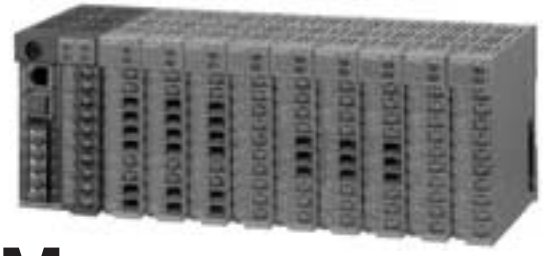


FAREX
SR Mini HG SYSTEM

General Description

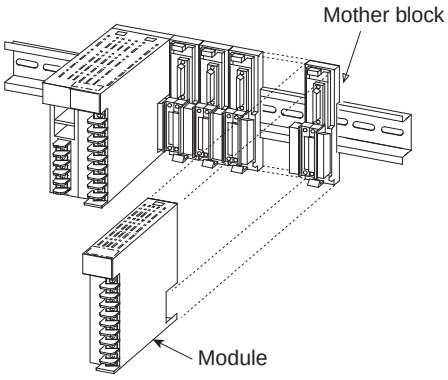
The SR Mini HG SYSTEM is a DIN-Rail mounted multi-loop control system. This product consists of block-type compact modules so that the configuration can be easily customized and changed according to your customers' demand or your future use.
The SR mini HG SYSTEM provides easy connection with SCADA, PLC, or PC based control system by Modbus or ANSI X3.28 protocol. Dedicated module for CC-link or direct communication to PLCs is also available *1.

Features

- ☆ Flexible installation - DIN rail mounting
- ☆ Up to 320 control loops in one system
- ☆ Control/Monitor from one operation panel, PC or PLC
- ☆ Easy connection with SCADA, PLC, or PC by Modbus, ANSI X3.28 protocol, CC-link or direct communication to PLCs.
- ☆ Simple connection to RKC touch screen operation panel without programming

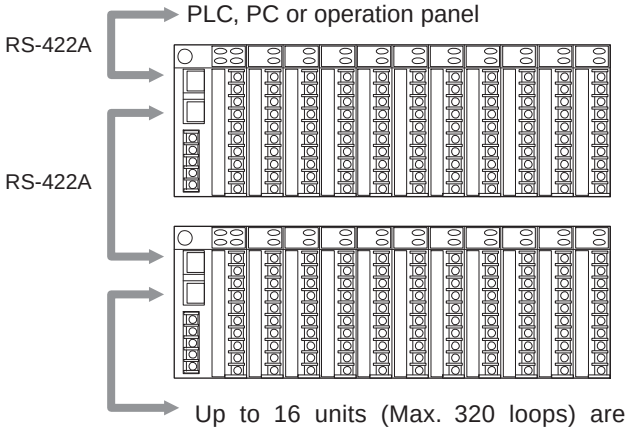
Flexible installation

The SR Mini HG SYSTEM enables you to customize compact, efficient and cost effective control system.
You can select and set up suitable function modules among wide range of function modules, such as temperature/process control, Digital I/O, Analog I/O.
The system can be easily expanded just by attaching additional modules.



Up to 320 control loops*2 in one system

The SR Mini HG SYSTEM controls up to 320 loops*2 when connected to PC or PLC, or up to 160 loops*2 when connected to a RKC touch screen operation panel.



Up to 16 units (Max. 320 loops) are available when connected to a PLC or a host computer.

Up to 8 units (Max. 160 loops) are available when connected to a RKC touch screen operation panel.

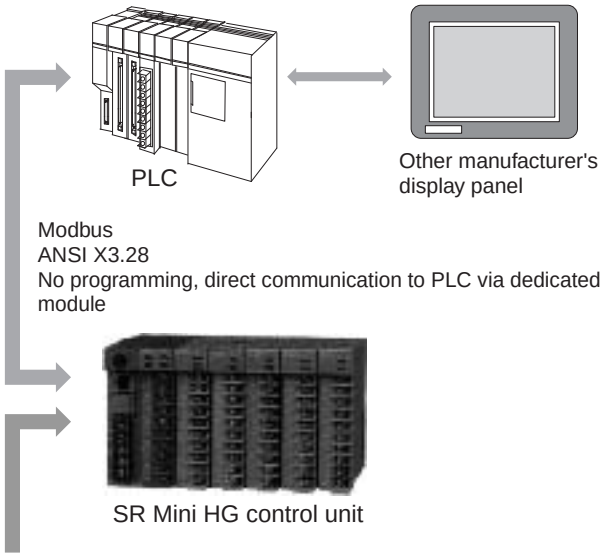
*1: Please contact RKC for details
*2: The number of loops varies according to the system configuration

