

# PENKO Engineering BV

The Leading Experts In Weighing & Dosing

# 960

Indicator



## Quick Start

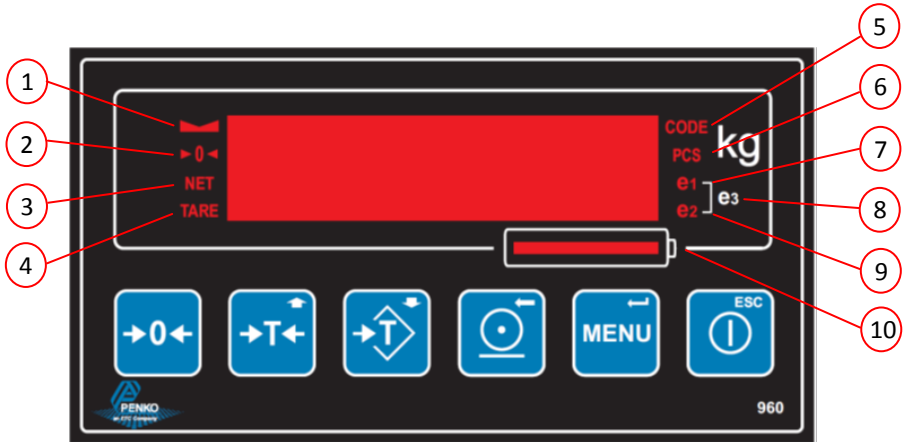
1. Indication of LEDs
2. Push button functions
3. Power and load cell connection
4. First use of Indicator
5. Digital inputs and outputs
6. RS232 comport
7. Standard Factory Settings



For more information visit  
[www.penko.com](http://www.penko.com) - technical support - literature library

# 960 Indicator

## 1. Indications of LEDs



- |                      |                              |
|----------------------|------------------------------|
| 1. Weigher stable    | 6. Piece counting active     |
| 2. Zero active       | 7. Setpoint 1 (e1) active    |
| 3. Net weight active | 8. Both setpoint active (e3) |
| 4. Tare active       | 9. Setpoint 2 (e2) active    |
| 5. Code active       | 10. Battery charge level     |

# 960 Indicator

## 2. Push button functions



Tare/Up



Print/Left



Preset Tare/Down



Enter, press >2s =>Menu



Zero



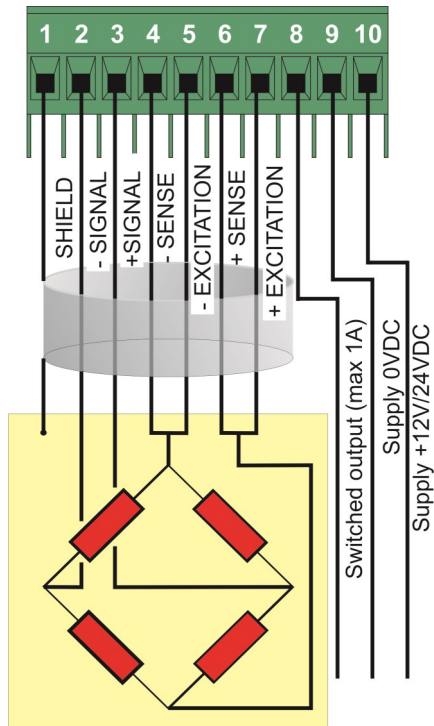
On-Off/Esc

## 3. Load cell / power connection

**Make sure the load cell is connected before the power is switched on!**



Power cable needs to be filtered with ferrite bead for CE approval.



# 960 Indicator

## 4. First use of indicator

To make the indicator ready for first use set the maximum net weight value, display step size, decimal point position and calibration.

### The start

Turn on the indicator using the ON-OFF button.



### Set up menu

To enter the **Set up menu** the service code method is used. Press the keys in the correct order, all within 7 seconds.

Enter the keys in the following order:



Key number      2            5            6            3            6            4

Use UP and DOWN to select a menu or to edit a value. Use LEFT to select a digit within a value.



Use ENTER to enter a menu or to confirm a setting. Use ESC to leave a setting or a menu.



# 960 Indicator

## First use of indicator -continue-

### Indicator Settings

Indicator settings are used to set the maximum net weight value (Ind 1), display step size (Ind 5), and decimal point position (Ind 6).

First, enter the set up menu by the given code on page 4.

The following screen is visible:



### Maximum net weight value

To enter the **Indicator settings**, press ENTER.



The following screen is visible:



Use **Ind 1** to set the **maximum net weight value**. Set maximum load to prevent overload by the user. The indicator will not show any weight above this value.  
Range: 0 – full display.

