

SINGLE LOOP CONTROLLER

MODELS: SCL100, SCM100, SCS100



SCL100



SCM100



SCS100



REMOTE CONFIGURATOR

*Microprocessor Based
Bi-directional Remote Control*

- **2 ANALOGUE INPUTS**
 - **1 LOGIC INPUT**
 - **2 SETPOINTS**
 - **16-BIT MICROPROCESSOR**
 - **TRIPLE GALVANIC ISOLATION**
 - **PID ACTION WITH AUTO-TUNNING**
- (continued...)

**1/16 DIN
CONTROLLER
HAS ALL THE
FUNCTIONS OF
1/8 AND 1/4 DIN
CONTROLLERS**

- **HEAT-COOL AND MOTORVALVE ALGORITHMS**
- **20-SEGMENT LINEARIZATION**
- **FOUR SOFTWARE ALARMS**
- **2A RELAY @ 250 VAC OR 30 VDC**
- **12-SEQUENCE PROFILE GENERATOR (RAMS & SOAKS)**
- **CONFIGURATION VIA FRONT PANEL, PC & SOFTWARE OR IRDA REMOTE CONTROL**
- **4-DIGIT, 10-MM HIGH DISPLAY FOR INPUT**
- **4-DIGIT 8-MM HIGH DISPLAY FOR SETPOINT**
- **AUTO/MANUAL, LOCAL/REMOTE SETPOINT**
- **85...265 VAC/VDC OR 18...54 VAC/VDC POWER SUPPLY**
- **MODULAR CONCEPTION WITH 4 OPTION SLOTS**
- **AUXILIARY POWER SUPPLY (OPTION)**
- **RETRANSMISSION OUTPUT (OPTION)**
- **THREE ADDITIONAL RELAYS (OPTION)**
- **DIGITAL RS232 AND RS485 COMMUNICATION (OPTION)**

INTRODUCTION

Indumart *SC Series Single Loop Controllers* are extremely versatile and user-friendly. Two analogue inputs, one logic output, one 20-segment linearisation, 12 sequence profile generator and three different algorithms for motor valve control are the standard features of the *SC Series* controllers.

As a major asset, configuration of the *SC Series* can be performed through three different tools: (1) front panel, (2) PC & software, (3) IRDA remote control, which allows a bi-directional transfer of the controller's main data and program.

The main display of the *SC Series* is dedicated to input, and the lower display can be used to scroll through the setpoint, control output or PID parameters. Status of the local or remote setpoints, the operating mode (Auto/Manual), and the status of the alarms can be monitored from the five LED indicators located on the front panel of the controller.

The circuitry of the *SC100 Series* allow addition of option cards inside the original enclosure very easily. This results in greater operational flexibility and lower stock holdings.

SPECIFICATIONS

Inputs	2 analogue inputs 1 logic input	Hysteresis	0 to 20 % of the range (Resolution: 0.1%)
Analogue Input	<u>Thermocouple</u> K, J, T, S, R, N, B, E, W5 <u>RTD</u> Pt-100 <u>Resistance</u> 0-500 Ω <u>Potentiometer</u> 0-100 Ω / 0-500 Ω / 0-100K Ω <u>Continuos Voltage</u> ± 22 mV / ± 50 mV / ± 90 mV <u>Continuos Current</u> ± 20 mA	Adjustable Ramps	<u>Setpoint (up or down)</u> 0.1 to 999.9 eng. Unit / min. <u>Output (when starting up or predefined rate)</u> 0.01 to 9999 % / min (Inactive if > 9990)
Logic Input	Dry contact, NAMUR and U < 30 VDC <u>Logic Level 1</u> U > 2.6 VDC - Open Contact, NAMUR sensor with metal part <u>Logic Level 0</u> U < 2.4 VDC - Closed Contact, NAMUR sensor without metal part	Cycle Time	200 ms
Frequency Input	Maximum 10 KHz	Accuracy	0.1% of scale on linear input 0.1% of the scale on RTD and T/C inputs + Cold junction error ($\pm 0.06^{\circ}\text{C}/^{\circ}\text{C}$)
Output	<u>Current</u> 4-20 or 0-20 mA, 750 Ω maximum load <u>Voltage</u> 0-10 V or on Output 2: 0-5 V, < 20 mA	Resolution	0.01% of the nominal extent
Relay Outputs	2 A @ 250 VAC or 30 VDC NO or NC Selectable	Temperature Drift	60 ppm / $^{\circ}\text{C}$
Digital Comm.	RS485 multi-point (maximum distance 1 Km) RS232 single-point (Maximum distance 30 m)	Aux. Power Supply	22 to 28 VDC, < 30 mA Constant insulation voltage < 265 Vrms, not insulated from the inputs
Control Parameters	<u>Proportional</u> 0.2 to 999.9 % (Resolution: 0.1%) <u>Integral</u> 0.02 to 99.99 min. (Resolution: 0.01 min.) <u>Derivative</u> 0 to 2000 sec. (Resolution: 1 sec.) <u>Band Centering</u> 0 to 100 % of output	Power Supply	18...54 VDC/VAC 85...265 VDC/VAC
		Power Consumption	6 VA maximum
		Display	4 digits 7 segments 10 mm, red for input 4 digits 7 segments 8 mm, green for setpoint and control parameters 5 LED for digital RS, control output or alarms, setpoint evaluation and manual mode
		Working Temp.	0 to 50 $^{\circ}\text{C}$
		Storage Temp.	-20 to +70 $^{\circ}\text{C}$
		Humidity	10 to 90 % without
		Protection	IP54 on front panel
		Electrical Safety	EN 61010-1, CAT III / 265 Vrms
		EMC Emission Immunity	EN 50081-1 EN 50082-2

