S20N1 / S21N1

BATCH CONTROLLERS WITH PULSE INPUT, LED DISPLAY AND MODBUS INTERFACE

Highlights

- **Metering Systems with panel mounting, Ex, IP65 execution**
- **Stand-alone operation or auto-manual station with**
- **Remote PLC (by RS485 connection ModBUS)**
- **Nr.2 high brightness display (Set / Batch)**
- **Metering full totalizer**
- **Control digital input (Start, stop, reset)**
- **Nr.1 configurable pulse input**
- **Nr.2 SPDT relay outputs**
- **Nr.1 RS485 port for remote commands and ModBUS interface**
- **Nr.1 RS232 port for impact printer (S21N1 model)**
- **Self-powered clock (S21N1 model)**

SENECA S20N1 and S21N1 batch controllers are cost-effective, simple and safe solutions for process automation.
Equipped with polycarbonate front membrane from 72x144 mm with 2 Numeric 5-digit LED high brightness displays, 7 status indicators LED and 6 programming buttons, S20N1 and S21N1 get digital signals from free contact, Reed, NPN, NAMUR, Hall effect and photoelectric sensors.
The units are designed to control the measuring probes and activate valves or motors so to manage metering, batch& blending, filling and regeneration processes for fluids, in automatic, time-based and accurated way.
S20N1 and S21N1 batch controllers can be used as “stand-alone” metering unit or “auto-manual” station. In this second mode they work as a local control unit in order to manually compensate, integrate or stop metering recipes remotely controlled from the PLC.
Flexibility and redundancy of the system, capacity dosing, recipe development, energy efficiency of controlled processes are improved.

100% Made & Designed in Italy

SENECA
www.seneca.it

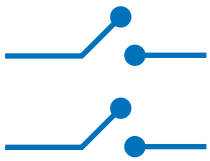
S20N1 / S21N1

BATCH CONTROLLERS WITH PULSE INPUT, LED DISPLAY AND MODBUS INTERFACE

ACCURATE AND REALIABLE BATCH OPERATIONS FOR PROCESS INDUSTRY

N.1 CONFIGURABLE PULSE INPUT (MAX FREQ. 2,2 kHZ)

N.2 SPDT RELAY OUTPUT (5A, 250 V, RESISTIVE LOAD)



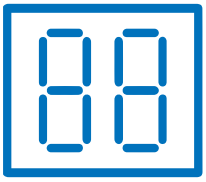
CONFIGURABLE RS485 MODBUS SERIAL PORT

RS485 ModBUS

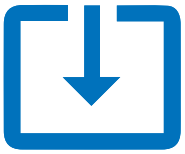
IMPACT PRINTER RS232 SERIAL CONNECTION

S20N1KIT CONNECTION BOARD FOR EXTERNAL BUTTONS AND LAMPS

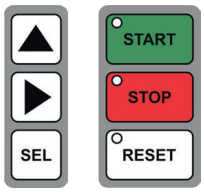
N.2 HIGH BRIGHTNESS LED NUMERICAL DISPLAY @5 DIGIT (SET+BATCH OPERATIONS)