Easy and various connection

The SR mini HG SYSTEM provides easy connection with SCADA, PLC, or PC based control system by Modbus or ANSI X3.28 protocol. Direct communication to PLCs without programming is also available via dedicated module. *3

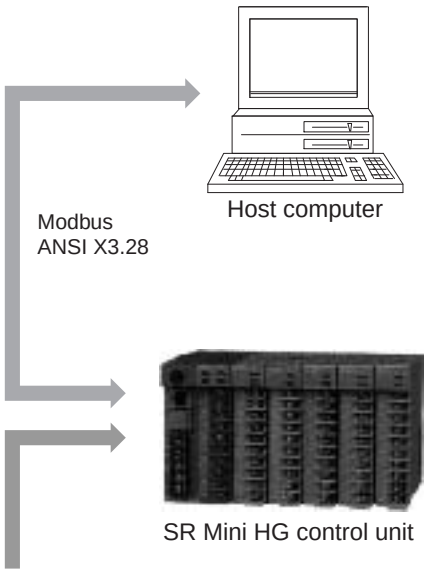
The SR mini HG SYSTEM can be connected to two types of RKC touch screen operation panel without programming. One is less expensive model OPM, and the other is color TFT 10.4-inch panel called OPC-H. OPC-H can communicate with major PLCs without programming. It allows you to create customized screens with easy-to-use MS Windows-based software, Panel DesignerⅡ, as well.

SR Mini HG SYSTEM connected to PLC



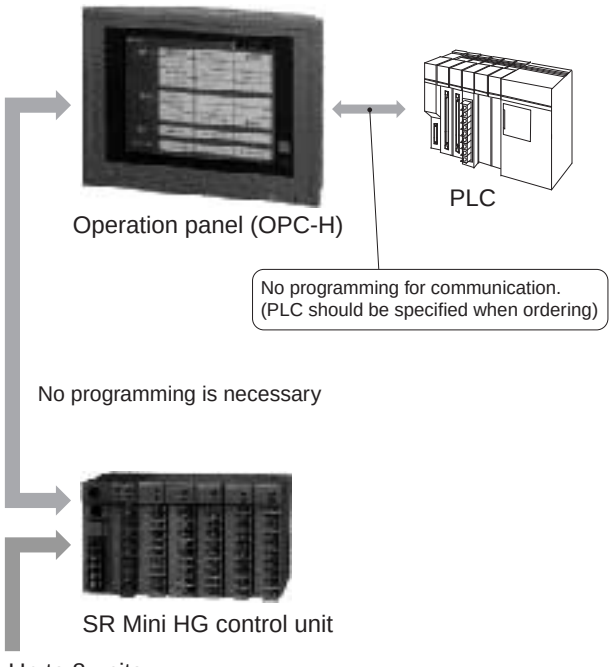
Up to 16 units (when RS-422A is used)

SR Mini HG SYSTEM connected to PC



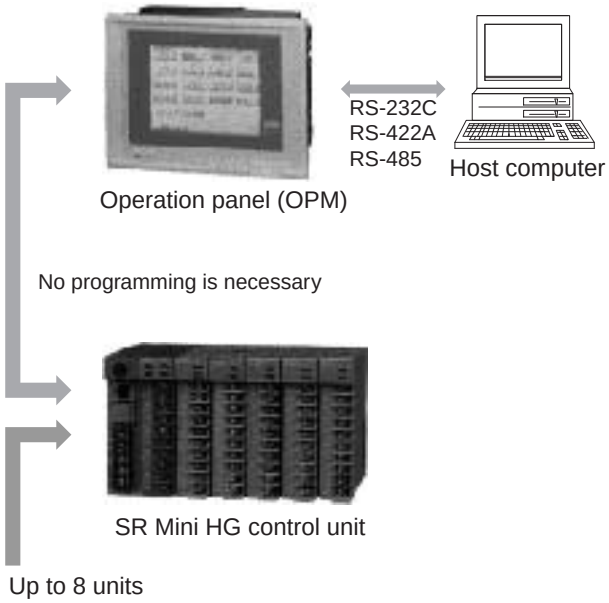
Up to 16 units (when RS-422A is used)

SR mini HG SYSTEM connected to RKC touch screen operation panel (OPC-H)



Up to 8 units

SR mini HG SYSTEM connected to RKC touch screen operation panel (OPM)



Up to 8 units

*3 : Please contact RKC for details.

