limit

-Lo- LOW = Enabled at display value ≤ limit

-Lo- LOW2 = Active if displayed value < limit, output is not active at increasing speed or frequency after device power on.

Confirm with →.

Operating mode

Select operating mode with button ▷.

-dLY- Time delay

-HYS- Hysteresis

Confirm with →.

00000 Delay or hysteresis value

Programming the delay (dLY) from 0 to 99 s or hysteresis (HYS) from 0 to 9999 display units.

Display color

Use button ▷ to select the display color once limit has been exceeded.

no CH Display changes to the selected color if display value ≥ limit value

ALArM Each limit can be assigned a color.

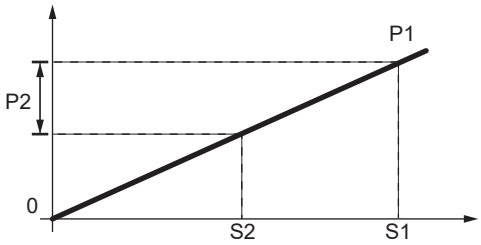
ALArM

ALArM

Confirm with →.

Trailing preset

Limit P2 is linked to limit P1. P2 corresponds to the trailing preset value, providing the option that output S2 will be always enabled at a defined difference before or after limit P1. Chaging P1 does not require changing P2 as well.



If limit P2 > 0, the preset value P1-P2.

If limit P2 < 0, the preset is P1+P2, independent of offset > or < at P1.

Limit P2

SEt2 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit is active (programming and operation identical to P1)

trACH Trailing preset enabled

Confirm with →.

00000 Trailing preset of main counter XP

Adjustable from -99999 to 99999

Display color

Use button ▷ to select the display color once limit has been exceeded.

no CH No color change when reaching the limit.

ALArM Display changes to the selected color if display value ≥ limit value

Each limit can be assigned a color.

ALArM

ALArM

Confirm with →.

Limit P3

SEt3 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit is active (programming and operation identical to P1)

Confirm with →.

Limit P4

SEt4 Enable/disable the limit with button ▷.

-oFF- Limit disabled

The remaining parameters specified for this limit are not shown.

-on- Limit is active (programming and operation identical to P1)

trACH Trailing preset enabled

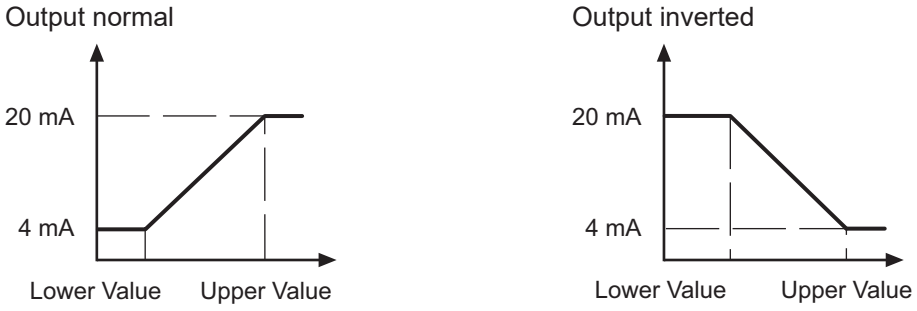
Programming and operation is identical to P2 as trailing preset. Limit P4 is linked to limit P3.

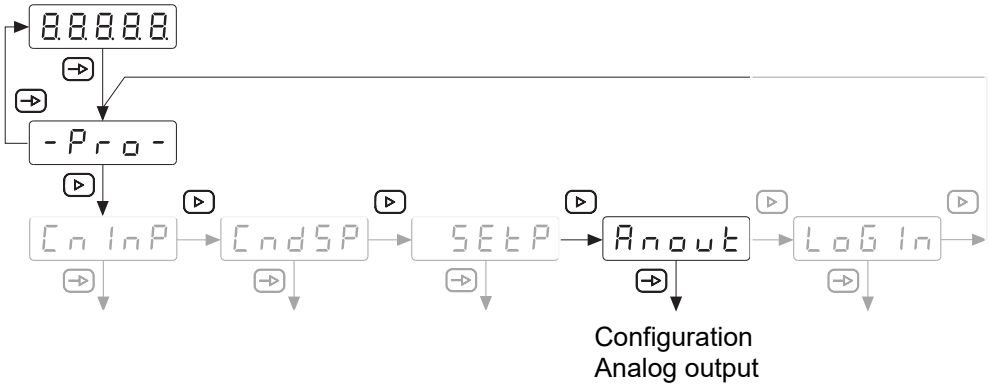
Confirm with →.

6.4 Configuration of the analog output

This function is for analog output configuration.