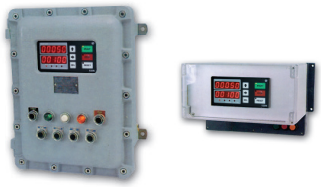
MICRO USB CONNECTOR FOR SW/FW UPDATE



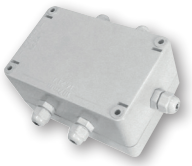
N.6 FRONT PANEL PROGRAMMING BUTTONS



EX / IP65 SPECIAL VERSIONS



SELF-POWERED INPUT ADAPTER BOARD



APPLICATION AREAS

WATER TREATMENT

WASTE WATER

WINE, BEER, ALCOHOL PRODUCTION

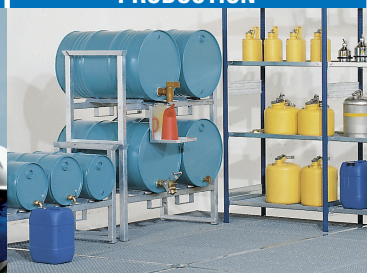
PULP & PAPER

FOOD & BEVERAGE

PHARMA & BIOTECHNOLOGY

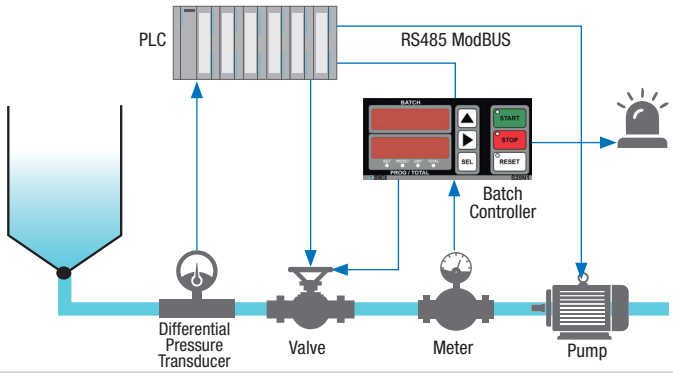
OIL & GAS

PAINT THINNER & ADDITIVES PRODUCTION

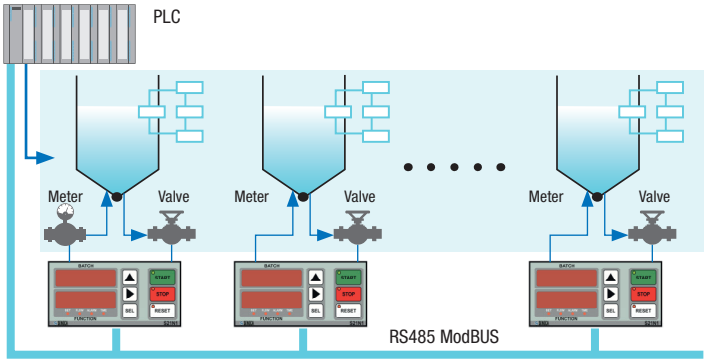


APPLICATION EXAMPLES

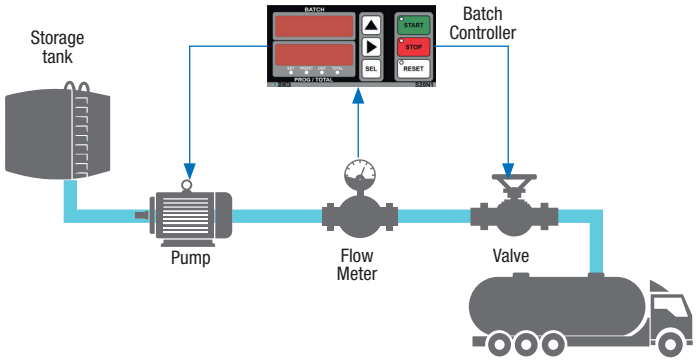
BATCH PROCESS CONTROL WITH PLC



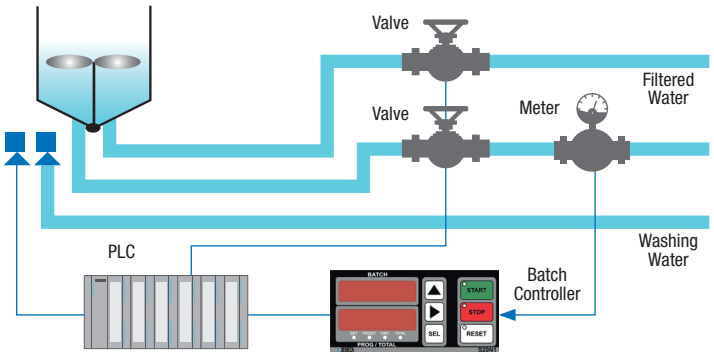
MULTIPLE RECIPES FROM REMOTE COMMAND (PLC) OR LOCAL (AUTO-MAN STATION)



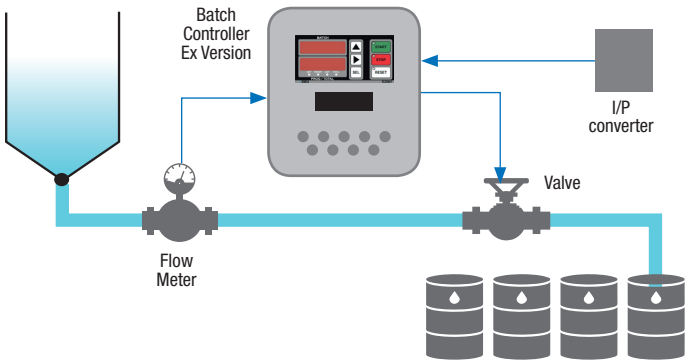
BATCHING APPLICATION TO FILL A TANK TRUCK



