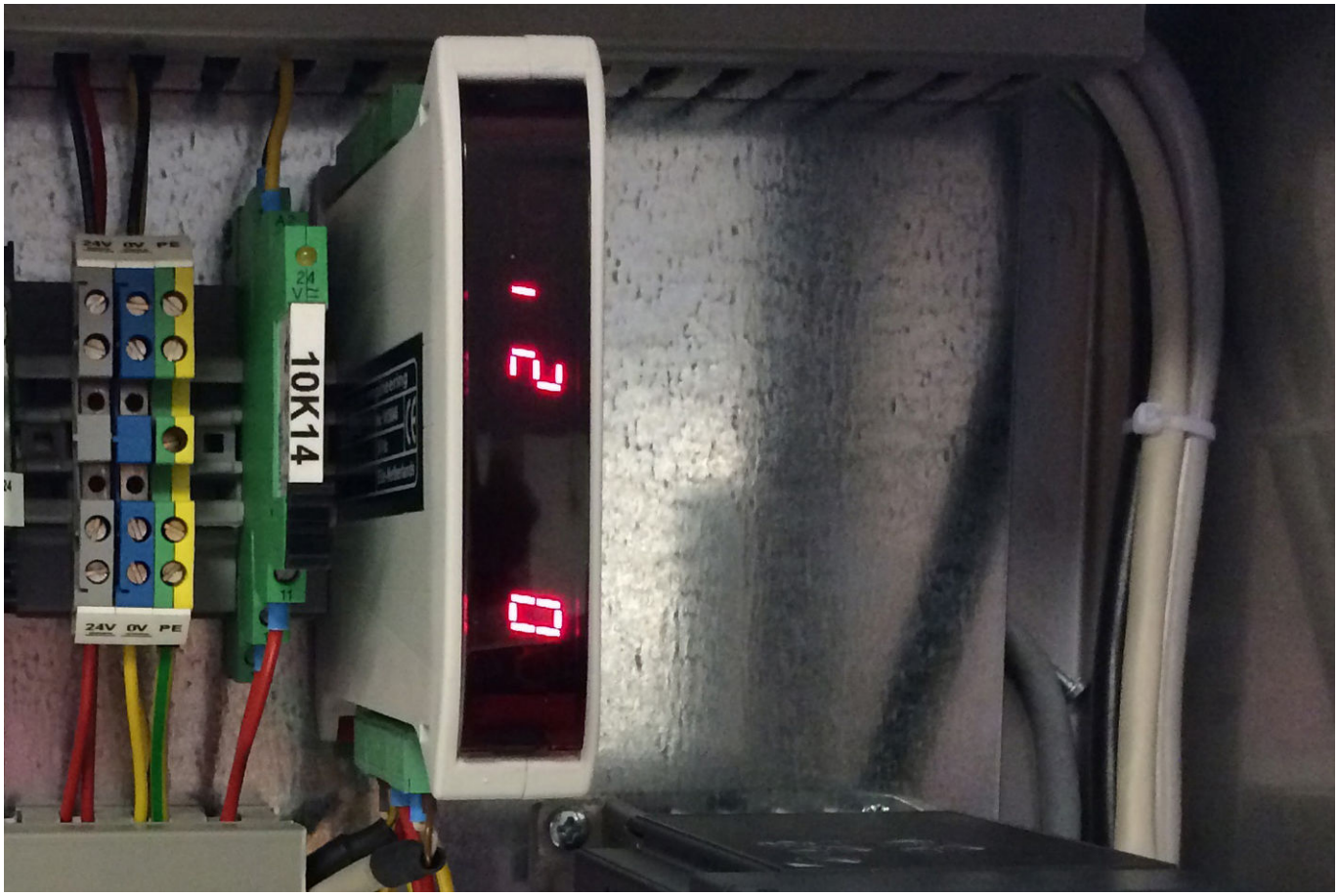
PENKO ENGINEERING B.V.

