PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions

How to…

Connect the SGM750 or SGM850 IND, BLT, CHK or MFL to a FLEX 2100, FLEX or FLEX 2ch. – 4ch.

PENKO
an ETC Company

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General information

When the SGM750 or SGM850 is powered by USB (not 24Vdc) the load cell interface, the analog output and Serial communication will not work.

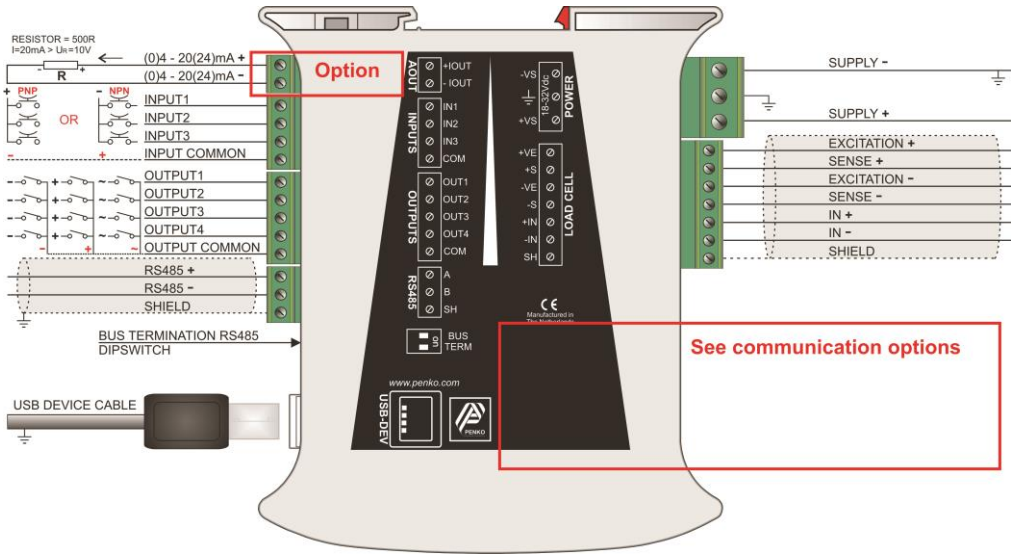
Analoge output (option)