ORDER CODES

Model SC

SIZE

48 x 48 mm
48 x 96 mm
96 x 96 mm

VERSION

Standard

OPTION #1

Without
Isolated continuous output #1 current (0-20 or 4-20 mA)
Isolated continuous output #1 voltage (0-10 Vcc)

OPTION #2

Without
Auxiliary power supply 24 Vcc - 30 mA
Relay #2

OPTION #3

Without
Digital RS485
Digital RS232

OPTION #4

Without
Relays output #3 and #4
Isolated continuous output #2 current (0-20 mA or 4-20 mA)
Isolated continuous output 2 voltage (0-10 Vcc)
Isolated continuous output 2 voltage (0-5 Vcc)

OPTION #5

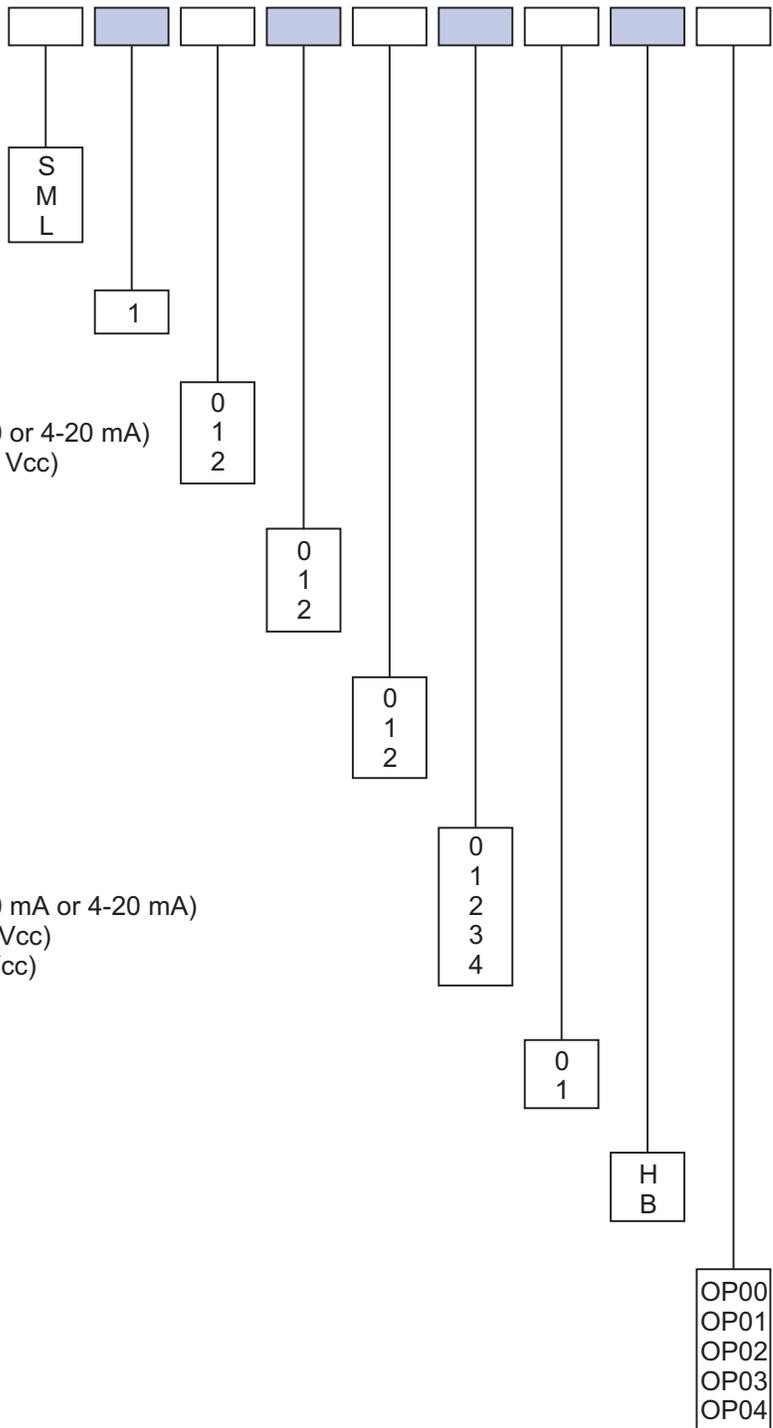
Without infrared communication
With infrared communication

POWER SUPPLY

85...265 VAC/VDC
18...54 VAC/VDC

OTHER OPTIONS

Without
Shunt (specify the value)
Tropicalization
Custom configuration
Calibration certificate



Optional Accessories

- Infrared remote configuration
- Connection cable for PC configuration through infrared terminal
- Configuration software
- Connection cable for PC configuration through rear communication terminals
- Memocard



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