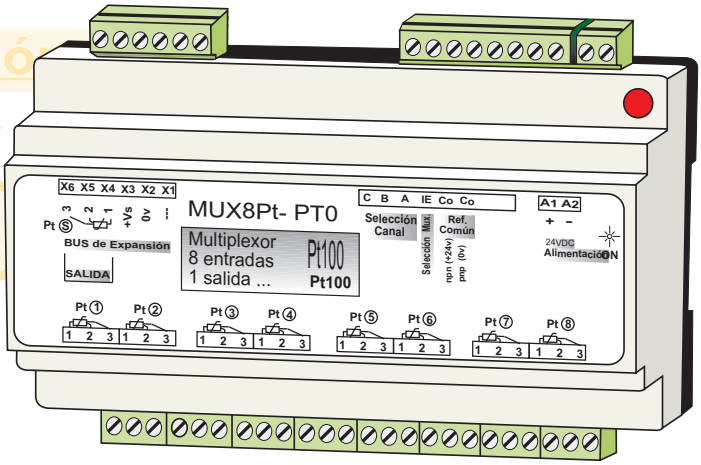
MULTIPLEXER

8 input Pt100-RTD

Output Pt100-RTD

EXPANSIONABLE



DESCRIPTION

This multiplexer is an electronic conmutator with 8 PT100 channels, allows the static selection, giving the output to one of them.

The Mux8Pt-Pt family can be interconnected with the expansors modules, upt to 96 cannels. Incurring in to a great saving in Pt100 converters and PLC analogic inputs.

APPLICATIONS they are suitable for installations who requieres a grear amount of Pt100 sensors.

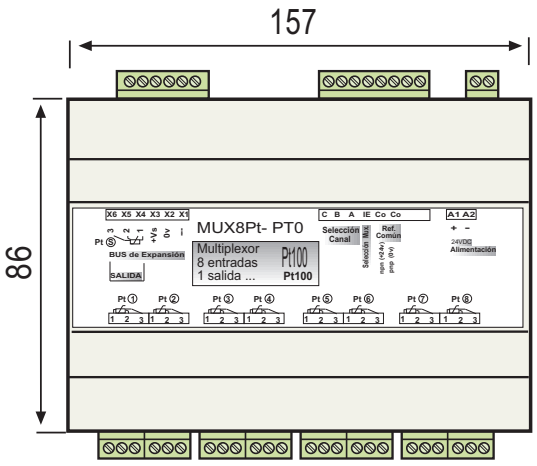
GENERAL CHARACT.

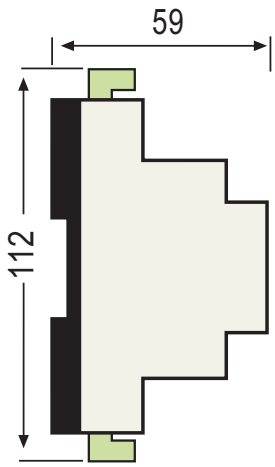
- **Static switching, fully electronic.**
  (without mechanicalsin wear and unlimited life)
- **Expansionable with additional 8 cannel modules:** 24 VDC up to 96 channels
  230 VAC up tp 40 channels
- **Really low conduction impedance.**
- 3 way Pt100 input, for line compensation.
- **Channel selection with 3 octocoupled digital line, configurable in the connectors through transistor,**

NPN or PNP.

- **Modular and compact box. Plug-in connectors through screw.**

DIMENSIONS (mm)





Protection...	**IP20**
Rail	**EN50022.**
Self-extinguishing	**UL94-VO.**
Base material:	Noryl VO 1550 - Black
Top material:	Lexan 940 - Grey
Connection:	Plug-in connectors through screws max torque (M3) 0,5Nm
Weight...	**BASE: 325gr.** **EXPANSION: 270gr.**

INPUT/OUTPUT

- 8 Pt100 2-3 way inputs, with libe compensation.	
- 1 Pt100 output	
- Max line resistance	**50Ω/wire**
- Effect of the resistance in the compensation wire	**0,015ºC/Ω**
- Conduction resistance R-on	**<0,08Ω**
- R-on Max dispersion	**<0,02Ω**
- Selectable optocoupled digital inputs, PNP/NPN **24VDC (+/- 20%) - 4mA**	