Operation panel

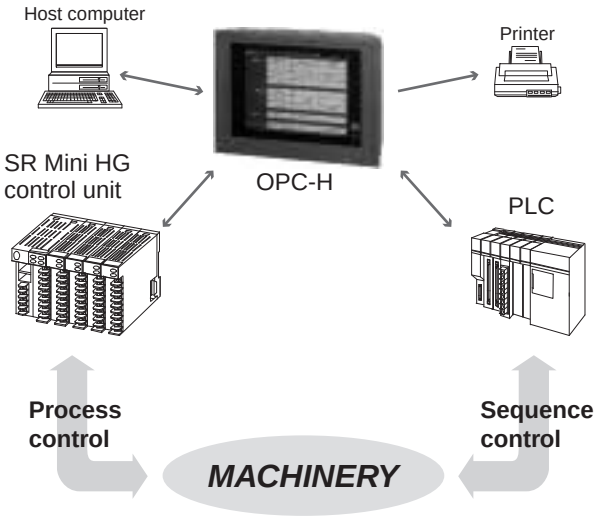
Design custom screens for OPC-H display

With the Panel Designer display editor, you can build custom OPC-H displays for your specific application with easy-to-use MS Windows-based software.

OPC-H

TFT color LCD display

Number of pixels	: 640 x 480 dots
Display area	: 211 x 158 mm
Power supply	: 100 to 240V AC
External dimensions	: 240 x 328 x 97 mm



Compact cost effective touch screen (OPM)

The OPM operation panel can be used without programming. It can also be connected to the host computer via the communications interface. This touch screen panel is less expensive than the OPC. For brightly-lit areas, the OPM-HL features a blue backlit display.

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	: 158 x 210 x 92 mm

OPM-CL2

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	: 144 x 192 x 85 mm

OPM-CL4

DIN size

Blue mode LCD display

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

Module

Power supply / CPU module

(H-PCP-A,B)
The CPU module supplies power to each module, manages data, and interfaces with an operation panel, host computer, or PLC. One power supply/CPU module is required for each control unit.

Control module

Temperature control module

(H-TIO-A,B,C,D)
These are standard temperature control modules with one or two channels. The input type is thermocouple or RTD. One channel type can have options such as alarm output.

High accuracy temperature control module

(H-TIO-E,F,G)
These are high accuracy temperature control modules with one or two channels. The sampling time is 0.1 second, and the accuracy is 0.1% of the full scale. The input type is thermocouple or RTD.

Control module with DC voltage/current input

(H-TIO-H,J)
These are high accuracy control modules with one or two channels. The input type is DC voltage/current input.

Control module with fuzzy logic

(H-TIO-P,R)
These are control modules with fuzzy logic to suppress overshoot and undershoot. TIO-P is the standard type, and TIO-R is the high accuracy type.

Other control module

Cascade control module

(H-CIO-A)

Position proportional control module

(H-TIO-K)

Current transformer input module

(H-CT-A)
This module is used with a current transformer (CT) to detect heater break or any loop failure.

Analog Input / Output module

Analog input module

(H-AI-A,B)
These modules have two or four inputs with independent high and low alarms as standard.

Analog output module

(H-AO-A,B)
These modules have two or four outputs which are useful for retransmission to recorders, etc.

Temperature input module

(H-TI-A,B,C)
These modules have four channels that can be used for temperature input monitoring. The input type is thermocouple or RTD. Two-channel high accuracy type is also available.

Digital Input / Output module

Digital input module

(H-DI-A)
This module is for multi-memory area change, and mode transfer.

Digital event input module

(H-DI-B)
This module allows you to program logics and output from the digital output module. Logic results also can be handled on communication.

Digital output module

(H-DO-A,B,D)
These modules can be used for independent alarm out put per channel, or various control status output.

Digital event output module

(H-DO-C)
This module allows you to add independent alarms . You can have more than two alarms if you use this module.