Device features an analog output providing a 4 ... 20 mA signal. The output signal is assigned to the display value and can evolve proportionally or inverse proportionally to the display.





Anout

ProC Main counter XP

totAL Totalizer Σ

Confirm with .

Main counter XP

ProC

outHI Maximum limit of main counter XP

00000 This value displayed means the counter has reached the maximum limit respectively final value. Value adjustable from -99999 to 99999.

outLo Minimum limit of main counter XP

00000 The main counter starts evolving at this displayed value. Value adjustable from -99999 to 99999.

Confirm with .

Totalizer Σ

totAL Limit of totalizer Σ

H8888 Value range -9999 9999 to +9999 9999

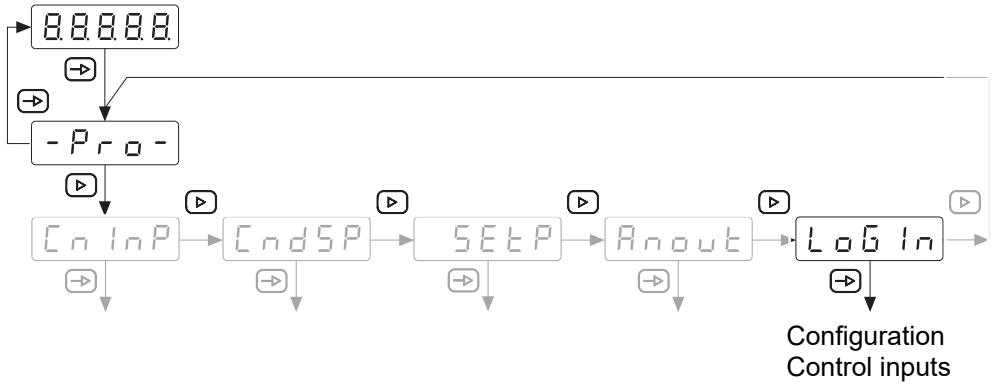
L8888 Enter the first 4 digits in [H0000] and the last 4 digits in [L0000].

Use ▷ to select + or -.

Confirm with .

6.5 Control input configuration

This function is for control input configuration.



LoGIn

InP1 Control input connection 2

InP2 Control input connection 3

InP3 Control input connection 4

Confirm with .

Control input connection 2

InP1

InP-1 Function (see table below)

1 Value between 00 and 13

Confirm with .

Control input connection 3

InP2

InP-2 Function (see table below)

2 Value between 00 and 13

Confirm with ⊣▷ .

Control input connection 4

InP3

InP-3 Function (see table below)

6 Value between 00 and 13

Confirm with ⊣▷ .

No.	Description	(*)
0	Input disabled	–
1	The displayed value is saved as offset of counter XP.	F
2	Resets the offset of counter XP	F
3	Reset of Proc, Total, Max, Min or Lo2	S
4	Display of Proc, Total, Max or Min	S
5	Sending the ASCII codes of Proc, Total, Max, Min, Offset, P1, P2, P3 or P4	F
6	Display HOLD	S
7	Changes display brightness for alternating presentation of Hi and Lo	S
8	Changes display color	S
9	Quick access to parameterization of Offset, P1, P2, P3 or P4	F
10	Fictional presets if option is not available	S
11	Simulating one of the 3 keys on the keypad	F
12	Stop counter	S

(*) Function edge active - F or static - S

6.6 Protect programming level via code

The programming can be protected against unwanted changes by a code:

- **Complete**
  - All configuration modules are protected. The various configuration modules can be visualized but not edited.
  - When entering programming mode, [DAtA] is displayed instead of [Pro].
- **Partial**
  - You can select which configuration modules are to be protected. The protected configuration modules can be visualized but not changed.
  - When entering programming mode, [DAtA] is displayed instead of [Pro] if a protected configuration module is selected.

Enter or change code

Instruction:

a) Press the button ⊡ for 3 seconds.
   ✓ [CodE] appears in the display.

b) Enter the code by pressing ▷ and △. The factory-set code on delivery of the device is `0000`.

c) Use button ▷ to switch to and fro between the functions described below. Select the desired function with button ⊡.

`LiSt` Selecting `[LiSt]` you can define in the following lines which configuration modules are protected by code against unauthorized access.

`CHAnG` Change code

Configuration module protection

`LiSt`

`totLC` All locked

`0` No, the various configuration modules can be individually protected.

In the next step, here is to specify which configuration module is protected by `0` or `1` or not protected at all.

- `0`: configuration module not protected
- `1`: configuration module protected

`1` Yes, all configuration modules are protected against modification and device exits the programming level.

Change code

`CHAnG`

`-----` Change the code here, the new code is saved into the device and you exit programming level.

556142219

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