Inputs
Input 1=5khz
18-28Vdc

Outputs
25V/0.5A
AC/DC

Local bus

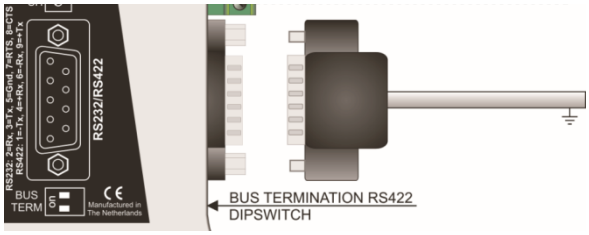
To PC Config software



DC POWER SUPPLY 18-32Vdc

6-Wire load cell connection Vexc=5Vdc

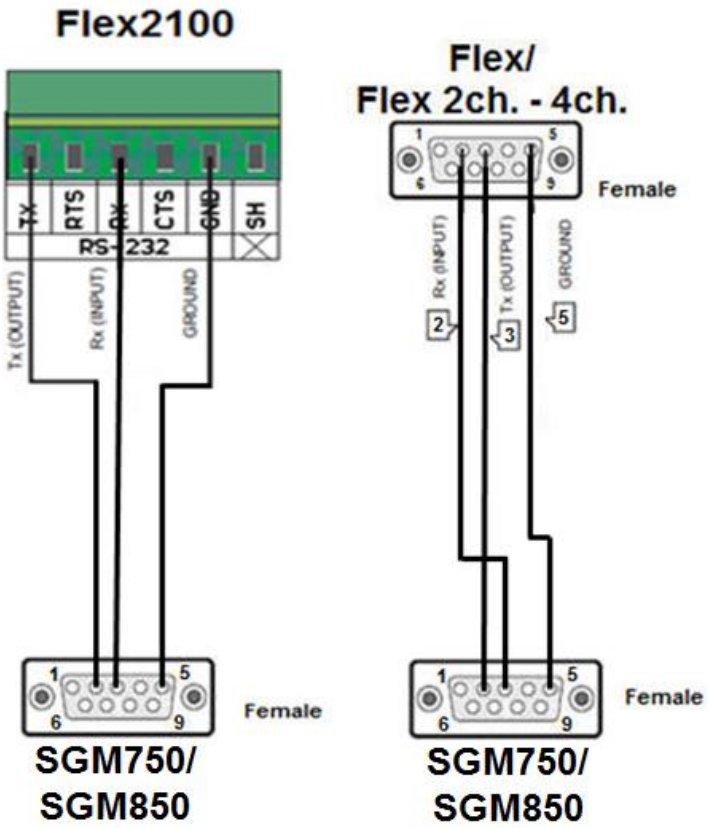
SGM750 or SGM850
Serial connection



With RS232 it is only possible to connect one SGM750 or SGM850 to a FLEX, but if you use RS422 it is possible to connect up to 15 SGM750/SGM850's First we will describe the RS232 connection and then the RS422 connection.

RS232

Use a crossover Female to Female Serial cable to connect a SGM750/SGM850 to a FLEX or a FLEX 2ch. – 4ch. If you want to connect a SGM750/SGM850 to a FLEX2100, use the following wiring diagram.

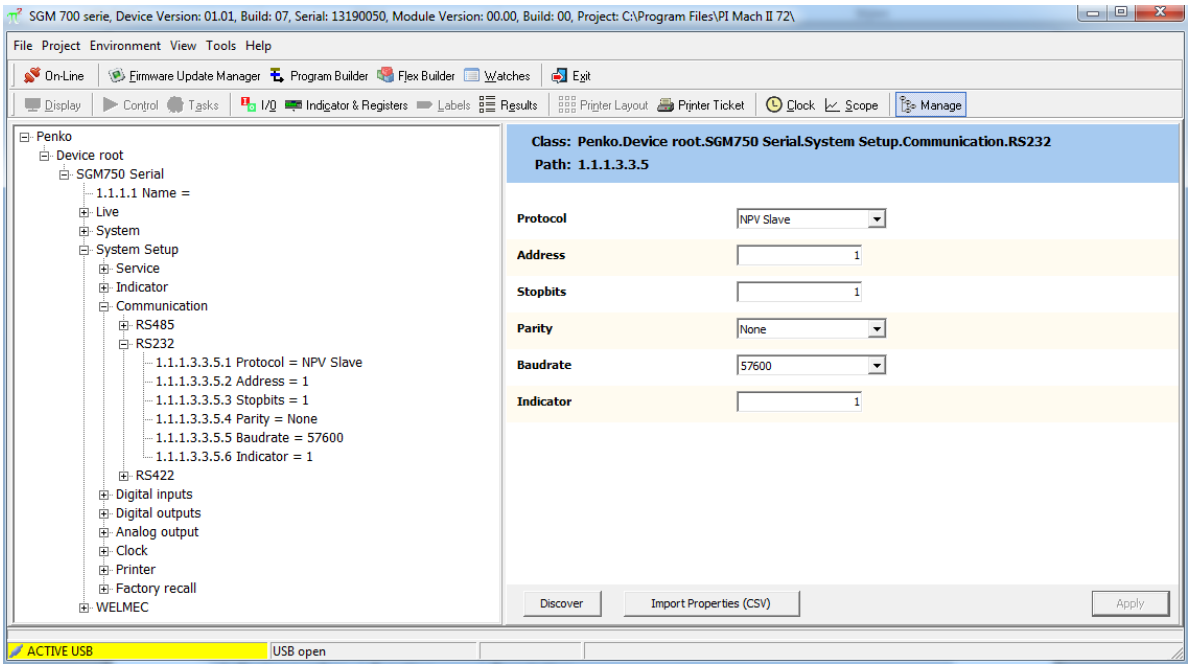


Set up the FLEX

Go to **Menu → System Setup → Port Setup → RS232 Port**. Set **Protocol** to "**Indicator**", **Address** to "**1**", **Baudrate** to "**57600**", **Parity** to "**None**" and **Stopbits** to "**1**". Press "**Ok**" to save settings.

