PENKO ENGINEERING B.V.

Optimising Precision Weighing

PENKO
an ETC Company

SGM800 Certified Digitizer Series

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SGM800 Digitizer

SGM800 Certified Series for automatic and non-automatic weighing

The SGM800 Series is a certified series that offers solutions for problem free connections of strain gage 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 DINrail 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 SGM800s status.
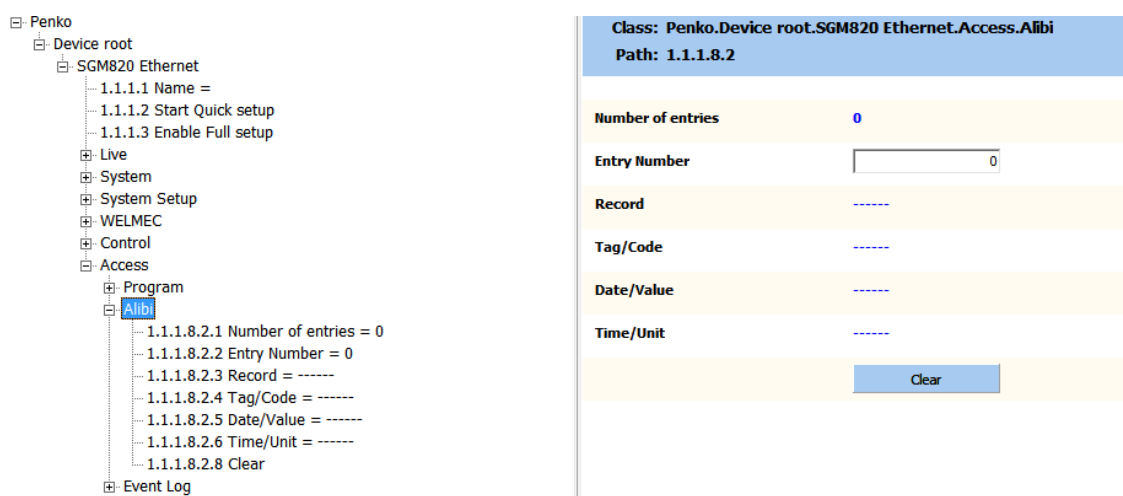

Figure 1: example of PI Mach II Manage for SGM800 Series.

SGM800 Digitizer Applications

Applications

- Silo & tank weighing

- Weighbridges

- Amplifying strain gage load cell signal

- Digitizing strain gage load cell signal

- Every application where a certified weighing signal is used by a supervisory system

Plug & Play applications

- Weighing module for PLC

- Plug & play solution for check weighing

- Plug & play solution for filling

- Plug & play solution for belt weighing

This product is intended to be supplied by a Class 2 or Limited Power Source, rate 18 - 32 Vdc, 0.2A@24Vdc.

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SGM800 Digitizer Characteristics

Saving space with more flexibility & functionality

- Certified
- Small on board display for trouble shooting
- Easy to couple with PLC
- PC configurable
- Back up and restore function through USB connection
- Time-saving, patent-pending G-Cal™ technology (Geographical Calibration) for fast and accurate calibration without using weights anywhere on the planet
- Compact DINrail mountable housing with standard 3 DI and 4 DO build in (except SGM810)
- Option analog output

Communication options

- USB and optional RS232, RS422, Ethernet, CAN interface and Profibus.
- Various industrial protocols like Ethernet IP, Modbus TCP, Modubs RTU, FINS and profibus DP.
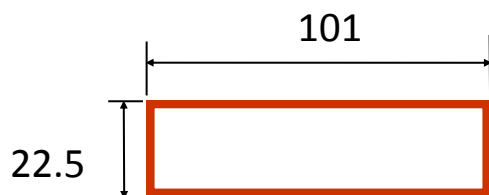- Communicates conveniently via remote devices

High performance

- 1600 samples per second
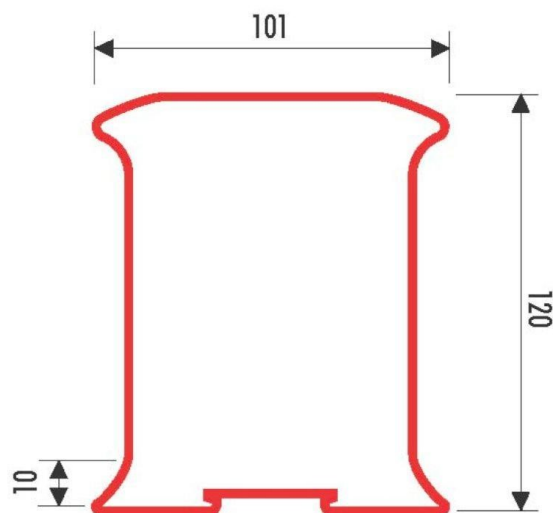- 24 bit internal resolution
- 100 000 parts display resolution

Controller options

- Filler
- Check weighing
- Belt weighing

SGM800 Digitizer Dimensions

101

22.5

Top view

101

120

10

Side view

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SGM800 Digitizer Specifications

Type	SGM800	SGM810	SGM820	SGM830	SGM840	SGM850
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 non-certified	0,1 µV/d non-certified 0,4 µV/d non-certified	0,1 µV/d non-certified 0,4 µV/d non-certified	0,1 µV/d non-certified 0,4 µV/d non-certified	0,1 µV/d non-certified 0,4 µV/d non-certified	0,1 µV/d non-certified 0,4 µV/d non-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 load cells 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	1,2,5,10,20,50,100,200	1,2,5,10,20,50,100,200	1,2,5,10,20,50,100,200	1,2,5,10,20,50,100,200	1,2,5,10,20,50,100,200	1,2,5,10,20,50,100,200
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	No	Yes
RS485	Yes	Yes	Yes	Yes	Yes	Yes
Ethernet	No	No	Yes	No	No	No
USB	Yes	Yes	Yes	Yes	Yes	Yes
CANBUS	No	No	No	In progress	No	No
Profibus	No	No	No	No	Yes	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 +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
Relative Humidity	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

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Certifications

PENKO sets high standards for its products and product performance to ensure they meet - and even - exceed metrology industry guidelines. As of 2016 PENKO is ISO9001 certified, giving our long term quality work the official stamp of approval. Additional certificates are available on:
www.penko.com

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