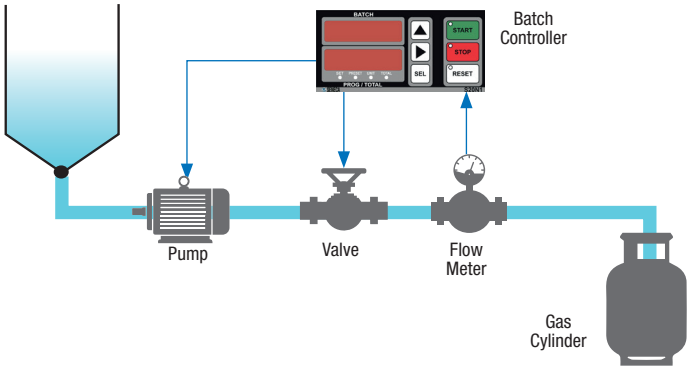
FILTER REGENERATION BATCHING FOR WATER TREATMENT



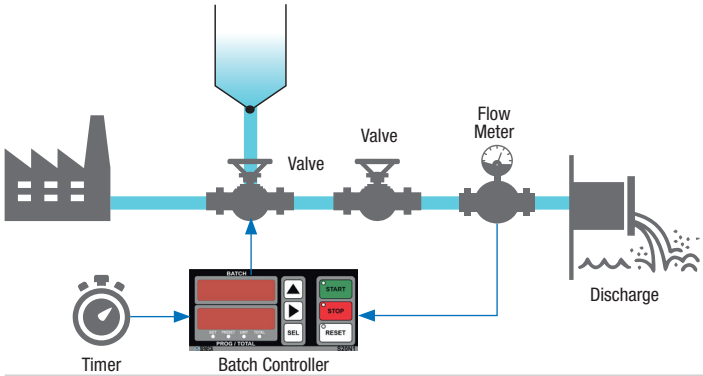
FILLING SYSTEM BATCHING IN HAZARDOUS AREA



