



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

**TI-P323-28**  
CH Issue 1

## SX80 Process Controller



### Description

The SX80 controller is a 1/16 DIN panel mounted unit, suitable for single and multiple set point applications utilising the Spirax Sarco range of pneumatic or electric control valves and electrical and electropneumatic instruments. The SX80 has both VMD (3 point) and analogue (4-20 mA) outputs in the same unit and features quick start codes for ease of commissioning.



### SX80 features:

- **Universal input** - Resistance thermometers, thermocouples, mA and mV.
- **Universal output** - VMD (valve motor drive), mA and voltage for continuous, relay and logic for switching control.
- **Auxiliary power supply** - For external transmitter requiring 18 Vdc.
- **Text messages** - Scrolling text messages can be configured to alert the user to process conditions.
- **Quick codes** - 5-digit quick codes enable easy set-up and commissioning of the controllers.

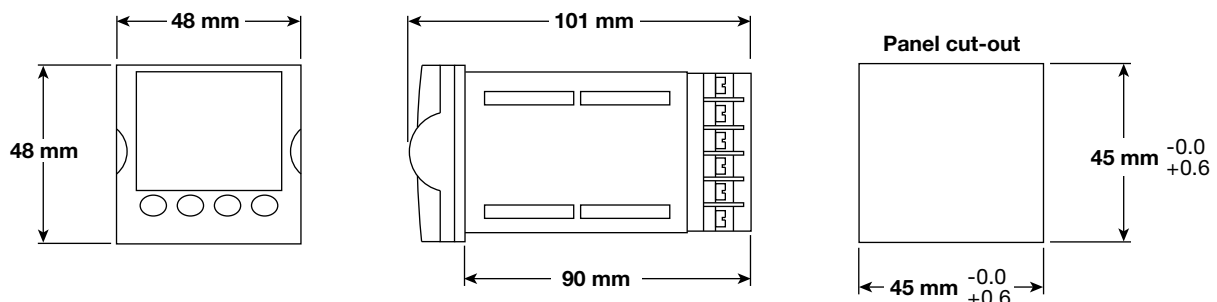
### Approvals

These controllers conform to the Council Directive 93/68/EEC and the regulations on the essential protection requirements in Electrical Apparatus EN 61010-1: 90

- **EMC emissions specification:** EN 61326-1: 1997 Class B (including amendments A1, A2 and A3).
- **EMC immunity specification:** EN 61326-1: 1997 Industrial locations (including amendments A1, A2 and A3).

See overleaf for SX80 Process Controller technical data

### Dimensions (approximate) in mm



**How to order example:** 1 off Spirax Sarco SX80 process controller.



## Technical data

### General details

<b>Mounting arrangement</b>	Panel mounted 1/16 DIN
<b>Power supply</b>	85 to 265 Vac, 6W maximum
<b>Electrical connections</b>	Screw connection terminal block
<b>Panel sealing</b>	IP65 – plug in from front panel, NEMA 4X
<b>Operating temperature/humidity</b>	0 to 55°C, 5 to 85% RH
<b>Atmospheres</b>	Not suitable for use in explosive or corrosive atmospheres
<b>Electromagnetic compatibility (EMC)</b>	EN 61326
<b>Electrical safety BS EN 61010</b>	Installation Category II
<b>Weight</b>	250 g
<b>Approvals</b>	CE

### Process variable inputs

<b>Calibration accuracy</b>	< ±0.25% reading ± 1 LSD
<b>Resolution</b>	< 0.5 µV with 1.6 second filter
<b>Input filter</b>	Off to 59.9 seconds
<b>RTD</b>	3 wire Pt100 DIN 43760
<b>Bulb current</b>	0.2 mA
<b>Universal linear mA</b>	4 - 20 mA, 0 - 20 mA, using external shunt resistor 2.49 Ω
<b>Linear input range</b>	-10 to 80 mV
<b>Thermocouples</b>	K, J, N, R, S, B, L, T, C, custom
<b>Sampling rate</b>	4 Hz (250 ms)
<b>Cold junction accuracy</b>	< ±1°C at 25°C ambient
<b>Accuracy linear mA</b>	< 0.1% reading
<b>Input impedance</b>	100 MΩ
<b>Number of set points</b>	3
<b>User calibration</b>	2 point gain and offset

