



# Digital Controller

**SHIMADEN**

## ■ SRS80 Series

### BASIC FEATURES

- High accuracy:  $\pm (0.25\% \text{ FS} + \text{digit})$
- Only SR83 (96 x 96) Large 20 mm bright display  
Make reading from long distance and low light location easier.
- 2-output heating and cooling control available for SR83 (96 x 96) and SR 84 (48 x 96)
- Auto tuning function for both heating and cooling outputs in a high performance individual expert PID control
- Both RS232C/RS485 and CC-Link are communication interface ready. (CC-Link available only for SR83)
- Dust and splash proof front panel Equivalent to IP66
- A wide selection of additional functions (optional) is available to suit various needs.



### ORDERING INFORMATION

ITEMS		CODE		SPECIFICATIONS	
SERIES	SR82-			MPU-Based Auto-Tuning PID Digital Controller DIN H72 x W72 mm	
INPUT		1		Thermocouple	User-selectable inputs and ranges
		2		R.T.D.	User-selectable ranges
		3		DC Voltage	User-selectable 0~10, 10~50, -10~10, 0~20, 0~50, 0~100mV DC linear inputs
		4		DC Current	User-selectable 4~20, 0~20mA DC linear inputs
		6		DC Voltage	User-selectable 0~1, 1~5, -1~1, 0~2, 0~5, 0~10V DC linear inputs
CONTROL OUTPUT 1		Y-		Contact	PB Cycle: 1~120 seconds, Contact Capacity: 240V AC 2.5A / resistive load, 1A / inductive load
		I-		Current	4~20mA DC Load resistance: 600 $\Omega$ Max.
		P-		SSR Voltage	PB Cycle 1~120 seconds, Output rating: 12V $\pm 1.5$ V DC 30mA Max.
		V-		Voltage	0~10V DC Maximum load current: 2mA Max.
CONTROL OUTPUT 2		N-		None	
POWER SUPPLY		90-		100~240V AC $\pm 10\%$ 50/60Hz	
		10-		24V AC $\pm 10\%$ 50/60Hz	
		02-		24V DC $\pm 10\%$	
EVENT OUTPUT (2 points) [OPTION]		0		None	
		1		Contact output, Contact capacity: 240V AC 1A / resistive load	
		2		Contact output + Heater break alarm (with 30A CT)	Selectable only for Y or P Control output
		3		Contact output + Heater break alarm (with 50A CT)	
REMOTE INPUT (Not selectable together with Heater break alarm function) [OPTION]		00		None	
		14		Current 4~20mA DC Receiving resistance: 250 $\Omega$	Non-Isolated input
		15		Voltage 1~5V DC Input resistance: 500k $\Omega$ Min.	
		16		Voltage 0~10V DC Input resistance: 500k $\Omega$ Min.	
ANALOG OUTPUT (Not selectable together with Interface function) [OPTION]		0		None	
		3		Voltage 0~10mV DC, Output resistance: 10 $\Omega$	
		4		Current 4~20mA DC, Load resistance: 300 $\Omega$ Max.	
		6		Voltage 0~10V DC, Load current: 2mA Max.	
INTERFACE FUNCTION (Not selectable together with Analog output function) [OPTION]		0		None	
		5		RS-485	
		7		RS-232C	
EXTERNAL INPUT CONTROL SIGNAL / SET VALUE BIAS [OPTION]		0		None	
		1		Control input 2 points, Non-voltage contact, Open collector input (about 5V / 2mA impress)	
REMARKS		0		Without	
		9		With (Please consult before ordering.)	



