



# FAREX SR Mini SYSTEM

## General Description

The SR Mini SYSTEM is a DIN-Rail mounted multi-loop temperature control system. This product consists of block-type compact modules so that the configuration can be easily customized and changed according to customers' demand. The SR Mini SYSTEM provides easy connection with SCADA, PLC or PC based control system by ANSI X3.28 protocol.

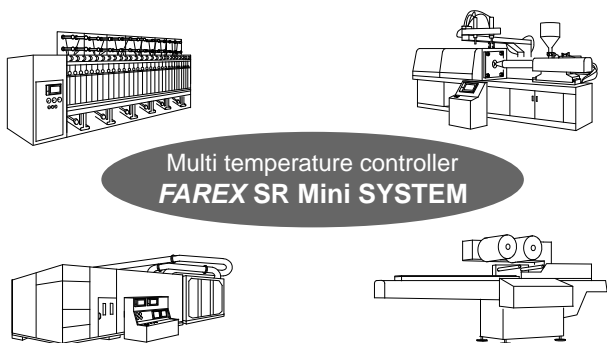
Please also see the specifications of **SR Mini HG SYSTEM** which has more modules and functions, such as high accuracy control modules, AI/AO modules, Modbus, CC-Link, and PLC direct communication.

## Features

- ☆ Flexible multi-zone temperature control up to 320 loops
- ☆ Easy connection with SCADA, PLC or PC by ANSI X3.28 protocol
- ☆ Simple connection to RKC touch screen operation panel without programming

### Maximizes PLC performance

The SR Mini SYSTEM efficiently processes and controls PID temperature loops without slowing down PLC performance by expandable add-on analog I/O temperature control cards. PLC performance is maximized when dedicated to sequence and timing functions while the SR Mini SYSTEM takes the role of temperature control.

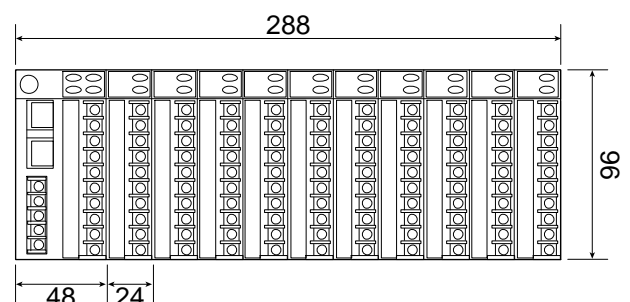


Multi temperature controller  
**FAREX SR Mini SYSTEM**

### Compact size

The SR Mini SYSTEM is designed with low profile modules that measure only 24 x 96 x 100 mm (0.94 x 3.78 x 3.94"), which is approximately the size of a 3.5" floppy disk. With this compact size, you can very effectively add multi-zone PID temperature control to a new equipment or retrofit existing control panels.

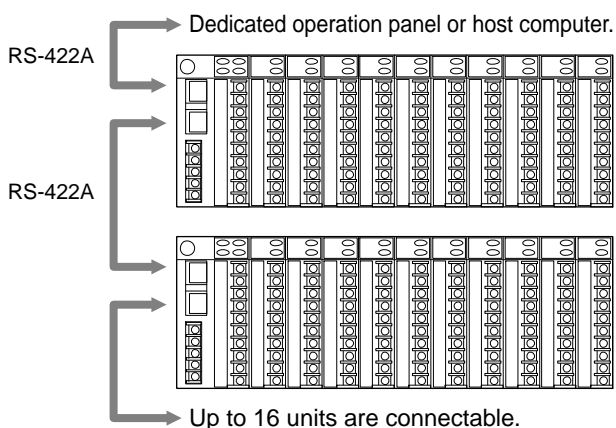
\*1: Please contact RKC for details.



