PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions

How to…
1020 Parameters explanation

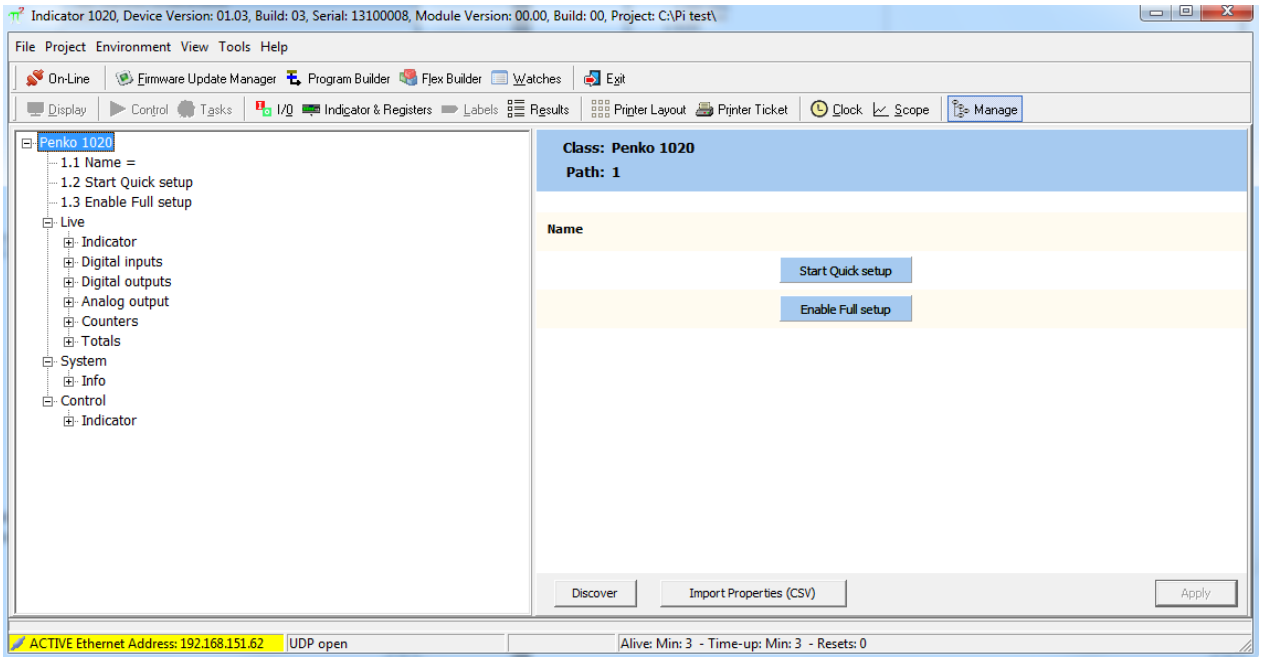
PENKO
an ETC Company

Table of Contents

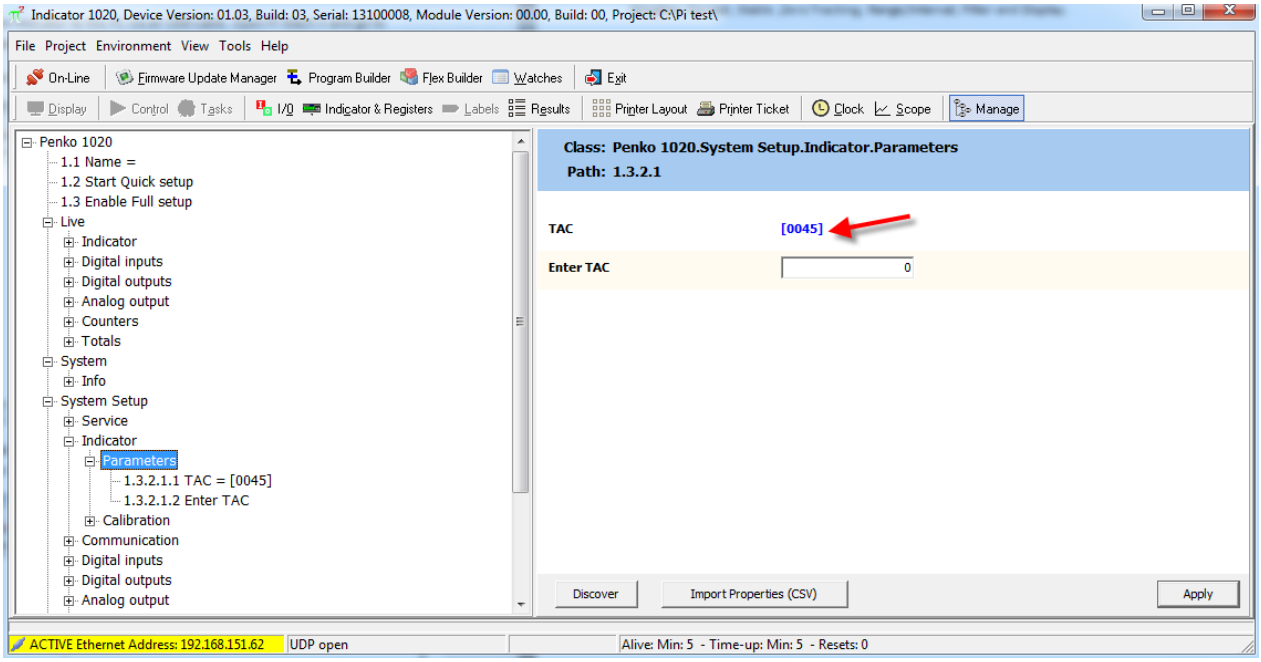
What are the parameters and what do they do?

