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.



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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.



SGM750 or SGM850



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 \rightarrow System Setup \rightarrow Port Setup \rightarrow 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

ETC Company

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.

ኛ SGM 700 serie, Device Version: 01.01, Build: 07, Serial: 13190050, Module Version: 00.00, Build: 00, Project: C:\Program Files\PI Mach II 72\					
File Project Environment View Tools Help					
💕 On-Line 🛛 🛞 Eirmware Update Manager 🗧 Program Builder 🥞 Flex Builder 🔲 📈	tches 🛃 E <u>x</u> it				
🔄 🕎 Display 🗼 Control 🌒 Tasks 🛛 🏪 1/0 📪 Indicator & Registers 🖚 Labels 🔡	Results 🛛 👬 Printer Layout 进 Printer 1	icket 🕓 <u>C</u> lock 🗠 <u>S</u> cope			
E-Penko E-Device root E-SGM750 Serial D-1111 Marra =	Class: Penko.Device root.So Path: 1.1.1.3.3.5	SM750 Serial.System Setup.Communication.RS232			
E Live E System System	Protocol	NPV Slave			
Service Service Service Grommunication Res232 Indicator Indicator Res232 Indicator Indicator Service Indicator Service Service	Stopbits				
	Parity Baudrate	None 57600			
	Indicator	1			
	Discover Import Prope	rties (CSV)	Apply		
ACTIVE USB USB open					

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** \rightarrow **Status** \rightarrow **Indicators** \rightarrow **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.

						_
			Indica	tors	CAL:00000010	0
Local	Device					
001:	2.65	021:	041:	061:	081:	
002:	0.890	022:	042:	062:	082:	
003:	.,	023:	043:	063:	083:	
004:		024:	044:	064:	084:	
005:		025:	045:	065:	085:	
006:		026:	046:	066:	086:	
007:		027:	047:	067:	087:	
008:		028:	048:	068:	088:	
009:		029:	049:	069:	089:	
010:		030:	050:	070:	090:	
011:		031:	051:	071:	091:	
012:		032:	052:	072:	092:	
013:		033:	053:	073:	093:	
014:		034:	054:	074:	094:	
015:		035:	055:	075:	095:	
016:		036:	056:	076:	096:	
017:		037:	057:	077:	097:	
018:		038:	058:	078:	098:	
019:		039:	059:	079:	099:	
020: 1	165000	040:	060:	080:	100: 2,653	
	Dev:	ice			🚫 Back	
RENK	10mm				WD/CA700 / CO	
and the second	top 111100				INDICATOR / COL	
	2 C					EXDD

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	Address	Value shown on
number		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.





Set up the FLEX

Go to Menu \rightarrow System Setup \rightarrow Port Setup \rightarrow 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.

e Project Environment View Tools Help					
🌾 On-Line 🚽 🛞 Eirmware Update Manager 🐁 Program Builder 🧠 Fjex Builder 🔲 🕽	Watches 🛃 E <u>x</u> it				
😇 Display 🕨 Control 🌑 Tajaka и 1/2 🖷 Indigatori & Registers 📼 Labels 📰 Results 🗰 Prigter Layout 👜 Printer Ticket 🕓 Glock 🗠 Scope 👔 Manage					
⊢ Penko Ė- Device root Ė- SGM750 Serial	Class: Penko.Devi Path: 1.1.1.3.3.6	ce root.SGM750 Serial.System Setup.Communication.F	IS422		
1.1.1 Name = ⊕-Live ⊕-System	Protocol	NPV Slave			
⊖-System Setup ⊕-Service	Address	2			
Indicator Communication	Stopbits	1			
B RS485	Parity	None			
- RS422	Baudrate	57600			
- 1.1.1.3.3.6.2 Address = 2 - 1.1.1.3.3.6.3 Stopbits = 1	Indicator	1			
- 1.1.1.3.3.6.4 Party = None - 1.1.1.3.3.6.5 Baudrate = 57600 - 1.1.1.3.3.6.6 Indicator = 1					
Digital inputs Digital outputs Occ					
⊕- Printer ⊕- Factory recall ⊕ WELMEC	Discover	Import Properties (CSV)	Apply		



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Checking the connection

To check if the connection works, use the FLEX and go to **Menu** \rightarrow **Status** \rightarrow **Indicators** \rightarrow **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.

			India	tors	TAC:0000065	
			Inurca	LOIS	CAL:00000100	
Local	Device					
001:	2,65	021:	041:	061:	081:	
002:	0,890	022:	042:	062:	082:	
003:		023:	043:	063:	083:	
004:		024:	044:	064:	084:	
005:		025:	045:	065:	085:	
006:		026:	046:	066:	086:	
007:		027:	047:	067:	087:	
008:		028:	048:	068:	088:	
009:		029:	049:	069:	089:	
010:		030:	050:	070:	090:	
011:		031:	051:	071:	091:	
012:		032:	052:	072:	092:	
013:		033:	053:	073:	093:	
014:		034:	054:	074:	094:	
015:		035:	055:	075:	095:	
016:		036:	056:	076:	096:	
017:		037:	057:	077:	097:	
018:		038:	058:	078:	098:	
019:		039:	059:	079:	099:	
020:	165000	040:	060:	080:	100: 2,653	
	Dow				A Back	
	Dev.	LCe			~ Back	
PENK	10 marsh				INDICATOR / CON	
AN AND AND	State 1 1 1 1					
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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	Address	Value shown on
number		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.

Penko Device root SGM750 Serial	Class: Penko.Device root.SGM Path: 1.1.1.3.3.5	4750 Serial.System Setup.Communication.RS232
– 1.1.1.1 Name = ⊕ Live ⊕ System	Protocol	ASCII
⊖- System Setup ⊕- Service	Address	255
မ္)- Indicator မု- Communication	Stopbits	1
 ₽ R5485 ₽ R5232 	Parity	None
-1.1.1.3.3.5.1 Protocol = ASCII -1.1.1.3.3.5.2 Address = 255	Baudrate	9600
- 1.1.1.3.3.5.3 Stoppins = 1 - 1.1.1.3.3.5.4 Parity = None	Indicator	1
- 1.1.1.3.3.5.6 Indicator = 1		
Digital inputs Digital outputs		
Clock Printer Sactors recoll		



- WELMEC



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

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