PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions

How to…

Connect a SGM750 or SGM850 using RS422 and the Modbus RTU protocol

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.

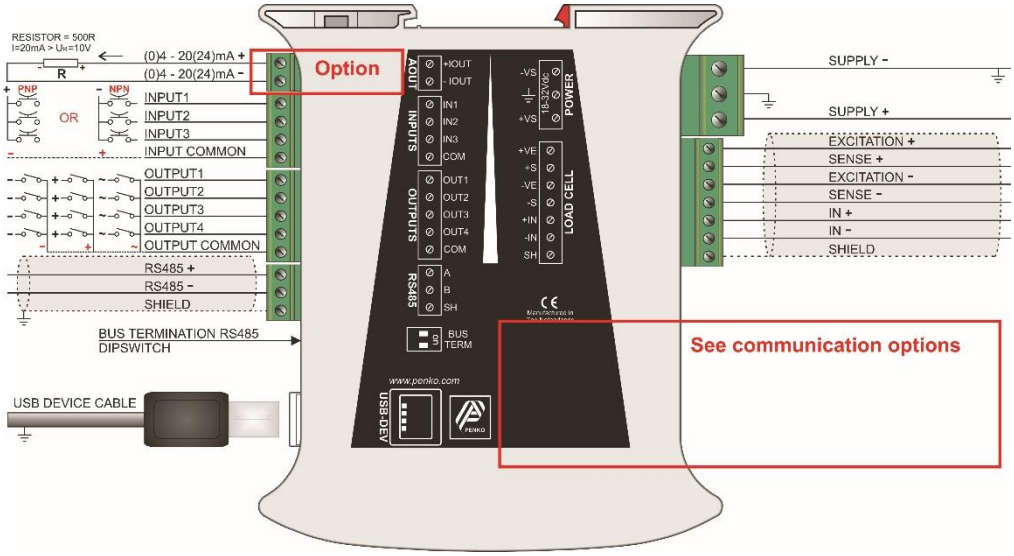
Analoge output (option)

Inputs
Input 1=5khz
18-28Vdc

Outputs
25V/0.5A
AC/DC

Local bus

To PC
Config
software

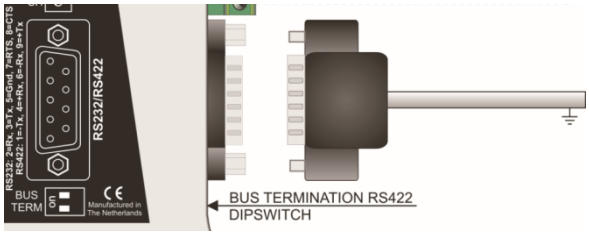


DC POWER
SUPPLY
18-32Vdc

6-Wire load cell
connection
Vexc=5Vdc

SGM750 or SGM850

Serial connection



SGM750 or SGM850 RS422 connection

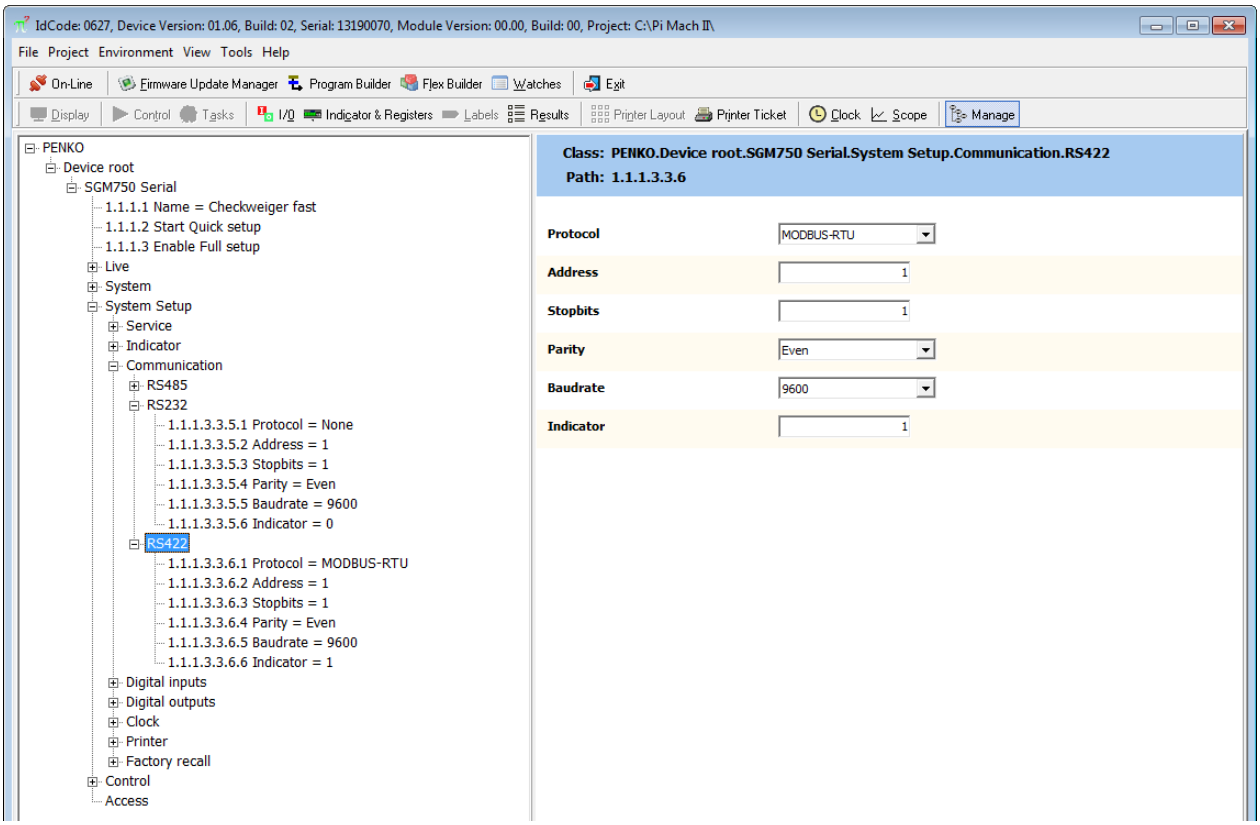
RS422 4 wire communication:

SGM750 or SGM850 Sub-D Connector	Other device
9 +Tx	+Rx
1 -Tx	-Rx
4 +Rx	+Tx
6 -Rx	-Tx

SGM750 or SGM850 RS422 settings

Below you can see an example of the RS422 settings, set protocol on MODBUS-RTU. The rest of the RS422 setting may vary depending on the device which the SGM750 or SGM850 is connected.

Note: Make sure that the RS232 protocol setting is not set to MODBUS-RTU.



Indicator address

The indicator values are available as float and long values. To gain the long values, add an offset of 100 to the address of the float value.

Indicator	Name	Description	Address code	Address	Combined Float	Long
1	WEIGHT	multi range net weigher value	3x	1	300001	300101
2	FAST GROSS	unfiltered gross weigher value	3x	3	300003	300103
3	FAST NET	unfiltered net weigher value	3x	5	300005	300105
4	DISPLAY GROSS	filtered gross weigher value	3x	7	300007	300107
5	DISPLAY NET	filtered net weigher value	3x	9	300009	300109
6	TARE	tare value	3x	11	300011	300111
7	PEAK	highest reached weigher value	3x	13	300013	300113
8	VALLEY	lowest reached weigher value	3x	15	300015	300115
9	HOLD*	stored weigher value	3x	17	300017	300117
10	WEIGHTx10	multi range net weigher value shown with extra decimal	3x	19	300019	300119
11	FAST GROSSx10	unfiltered gross weigher value shown with extra decimal	3x	21	300021	300121
12	FAST NETx10	unfiltered net weigher value shown with extra decimal	3x	23	300023	300123
13	DISPLAY GROSSx10	filtered gross weigher value shown with extra decimal	3x	25	300025	300125
14	DISPLAY NETx10	filtered net weigher value shown with extra decimal	3x	27	300027	300127
15	TAREx10	tare value shown with extra decimal	3x	29	300029	300129
16	PEAKx10	highest reached weigher value shown with extra decimal	3x	31	300031	300131
17	VALLEYx10	lowest reached weigher value shown with extra decimal	3x	33	300033	300133
18	HOLDx10*	stored weigher value shown with extra decimal	3x	35	300035	300135
19	SIGNAL	direct mV value from the load cell(s)	3x	37	300037	300137

*Hold and Holdx10 are added in the 1020 firmware version V1.5.1.9.0.6 and above. And in the SGM7xx/SGM8xx series firmware version V1.6.1.9.0.3 and above.

Weigher control addresses

Weigher 1 control	Data type	Address code	Address	Combined
Zero reset*	Bit	0x	1001	001001
Zero set*	Bit	0x	1002	001002
Tare reset*	Bit	0x	1003	001003
Tare set*	Bit	0x	1004	001004
Toggle tare*	Bit	0x	1005	001005
Activate preset tare*	Bit	0x	1006	001006
Reserved	Bit	0x	1007	001007
Reserved	Bit	0x	1008	001008

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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