Device configuration

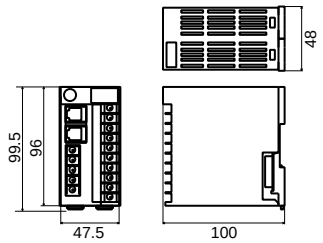
Module		Specifications
Power/CPU Module	H-PCP-A	100 to 120V AC, 50/60Hz FAIL output, Digital output : 4 points, Communication function
		200 to 240V AC, 50/60Hz FAIL output, Digital output : 4 points, Communication function
		24V DC FAIL output, Digital output : 4 points, Communication function
	H-PCP-B	100 to 120V AC, 50/60Hz FAIL output, Digital output : 2 points, Digital input : 3 points, Communication function
		200 to 240V AC, 50/60Hz FAIL output, Digital output : 2 points, Digital input : 3 points, Communication function
		24V DC FAIL output, Digital output : 2 points, Digital input : 3 points, Communication function
Temperature Control Module	H-TIO-A	Thermocouple, RTD input : 1 zone, Brilliant PID or ON/OFF control, CT input : 1 point, Alarm output : 1 point
	H-TIO-B	Thermocouple, RTD input : 2 zones, Brilliant PID or ON/OFF control
	H-TIO-P	Thermocouple, RTD input : 2 zones, Brilliant PID control with fuzzy
Temperature Control Module (Heat/Cool type)	H-TIO-C	Thermocouple, RTD input : 1 zone, Brilliant PID control, CT input : 1 point
	H-TIO-D	Thermocouple, RTD input : 2 zones, Brilliant PID control, CT input : 2 points
High accuracy temperature control module	H-TIO-E	Thermocouple, RTD input : 1 zone, Brilliant PID or ON/OFF control, Alarm output : 1 point
	H-TIO-F	RTD input : 2 zones, Brilliant PID or ON/OFF control
	H-TIO-R	Thermocouple, RTD input : 1 zone, Brilliant PID control with fuzzy, CT input : 1 point, Alarm ouput : 1 point
High accuracy temperature control module (Heat/Cool type)	H-TIO-G	Thermocouple, RTD input : 1 zone, Brilliant PID control
Control with Voltage/Current Input Module	H-TIO-H	DC voltage, DC current input : 1 zone, Brilliant PID or ON/OFF control, Alarm output : 1 point
	H-TIO-J	DC voltage, DC current input : 2 zones, Brilliant PID or ON/OFF control
Cascade Control Module	H-CIO-A	Thermocouple, RTD, DC voltage, DC current input : Master 1 zone / Slave 1 zone Brilliant PID control (Heat / Cool control is possible only for slave.) Digital input : 2 points
Control Module for Control Motor Drive	H-TIO-K	Thermocouple, RTD input : 1 zone, PID control, Feedback resistance input (Only input display : No relation control)
Temperature Input Module	H-TI-A	RTD input : 4 zones, Alarm function : 2 points/zone
	H-TI-B	Thermocouple, RTD input : 2 zones, Alarm function : 2 points/zone
	H-TI-C	Thermocouple, RTD input : 4 zones, Alarm function : 2 points/zone
CT input module	H-CT-A	CT input : 6 points (RKC's proprietary CT)
Digital Output Module	H-DO-A	Alarm output, Relay contact output : 8 points (Common every 4 points)
		Alarm output, Open collector output : 8 points
	H-DO-B	Alarm output, Relay contact output : 4 points (All points are Common)
	H-DO-C	Event output, Open collector output : 8 points
	H-DO-D	Alarm output, Open collector output : 16 points (Connector type)
Analog Input Module	H-AI-A	Analog input (Not insulated between channels) : 4 points 0 to 10mV, 0 to 100mV, 0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V, -1 to 1V, -5 to 5V, -10 to 10V, 0 to 20mA, 4 to 20mA DC Alarm function : 2 points / channel
	H-AI-B	Analog input (Insulated between channels) : 2 points 0 to 10mV, 0 to 100mV, 0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V, -1 to 1V, -5 to 5V, -10 to 10V, 0 to 20mA, 4 to 20mA DC Alarm function : 2 points / channel
Analog Output Module	H-AO-A	Analog output (Not insulated between channels) : 4 points 0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V, 0 to 20mA, 4 to 20mA DC
	H-AO-B	Analog output (Insulated between channels) : 2 points 0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V, 0 to 20mA, 4 to 20mA DC
Digital Input Module	H-DI-A	24V DC input : 8 points (Common every 4 points)
	H-DI-B	Event input, 24V DC input : 8 points (Common every 4 points)
Operation Panel	OPC-HC1	TFT type color LCD unit, Memory card unit interface function or Host communication interface function, Other manufacture's interface function, Printer interface function
	OPM-CL2	STN type monochrome LCD display unit, Host communication interface function
	OPM-CL4	Blue mode LCD display unit, Host communication interface function
	OPM-HL4	Blue mode LCD display unit, Host communication interface function
Memory card unit	EMU-01	Memory card unit for OPC-HC1

