Fully Programmable Multi-Function PID Controller

NEW

✔ **Highly visible color graphic LCD**

✔ **Intuitive touch panel operation**

- **72 x 144 mm DIN format standard panel size**
- **2 x universal inputs, 4 x analog inputs, 5 x contact or pulse inputs, 1 x high speed pulse input**
- **2 x 4-20 mA outputs, 2 x 1-5 V outputs, 6 x contact outputs**
- **Two loops of PID control**
- **Advanced computation and sequential control functions**
- **Automatic PID parameter setting by 'Auto-Tuning' function**
- **Modbus TCP/IP or RTU communication** SC200 SC210
- **NestBus (RS-485) peer-to-peer communication** SC200 SC210
- **Built-in manual loader** SC110 SC210

SC Series Controllers

SC100: Basic version
SC200: Modbus / NestBus extension version
SC110: Basic version with manual loader
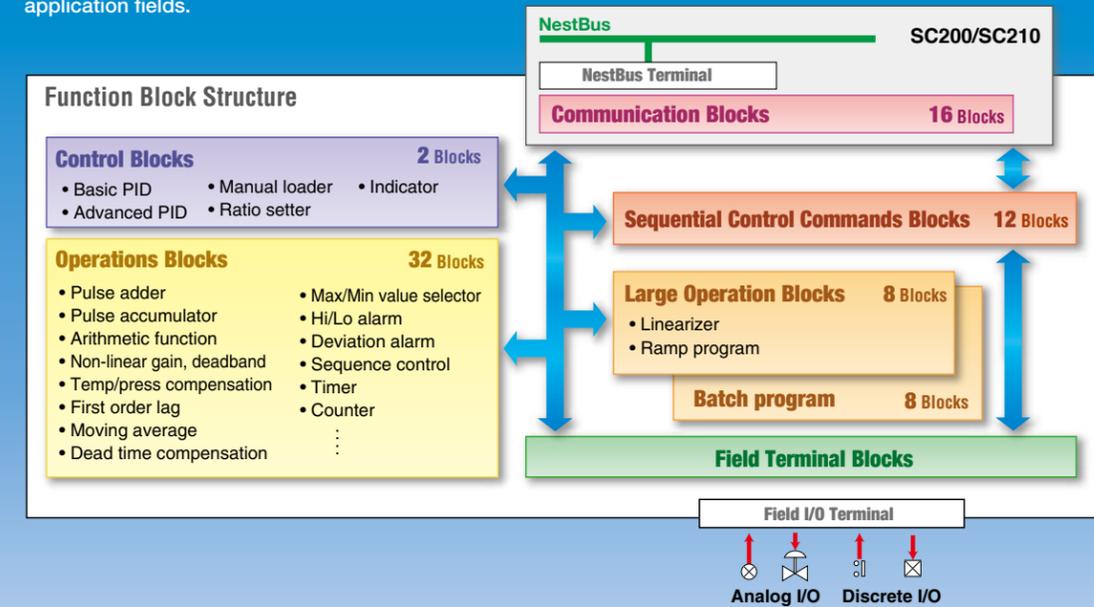**SC210**: Modbus / NestBus extension version with manual loader

Auxiliary Control Panel Instruments

SD10: 3-channel Bargraph Indicating Alarm **SM10**: Manual Loader

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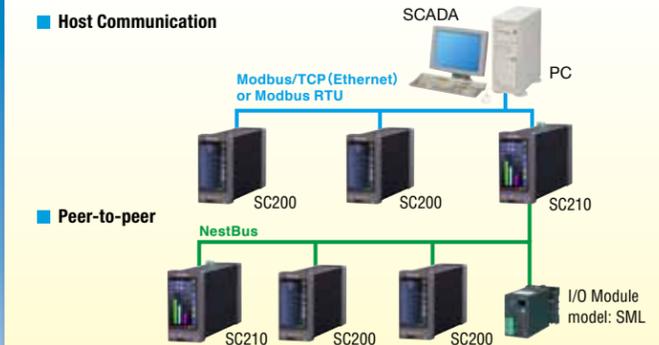## ✔ DCS in Instrument Format — Advanced Computation and Sequential Control Functions

The control and computation functions are achieved by combining a wide variety of basic to advanced function blocks, which are normally found only in DCS systems. 2 PID blocks, 48 computation blocks and 12 sequential control blocks (1068 commands) are available for all versions of the SC Series, applicable to a wide range of application fields.

NestBus   SC200/SC210

NestBus Terminal

Communication Blocks   16 Blocks

Function Block Structure

Control Blocks   2 Blocks
- Basic PID
- Advanced PID
- Manual loader
- Ratio setter
- Indicator

Operations Blocks   32 Blocks
- Pulse adder
- Pulse accumulator
- Arithmetic function
- Non-linear gain, deadband
- Temp/press compensation
- First order lag
- Moving average
- Dead time compensation
- Max/Min value selector
- Hi/Lo alarm
- Deviation alarm
- Sequence control
- Timer
- Counter

Sequential Control Commands Blocks   12 Blocks

Large Operation Blocks   8 Blocks
- Linearizer
- Ramp program

Batch program   8 Blocks

Field Terminal Blocks

Field I/O Terminal

Analog I/O   Discrete I/O

✔ Excellent Expandability with Peer-to-peer and Host Communication

The SC200/SC210 has Modbus (Ethernet TCP/IP or RS-485 RTU) which enables easy connection to logging or SCADA systems on a host PC for supervising and controlling the local I/O data. In addition, the RS-485 'NestBus' enables peer-to-peer communication with other controllers and I/O devices for flexibility of I/O points.

Expanded System Configuration Example

■ Host Communication   SCADA

Modbus/TCP (Ethernet) or Modbus RTU   PC

SC200   SC200   SC210

■ Peer-to-peer   NestBus

SC210   SC200   SC200   I/O Module model: SML

✔ High Reliability for Demanding Process Use

Control, display and I/O functions are managed by independent CPUs for enhanced security and reliability. The built-in manual loader (option) can be controlled independently even in case of a failure of the main controller module, which can be replaced easily while the backup control is maintained. The loader module can be powered independently from that of the main module for further reliability.

Main module extracted for repair with MV maintained.

Five LEDs indicate MV when LCD display is failed.