Set up the SGM750/SGM850

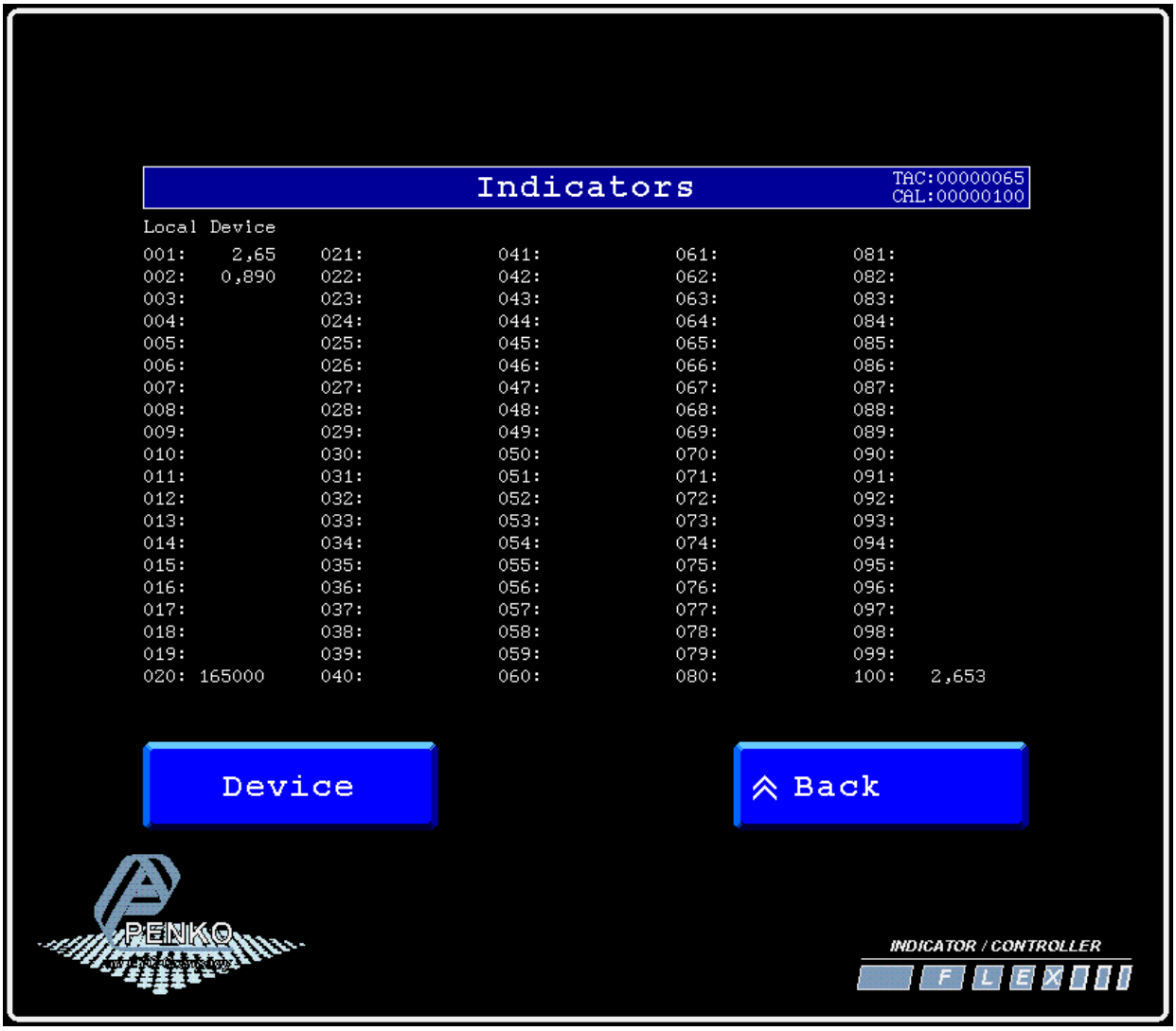
Connect the SGM750/SGM850 to a PC using a USB-cable and open Pi Mach II and double click on **SGM750** or **SGM850**, then double click on **System Setup**, double click on **Communication**, double click on **RS232**. Set **Protocol** to "**NPV Slave**", **Address** between "**1 and 14**", **Stopbits** to "**1**", **Parity** to "**None**", **Baudrate** to "**57600**"and **Indicator** "between **1 and 17** the options are described below". Click on **Apply** to save settings.