### Transmitter power supply

<b>Isolation</b>	300 Vac double isolated
<b>Output voltage</b>	18 V ±15%
<b>Current</b>	30 mA maximum
<b>Load regulation</b>	< 1 V over 25 mA

### Control action

<b>Proportional band</b>	1 - 9999 Engineering units or 0.01 to 300 %age or 0.1 - 3000
<b>Integral time</b>	Off - 9999
<b>Derivative time</b>	Off - 9999
<b>Error band</b>	One shot tune, or natural frequency tune. The controller will automatically select the best method according to the process conditions.
<b>Auto tuning</b>	Hysteresis from 0.01 to 300.0 or 0.1 to 3000 Engineering units
<b>On-off control</b>	1 - 9999 Engineering units or 0.01 to 300 %age or 0.1 - 3000
<b>Cut back</b>	To minimise overshoot on critical processes.
<b>Auto / manual modes</b>	Selectable from keyboard.

### Relays

<b>Isolation</b>	300 Vac double insulated
<b>Output range</b>	0 – 20 mA, 4 – 20 mA
<b>Resolution</b>	13.5 bits
<b>Contact rating</b>	Maximum 2 A @ 264 Vac resistive
<b>Note:</b>	Maximum 2 A per terminal limit applies where relays have common terminals (2 amps maximum for terminal AB).

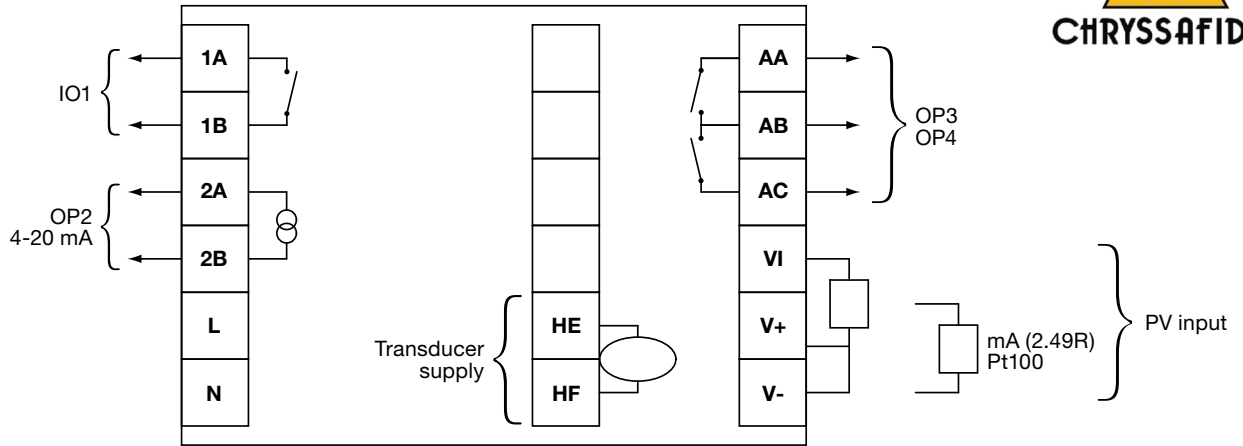
### Isolated DC output

<b>Isolation</b>	300 Vac double insulated
<b>Output range</b>	0 – 20 mA, 4 – 20 mA
<b>Resolution</b>	13.5 bits

## Wiring diagrams

**Warning:** Safe operation of this product can only be guaranteed if it is properly installed, commissioned, used and maintained by qualified personnel as stated in the IMI supplied with the unit. It is the duty of the Company Safety Officer to ensure that the product specific data and Safety information within the supplied IMI has been fully understood and complied with.

### Terminal diagram



### Wiring diagram for connecting the EL2600 transmitter

