SIEMENS

Data sheet 7MH4134-6LB00-0DA0

SIMATIC ET 200SP, ANALOG INPUT MODULE, AI 2 X SG 4-/6-WIRE HIGH SPEED, FITS TO BU-TYPE A0, COLOR CODE CC00, CHANNEL DIAGNOSIS, 28/16BIT, +/-0,05%, FOR STRAIN GAUGE FULL BRIDGES

General information	
Product type designation	AI 2xSG 4-/6-wire HS
HW functional status	01
Firmware version	V1.0.1
● FW update possible	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes
● Measuring range scalable	Yes
● Scalable measured values	No
● Adjustment of measuring range	Yes; ±0.5 ... 320 mV/V
Protection function	
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V14 SP1
● PROFIBUS from GSD version/GSD revision	V03.01.105
● PROFINET from GSD version/GSD revision	GSDML V2.33
Integrated drive control	
Operating mode	
● Oversampling	Yes; 2 channels per module
● MSI	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
Operator control and monitoring	
Process images	
User administration	
Alarms	
Recipes/user archives	
Display	
Line display	
Resolution (pixels)	
Control elements	
Input device	
Keyboard fonts	

Touch operation	
Connection type	
Special operator controls	
Frame size/design	
Ergonomics	
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Line frequency	
Mains filter	
Mains buffering	
Load voltage L+	
Digital inputs	
Load voltage 1L+	
Load voltage 2L+	
Load voltage L1	
Auxiliary voltage 1L+, load voltage 2L+	
Input voltage	
Input voltage acc. to VDE	
Input voltage acc. to UL	
Line frequency	
Input current	
Current consumption (rated value)	70 mA
Output current	
horizontal installation	
vertical installation	
Encoder supply	
Output voltage (DC)	4.85 V
Short-circuit protection	Yes
Output current	
• Rated value	60 mA; Per channel
5 V encoder supply	
Power	
Power available from the backplane bus	65 mW
Power loss	
Power loss, typ.	1.5 W
Memory	
Work memory	
Working memory for additional functions	
Battery	
Design	
CPU-blocks	
DB	
FB	
FC	
Counters, timers and their retentivity	
S7 counter	
IEC counter	
S7 times	
Data areas and their retentivity	
Flag	
Address area	
I/O address area	
of which distributed	

per integrated IO subsystem	
Process image	
Subprocess images	
Digital channels	
Analog channels	
Addressing volume	
Address space per module	
● Address space per module, max.	32 byte
● Inputs	32 byte
● Outputs	8 byte
Hardware configuration	
Automatic encoding	
● Mechanical coding element	Yes
Formation of potential groups	
Module exchange	
Interface modules	
Number of DP masters	
Number of IO Controllers	
Number of operable FMs and CPs (recommended)	
Expansion modules	
Rack	
Submodules	
PtP CM	
Time of day	
Clock	
Operating hours counter	
Time switching clocks	
Digital inputs	
Number of simultaneously controllable inputs	
all mounting positions	
horizontal installation	
Digital input functions, parameterizable	
Input voltage	
Input current	
for 10 k switched contact	
Internal preparation time	
Input delay (for rated value of input voltage)	
for standard inputs	
for interrupt inputs	
Encoder connection	
Connection method	
Digital outputs	
Digital output functions, parameterizable	
Control supply voltage	
Switching capacity of the outputs	
Load resistance range	
Trend key points E	
Output voltage	
Output current	
Output delay with resistive load	
Parallel switching of two outputs	
Switching frequency	
Total current of the outputs	
horizontal installation	
Total current of the outputs (per group)	
all mounting positions	
horizontal installation	
vertical installation	