Indicator number	Function	Description
1	Weigher	The actual weight of the Indicator.
2	Fast Gross	The weight without filtering and Tare.
3	Fast Net	The weight without filtering and Tare deducted.
4	Display Gross	The weight with Display filtering and without Tare.
5	Display Net	The weight with Display filtering and Tare deducted.
6	Tare	The weight of an empty container. Gross – Tare = Net.
7	Peak	The highest point weighted on the Indicator.
8	Valley	The lowest point weighted on the Indicator.
9	Weigher x10	The actual weight of the Indicator with 1 extra decimal point for more accuracy.
10	Fast Gross x10	The weight without filtering and Tare with 1 extra decimal point for more accuracy.
11	Fast Net x10	The weight without filtering and Tare deducted with 1 extra decimal point for more accuracy.
12	Display Gross x10	The weight with Display filtering and without Tare with 1 extra decimal point for more accuracy.
13	Display Net x10	The weight with Display filtering and Tare deducted with 1 extra decimal point for more accuracy.
14	Tare x10	The weight of an empty container. Gross – Tare = Net with 1 extra decimal point for more accuracy.
15	Peak x10	The highest point weighted on the Indicator with 1 extra decimal point for more accuracy.
16	Valley x10	The lowest point weighted on the Indicator with 1 extra decimal point for more accuracy.
17	Sample	The actual sample of the load cell(s) in mV.

Checking the connection

To check if the connection works, use the FLEX and go to **Menu → Status → Indicators → Device**. Now you should see the value of the SGM750/SGM850 between **002 and 016** (depending on the address you have given the SGM). **Address + 1**.

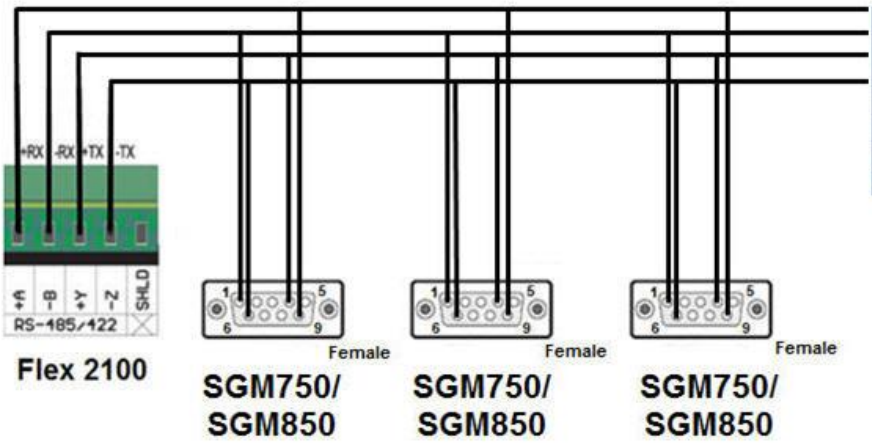


Device number	Address	Value shown on the FLEX
1	1	002
2	2	003
3	3	004
4	4	005
5	5	006
6	6	007
7	7	008

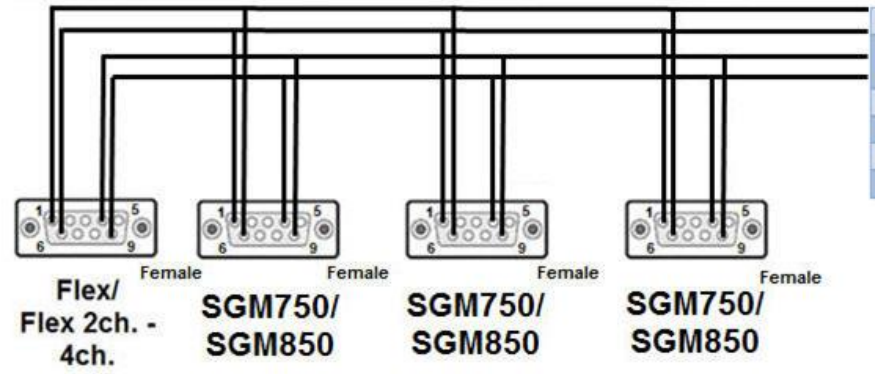
Device number	Address	Value shown on the FLEX
8	8	009
9	9	010
10	10	011
11	11	012
12	12	013
13	13	014
14	14	015
15	15	016

RS422

Use the wiring diagrams below to connect the SGM750/SGM850 to your FLEX 2100, FLEX, or FLEX 2ch. – 4ch. You can connect up to 15 SGM750/SGM850's.