Optimising Precision Weighing



SGM800 Certified Digitizer Series

PENKO
an ETC Company



PENKO SGM800 certified series

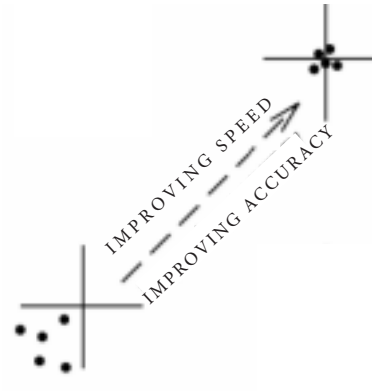
The SGM800 series is a certified serie that offers solutions for problem free connections of strain-gauge load cell based measuring with any supervisory and/or control system. The series exists of 6 digitizers with different communication options. There is also a series of fixed software is available, making it possible to use the SGM800 certified series as a mini controller.
They all are easy DIN-rail mountable, and can be used as a stand-alone digitizer or as a buslink system. Up to 32 digitizers can be coupled in one buslink system. Configuration of the device can even be done from behind your desk using Penko's freeware PI Mach II Manage. Trouble shooting is made easy by the small on board display, giving you a fast overview of the SGM800 status. A non-certified range, the SGM700 series, is also available.

The Penko approach of precise and fast measurement help to avoid waste of recourses and therefore help to save money. The quickly obtained clean and stable weighing signal from our fast revolutionary digital filters reduce the signal stable waiting time, improving the machine speed and therefore product capability and profitability. Penko amplifiers and controllers ensure precise measurement, quick digitalization and fast responds time, bringing you one step closer to flawless production line which saves time and money.

All our amplifiers/digitizers and controllers are designed, manufactured and inspected by Penko employees in our Netherlands facility to maintain best of class quality control, reliability and performance that is not possible for companies that rely on outsourced contract manufacturing facilities.

PENKO SGM800 Certified Digitizer Series

ADVANTAGE



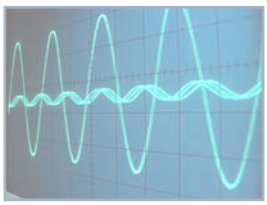
The Penko SGM800 amplifier series provide a wide variety in which a strain-gauge signal can be digitized. They measure at high speed (1600s/s) and have a high internal resolution (24bits), which makes it capable to do extremely accurate measurements. The wide range of available filter options helps to reduce the back ground noise to a minimum and stabilize the weighing signal.
For a trustworthy digitalization a stable, accurate signal is preferred. The high measuring speed has the advantage that the devices react within milliseconds making it possible to couple them with devices with an ultra-fast responds time.



The broad variety in available communication protocols makes it easy to integrate the Penko instruments in a process control system. Protocols like Ethernet-IP, Modbus TCP/RTU, FINS, Profibus-DP slave, Profinet and ASCII are available. The Penko Web interface protocol gives the freedom to configure Penko instruments on any PC or mobile device available on the same network. The configuration is done via a web browser, making software installation on a fixed PC unnecessary.



Together with the Penko Data Reporter software, the measuring data can easily be transferred to Windows based programs like Access and Excel. This give you the opportunity to process the data arithmetical and/or integrate the data in standard forms or export to Excel readable ERP systems. Another option is to store the Data Reporters collected data in a MySQL or MSSQL database. The analyzer extension allows for an easy overview and thorough analyses of the collected data. A PC based scope software is available for graphically monitoring the measuring signal.



The configuration of the SGM series can be done from your office, using PI Mach II Manage freeware. Error diagnosis is facilitated by the small build-in window, giving a quick overview of the device's status.

PENKO SGM800 Certified Digitizer Series

PENKO SGM800 APPLICATION

https://www.penko.com/Products/Measuring-Instruments/Amplifiers-Digitizers



- Weighing module for PLC
- Amplifying strain gage load cell signal
- Every application where a certified weighing signal is used by a supervisory system
- Silo- & Tank-weighing
- Plug & play solution for check weighing
- Plug & play solution for filling
- Plug & play solution for belt weighing

PENKO SGM800 TECHNICAL HIGHLIGHTS

https://www.penko.com/Products/Measuring-Instruments/Amplifiers-Digitizers

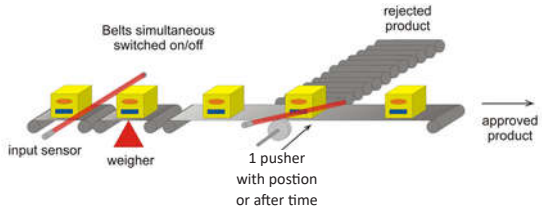


- Certified signal digitizer/amplifier
- PC configurable
- Easy to couple with PLC
- Small on board display for trouble shooting
- Communication options: RS232, RS422, Ethernet, Profinet, Profibus and analog (4-20m/A)
- Alibi memory
- Controller options: filler, check weighing, belt weighing
- Compact DIN-rail mountable housing