Total current of the outputs (per module)	
all mounting positions	
horizontal installation	
Pulse output (passive)	
Frequency output	
Relay outputs	
Integrated high-speed cams	
Analog inputs	
Number of analog inputs	2; Differential inputs
Cycle time (all channels), min.	100 µs
Analog input with oversampling	Yes
● Values per cycle, max.	14
● Resolution, min.	100 µs
Input ranges	
● Strain gauges (full bridges)	Yes
Measuring range	
Characteristic linearization	
Connection method	
Cable length	
● shielded, max.	500 m
Analog outputs	
Output ranges, voltage	
Output ranges, current	
Connection of actuators	
Load impedance (in rated range of output)	
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	28 bit; 16 bits with oversampling
● Integration time, parameterizable	Yes
● Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
● Conversion time (per channel)	100 µs
Smoothing of measured values	
● IIR low-pass filter frequency	0.01 ... 600 Hz
● Notch filter frequency	0.1 ... 1 000 Hz
● Notch filter quality	5.00 ... 250.00
● Average value filter	0.1 ... 655.3 ms
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
Encoder	
Connection of signal encoders	
● For strain gauges (full bridges) with 4-conductor connection	Yes
● For strain gauges (full bridges) with 6-conductor connection	Yes
● Resistance of full bridge, min.	80 Ω
● Resistance of full bridge, max.	5 000 Ω
Connectable encoders	
Incremental encoder	
Encoder signals, incremental encoder (symmetrical)	
Encoder signals, incremental encoder (asymmetrical)	
Encoder signals, absolute encoder (SSI)	
Encoder signals, IEPE	
Drive axis	
EC motor	
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.025 %

Temperature error (relative to input range), (+/-)	0.0005 %/°C; Strain gauge full bridge, 6-conductor connection
Temperature coefficient, zero point	≤ ±0.25 µV/K
Temperature coefficient, span, 4-wire connection (in relation to end value)	≤ ±5 ppm/K
Temperature coefficient, span, 6-wire connection (in relation to end value)	≤ ±10 ppm/K
Basic error limit (operational limit at 25 °C)	
● Voltage, relative to input range, (+/-)	0.05 %; See manual for details
Power electronics	
Control of heating elements	
Load connection type	
Setpoint input	
Heating power	
Interfaces	
Video interfaces	
Touch interfaces	
MPI	
PROFIBUS DP	
PROFIBUS PA	
Supports protocol for PROFINET IO	
PROFINET functions	
Industrial Ethernet	
Point-to-point connection	
Integrated protocol driver	
Telegram length, max.	
Transmission rate, 20 mA (TTY)	
Transmission rate, RS 422/485	
Transmission speed, RS 232	
Signals	
ET-Connection	
EtherNet/IP	
AS-Interface	
WLAN	
1. Interface	
Interface types	
Protocols	
MPI	
PROFIBUS DP master	
Services	
PROFIBUS DP slave	
PROFINET IO Controller	
Services	
Update time for IRT	
PROFINET IO Device	
Services	
PROFINET CBA	
Open IE communication	
CAN	
BACnet	
2. Interface	
Interface types	
Protocols	
PROFIBUS DP master	
Services	
PROFIBUS DP slave	
PROFINET IO Controller	
Services	
Update time for IRT	

PROFINET IO Device	
Services	
PROFINET CBA	
3. Interface	
Interface types	
Protocols	
PROFIBUS DP master	
Services	
PROFIBUS DP slave	
PROFINET IO Controller	
PROFINET IO Device	
Services	
PROFINET CBA	
4. Interface	
Interface types	
Protocols	
PROFIBUS DP master	
PROFINET IO Controller	
Interface types	
RJ 45 (Ethernet)	
RS 232	
RS 485	
RS 422	
USB port	
Protocols	
Protocols (USB)	
Protocols (Ethernet)	
WEB characteristics	
Protocols (terminal link)	
Number of connections	
PROFINET IO Device	
Redundancy mode	
SIMATIC communication	
EtherNet/IP	
Services	
Updating times	
Redundancy mode	
Open IE communication	
Web server	
PROFIBUS DP	
PROFIdrive	
DALI	
Integrated protocols	
Freeport	
3964 (R)	
OPC UA	
Isochronous mode	
Filtering and processing time (TCI), min.	87 µs
Bus cycle time (TDP), min.	125 µs
Communication functions	
Global data communication	
S7 basic communication	
S7 communication	
LOGO! communication	
S5 compatible communication	
Standard communication (FMS)	
PROFINET CBA (at set setpoint communication load)	

