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ISO 9001

spirax sarco

TI-P323-24
CH Issue 3

SX25
Process Controller

Description
The SX25 controllers are 1/16 DIN panel mounted, suitable for constant set point applications and for use with the Spirax Sarco range of pneumatic (PN) and electric (EL) control valves and sensors.

Available types
There are two SX25 models available which both have 100 Vac to 240 Vac mains:

SX25 mA	One linear control output (mA)
	Auxiliary power supplier for loop powered sensors
SX25 VMD	VMD (Valve Motor Drive) control output

SX25 general technical data

Mounting arrangement		Panel mounted 1/16 DIN
Power supply		100 to 240 Vac, 50/60 Hz (-15 to +10% of the nominal value)
Electrical connections		Screw connection terminal block
Power consumption		1.6 VA maximum
Protection		IP65 front protection
Operating temperature		0 to +50°C, 5 to 90% RH
Universal inputs	**RTD**	Pt100 2 or 3 wire connection
	Linear mA	4 - 20 mA, 0 - 20 mA, using external shunt resistor 2.5 Ω, Ri10 MΩ
	Voltage	0/10 to 50 mV, Ri 10 MΩ
	Thermocouples	L, J, T, K, S, custom
Sampling time		500 ms
Accuracy	**RTD Pt100 / thermocouples**	0.25% ±1 digit @ 25°C ambient
	Linear mA	1.25% ±1 digit @ 25°C ambient
	Linear voltage	0.10% ±1 digit @ 25°C ambient
Number of set points		1

SX25 mA version technical data

mA control output (OP4)		0/4 - 20 mA 750 Ω maximum (15 V maximum)
		Resolution 12 bit (0.025%)
		Accuracy 0.1%
* **Relay**	**(OP1)**	SPST relay N.O. 2 A/250 Vac
* **Relay/SSR**	**(OP2)**	SPST relay N.O. 2 A/250 Vac or SSR 5 V ±10%, 30 mA maximum
* **Relay**	**(OP3)**	SPST relay N.O. 2 A/250 Vac
Auxiliary power supply		Supply for a two wire 4 - 20 mA or three wire, +18 V ±20%, 30 mA maximum for transmitters

* Only two of the outputs can be used from relays OP1, OP2 or OP3.

SX25 VMD version technical data

VMD	**(OP1, OP3)**	2 x SPST relay N.O. 2 A/250 Vac
		Valve travel time: 15 - 600 seconds
		Valve minimum step: 0.1 to 5.0% of travel
Relay/SSR	**(OP2)**	SPST relay N.O. 2A/250 Vac or SSR 5V ±10%, 30 mA maximum

Control action

Control parameters	**Proportional band**	0.5 to 999.9%
	Integral time	0.1 to 100.0 minutes or off
	Derivative time	0.01 to 10.00 minutes or off
	Error band	0.1 to 10%
Auto tuning	One shot tune, or natural frequency tune. The controller will automatically select the best method according to the process conditions.	
Adaptive tuning	A self-learning, non-intrusive analysis of the process to continuously calculate the PID parameters.	
On-Off control	Hysteresis from 0.1 to 10%	
Overshoot protection	To minimise overshoot on critical processes.	
Valve motor drive control	Actuator response time from 15 to 600 secs.	
	Minimum correction step 0.1 to 5.0% of the valve travel	
Auto / manual modes	Selectable from keyboard.	