SGM800 APPLICATION SOFTWARE

SGM800 CHECK WEIGHING

www.penko.com/Products/Measuring-Instruments/Controllers

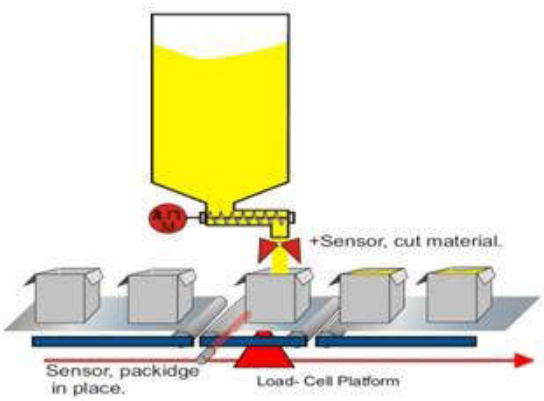


As the name suggests, checkweighers are used to check the weight of packaged goods. The automated systems check the products both for internal control and for foreign trade. Penko has developed a specialized solution that enable particularly quick and precise control in the industrial production process, helping to reduce product spillage and increase the production capability of the line.

For the SGM800 Penko has developed software that checks for correct or incorrect weight, including the option for rejection.

SGM800 FILLING

www.penko.com/Products/Measuring-Instruments/Controllers



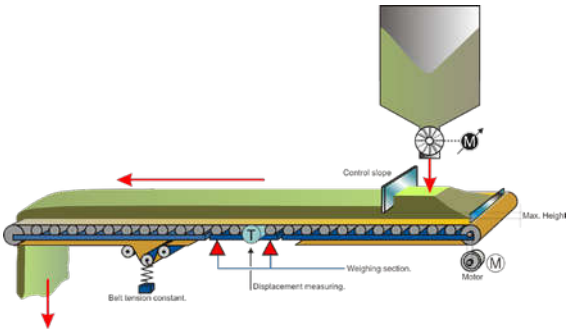
Filling of packages based on mass is applicable for solids, powders and granulates, as well as for thin and pasty liquids. Simply put, from a chemical point of view, mass is always correct. Every molecule has its own mass, so weighing means that we more or less count molecules, and is correct for all types of product.

Solids are sold on weight, and liquids are usually sold on volume. However, filling liquids on weight has the advantage of reducing a check weighing step in your production process, saving a significant amount of time. Filling on weight is also applicable for the more difficult liquids like adhesives, paints and syrups. The Penko filling solutions help in increasing the dosing percision and reducing the time spend on the filling line.

The filling program of the SGM800 is developed to dose with great accuracy. This is reached by switching from coarse to fine dosing just before the setpoint is reached. This switching reduces over- and underfilling to a minimum

SGM800 BELT WEIGHER

www.penko.com/Products/Measuring-Instruments/Controllers



To control and regulate the continuous flow of bulk material, belt weighing systems are used. The Penko belt weighing approach detects every change in the mass flow enabling precise measurement, control and flow regulation. Penko solutions help in reducing product spillage and increasing the factory's efficiency by communication the most accurate flow

Developed for the SGM800 is a belt weighing software to control flow measurement and totalising, based on strain-gauge load cells, where required in combination with a speed meter.