To set the parameters, connect the Indicator to the PC via a USB-cable. Open Pi Mach II and go to Environment. Click on Communication and set it to USB. Click Ok and it should load the device.

Click in the right window on the button **Enable Full setup**.

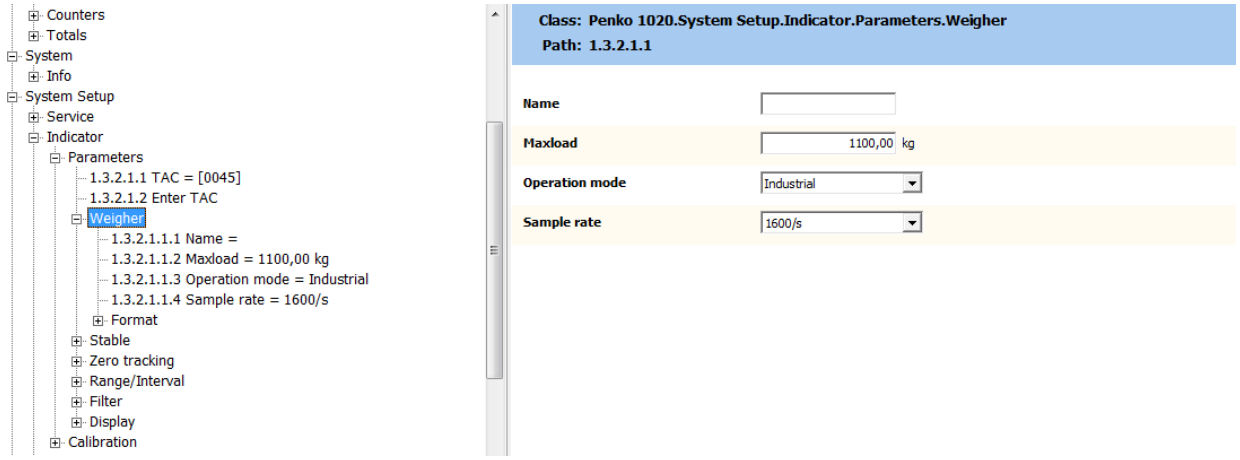


Double click on **Indicator** and double click on **Parameters**. Fill in the TAC code. The TAC (Traceable Access Code) code is the number of times the parameters has been accessed. Click on **Apply**.



When the correct TAC code is entered all Parameters are visible. The Parameters are categorized in: Weigher, Format, Stable ,Zero Tracking, Range/Interval, Filter and Display.

Weigher



Name: give the Indicator a name.

Maxload: fill in the weight the Indicator shows as the maximum load.

For example: if you are weighing 1000kg and the maximum amount you want to be show is 1005. Fill in 1005, above this amount the Indicator will show ======.