Functions available

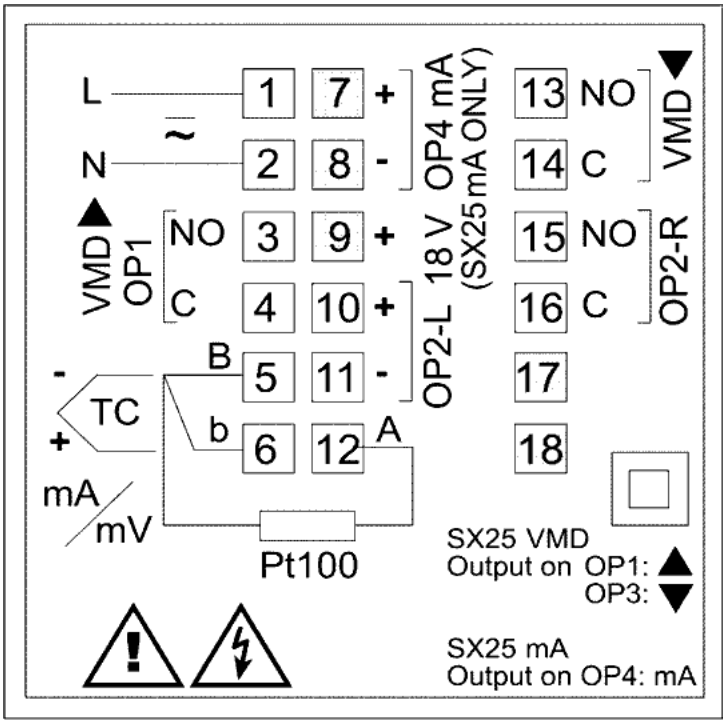
Universal input	Resistance thermometers, thermocouples, mA and volt
Auxiliary power supply	For external sensors requiring loop power (SX25 mA only)
Auto / manual selection	Indication of manual mode and power output %
Ramps	Two independent ramps (ramp up and ramp down) for set point change
Event alarm	Two programmable relay outputs for deviation, band and process alarms with latch and block feature

Approvals
These instruments are CE marked. Therefore they conform to the council directive 93/68/EEC and the regulations on the essential protection requirements in electrical apparatus EN 61010-1 (IEC 1010 -1) : 90 +A1:92 + A2:95
Regulations on Electromagnetic Compatibility according to the European Community directive 89 / 336 / EEC, amended by the European Community directive 92 / 31 / EEC and the following regulations:

RF emissions	EN 50081 - 1 residential environments
	EN 50081 - 2 industrial environments
RF immunity	EN 50082 - 2 industrial environments

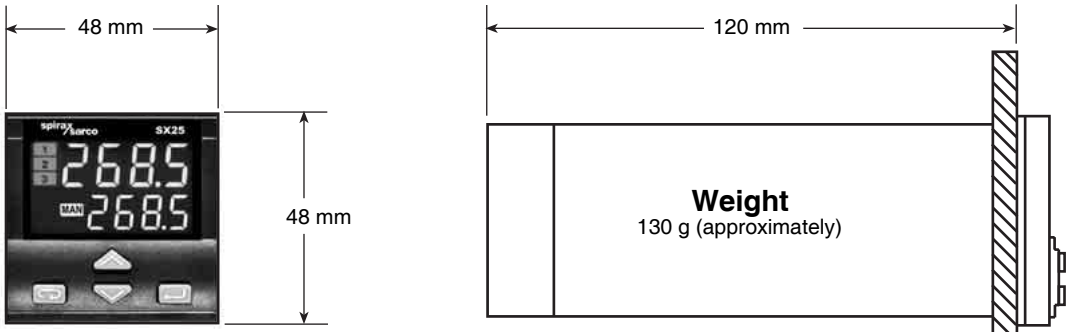
Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification.

Wiring diagram



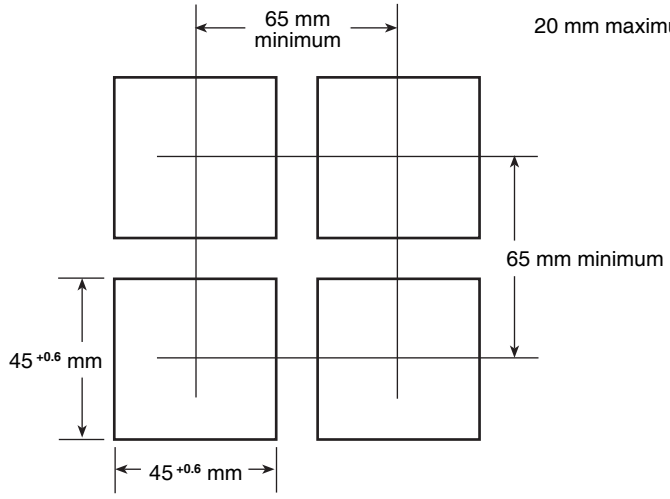
Dimensions and weight

(approximate) in millimetres and grammes



Panel cut-out

(approximate) in mm



How to order

Example: 1 off SX25 mA, with mA output **or** 1 off SX25 VMD, with valve motor drive output.