Type	SGM800	SGM810	SGM820	SGM840	SGM850	SGM860
Wiring	With sense	With sense	With sense	With sense	With sense	With sense
Type of sense	Passive	Passive	Passive	Passive	Passive	Passive
Power supply	18-32 Vdc; 4 W max.	18-32 Vdc; 4 W max.	18-32 Vdc; 4 W max.	18-32 Vdc; 4 W max.	18-32 Vdc; 4 W max.	18-32 Vdc; 4 W max.
Load cell power supply	5 Vdc	5 Vdc	5 Vdc	5 Vdc	5 Vdc	5 Vdc
Sensitivity	0,1 µV/d non-certified 0,4 µV/d certified	0,1 µV/d non-certified 0,4 µV/d certified	0,1 µV/d non-certified 0,4 µV/d certified	0,1 µV/d non-certified 0,4 µV/d certified	0,1 µV/d non-certified 0,4 µV/d certified	0,1 µV/d non-certified 0,4 µV/d certified
Selectable ranges	1; 1.5; 2; 2.5; 3 mV/V	1; 1.5; 2; 2.5; 3 mV/V	1; 1.5; 2; 2.5; 3 mV/V	1; 1.5; 2; 2.5; 3 mV/V	1; 1.5; 2; 2.5; 3 mV/V	1; 1.5; 2; 2.5; 3 mV/V
Input voltage Unipolar @3mV/V	-1 mV to +16 mV	-1 mV to +16 mV	-1 mV to +16 mV	-1 mV to +16 mV	-1 mV to +16 mV	-1 mV to +16 mV
Input voltage Bipolar @3mV/V	-16 mV to +16 mV	-16 mV to +16 mV	-16 mV to +16 mV	-16 mV to +16 mV	-16 mV to +16 mV	-16 mV to +16 mV
A/D Conversion speed	1600/s	1600/s	1600/s	1600/s	1600/s	1600/s
Max. load cell impedance	1200Ω	1200 Ω	1200Ω	1200 Ω	1200 Ω	1200Ω
Min. Load cell impedance	43,75 Ω	43,75 Ω	43,75 Ω	43,75 Ω	43,75 Ω	43,75 Ω
Max.no.of loadcells						
350 Ω	8	8	8	8	8	8
1000 Ω	22	22	22	22	22	22
Max. number of d	10.000	10.000	10.000	10.000	10.000	10.000
Display resolution	100.000	100.000	100.000	100.000	100.000	100.000
Internal resolution	24 bits	24 bits	24 bits	24 bits	24 bits	24 bits
Display steps	1,2,5,10,20,100,200	1,2,5,10,20,100,200	1,2,5,10,20,100,200	1,2,5,10,20,100,200	1,2,5,10,20,100,200	1,2,5,10,20,100,200
Display size	6 x 7 segments LED 0,3”	6 x 7 segments LED 0,3”	6 x 7 segments LED 0,3”	6 x 7 segments LED 0,3”	6 x 7 segments LED 0,3”	6 x 7 segments LED 0,3 ‘’
Inputs, 24 V	3; 18-28Vdc, PNP or NPN or count ≤ 5kHz	0	3; 18-28Vdc, PNP or NPN or count ≤ 5kHz	3; 18-28Vdc, PNP or NPN or count ≤ 5kHz	3; 18-28Vdc, PNP or NPN or count ≤ 5kHz	3; 18-28Vdc, PNP or NPN or count ≤ 5kHz
Outputs, 24 V; PNP or NPN	4; Max. 35V / 0.5A	0	4; Max. 35V / 0.5A	4; Max. 35V / 0.5A	4; Max. 35V / 0.5A	4; Max. 35V / 0.5A
Analog output	Yes; 0/4-20/24mA, 10.000d	Yes; 0/4-20/24mA, 10.000d	Yes; 0/4-20/24mA, 10.000d	Yes; 0/4-20/24mA, 10.000d	Yes; 0/4-20/24mA, 10.000d	Yes; 0/4-20/24mA, 10.000d
Communication						
RS232/422	No	No	No	No	Yes	No
RS485	Yes	Yes	Yes	Yes	Yes	Yes
Ethernet	No	No	Yes	No	No	No
USB	Yes	Yes	Yes	Yes	Yes	Yes
Profinet	No	No	No	No	No	Yes
Profibus	No	No	No	Yes	No	No
Operating temperature	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C
Storage temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
Relative Humidity Monofilling, fixed option Checkweighing, fixed option Belt weighing, fixed option	Max. 85% non-condensing	Max. 85% non-condensing	Max. 85% non-condensing	Max. 85% non-condensing	Max. 85% non-condensing	Max. 85% non-condensing
Protection class	IP20	IP20	IP20	IP20	IP20	IP20
Weight	± 150g	± 150g	± 150g	± 150g	± 150g	± 150g



Source: Kelderman Bouw

Certifications

PENKO sets high standards for its products and product performance to ensure they meet - and even - exceed metrology industry guidelines. PENKO is ISO9001 certified, giving our long term quality work the official stamp of approval. Additional certificates are available on: http://www.penko.com/Support/Certificates

PENKO is a member of the Association of Dutch Suppliers of Weighing Equipment (VLW) and represented in he European Weighing Association (CECIP).



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