Remote interconnections with acyclic transmission	
Remote interconnections with cyclic transmission	
iPAR server	
Number of connections	
Test commissioning functions	
Status/control	
Forcing	
Diagnostic buffer	
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes
● Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnoses	
● Monitoring the supply voltage	Yes
● Wire-break	Yes
● Short-circuit	Yes
● Group error	Yes
● Overflow/underflow	Yes
Diagnostics indication LED	
● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● Channel status display	Yes; green LED
● for channel diagnostics	Yes; red LED
● for module diagnostics	Yes; green/red DIAG LED
Integrated Functions	
Monitoring functions	
Safety monitoring functions	
Counting functions	
Load cell	
Position detection	
Control technology	
Step-by-step controllers	
Pulse generator	
Measuring functions	
Operating mode for measured value acquisition	
Measuring range	
Accuracy	
Measuring inputs for voltage	
Measuring inputs for current	
Measuring inputs for current (Rog. or I/U converter)	
Error limits	
Counter	
Counting mode	
External gate counters	
Counter input 5 V	
Counter input 24 V	
Drive interface	
Signal Input	
Potential separation	
Potential separation digital inputs	
Potential separation digital outputs	
Potential separation analog inputs	
Potential separation analog outputs	
Potential separation channels	
● between the channels	No
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	Yes

Potential separation valve outputs	
Potential separation counter	
Potential separation controller	
Isolation	
Isolation tested with	707 V DC (type test)
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against high-frequency electromagnetic fields	
Interference immunity to cable-borne interference	
Interference immunity against voltage surge	
Interference immunity against conducted variable disturbance induced by high-frequency fields	
Interference immunity to magnetic fields	
Emission of radio interference acc. to EN 55 011	
Emission of radio interference acc. to EN 55 022	
Standards, approvals, certificates	
Highest safety class achievable for safety-related tripping of standard modules	
Highest safety class achievable for deactivated dark test	
Use in hazardous areas	
Marine approval	
Ambient conditions	
Free fall	
Ambient temperature during operation	
● horizontal installation, min.	-25 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	-25 °C
● vertical installation, max.	50 °C
Operation (vertical installation)	
Ambient temperature during storage/transportation	
Air pressure acc. to IEC 60068-2-13	
Altitude during operation relating to sea level	
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 1 K/100 m) at 795 hPa ... 701 hPa (+2 000 m ... +3 000 m)
Vibrations	
Shock testing	
Fire resistance	
Pollutant concentrations	
Hardware requirement	
Processor	
Graphic	
Operating systems	
pre-installed operating system	
Runs under operating system	
Software	
Preinstalled	
Software functions	
Multi-user system	
Runtime software	
Runtime	
Block	
Adjustable parameters	
Configuration	
Configuration	
Configuration software	
Script languages (Runtime)	
Programming	
Programming language	
Configuration examples	

Software libraries	
Know-how protection	
Access protection	
Languages	
Online languages	
Functionality under WinCC (TIA Portal)	
Multiproject	
Message system	
Recipe management	
Variables	
Images	
Image objects	
Complex image objects	
Attributes for dynamic objects	
Lists	
Archiving	
Filters	
Security	
Data carrier support	
Logging through printer	
Character sets	
Transfer (upload/download)	
Process coupling	
Functions	
Functionality under WinCC Unified	
Parameter set management (recipes)	
Image objects	
Connection method	
ET-Connection	
Terminals	
Connection I/O signals	
Conductor cross-section in mm²	
Conductor cross-section acc. to AWG	
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	45 g
Other	
Data for selecting a voltage transformer	

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