## Features

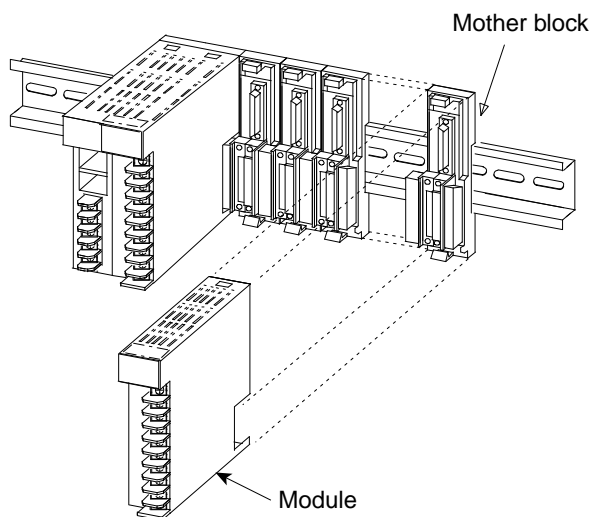
### Expandability

The SR Mini SYSTEM consists of a power supply/CPU module and up to ten function modules. Each function module offers two zones of PID temperature control (the heat/cool zones use a double-width module). Up to 16 SR Mini units connected offer a maximum 320 zones of temperature control that can be linked to an operation panel or a PC as one system. With this design flexibility, the SR Mini SYSTEM is configurable to specific installation requirements.



### Easy mounting

With unique DIN rail mounting, SR Mini modules can be quickly installed on the DIN rail inside a machine control panel, so the system can be easily expanded without changing panel cutouts.



### Easy to use operation panel (OPM)

A machine operator can easily access to all setting functions with a unique interactive touch screen operation panel (OPM). This easy-to-use touch screen display, externally mounted on the machine, provides a convenient setting interface for the SR Mini SYSTEM. An optional remote display/setting panel is available as an operator interface in the field.



#### OPM-CL

DIN size

##### Monochrome LCD display

Number of pixels : 320 x 240 dots  
Display area : 122 x 92 mm  
Power supply : 100 to 240V AC  
External dimensions: 192 x 144 x 85 mm

#### OPM-HL

##### Blue mode LCD display

Number of pixels : 320 x 240 dots  
Display area : 122 x 92 mm  
Power supply : 24V DC, 100 to 240V AC  
External dimensions: 210 x 158 x 92 mm



### OPL operator interface

The OPL is a compact 144mm x 96mm x 70mm (5.67" x 3.78" x 2.6"), low cost alternative to the standard OPM. With function buttons on the front panel, the operator is able to view and adjust settings without programming. All functions that are available on the OPM are available on the OPL.



#### OPL-A

DIN size

##### STN blue LCD display

Number of pixels : 128 x 48 dots  
Display area : 90 x 36 mm  
Power supply : 24V DC, 100 to 240V AC  
External dimensions: 144 x 96 x 70 mm

### Flexible communications protocols

The SR Mini SYSTEM offers RS-232C and RS-485 communications interface for operator interface, computers, and PLCs. and ANSI X3.28 protocol are available.

## PC accessibility

With a serial PC connection, SR Mini SYSTEM can be monitored and operated from a remote location. PC accessibility makes the SR Mini SYSTEM the ideal solution for factory automation, data acquisition and SPC/SQC analysis.

## Fuzzy function

Temperature control modules with fuzzy function is available. The fuzzy function is particularly effective in suppressing overshoot, process upsets at frequent load changes, upsets occurring at set value changes, and also effective in shortening startup time.

## Advanced control algorithms

The standard SR Mini SYSTEM temperature control modules use RKC's unique Brilliant PID. It utilizes an enhanced I-PD algorithm with two-degrees-of-freedom which allows for optimum response to operation upsets. Heat, Cool, or Heat/Cool control modes are available.