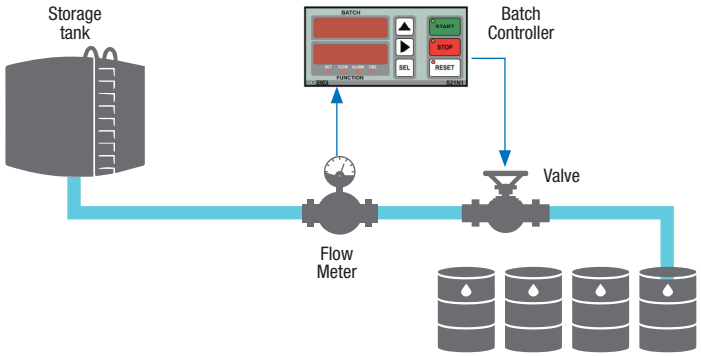
GAS REINJECTION SYSTEM IN WINEMAKING



DISCHARGE INDUSTRIAL WASTE CONTROL SYSTEM



FILLING SYSTEM WITH 2 SPEED VALVE CONTROL



S20N1 / S21N1

	S20N1	S21N1
		
	Batch controller with pulse input, LED display and ModBUS interface	**Batch controller with pulse input, LED display, ModBUS interface and self-powered clock**
GENERAL DATA		
Power supply	115/230 Vac ± 50/60 Hz; 24 Vac/dc	115/230 Vac ± 50/60 Hz; 24 Vac/dc
Power transducer	12/24 Vdc, 30 mA (max)	12/24 Vdc, 30 mA (max)
Max consumption	10 VA	10 VA
Max isolation	1.500 V	1.500 V
Data storage	EEPROM, data	EEPROM, data
Clock	-	Clock with independente battery, data memory, automatic time correction
Interfacce	Nr.1 RS232 (printer command) Nr.1 RS485 / ModBUS (control and data monitoring) Nr.1 Micro USB (firmware update)	Nr.1 RS232 (printer command) Nr.1 RS485 / ModBUS (control and data monitoring) Nr.1 Micro USB (firmware update)
VISUALIZATION AND MEASUREMENT		
Display	Nr.2 5 digit LED display	Nr.2 5 digit LED display
LED status indicators	Nr.7 LED for operating mode signalling	Nr.7 LED for operating mode signalling
INPUT DATA		
Nr channels	Nr.1 (isolated)	Nr.1 (isolated)
Type	Reed, npn (2/3 wires), Namur, Hall effect, photoelectric sensor	Reed, npn (2/3 wires), Namur, Hall effect, photoelectric sensor
Max frequency	2,2 kHz	2,2 kHz
Control	Nr.3 input (start, stop, reset)	Nr.3 input (start, stop, reset)
OUTPUT DATA		
Nr channels	Nr.2	Nr.2
Type	SPDT relay, rated current 5 A 250 V (resistive load)	SPDT relay, rated current 5 A 250 V (resistive load)
THERMOMECHANICAL DATA		
Operating temperature	0..50°C	0..50°C
Storage temperature	-20..+85°C	-20..+85°C
Case	Noryl self-extinguish V0	Noryl self-extinguish V0
Front protection	Polycarbonate front panel	Polycarbonate front panel
Connection	Backside removable terminals	Backside removable terminals
Dimension (w x h x d)	144 x 72 x 130 mm	144 x 72 x 130 mm
Panel cut-out dimension	135 x 67 mm	135 x 67 mm
Weight	800 g	800 g
SETTINGS, NORMS		
Prorgamming / Dosing	With front buttons	With front buttons
Operating mode	Stand-alone or auto-man with remote PLC (RS485 - ModBUS)	Stand-alone or auto-man with remote PLC (RS485 - ModBUS)
Max batch operations	1	8
Approval	CE	CE

ORDER CODES	
Code	**Description**
Batch Controller - Standard Versions	
S20N1-1-ST	Batch controller with pulse input, LED display, ModBUS interface, 115 / 230 Vac
S20N1-23-ST	Batch controller with pulse input, LED display, ModBUS interface, 24 Vac/dc
S21N1-1-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, 115 / 230 Vac
S21N1-23-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, 24 Vac/dc
Batch Controller - EX Versions	
S20N1EX-1-ST	Batch controller with pulse input, LED display, ModBUS interface, flame retardant Eexd case, 115 / 230 Vac
S20N1EX-23-ST	Batch controller with pulse input, LED display, ModBUS interface, flame retardant Eexd case, 24 Vac/dc
S21N1EX-1-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, flame retardant Eexd case, 115 / 230 Vac
S21N1EX-23-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, flame retardant Eexd case, 24 Vac/dc

ORDER CODES	
Code	**Description**
Batch Controller - IP65 Versions	
S20N1IP65-1-ST	Batch controller with pulse input, LED display, ModBUS interface, IP65 case, 115 / 230 Vac
S20N1IP65-23-ST	Batch controller with pulse input, LED display, ModBUS interface, IP65 case, 24 Vac/dc
S21N1IP65-1-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, IP65 case, 115 / 230 Vac
S21N1IP65-23-ST	Batch controller with pulse input, LED display, ModBUS interface, self-powered clock, IP65 case, 24 Vac/dc
Accessories	
FH190-24	Impact printer, 24 columns, 9-40 Vdc
S20ADP	Scheda di amplificazione ingresso standard
S20ADP-CM	Self-powered input adapter board for S20N1, S21N1, S30
S20ADP-IP65	IP65 self-powered input adapter board
S20N1-KIT-1-ST	S20N1 / S21N1 remote board, 115 / 230 Vac
S20N1-KIT-23-ST	S20N1 / S21N1 remote board, 24 Vac/dc

Publication S20N1_S21N1_1609EN – September 2016

SENECA
Via Austria, 26 • 35127 Padova - (I) - Tel. +39 049 87.05.359
Fax +39 049 87.06.287 • www.seneca.it • info@seneca.it

The material in this document is for information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, SENECA assumes no liability resulting from errors or omissions, or from the use of the information contained herein.