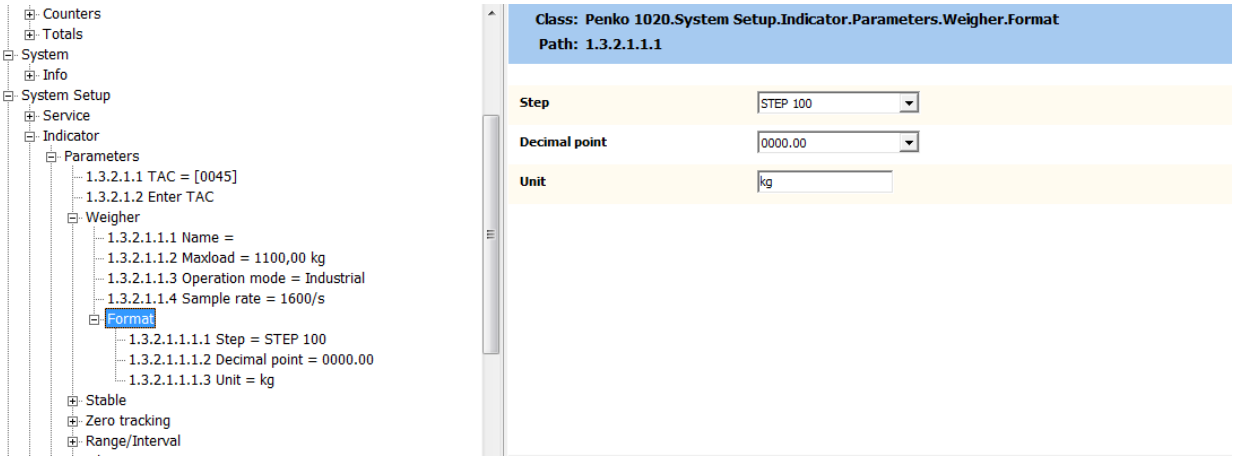
Operation mode: choose between Certified of Industrial.

Certified : sets parameters shuts as Zero tracking to certified settings.

Industrial: sets parameters shuts as Zero tracking to industrial settings.

Sample rate: the amount of samples the Indicator takes per second. The minimal setting is 20 samples per second, the maximum is 1600 samples per second.

Format



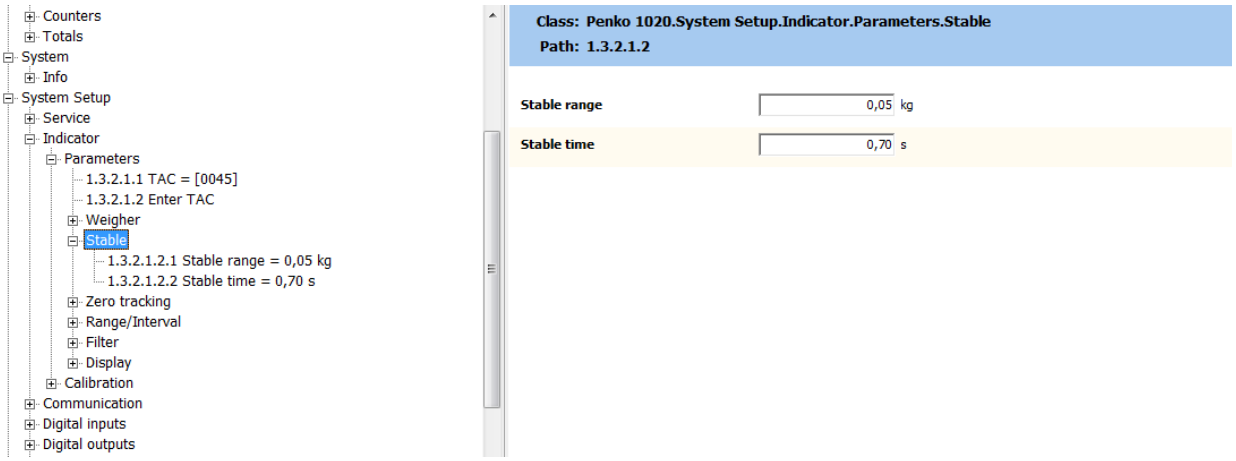
Step: select the step size the Indicator makes while weighing.

For example: if you set step size to 1 the weigher weighs 10.1 – 10.2 – 10.3 etcetera. If you set the step size to 5 the weigher weighs 10.0 – 10.5 – 11.0 etcetera.

Decimal point: select the place for the decimal point.