PRECISION

Max global error	**0,1 %**
Linearity error	**0,08 %**
Thermal drift	**0,5µA / ºC**
Thermal drfit	**0,2mV / ºC**

SUPPLY

- BASE MODULE:		
DC:	(MUX8Pt-Pt0)	**24VDC(+/-10%) - 55mA**
AC:	(MUX8Pt-Pt2)	**230VAC(+/-10%) - 3VA**
- EXPANSION MODULE:		
- Supplying Base module trough the expasion bus (MUX8Pt-PTE)		

AMBIENTALS

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

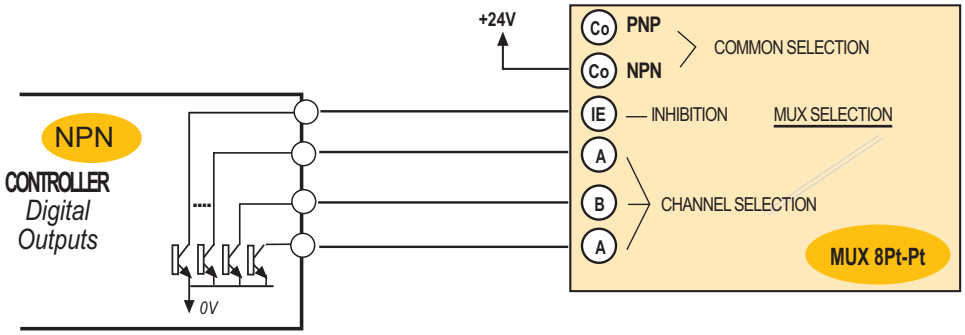
REGULATIONS COMPLIANCE

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**

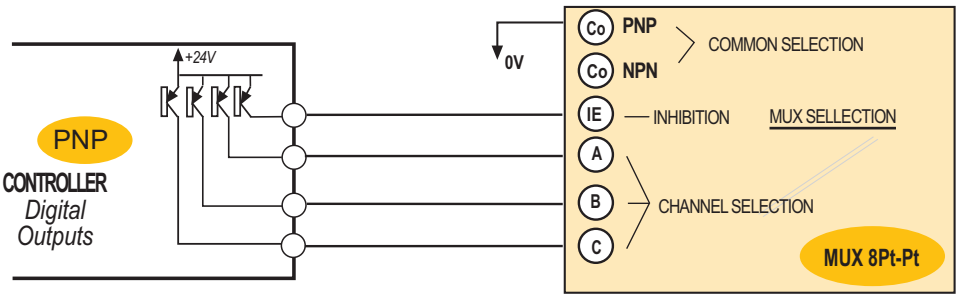
REFERENCES

DESCRIPTION		230 VAC	24 VDC
BASE module of 8 channels Pt100	Salida Pt100	**MUX8Pt - Pt2**	**MUX8Pt - Pt0**
Expansion of 8 channels of Pt 100, for Pt100 output			**MUX 8Pt - PtE**

PNP or NPN SELECTION. Digital Lines



- The channel selection (1...8) and the module control is recommended to do it through the transistors, this way the switching number is limited and faster.
- The channel is selectable with binary code.

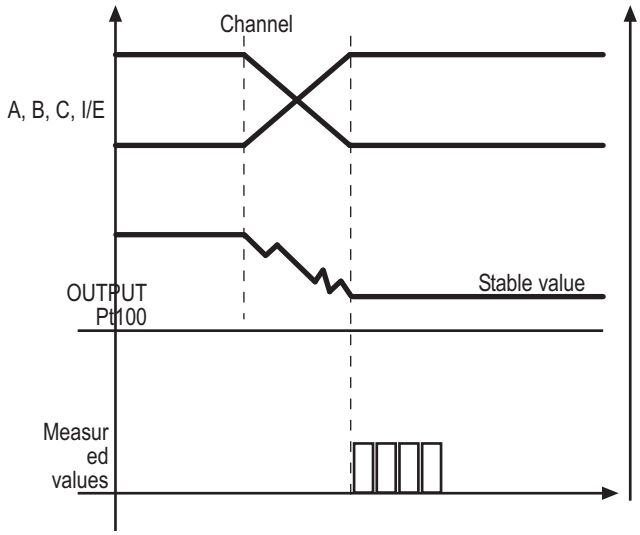


SECUENCE SELECTION

1.- Select the channel in binary A, B, C and (IE) signal (only in case of using the expansion modules).