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#### ORDERING INFORMATION

ITEMS		CODE		SPECIFICATIONS	
SERIES	SR83-			MPU-Based Auto-Tuning PID Digital Controller DIN H96 × W96 mm	
INPUT		1		Thermocouple	User-selectable inputs and ranges
		2		R.T.D.	User-selectable ranges
		3		DC Voltage	User-selectable 0~10, 10~50, -10~10, 0~20, 0~50, 0~100mV DC linear inputs
		4		DC Current	User-selectable 4~20, 0~20mA DC linear inputs
		6		DC Voltage	User-selectable 0~1, 1~5, -1~1, 0~2, 0~5, 0~10V DC linear inputs
CONTROL OUTPUT 1		Y-		Contact	PB Cycle: 1~120 seconds, Contact Capacity: 240V AC 2.5A / resistive load, 1A / inductive load
		I-		Current	4~20mA DC Load resistance: 600 Ω Max.
		P-		SSR Voltage	PB Cycle 1~120 seconds, Output rating: 12V ±1.5V DC 30mA Max.
		V-		Voltage	0~10V DC Maximum load current: 2mA Max.
CONTROL OUTPUT 2 [OPTION]		N-		None	
		Y-		Contact	PB Cycle: 1~120 seconds, Contact Capacity: 240V AC 2.5A / resistive load, 1A / inductive load
		I-		Current	4~20mA DC Load resistance: 600 Ω Max.
		P-		SSR Voltage	PB Cycle: 1~120 seconds, Output rating: 12V ±1.5V DC 30mA Max.
		V-		Voltage	0~10V DC Maximum load current: 2mA Max.
POWER SUPPLY		90-		100~240V AC ±10% 50/60Hz	
		10-		24V AC ±10% 50/60Hz	
		02-		24V DC ±10%	
EVENT OUTPUT (3 points) (2 points when 2 output option is added) [OPTION]		0		None	
		1		Contact output, Contact capacity: 240V AC 1A / resistive load	
		2		Contact output + Heater break alarm (with 30A CT)	Selectable only for Y or P Control output
		3		Contact output + Heater break alarm (with 50A CT)	
REMOTE INPUT (Not selectable together with Heater break alarm function) [OPTION]		00		None	
		14		Current 4~20mA DC Receiving resistance: 250 Ω	Non-Isolated input
		15		Voltage 1~5V DC Input resistance: 500k Ω Min.	
		16		Voltage 0~10V DC Input resistance: 500k Ω Min.	
ANALOG OUTPUT (Not selectable together with CC-Link function) [OPTION]		0		None	
		3		Voltage 0~10mV DC, Output resistance: 10 Ω	
		4		Current 4~20mA DC, Load resistance: 300 Ω Max.	
		6		Voltage 0~10V DC, Load current: 2mA Max.	
INTERFACE FUNCTION (When CC-Link function is selected, simultaneous selection of Analog output is not possible) [OPTION]		0		None	
		5		RS-485	
		7		RS-232C	
		8		CC-Link (Conforming with Mitsubishi Electric Company's CC-Link) (Not selectable together with Analog output function)	
EXTERNAL INPUT CONTROL SIGNAL / SET VALUE BIAS [OPTION]		0		None	
		1		Control input 2 points, Non-voltage contact, Open collector input (about 5V / 2mA impress)	
REMARKS		0		Without	
		9		With (Please consult before ordering.)	

Note: Selection together with ANALOG OUTPUT and INTERFACE FUNCTION (RS485 or RS232C) is possible.



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ITEMS	CODE		SPECIFICATIONS	
SERIES	SR84-		MPU-Based Auto-Tuning PID Digital Controller DIN H96 × W48 mm	
INPUT	1		Thermocouple	User-selectable inputs and ranges
	2		R.T.D.	User-selectable ranges
	3		DC Voltage	User-selectable 0~10, 10~50, -10~10, 0~20, 0~50, 0~100mV DC linear inputs
	4		DC Current	User-selectable 4~20, 0~20mA DC linear inputs
	6		DC Voltage	User-selectable 0~1, 1~5, -1~1, 0~2, 0~5, 0~10V DC linear inputs
CONTROL OUTPUT 1	Y-		Contact	PB Cycle: 1~120 seconds, Contact Capacity: 240V AC 2.5A / resistive load, 1A / inductive load
	I-		Current	4~20mA DC Load resistance: 600 Ω Max.
	P-		SSR Voltage	PB Cycle: 1~120 seconds, Output rating: 12V ±1.5V DC 30mA Max.
	V-		Voltage	0~10V DC Maximum load current: 2mA Max.
CONTROL OUTPUT 2 [OPTION]	N-		None	
	Y-		Contact	PB Cycle: 1~120 seconds, Contact Capacity: 240V AC 2.5A / resistive load, 1A / inductive load
	I-		Current	4~20mA DC Load resistance: 600 Ω Max.
	P-		SSR Voltage	PB Cycle 1~120 seconds, Output rating: 12V ±1.5V DC 30mA Max.
	V-		Voltage	0~10V DC Maximum load current: 2mA Max.
POWER SUPPLY	90-		100~240V AC ±10% 50/60Hz	
	10-		24V AC ±10% 50/60Hz	
	02-		24V DC ±10%	
EVENT OUTPUT (3 points) (2 points when 2 output option is added) [OPTION]	0		None	
	1		Contact output, Contact capacity: 240V AC 1A / resistive load	
	2		Contact output + Heater break alarm (with 30A CT)	Selectable only for Y or P Control output
	3		Contact output + Heater break alarm (with 50A CT)	
REMOTE INPUT (Not selectable together with Heater break alarm function) [OPTION]	00		None	
	14		Current 4~20mA DC Receiving resistance: 250 Ω	Non-Isolated input
	15		Voltage 1~5V DC Input resistance: 500k Ω Min.	
	16		Voltage 0~10V DC Input resistance: 500k Ω Min.	
ANALOG OUTPUT (Not selectable together with Interface function) [OPTION]	0		None	
	3		Voltage 0~10mV DC, Output resistance: 10 Ω	
	4		Current 4~20mA DC, Load resistance: 300 Ω Max.	
	6		Voltage 0~10V DC, Load current: 2mA Max.	
INTERFACE FUNCTION (Not selectable together with Analog output function) [OPTION]	0		None	
	5		RS-485	
	7		RS-232C	
EXTERNAL INPUT CONTROL SIGNAL / SET VALUE BIAS [OPTION]	0		None	
	1		Control input 2 points, Non-voltage contact, Open collector input (about 5V / 2mA impress)	
REMARKS	0		Without	
	9		With (Please consult before ordering.)	