External Dimensions

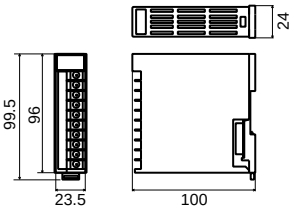
Unit : mm

• Module

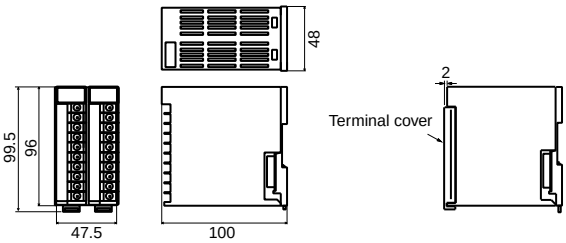
• Power supply / CPU module



• Single width module

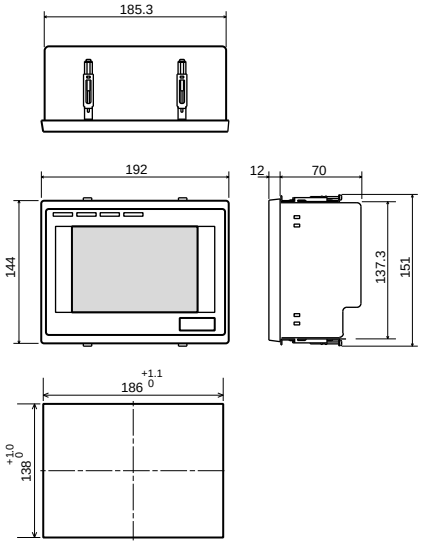


• Double width module
Heat/cool control module
Cascade control module

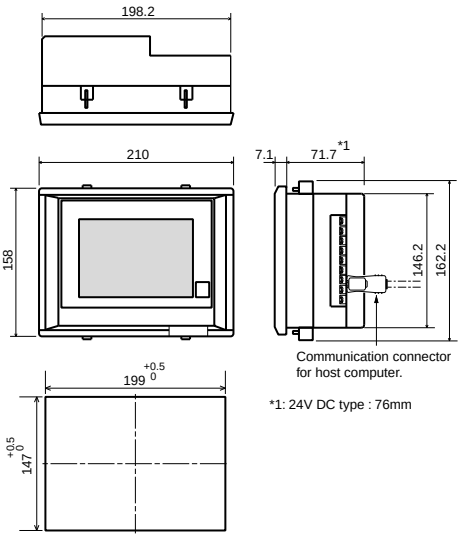


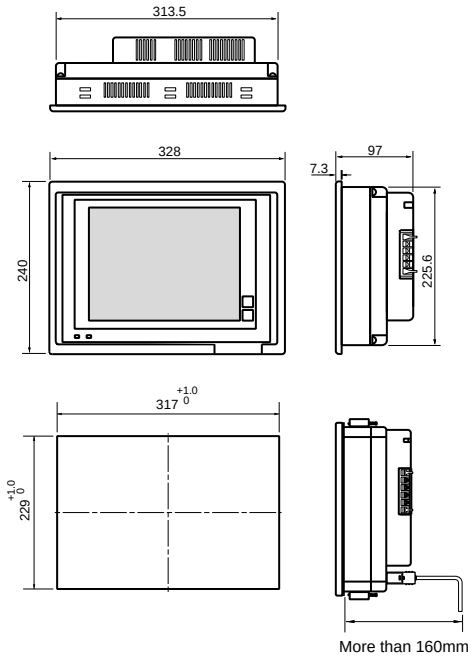
• Operation panel

• OPM - CL2, CL4



• OPM - HL4



*1: 24V DC type : 76mm

• OPC - H