## **SIEMENS**

## **Data sheet**

## 6ES7134-6PA01-0CU0



SIMATIC ET 200SP, analog input module, AI Energy Meter CT HF, for 1A or 5A current transformer, with network analysis functions, suitable for BU type U0, channel diagnostics

General information		
Product type designation	Al Energy Meter CT HF	
Firmware version	V8.0	
<ul> <li>FW update possible</li> </ul>	Yes	
usable BaseUnits	BU type U0	
Color code for module-specific color identification plate	CC20	
Supported power supply systems	TT, TN, IT	
Product function		
<ul> <li>Voltage measurement</li> </ul>	Yes	
<ul> <li>— without voltage transformer</li> </ul>	Yes	
<ul> <li>— with voltage transformer</li> </ul>	Yes	
Current measurement	Yes; Max. 4	
<ul> <li>— without current transformer</li> </ul>	No	
<ul> <li>— with current transformer</li> </ul>	Yes; 1 A or 5 A current transformer	
— With Rogowski coil	No	
<ul> <li>With current-voltage-converter</li> </ul>	No	
<ul> <li>Energy measurement</li> </ul>	Yes	
<ul> <li>Frequency measurement</li> </ul>	Yes	
<ul> <li>Power measurement</li> </ul>	Yes	
<ul> <li>Active power measurement</li> </ul>	Yes	
<ul> <li>Reactive power measurement</li> </ul>	Yes	
<ul> <li>Power factor measurement</li> </ul>	Yes	
<ul> <li>Active factor measurement</li> </ul>	Yes	
<ul> <li>Reactive power compensation</li> </ul>	Yes	
Line analysis	Yes	
<ul> <li>Monitoring of instantaneous and half-wave values</li> </ul>	Yes	
<ul> <li>THD measurement for current and voltage</li> </ul>	Yes	
<ul> <li>Harmonics for current and voltage</li> </ul>	Yes	
— Voltage dip (DIP)	Yes	
— Voltage swell	Yes	
<ul> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3	
<ul> <li>Isochronous mode</li> </ul>	No	
Engineering with		
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	STEP 7 V16 or higher with HSP	
<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 or higher	
<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher	
<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3	
Operating mode		

Switching between operating modes in RUN	Yes; For module version 32 I/20 Q, it is possible to dynamically switch between 25 user data variants, 23 of which are pre-defined and 2 of which can be defined by the specific user
<ul> <li>Cyclic measured value access</li> </ul>	Yes
Acyclic measured value access	Yes
Fixed measured value sets	Yes
Freely definable measured value sets	Yes; For cyclic and acyclic measured value access
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
Installation type/mounting	
Mounting position	any
Supply voltage	any
	DC
Design of the power supply	
Type of supply voltage	24 V DC 19.2 V
permissible range, lower limit (DC)	
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	12.5 mA
Current consumption, max.	17 mA
Power loss	
Power loss, typ.	1.4 W; 4x 6 A input current, 3x 230 V AC
Address area Address space per module	
• Inputs	256 byte
Outputs	20 byte
Hardware configuration	20 0)10
	Yes
Automatic encoding	
Mechanical coding element     Type of machanical coding element	Yes C
Type of mechanical coding element  Selection of BaseUnit for connection variants	
2-wire connection	DII tuno IIO
	BU type U0
Time of day	
Operating hours counter	V
• present	Yes
Analog inputs	
Cycle time (all channels), typ.	50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)
Cable length	
• shielded, max.	200 m
• unshielded, max.	200 m
Analog value generation for the inputs	
Sampling frequency, max.	2 048 kHz
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes
<ul> <li>Limit value alarm</li> </ul>	Yes
Hardware interrupt	Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)
Diagnoses	
Line quality	Yes
<ul> <li>Supply voltage</li> </ul>	Yes
<ul> <li>Hardware interrupt lost</li> </ul>	Yes
Parameter assignment error	Yes
Module fault	Yes
Channel not available	Yes
<ul> <li>Overflow/underflow</li> </ul>	Yes
Overload current	Yes
Diagnostics indication LED	
<u> </u>	