To change the value, enter Ind 1.



Use the UP, DOWN and LEFT keys to enter the value. The UP and DOWN keys are used for changing the number (1-9), the LEFT key is used for changing the position of the cursor. Confirm the value with ENTER.



# 960 Indicator

## First use of indicator -continue-

### Indicator Settings -continue-

When the maximum net weight value is set successfully, the following screen is visible:



### Display step size

Use the UP key to go to **Ind 5** and press ENTER



Use **Ind 5** to set the **display step size**. The step size defines the scaled parts of the weight value. The display value will be rounded off to the nearest value with a valid step size.

Use the UP and DOWN keys to select the correct step size.

Choose between 1, 2, 5, 10, 20, 50 and confirm with ENTER



Done successfully, the following screen is visible:



# 960 Indicator

First use of indicator -continue-

Indicator Settings -continue-

## Decimal point

To set the **Decimal point position**, enter **Ind 6**.



The following screen is visible:



Press the UP and DOWN keys to define the point position and confirm by ENTER



Done successfully, the following screen is visible:



Press ESC to go back to the **Ind menu**



# 960 Indicator

## First use of indicator -continue- Calibration Settings

Calibration settings are used to check, delete and set calibration points for the 960 indicator.

First, enter the set up menu by the given code on page 4 and press the UP key to go to the CAL menu. If you are already in the set up menu, use the UP key to go to the CAL menu.



### Check and delete calibration point

To enter the **Calibration settings**, press ENTER



The following screen is visible:



Use the UP key to go to **CAL 3** and press with ENTER



Use **CAL 3** to **check and delete all existing calibration points**. Step through the calibration points with the UP and DOWN key. Delete a calibration point by pressing the ESC key > 3 seconds.



During deletions, the following screen is visible:





# 960 Indicator

## First use of indicator -continue-

### Calibration Settings -continue-

When a number is shown, the deletion of one calibration point is completed and more points need to be deleted. Press ESC >3 sec to do so.



When all calibration points are deleted, the following screen is visible:



### *Entering new calibration points.*

Use the DOWN key to go to **CAL 1** and press ENTER.



After entering, the following screen is visible:



and will automatically jump to



First calibrate the **zero point (CP1)**. Make sure the weigher is unloaded. Press the ENTER key.



# 960 Indicator

## First use of indicator -continue-

## Calibration Settings -continue-

The indicator now shows CP2 to calibrate the **gain point (CP2)**.



and will automatically jump to



Use the UP, DOWN and LEFT keys to enter the reference value. The UP and DOWN keys are used for changing the number (1-9), the LEFT key is used for changing the position of the cursor. Load the weigher with the reference value and press the ENTER key.



Done successfully, the following screen is visible:



Press ESC to go back to the **Cal menu**



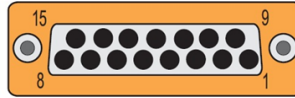
Press ESC to go back to the weighing screen



# 960 Indicator

## 5. Digital inputs and outputs

15P MALE SUB-D for inputs and outputs



### Inputs:

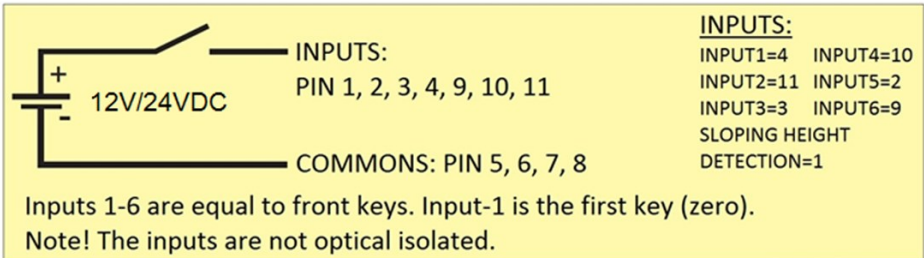
For remote control, 6 digital inputs are equal to the indicators front keys.

Input 1 (pin 4) is the first key



### 1 sloping height detection:

Level switch input. Works with: **Level invert mode (CFg 3)**  
**Level delay time (CFg 4)**  
**Level hold time (CFg 5).**



### 1 on/off switch:

Switch the indicator on or off.

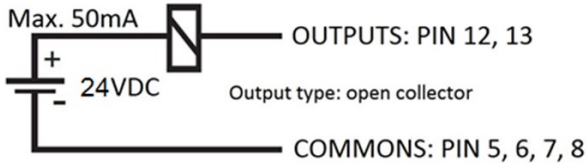


# 960 Indicator

## 5. Digital inputs and outputs -continue-

### Outputs:

There are 2 digital outputs, for setpoint 1 and 2. They work with **Setpoint Menu settings**.