## Device configuration

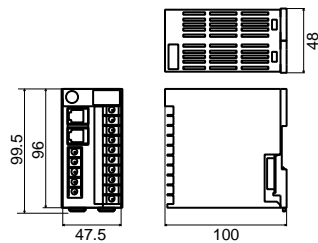
Modules		Specifications
Power/CPU Module	M-PCP-A	100 to 120V AC, 50/60Hz FAIL output, Digital output : 4 points, Digital communications
		200 to 240V AC, 50/60Hz FAIL output, Digital output : 4 points, Digital communications
		24V DC FAIL output, Digital output : 4 points, Digital communications
	M-PCP-B	100 to 120V AC, 50/60Hz FAIL output, Digital output : 2 points, Digital input : 3 points, Digital communications
		200 to 240V AC, 50/60Hz FAIL output, Digital output : 2 points, Digital input : 3 points, Digital communications
		24V DC FAIL output, Digital output : 2 points, Digital input : 3 points, Digital communications
Temperature Control Module	M-TIO-A	Thermocouple input : 1 zone, Brilliant PID or ON/OFF control, CT input : 1 point, Alarm output : 1 point
		RTD input : 1 zone, Brilliant PID or ON/OFF control, CT input : 1 point, Alarm output : 1 point
	M-TIO-B	Thermocouple input : 2 zones, Brilliant PID or ON/OFF control
		RTD input : 2 zones, Brilliant PID or ON/OFF control
M-TIO-P	Thermocouple input : 2 zones, Brilliant PID control with fuzzy	
	RTD input : 2 zones, Brilliant PID control with fuzzy	
Temperature Control Module (Heat/cool type)	M-TIO-C	Thermocouple input : 1 zone, Brilliant PID control, CT input : 1 point
		RTD input : 1 zone, Brilliant PID control, CT input : 1 point
	M-TIO-D	Thermocouple input : 2 zones, Brilliant PID control, CT input : 2 points
		RTD input : 2 zones, Brilliant PID control, CT input : 2 points
CT input module	M-CT-A	CT input : 6 points (RKC's exclusive CT)
Digital Output Module	M-DO-A	Alarm output, Relay contact output : 8 points (Common every 4 points)
		Alarm output, Open collector output : 8 points
	M-DO-B	Alarm output, Relay contact output : 4 points (All points are Common)
Digital Input Module	M-DI-A	24V DC input : 8 points (Common every 4 points)
Operation Panel	OPM-H	STN type blue LCD display unit, Power supply : 24V DC or 100 to 240V AC 50/60Hz, Digital communications
	OPM-C	STN type monochrome LCD display unit, Power supply : 100 to 240V AC 50/60Hz, Digital communications
	OPL	STN type blue LCD display unit, Power supply : 24V DC or 100 to 240V AC 50/60Hz, Digital communications

# External Dimensions

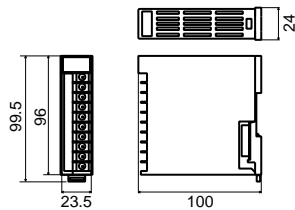
Unit : mm

• Module

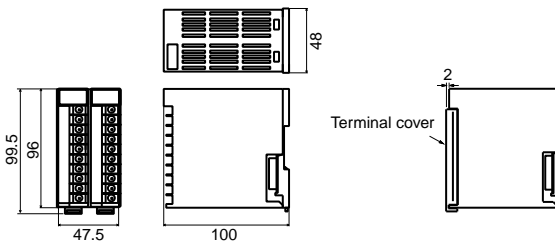
• Power supply / CPU module



• Single width module

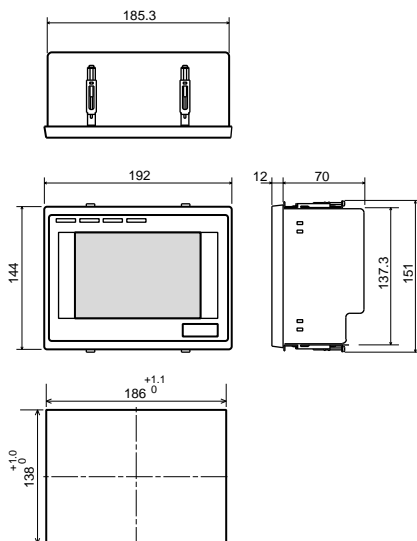


• Double width module  
Heat/cool control module

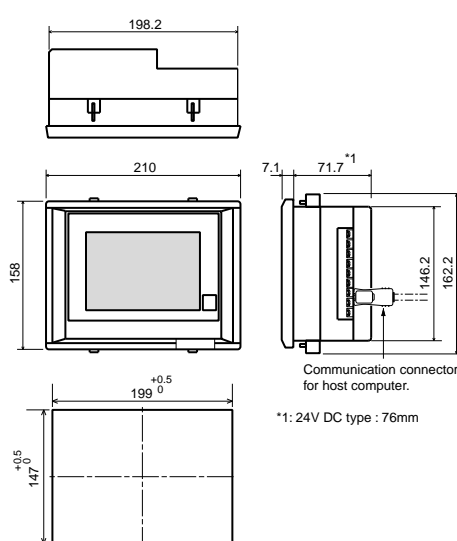


• Operation panel

• OPM - C



• OPM - H



Communication connector for host computer.

\*1: 24V DC type : 76mm

• OPL - A