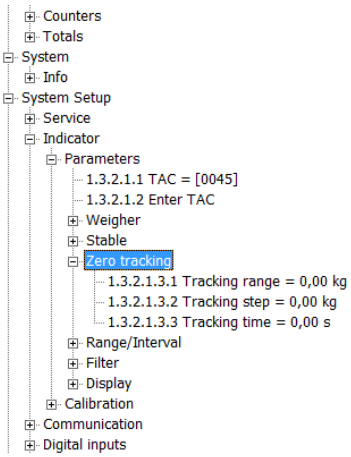
Unit: fill in the weighing unit, for example: g, kg, ton, lbs. or liter.

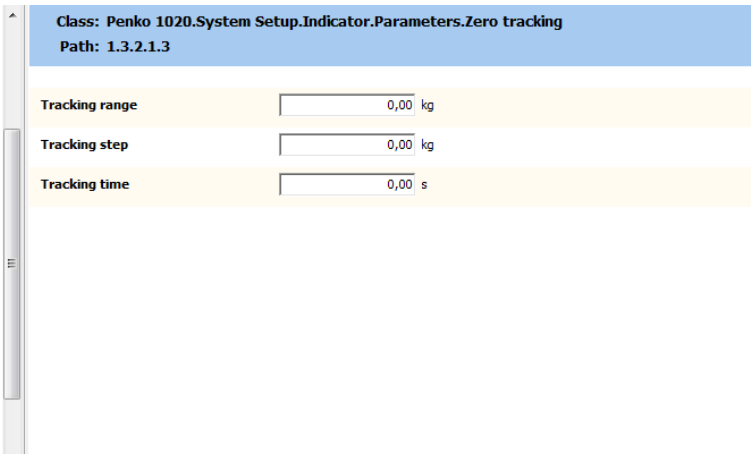
Stable



Stable range / Stable time: in this case the Stable range is set to 0,2 kg. This means that if the actual weight is within 0,2 kg of the targeted amount for more than 1 second (Stable time), the indicator will readout stable.

Zero tracking

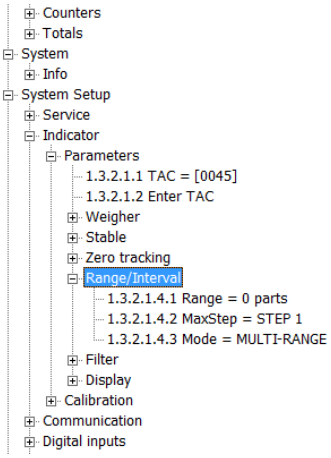


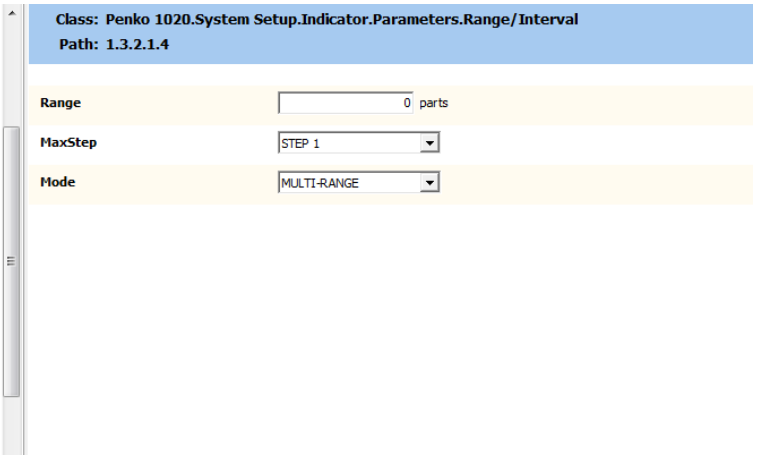


Tracking range / Tracking step / Tracking time: these 3 parameters work together and are best explained via an example. The settings above means that if the actual weight is between 0 and 5 kg, every second 0,5 kg is deducted from the weight until the weight reaches zero.

For example you can use these parameters for a manual weighing platform to rule out small bits of dirt.

Range/Interval





Range: If the Decimal point is set to 0000.0 and the Range is 500 parts. The step size will increase as can be seen in the table below (Range * Step size).

