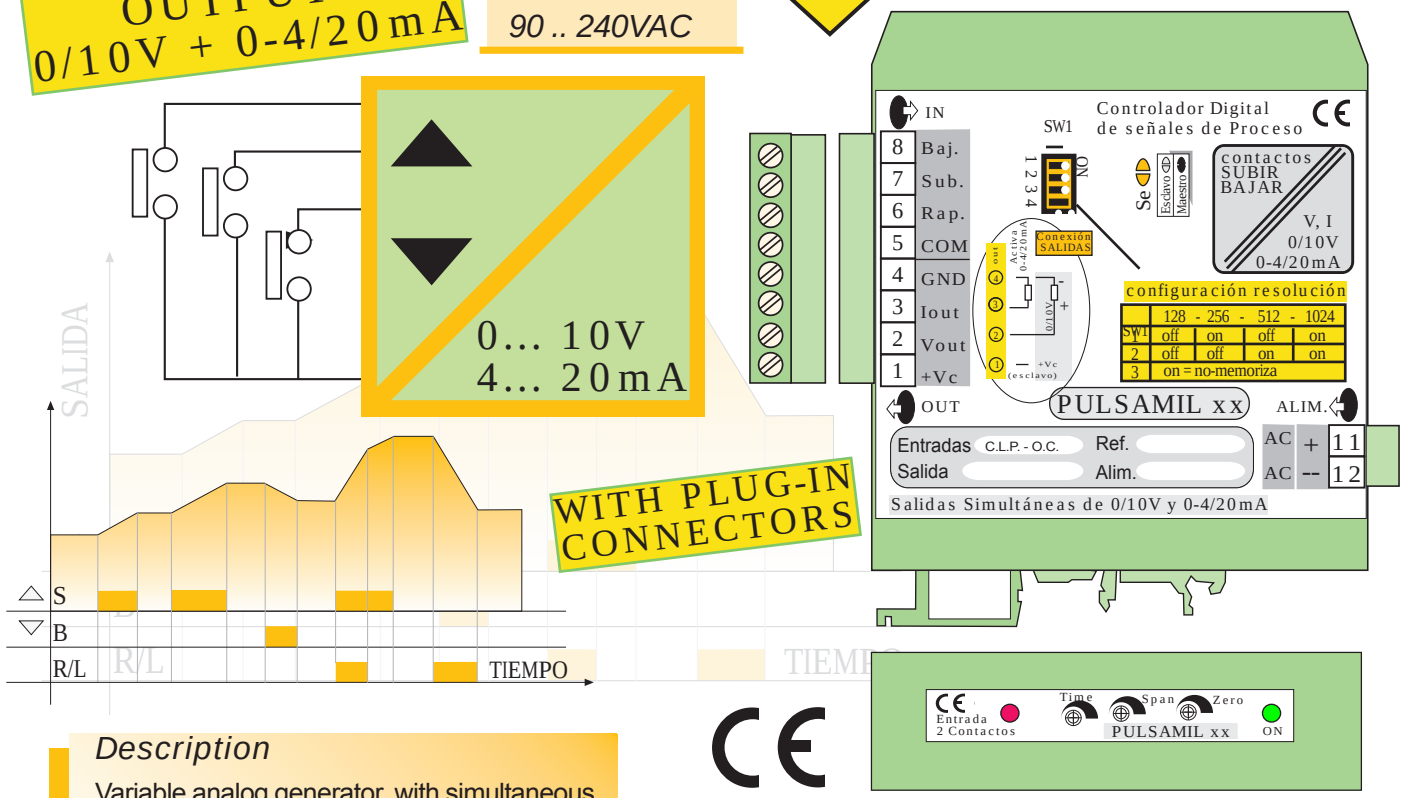
Digital Controller for Analogic signals

2 contacts or NPN transistor input

simultaneous OUTPUTS 0/10V + 0-4/20mA

SUPPLY 24 VDC 90 .. 240VAC

PULSAMIL



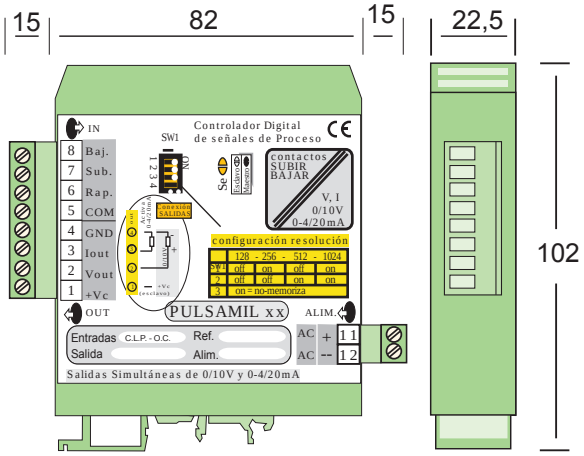
Description

Variable analog generator, with simultaneous outputs to 0-4... 20mA and 0... 10V,increases or decreases proportionaly to the actuation time, with the UP/DOWN contacts

SUPPLY

90 .. 240 VAC	20%
24 VDC +/-	0,6 VA

DIMENSIONS (mm)



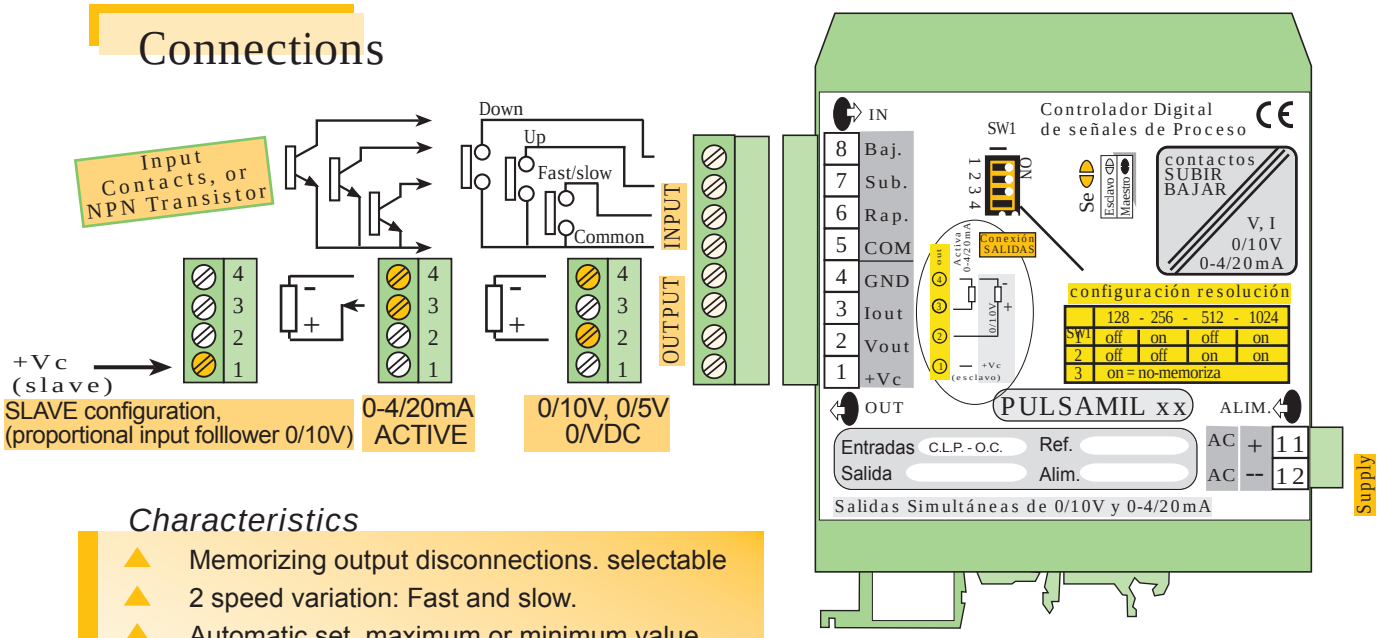
Applications

- Prefix setpoints with precision, with the posibility of remote self-correcting and digital indication.
- Variable ramp generation(control aceleration/deceleration).
- Monitorized potentiometer substitution.
- Simultaneous setpoint control from different points
- Control vain detectors.
- Dimming in electroplating baths.
- Continuous flow control and speed through 2 digital outputs

References

Supply	0/10V	4/20mA
90..240VAC	PULSAMIL12	PULSAMIL42
24VDC	PULSAMIL10	PULSAMIL40

Connections



Characteristics

- Memorizing output disconnections. selectable
- 2 speed variation: Fast and slow.
- Automatic set, maximum or minimum value.
- Control input 2 + 1 voltage free contacts or NPN transistor.
- Configurable resolution in the output up to 1024 steps.
- Output voltage 0 / 10V and 0-4 / 20mA.

