

Overview



Analog input modules

- Multi-function modules for current, voltage and temperature measurements
- Special, highly accurate modules for current and voltage measurements or temperature measurements

All modules automatically supply channel-specific and module-internal diagnostics data, except module 6ES7 331-1KF02-0AB0. With this module, a channel failure is detected by the SIMATIC PCS 7 analog driver block.

The channels of the analog input modules can be parameterized in groups independent of each other.

Analog output modules

- Modules with 12-bit resolution and different numbers of channels
- Highly accurate module with 15-bit resolution

The analog output modules can be parameterized in groups independent of each other, and automatically provide all channel-specific and module-internal diagnostics information.

Ordering data

Article No.

Article No.

Analog input modules

SM 331 modules for current, voltage and temperature measurements

8 inputs, individually configurable

- Resolution 12 bit + sign
- Current measurement (8 channels) 0/4 ... 20 mA, ± 20 mA (2 wires with external supply or 4 wires)
- Voltage measurement (8 channels) 1 ... 5 V, 0 ... 10 V, ± 50 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V
- Resistance thermometer Pt100, Ni100, Ni1000, LG-Ni1000 (8 channels; 2, 3 or 4 wires)
- Front connector required: 40-pin

6ES7331-1KF02-0AB0

8 inputs in 4 channel groups Redundancy optional

- (module-granular redundancy)
- Changeover of measurement type by range module per channel group
- Resolution 14 bit + sign
- Current measurement (8 channels) 0 ... 20 mA, ± 3.2 mA, ± 10 mA, ± 20 mA (4 wires) or 4 ... 20 mA (2 or 4 wires)
- Voltage measurement (8 channels) 1 ... 5 V, 0 ... 10 V, ± 50 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V
- Resistance thermometer Pt100, Ni100 (4 channels, 2 or 4 wires)
- Thermocouples type E, N, J, K, L (8 channels), internal compensation or external compensation with compensating box or 0 °C cold junction
- Wire break monitoring
- Internal module diagnostics
- Front connector required: 20-pin

6ES7331-7KF02-0AB0

2 inputs in 1 channel group

- Changeover of measurement type by range module
- Adjustable resolution per channel group: 9/12/14 bits + sign
- Current measurement (2 channels) 0 ... 20 mA, ± 3.2 mA, ± 10 mA, ± 20 mA (4 wires) or 4 ... 20 mA (2 or 4 wires)
- Voltage measurement (2 channels) 1 ... 5 V, ± 80 mV, ± 250 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 5 V, ± 10 V
- Resistance thermometer Pt100, Ni100 (1 channel, 2 or 4 wires)
- Thermocouples type E, N, J, K, L (2 channels), internal compensation or external compensation with compensating box or 0 °C cold junction
- Wire break monitoring
- Internal module diagnostics
- Front connector required: 20-pin

6ES7331-7KB02-0AB0

Process I/O

SIMATIC ET 200M for SIMATIC PCS 7

Analog modules**Ordering data****Article No.****Article No.****SM 331 modules for current and voltage measurements****8 inputs in 4 channel groups, high speed**

- Resolution 13 bit + sign
- Measurement type and range selection adjustable per channel group
- Current measurement 0 ... 20 mA, ± 20 mA (4 wires) or 4 ... 20 mA (2 or 4 wires)
- Voltage measurement 1 ... 5 V, ± 1 V, ± 5 V, ± 10 V
- Limit monitoring adjustable for 2 channels
- Fast updating of measured value
- Supporting of isochronous mode
- Internal module diagnostics
- Front connector required: 20-pin

6ES7331-7HF01-0AB0**8 inputs in 4 channel groups Redundancy optional**
(channel-granular redundancy)

- Resolution 15 bit + sign
- Current measurement 0/ 4 ... 20 mA, ± 20 mA (8 channels; 2 or 4 wires)
- Voltage measurement 1 ... 5 V, ± 5 V, ± 10 V (8 channels)
- Wire break monitoring with 4 ... 20 mA and 1 ... 5 V
- Internal module diagnostics
- Front connector required: 40-pin

6ES7331-7NF00-0AB0**8 inputs in 4 channel groups Redundancy optional**
(channel-granular redundancy)

- Resolution 15 bit + sign
- Fast module cycle (min. 10 ms for 4 channels)
- Current measurement 0/ 4 ... 20 mA, ± 20 mA (8 channels; 2 wires with external supply or 4 wires)
- Voltage measurement 1 ... 5 V, ± 5 V, ± 10 V (8 channels)
- Wire break monitoring with 4 ... 20 mA and 1 ... 5 V, ± 5 V, ± 10 V
- Short-circuit-proof
- Electrical isolation between channel groups
- Internal module diagnostics
- Front connector required: 40-pin

6ES7331-7NF10-0AB0**SM 331 modules for temperature measurement****8 inputs in 4 channel groups**

- Resolution 15 bit + sign
- Resistance thermometer Pt100 ... 1000, Ni100 ... 1000, Cu10 (8 channels; 2, 3 or 4 wires)
- Resistance measurement 150 Ω , 300 Ω , 600 Ω
- Measuring mode (temperature or resistance) and measuring range adjustable per channel group
- Short-circuit-proof
- Wire break monitoring
- Internal module diagnostics
- Front connector required: 40-pin

6ES7331-7PF01-0AB0**8 inputs in 4 channel groups**

- Resolution 15 bit + sign
- Thermocouples type B, C, N, E, R, S, J, L, T, K, U (8 channels), internal compensation; external compensation with Pt100 through separate inputs possible
- Measuring range adjustable per channel group
- Fast module cycle (10 ms for 4 channels)
- Short-circuit-proof
- Wire break monitoring
- Internal module diagnostics
- Front connector required: 40-pin

6ES7331-7PF11-0AB0**6 inputs in 6 channel groups Redundancy optional**
(channel-granular redundancy)

- Resolution 15 bit + sign
- Electrical isolation up to 250V AC between the channels
- Measuring mode (temperature or voltage) and measuring range adjustable per channel
- Temperature measurement with thermocouple type B, C, N, E, R, S, J, L, T, K, U, Txx/XX (L); internal compensation; external compensation possible with Pt100
- Voltage measurement 25 mV, ± 50 mV, ± 80 mV, ± 250 mV, ± 500 mV, ± 1 V
- Input impedance 10 M Ω each
- Programmable diagnostics and diagnostics alarm
- Programmable process alarm on limit violation
- Calibration possible using SIMATIC PDM
- Front connector required: 40-pin

6ES7331-7PE10-0AB0