SIPLUS HCS300I – the industrial heating controller for extruders: modular, flexible and part of TIA

SIPLUS HCS300I is an industrial heating controller which controls resistive loads via solid-state relays or contactors. SIPLUS HCS300I was developed on the basis of the SIMOCODE system. SIPLUS HCS300I can be adapted to your special application by using various modules:

- The basic unit handles the central functions and communicates with the higher-level automation system.
- Temperature modules process the analog temperature values that are supplied by the temperature sensors in your system.
- Digital modules expand the HCS300I by additional digital outputs via which solid-state relays or contactors are switched.
- The current/voltage measuring module measures the load currents of the heating or cooling devices, and delivers the values to the basic unit.

If your application requires more than 16 temperature measuring channels or 24 digital outputs, you can connect a second SIPLUS HCS300I basic unit to the automation system. A further 16 temperature measuring channels or 24 digital outputs are then available.

Together with the TCP 3000 temperature control software – which is executed on the higher-level automation system – the result is a powerful solution for the control of extruder heaters.

**Your benefits**

- With TIA: everything from a single source
- Modular design: extremely space-saving and flexible
- Many different power ratings of extruders can be controlled
  - Current measurement: 2.4 ... 200 A
  - Voltage measurement: 110 ... 690 V
  - SIRIUS solid-state relays: 10 ... 90 A
- Simple configuration and startup by means of the user-friendly STEP 7 configuration software
- Simple control of SIRIUS solid-state relays via preassembled cables
- Communication with automation systems over PROFINET
- User-friendly TCP 3000 control software available
- Snap-mounted to 35 mm DIN rail or screw-mounted with additional push-in lugs
- Maximum configuration: 32 temperature measuring channels or 48 digital outputs

**Application**

Extrusion, injection molding
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### Technical specifications

**Basic unit (BU)**
- 4 binary inputs for measurement of process signals
- 3 relay outputs with max. 6 A
- 1 SIMOConnect interface for connection of max.:
  - 4 DM6 digital modules
  - 4 TM4 temperature modules
  - 1 current measuring module (IM) or 1 current/voltage measuring module (UM)
- PROFIBUS DP slave with 12 Mbit/s
- Display elements:
  - 3 LEDs for display of operating state, PROFIBUS status, fault in device feeder
- 24 V DC supply voltage
- Cycle time typically 600 ms

**Digital module DM6**
- 6 short-circuit-proof output channels 24 V (switching to P potential)
- Rated output current 0.5 A
- For resistive, capacitive and inductive loads
- Connection of loads via terminals and/or plugs

**Temperature module TM4**
- Temp. measuring channels: 4 channels with 2-wire connection or 2 channels with 4-wire connection
- Temperature measurement via:
  - Thermocouples of types J, K and L
  - Temperature sensors PT100 and PT1000
  - Wire-break detection
  - Cold-spot compensation for thermocouples

**General specifications**
- Operating temperature: -25 to +60 °C
- Storage and transport: -40 to +80 °C
- Mounting:
  - On 35 mm DIN rail or
  - screw mounting with additional plug-in lugs

**Current measuring module (IM)**
- Measurement of current by means of through-hole technology
- 3 modules available:
  - 2.4 to 25 A
  - 10 to 100 A
  - 20 to 200 A
- Accuracy typically +/- 3 %

**Current/voltage measuring modules (UM)**
- Measurement of current by means of through-hole technology
- 3 modules with measuring ranges:
  - 2.4 to 25 A
  - 10 to 100 A
  - 20 to 200 A
- Measuring range: 110 to 690 V
- Accuracy typically +/- 3 %

**Decoupling module (DCM)**
- Expansion of system by supplementary modules if the max. permissible power consumption is exceeded
- Establishment of electrical isolation

### Contact

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Application example:
System with 8 temperature sensors, 18 digital outputs, current/voltage measurements