Zero	Initial scale adjustment (4 or 0mA, 0V) +/-10%
Span	Full scale adjustment (10V, 20mA) +/-10%
Time	Delay adjustment (0,2... 1,3sec)

Input

2-3 free of potential contacts
or
2-3 NPN transistors, open colector
(absorption current 5mA)

Output

CURRENT	VOLTAGE
4/20mA	0/10V
0/20mA	0/5V
LOAD CAPACITY	
⩽ 650Ω	⩾1KΩ

Configuration for the resolution SW1 (pos.1+2)

4 possible configuration (128, 256, 512, 1024).

SW1 → ON 1 2 3 4

Resolution configuration

memorize when discount

SW1	128	256	512	1024
1	off	on	off	on
2	off	off	on	on
3	on = no-memorize			

Desconnection memorization SW1 (pos. 3)

OFF= memorize the last value of the output when disconnected. Starts with this value when connected again
ON = doesn't memorize tha last value, when reconnected, starts from the initial scale (0V, 0mA or 4mA).

Response speed

The variation speed of the output signal can be selected in two modes:
1 - FAST: Response time 50ms. For control through PLC. (Rap.+ COM together).
2 - SLOW VARIABLE: Adjustable through frontal potentiometer “Time”. (Rap not connected)
Adjustable between 0,2... 1,3 sg.
* Between Rap. and COM, can be introduced, optionally a button for fast/slow modes, is really usefull for quickly approaching the setpoint. If not used, you can leave the air, thus acting variable slow mode from the front "Time" setting.

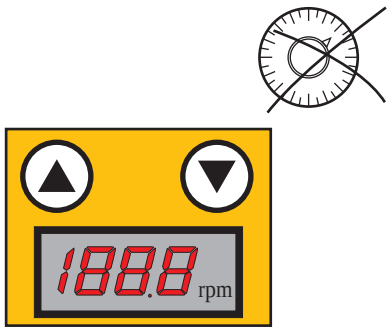
MECHANICAL

Protection:	IP 20
Connection wire:	<2,5 mm, 12 AWG
Box:	Polyamide UL94. V2
Wide	22.5mm
Rail:	EN 50035, EN 50022

REGULATIONS COMPLIANCE

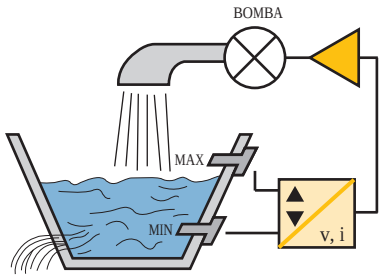
Electromagnetic Compatibility	2004 / 108 / CE
Low voltage for amb. industrial	2006/95/CEE
Electromagnetic emissions	UNE-EN 50081-2
Electromagnetic immunity	UNE-EN 50082-2
Waste electronics(WEEE)	2002 / 96 / CE