Weighing range	Step size	Weighing step
0,0 – 50,0	1	0,1 – 0,2
50,0 – 100,0	2	50,2 – 50,4
100,0 – 250,0	5	100,5 – 101,0
250,0 – 500,0	10	251,0 - 252,0
500,0 – 1000,0	20	502,0 – 504,0
1000,0 - 2500,0	50	1005,0 – 1010,0

Max Step: set the maximum step size the indicator can increase, if the maximum step size you want is 1 kg. Set Max Step to Step 10 and the indicator weight will increase as can be seen in the table below.

Weighing range	Step size	Weighing step
0,0 – 50,0	1	0,1 – 0,2
50,0 – 100,0	2	50,2 – 50,4
100,0 – 250,0	5	100,5 – 101,0
250,0 – above	10	251,0 - 252,0

Mode: there are two settings, you can choose between Multi-Range and Multi-Interval.

Multi-Range: the Indicator will decrease in weight using the last used step size.

For example, If the Indicator is filling up to 250kg and the weight is increasing with 0,5kg (seen in the table below), the Indicator will use this step size (5) to decrease back to zero.

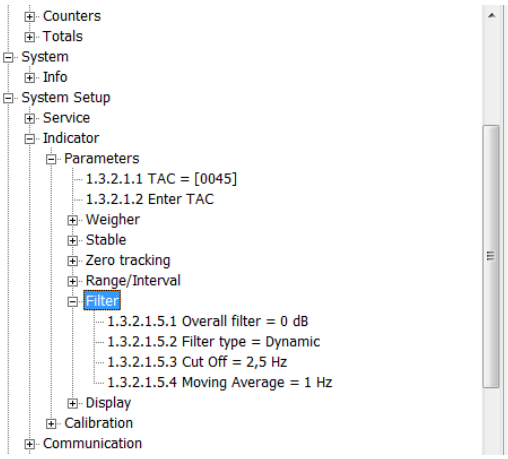
Weighing range	Step size	Weighing step
0,0 – 50,0	1	0,1 – 0,2
50,0 – 100,0	2	50,2 – 50,4
100,0 – 250,0	5	100,5 – 101,0
250 ,0– 0,0	5	250,0 - 249,5

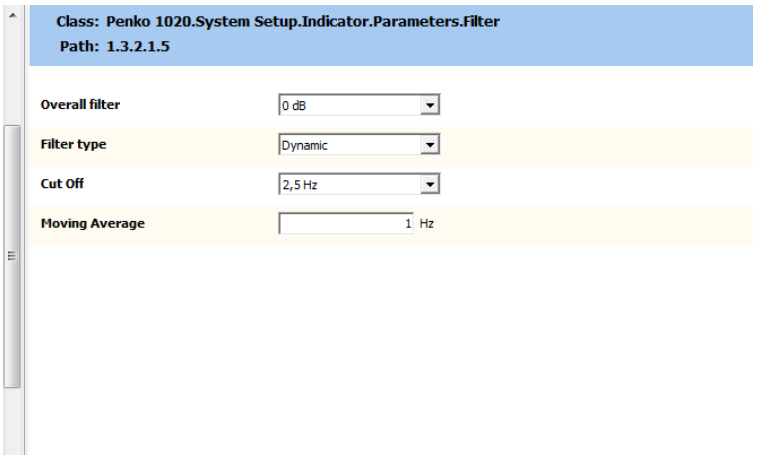
Multi-Interval: the Indicator will decrease weight using the same step sizes as it used increasing weight.

For example, If the Indicator is filling up to 250kg and the weight is increasing with 0,5kg (seen in the table below), the Indicator will use the same steps to decrease to zero.

Weighing range	Step size	Weighing step
0,0, – 50,0	1	0,1 – 0,2
50,0 – 100,0	2	50,2 – 50,4
100,0 – 250,0	5	100,5 – 101,0
250,0 – 100,0	5	250,0 - 249,5
100,0 – 50,0	2	99,8 – 99,6
50,0 – 0,0	1	49,9 – 49,8

Filter





Overall filter: set the overall filter to effect all indicator signals used in the device. 0dB means no effect and –42dB is the strongest damping.

Filter type: choose between None, Dynamic filter or Static filter.

None: choose None if you don't want a filter

Dynamic filter: choose Dynamic filter when the weighing signal is changing fast.

Static filter: choose Static filter when the weighing signal is slowly changing.