2.- Go back to 1.-, scan the first 8 Pt100 channels.

In case of use the expansion cards, select the IE signal and go back to point 1.



*** Alarms and False Alarms.**

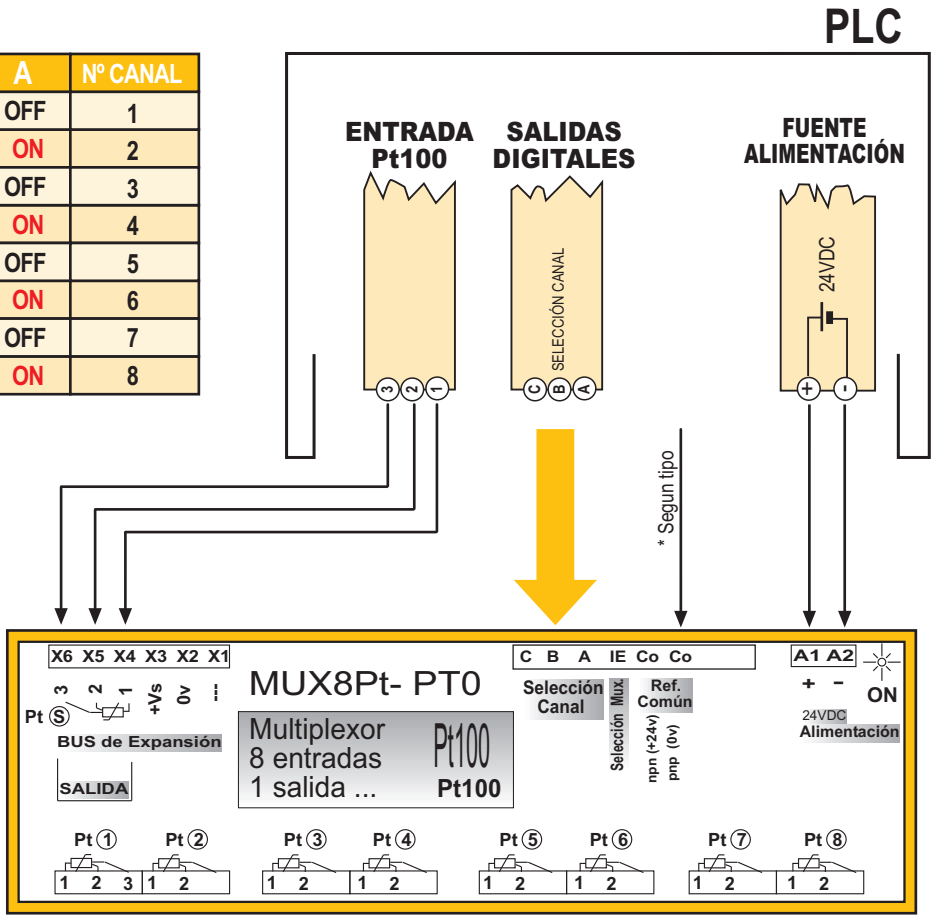
When the measured signals are used to activate alarms, is suitable to ensure that the alarm is working.

Is really importat to read the alarm, read it again, till ensure that the alarm is real.