REPLACING SETPOINT POTENTIOMETERS BY ROBUST PUSHBUTTON

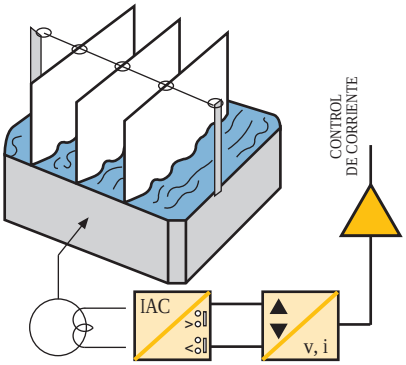


* With process variable indication *

CONTINUOUS FILLING CONTROL, WITH VARIABLE OUTPUT

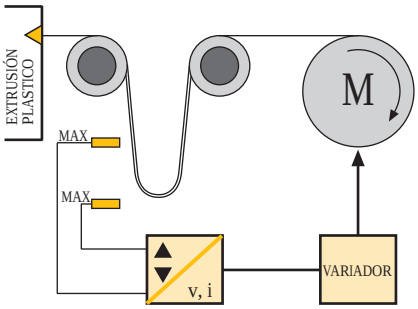


CURRENT CONTROL IN PLATING BATHS



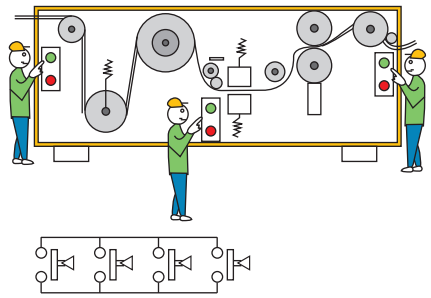
CONTROL OUT IN VAIN PLASTIC EXTRUSION

* Con detectores de máx / min.

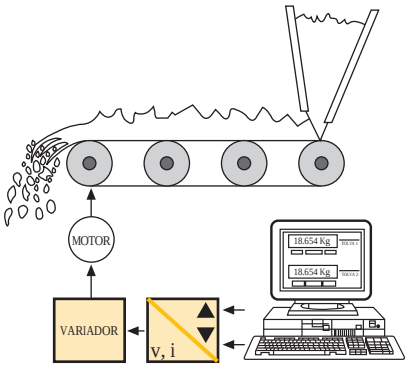


SETPOINT CONTROL SIMULTANEOUSLY FROM DIFFERENT POSITIONS

* Mando por pulsadores en paralelo *

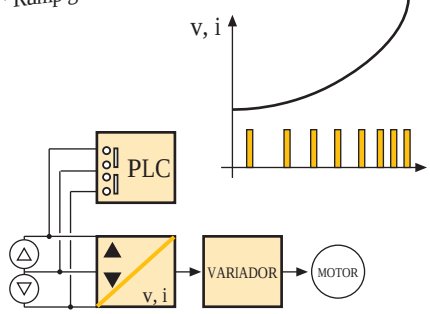


FLOW CONTROL REGULATION IN CONVEYORS

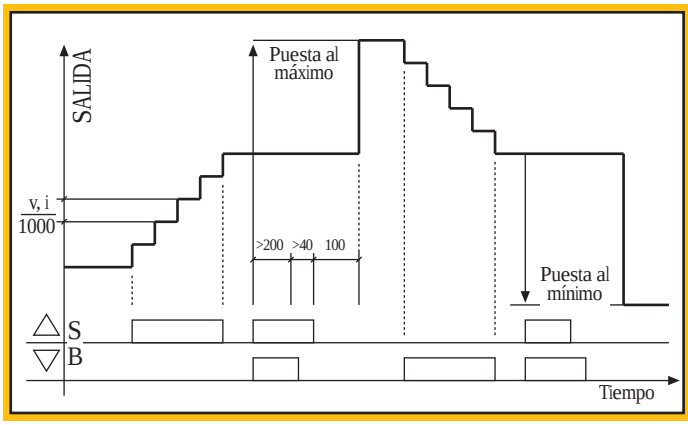


CONTROL OF SPEED SETPOINT THROUGH PLC DIGITAL SIGNAL

* Ramp generation of aceleration / deceleration



TIME CHARACTERISTICS



tm	Min. time of the input pulse	40ms

Response to a continuous pulse input	Slow	Fast
The output changes a thousandth every:	0,2 - 1,3s	50ms

SETTING TO MAX / MIN
Working simultaneously through 2 inputs (min 200ms)
and deactivating firstly UP / DOWN
manteining the other one during, at least 40ms
The output will reach the las value at 100ms