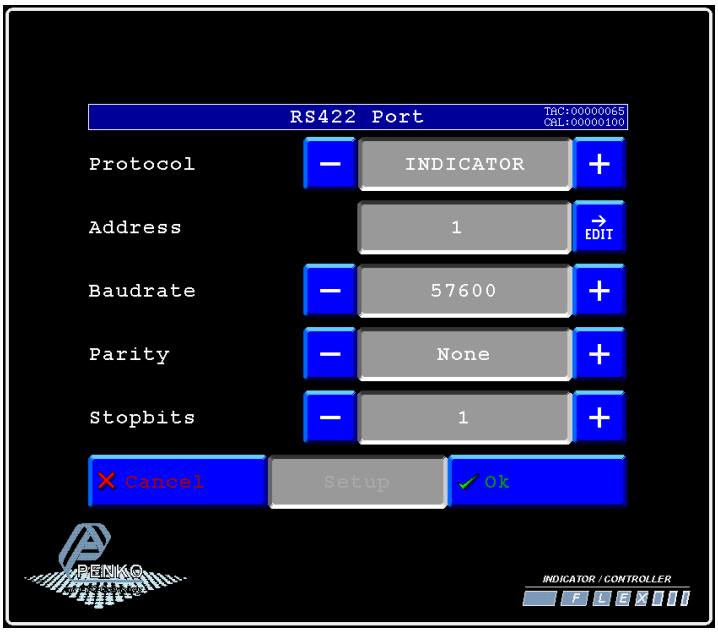
RS422 Connection		
Flex 2100 (Master)	Goes to	SGM750/SGM850 (Slave)
+A (+RX)		9 (+TX)
-B (-RX)		1 (-TX)
+Y (+TX)		4 (+RX)
-Z (-TX)		6 (-RX)



RS422 Connection		
Flex (Master)	Goes to	SGM750/SGM850 (Slave)
1 (-TX)		6 (-RX)
4 (+RX)		9 (+TX)
6 (-RX)		1 (-TX)
9 (+TX)		4 (+RX)

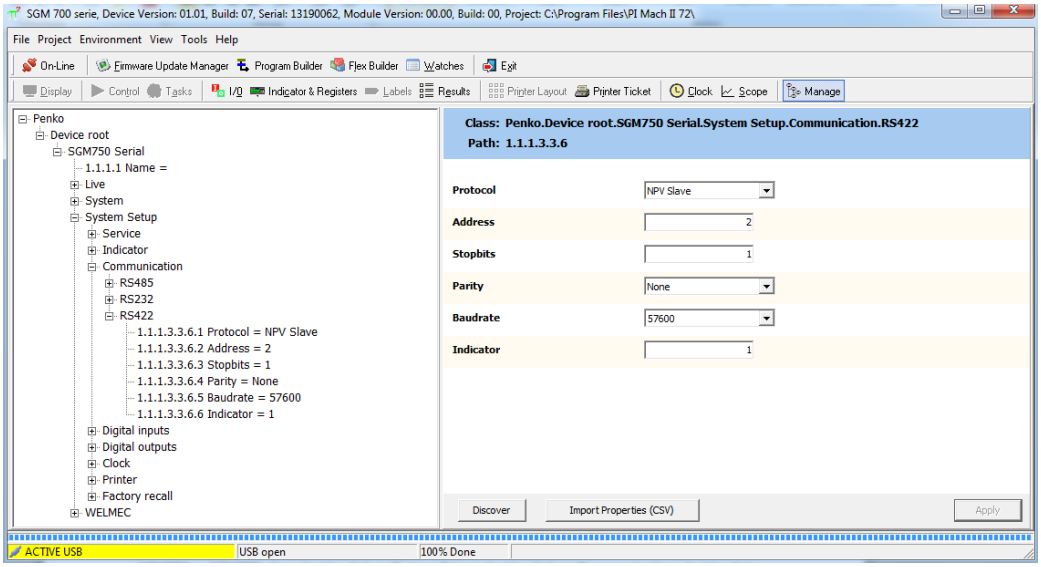
Set up the FLEX

Go to **Menu → System Setup → Port Setup → RS422 Port**. Set **Protocol** to "**Indicator**", **Address** to "**1**", **Baudrate** to "**57600**", **Parity** to "**None**" and **Stopbits** to "**1**". Press "**Ok**" to save settings.