CONEXIONADO PARA 8 ENTRADAS DE PT100 Y SALIDA DE Pt100

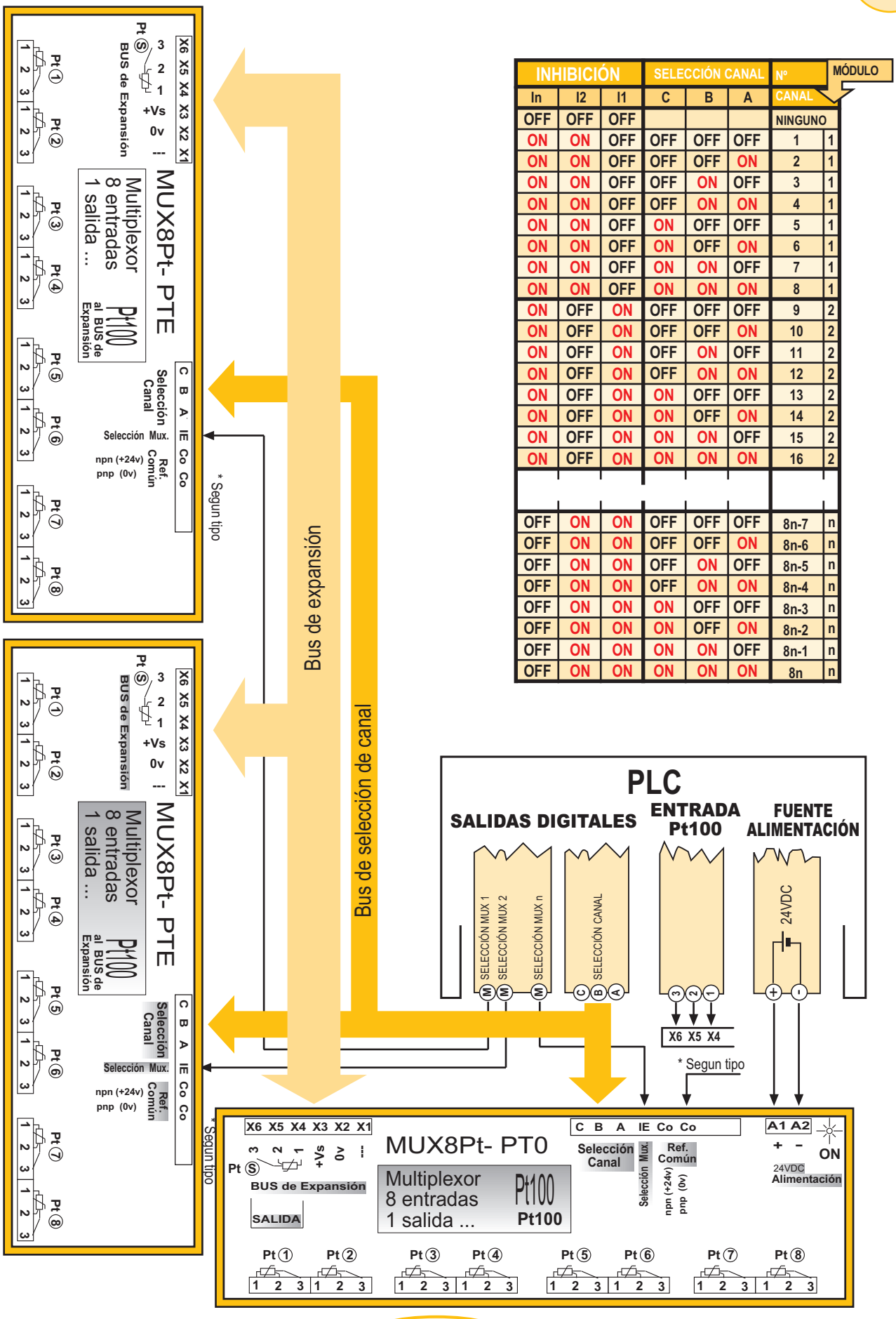
8*1

C	B	A	Nº CANAL
OFF	OFF	OFF	1
OFF	OFF	ON	2
OFF	ON	OFF	3
OFF	ON	ON	4
ON	OFF	OFF	5
ON	OFF	ON	6
ON	ON	OFF	7
ON	ON	ON	8



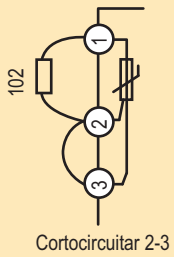
CONEXIONADO PARA n ENTRADAS DE PT100 Y SALIDA DE Pt100