A LED indicates the output variation

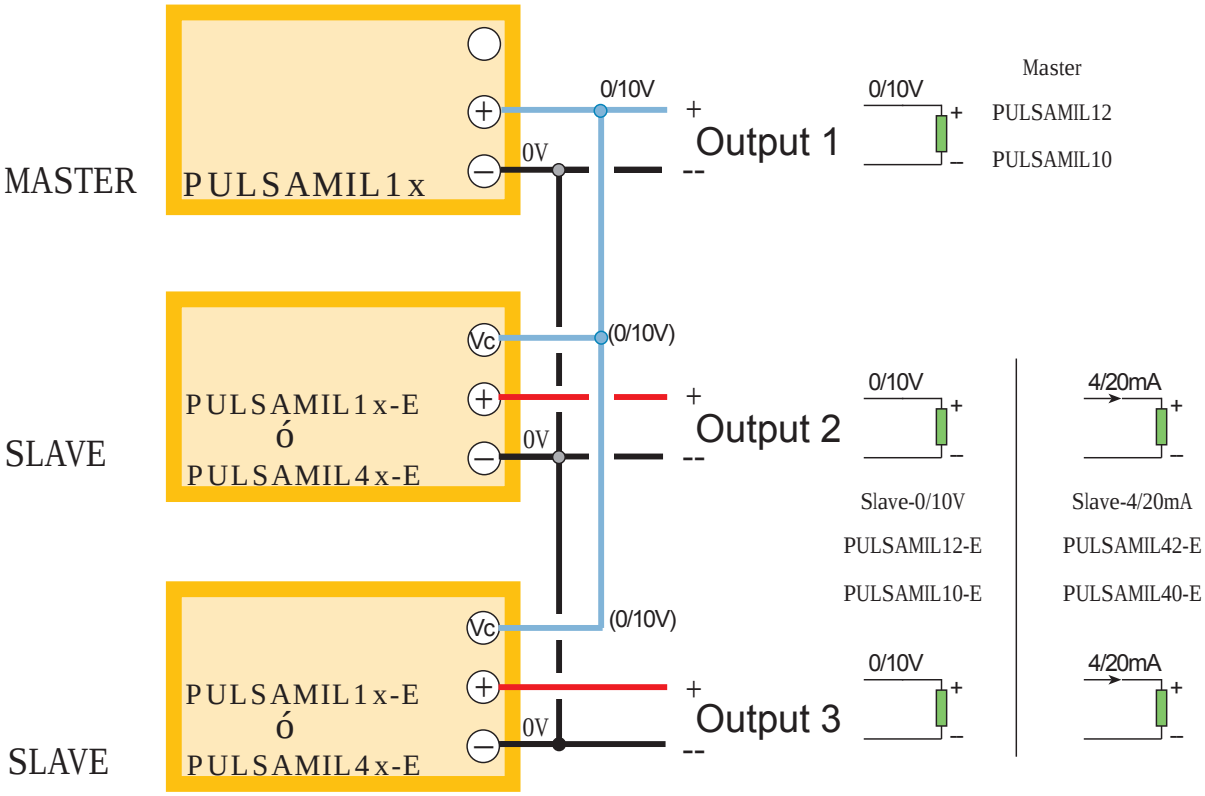
Special Model — PULSAMIL Slave

APPLICATION

* SYNCHRONISM WITH MULTIPLICATION (FACTOR)

- The PULSAMIL-Slave always follows the reference signal + Vc.
- The reference + Vc, should be 0..10V, which can be generated by a PULMAMIL-Master, by a potentiometer or an external signal.
- The PULSAMIL-Slaves, vary in proportion to the same setpoint (+ Vc = 0..10V).
- The output multiplier factor is controlled by the inputs "up / down"
- The multiplier factor can have any value between 0 .. 100% of the input.
- To preserve the multiplier factor must be configured with Memorizing the disconnection.
- The maximum output can give is limited to 100% of the input.

Note.-
The control voltage (Vc) that enters the slave, is with reference to its mass.
Pay attention to the case of slaves with 4 / 20mA output and supplied with 230VAC.



Advantajes

- Fully electronic, no mechanical problems.
- Compact, space-saving and consumption.
- Greater flexibility and precision control.
- Setpoints through robust pushbuttons, with precision variations by steps.
- Remote control and a variable multipost.
- Reliable transmission of setpoints over long distances (4 / 20mA)

AMBIENTALS

Working temp.	-10 / +60 ºC
Storage temp.	-40 / +80 ºC
Tª coefficent	50 ppm / ºC
Warm up time	5 min.

Slaves-references

Supply	Slave-0/10V	Slave-4/20mA
90..240VAC	PULSAMIL12-E	PULSAMIL42-E
24VDC	PULSAMIL10-E	PULSAMIL40-E