• Monitoring of the supply voltage (PWR-LED) Yes Yes: green LED Channel status display • for channel diagnostics Yes; red Fn LED • for module diagnostics Yes; green/red DIAG LED **Integrated Functions** Measuring functions • Measuring procedure for voltage measurement **TRMS** • Measuring procedure for current measurement **TRMS** • Type of measured value acquisition seamless • Curve shape of voltage Sinusoidal or distorted • Buffering of measured variables Yes • Parameter length 128 byte • Bandwidth of measured value acquisition 3.2 kHz; Harmonics: 63 / 50 Hz, 52 / 60 Hz Measuring range - Frequency measurement, min. 40 Hz - Frequency measurement, max. 70 Hz Measuring inputs for voltage - Measurable line voltage between phase and 277 V neutral conductor - Measurable line voltage between the line 480 V conductors - Measurable line voltage between phase and 3 V neutral conductor, min. — Measurable line voltage between phase and 300 V neutral conductor, max. Measurable line voltage between the line 6 V conductors, min. - Measurable line voltage between the line 519 V conductors, max. - Internal resistance line conductor and neutral  $1.5 M\Omega$ conductor 60 mW; 300 V AC - Power consumption per phase - Impulse voltage resistance 1,2/50µs 2.5 kV - Measurement category for voltage CAT II measurement in accordance with IEC 61010-2-030 Measuring inputs for current - measurable relative current (AC), min. 1 %; Relative to measuring range; 1 A, 5 A measurable relative current (AC), max. 120 %; Relative to the secondary rated current 5 A - Continuous current with AC, maximum 5 A; 6 A permanent thermal overload permissible Apparent power consumption per phase for 0.6 V·A measuring range 5 A - Rated value short-time withstand current 100 A restricted to 1 s - Input resistance measuring range 0 to 5 A 25 mΩ; At the terminal - Surge strength 10 A; for 1 minute - Zero point suppression 0 ... 20%, referred to the nominal current Accuracy class according to IEC 61557-12 - Measured variable voltage 0,2 - Measured variable current 0.2 - Measured variable apparent power 0.5 - Measured variable active power 0.5 - Measured variable reactive power 1 0.5 - Measured variable power factor - Measured variable active energy 0.5 - Measured variable reactive energy 1 - Measured variable neutral current 0.2 - Measured variable phase angle ±0.5°; not covered by IEC 61557-12 - Measured variable frequency 0.05; only valid for the permissible voltage measuring range - Measured variable harmonic 1

- Measured variable THDU

- Measured variable THDI

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Accuracy class line analysis acc. to IEC 61000-4-30	
<ul> <li>Measured variable voltage</li> </ul>	Class S
<ul> <li>Measured variable current</li> </ul>	Class S
<ul> <li>Measured variable frequency</li> </ul>	Class S
<ul> <li>Measured variable voltage interruption</li> </ul>	Class S
<ul> <li>Measured variable voltage dip and swell</li> </ul>	Class S
<ul> <li>Measured variable harmonic voltage</li> </ul>	Class S
<ul> <li>Measured variable harmonic current</li> </ul>	Class S
Potential separation	
Potential separation channels	
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
<ul> <li>Between the channels and load voltage L+</li> </ul>	Yes; Including FE
Isolation	
Isolation tested with	Between channels and backplane bus, 24 V supply: Routine test, 1 920 V AC, 2 s; between backplane bus and 24 V supply: Type test, 707 V DC
Ambient conditions	
Ambient temperature during operation	
<ul> <li>horizontal installation, min.</li> </ul>	-30 °C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
<ul> <li>vertical installation, min.</li> </ul>	-30 °C
vertical installation, max.	50 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	3 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	45 g
Other	
Data for selecting a voltage transformer	
Secondary side, max.	300 V
Data for selecting a current transformer	
<ul> <li>Burden power current transformer x/1A, min.</li> </ul>	As a function of cable length and cross section, see device manual
<ul> <li>Burden power current transformer x/5A, min.</li> </ul>	As a function of cable length and cross section, see device manual

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