8*n



INHIBICIÓN			SELECCIÓN CANAL			Nº CANAL	MÓDULO
In	I2	I1	C	B	A		
OFF	OFF	OFF				NINGUNO	
ON	ON	OFF	OFF	OFF	OFF	1	1
ON	ON	OFF	OFF	OFF	ON	2	1
ON	ON	OFF	OFF	ON	OFF	3	1
ON	ON	OFF	OFF	ON	ON	4	1
ON	ON	OFF	ON	OFF	OFF	5	1
ON	ON	OFF	ON	OFF	ON	6	1
ON	ON	OFF	ON	ON	OFF	7	1
ON	ON	OFF	ON	ON	ON	8	1
ON	OFF	ON	OFF	OFF	OFF	9	2
ON	OFF	ON	OFF	OFF	ON	10	2
ON	OFF	ON	OFF	ON	OFF	11	2
ON	OFF	ON	OFF	ON	ON	12	2
ON	OFF	ON	ON	OFF	OFF	13	2
ON	OFF	ON	ON	OFF	ON	14	2
ON	OFF	ON	ON	ON	OFF	15	2
ON	OFF	ON	ON	ON	ON	16	2
OFF	ON	ON	OFF	OFF	OFF	8n-7	n
OFF	ON	ON	OFF	OFF	ON	8n-6	n
OFF	ON	ON	OFF	ON	OFF	8n-5	n
OFF	ON	ON	OFF	ON	ON	8n-4	n
OFF	ON	ON	ON	OFF	OFF	8n-3	n
OFF	ON	ON	ON	OFF	ON	8n-2	n
OFF	ON	ON	ON	ON	OFF	8n-1	n
OFF	ON	ON	ON	ON	ON	8n	n

RESISTENCIAS de PRUEBA



Cortocircuitar 2-3

Se suministran unas resistencias de 102 Ω para diversas aplicaciones:

PRUEBAS	Introduciéndola en una entrada de canal de Pt 100 se simula una temperatura >0ºC. Comprobando así, cada entrada y el convertidor, cuya salida en V ó I, dará un poco más del equivalente a 0ºC..
ENTRADAS	Dejar conectada una resistencia de 102 Ω en los canales de Pt 100 que no se utilicen. Si el nº de canal no se selecciona digitalmente, no hace falta ponerla. De esta forma no se perjudica al tiempo de respuesta del convertidor, al detectar ausencia de sensor.

SIMULADOR de Pt100. GRADER

Disponemos de simuladores de Pt100 en ºC, modelo GRADER, de elevada precisión, que les facilitará el proceso de calibración y pruebas del multiplexor.

Su funcionamiento es muy sencillo. Es portátil, autónomo y robusto. Se seleccionan directamente en ºC, 12 valores de temperatura con una precisión y estabillidad mejor que 0,08ºC.

*** Lectura de Alarmas y Falsas Alarmas.**

Cuando las señales leidas, se utilicen para activar alarmas, es conveniente asegurar que esta se ha producido.

Por ello, es muy importante, que en caso de leer una alarma, se repita la lectura, hasta asegurar si la alarma se ha producido o no.

Como comprobar una sonda Pt100

- Para la comprobación, la sonda deberá estar desconectada de la instalación.
- Si no cumple alguno de los puntos siguientes, la sonda Pt100, está averiada.

1º) Medir con un Multímetro la impedancia entre los hilos 2 y 3 de la Pt100.

Debe indicar 0 ohmios (R=0)

2º) Medir la impedancia entre los hilos 1 y 2 de la Pt100, corresponde al valor de la siguiente tabla de equivalencia, con la temperatura que está midiendo.

Debe indicar entre 80 y 300 ohmios, dependiendo de la temperatura.

p.e. a 20ºC, debe indicar 107,79 ohmios.

3º) **Comprobar el AISLAMIENTO** entre el hilo 1 de la sonda Pt100, y la vaina, masa ó tierra.
Debe indicar impedancia infinita.