OUTPUTS:

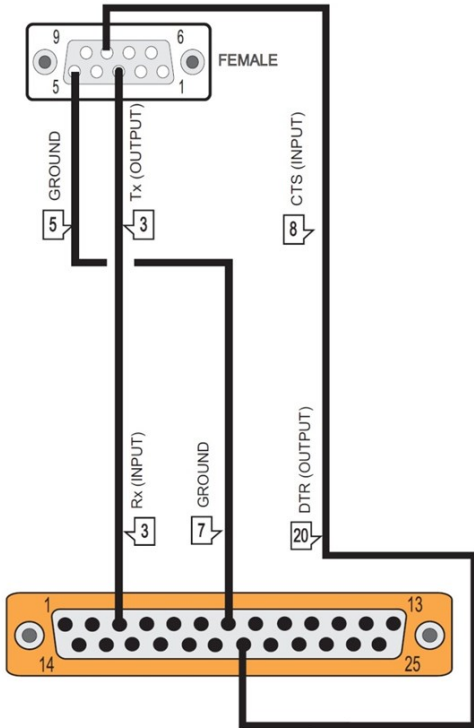
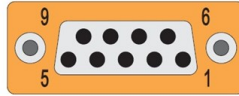
OUTPUT1=12

OUTPUT2=13

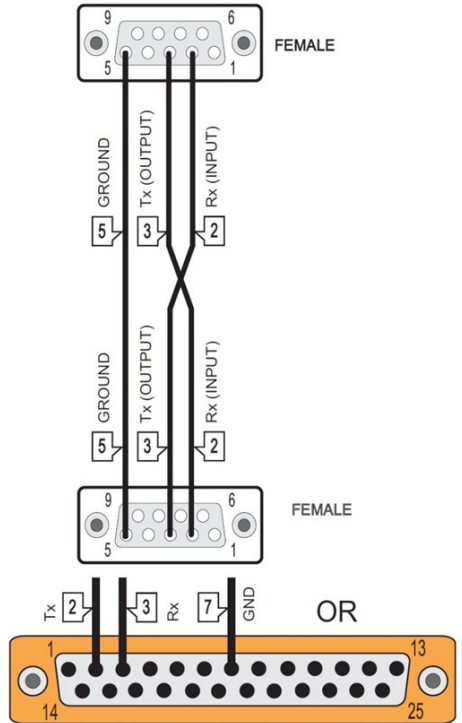
# 960 Indicator

## 6. RS232 comport

9P MALE SUB-D RS232 comport



**CABLE FOR COMPORT  
RS232 PRINTER**



**CABLE FOR COMPORT  
RS232 PC/PV-PROTOCOL**

# 960 Indicator

## 7. Standard Factory Settings

Description	Display	Value	Your setting
Maximum display value	Ind1	10009	
No motion band	Ind2	3	
Zero tracking band	Ind3	3	
Digital overall filter	Ind4	4	
Display step size	Ind5	1	
Decimal point position	Ind6	none	
Display refreshment speed	Ind7	10	
Industrial or certified action	Ind8	In	
Sampling rate	Ind9	15	
Stable time	Ind10	0.5	
Display filter band	FIL1	0	
Display filter factor	FIL2	oF	
Zero suppressing	FIL3	0	
Number of display divisions	rng1	0	
Maximum auto range step size	rng2	1	
Auto range reset option	rng3	oF	
Chanel number comport	Chn	0	
Communication protocol comport	Prot	none	
Baud rate comport	bdr	9.6	
Layout selection	Prn1	oF	
Form feed length	Prn2	0	
Left margin	Prn3	0	
End-of-line sequence selection	Prn4	C0	
Column setting	Prn5	24	
Auto power down time	CFg1	600	
Auto ESC key time	CFg2	30	
Level invert mode	CFg3	No	
Level delay time	CFg4	0	
Level hold time	CFg5	100	



# 960 Indicator

## NOTES



# 960 Indicator



Our Design expertise includes systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering has been at the forefront of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs and drive profits for some of the biggest global brands, like Cargill, Sara Lee, Heinz, Kraft Foods and Unilever.

## Certification

PENKO products are tested and certified by independent expert and government organizations to ensure they meet or exceed metrology industry guidelines - and our own high standards - for performance. A library of our testing certificates is available for reference at [penko.com/publications](http://penko.com/publications).



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