Set up the SGM750/SGM850

Connect the SGM750/SGM850 to a PC using an USB-cable and open Pi Mach II and double click on **SGM750** or **SGM850**, then double click on **System Setup**, double click on **Communication**, double click on **RS422**. Set **Protocol** to "**NPV Slave**", **Address** between "**1 and 14**", **Stopbits** to "**1**", **Parity** to "**None**", **Baudrate** to "**57600**"and **Indicator** "between **1 and 17** the options are described below". Click on **Apply** to save settings.



Indicator number	Function	Description
1	Weigher	The actual weight of the Indicator.
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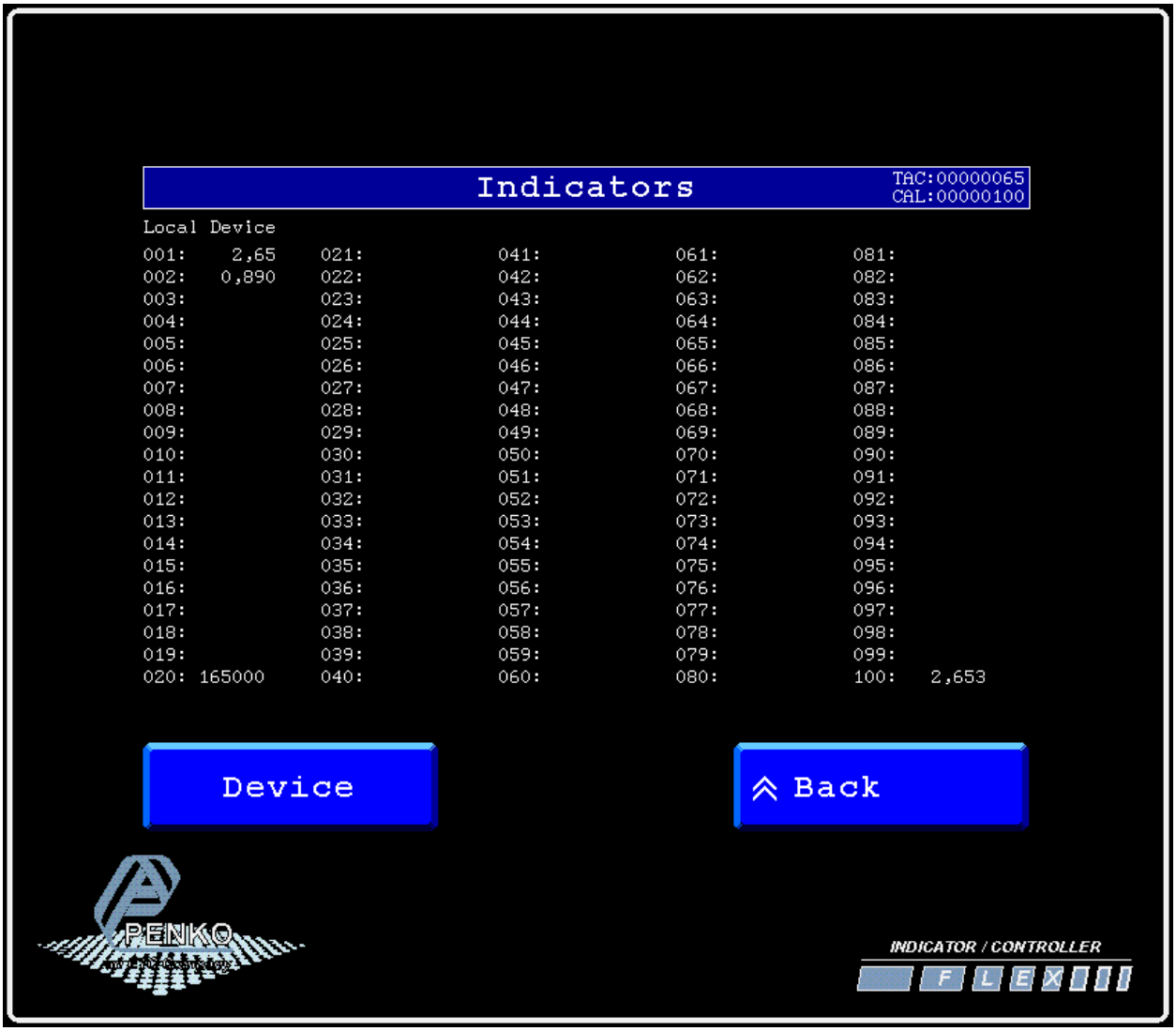
17	Sample	The actual sample of the load cell(s) in mV.