Cut Off: any frequency (that can interfere with the weighing signal) above the selected value will be filtered out.

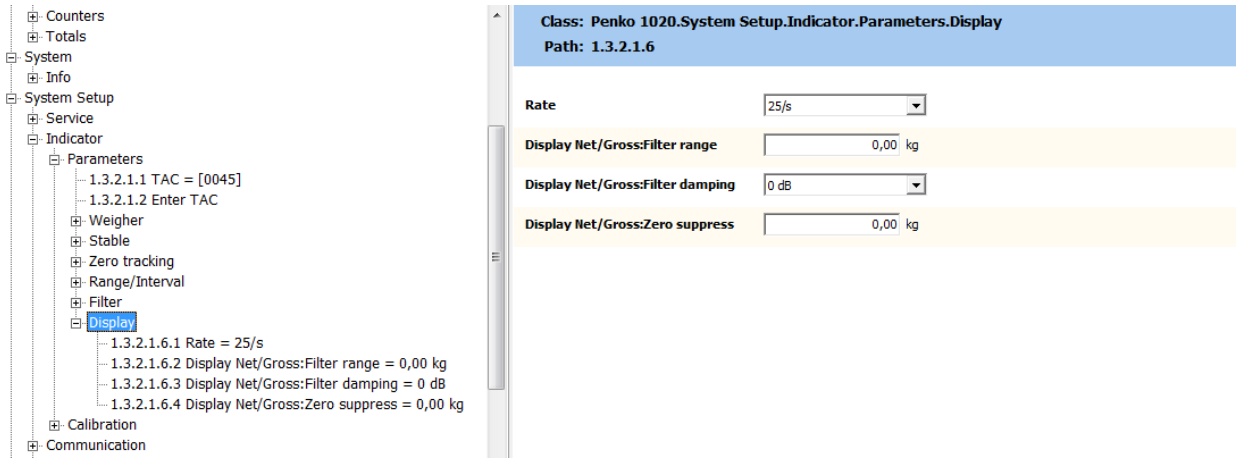
Moving Average: if you have frequencies from outside the weighing unit that interfere with the weighing signal, you can filter these frequencies out by using the Moving Average filter. You can see these frequencies by using the scope function in Pi.

For example, if there are three frequencies that need to be filtered out, and those frequencies are 70Hz, 35Hz and 10Hz. Select the highest frequency that can be divided 70Hz, 35Hz and 10Hz, which is 5Hz.

5Hz is 200msec, if the Sample rate is selected to 1600 sample per sec. It means that during the 200msec it will measure 320 samples. From these 320 samples the Indicator will calculate the average and this will be the average weighing signal.

The higher the Moving Average is, the faster the Indicator is weighing.

Display



Rate: the refresh rate of the display in times per second.

Display Net/Gross: Filter range: this filter works together with the Filter damping. If the entered value is 10kg, and the actual value is between +10 or -10 kg of the total Net or gross. The Display Net/Gross: Filter damping will be active.

Display Net/Gross: Filter damping: this filter works together with the Filter range. If the entered value is 10kg, and the actual value is between +10 or -10 kg of the total Net or gross. The Display Net/Gross: Filter damping will be active. 0dB is no damping and -42dB is the strongest damping.

Display Net/Gross: Zero suppress: zero suppress means that any weight below the filled in value will be forced to zero.

For example, if the filled in weight is 5kg and the actual weight is 3kg, the Indicator will set itself to zero.

Indicator: select which value you want the Indicator to show on the display.

About PENKO

Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

Certifications

PENKO sets high standards for its products and product performance which are tested, certified and approved by independent expert and government organizations to ensure they meet – and even – exceed metrology industry guidelines. A library of testing certificates is available for reference on:
http://penko.com/nl/publications_certificates.html

PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: **www.penko.com/training**

PENKO Alliances

PENKO's worldwide network: Australia, Belgium, Brazil, China, Denmark, Germany, Egypt, Finland, France, India, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Syria, Turkey, United Kingdom, South Africa, Slovakia Sweden, Switzerland and Singapore.
A complete overview you will find on: **www.penko.com/dealers**

PENKO Engineering B.V. ▪ Schutterweg 35, NL 6718XC Ede ▪ Tel +31 (0) 318525630 ▪ Fax +31 (0) 31852971 ▪ info@penko.com
Web ▪ www.penko.com ▪