Checking the connection

To check if the connection works, use the FLEX and go to **Menu → Status → Indicators → Device**. Now you should see the value of the SGM750/SGM850 between **002 and 016** (depending on the address you have given the SGM). **Address + 1**.



Device number	Address	Value shown on the FLEX
1	1	002
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5	5	006
6	6	007
7	7	008

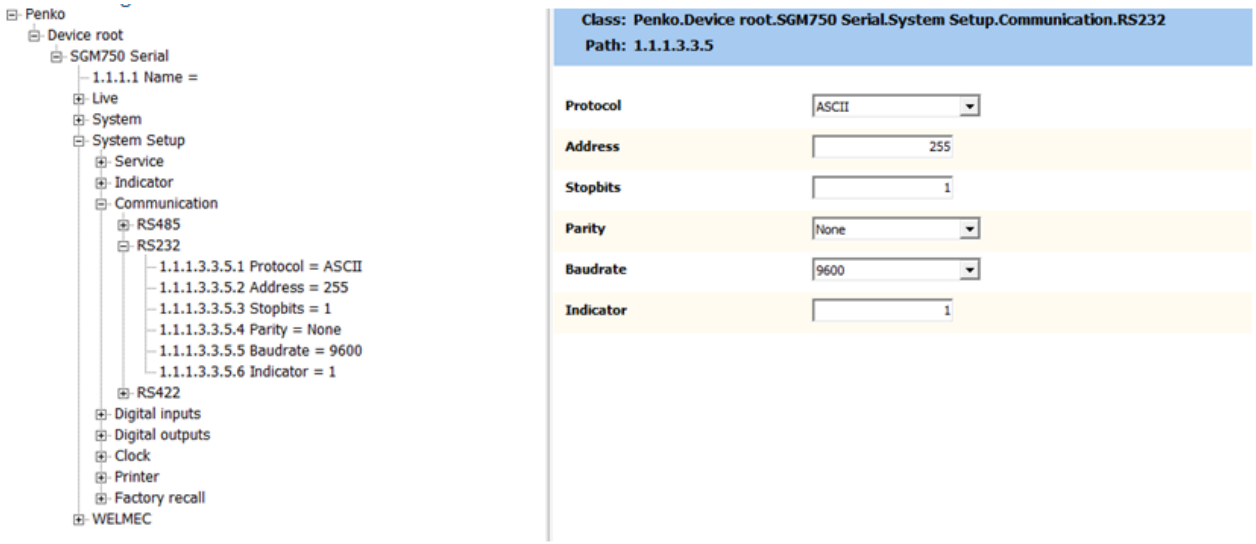
Device number	Address	Value shown on the FLEX
8	8	009
9	9	010
10	10	011
11	11	012
12	12	013
13	13	014
14	14	015
15	15	016

Connect the SGM750 or SGM850 to a display

Set up the SGM750/SGM850:

Connect the SGM750/SGM850 to a PC using a USB-cable and open Pi Mach II and double click on **SGM750** or **SGM850**, then double click on **System Setup**, double click on **Communication**, double click on **RS232**. Set **Protocol** to "**ASCII**", **Address** between "**255**", **Stopbits** to "**1**", **Parity** to "**None**", **Baudrate** to "**9600**"and **Indicator** "**1**". Click on **Apply** to save settings.

Note: Address 255 means the Net weight is constantly send to 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**

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