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	AI Energy Meter CT HF
Firmware version	V8.0
FW update possible	Yes
usable BaseUnits	BU type U0
Color code for module-specific color identification plate	CC20
Supported power supply systems	TT, TN, IT
Product function	
 Voltage measurement 	Yes
 — without voltage transformer 	Yes
— with voltage transformer	Yes
Current measurement	Yes; Max. 4
- without current transformer	No
- with current transformer	Yes; 1 A or 5 A current transformer
— With Rogowski coil	No
- With current-voltage-converter	No
 Energy measurement 	Yes
 Frequency measurement 	Yes
Power measurement	Yes
Active power measurement	Yes
 Reactive power measurement 	Yes
 Power factor measurement 	Yes
Active factor measurement	Yes
 Reactive power compensation 	Yes
Line analysis	Yes
 Monitoring of instantaneous and half-wave values 	Yes
 — THD measurement for current and voltage 	Yes
- Harmonics for current and voltage	Yes
— Voltage dip (DIP)	Yes
— Voltage swell	Yes
 I&M data 	Yes; I&M0 to I&M3
Isochronous mode	No
Engineering with	
 STEP 7 TIA Portal configurable/integrated from version 	STEP 7 V16 or higher with HSP
 STEP 7 configurable/integrated from version 	V5.5 SP3 or higher
 PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
 PROFINET from GSD version/GSD revision 	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
 Cyclic measured value access 	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
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Installation type/mounting	
Mounting position	any
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
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	
	256 byte
Inputs	
• Outputs	20 byte
Hardware configuration	
Automatic encoding	Yes
 Mechanical coding element 	Yes
Type of mechanical coding element	С
Selection of BaseUnit for connection variants	
2-wire connection	BU type U0
Time of day	
Operating hours counter	
• 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
Limit value alarm	Yes
Hardware interrupt	Yes; Monitoring of up to 16 freely selectable process values (exceeding
• Haraware interrupt	or undershooting of value)
Diagnoses	
Line quality	Yes
Supply voltage	Yes
Hardware interrupt lost	Yes
Parameter assignment error	Yes
Module fault	Yes
Channel not available	Yes
Overflow/underflow	100
	Vec
	Yes
Overload current	Yes Yes

 Channel status display 	Yes; green LED
 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 neutral conductor 	277 V
 Measurable line voltage between the line conductors 	480 V
 Measurable line voltage between phase and neutral conductor, min. 	3 V
 Measurable line voltage between phase and neutral conductor, max. 	300 V
 Measurable line voltage between the line conductors, min. 	6 V
 Measurable line voltage between the line conductors, max. 	519 V
 Internal resistance line conductor and neutral conductor 	1.5 ΜΩ
 Power consumption per phase 	60 mW; 300 V AC
 Impulse voltage resistance 1,2/50µs 	2.5 kV
 Measurement category for voltage measurement in accordance with IEC 61010-2- 030 	CAT II
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 permissible	5 A; 6 A permanent thermal overload
 Apparent power consumption per phase for measuring range 5 A 	0.6 V·A
 Rated value short-time withstand current restricted to 1 s 	100 A
 Input resistance measuring range 0 to 5 A 	25 m Ω ; 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
 Measured variable power factor 	0.5
 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	1
— Measured variable THDI	1
Accuracy class line analysis acc. to IEC 61000-4-30	

 Measured variable voltage 	Class S
 Measured variable current 	Class S
 Measured variable frequency 	Class S
 Measured variable voltage interruption 	Class S
 Measured variable voltage dip and swell 	Class S
 Measured variable harmonic voltage 	Class S
 Measured variable harmonic current 	Class S
Potential separation	
Potential separation channels	
 between the channels 	No
 between the channels and backplane bus 	Yes
 Between the channels and load voltage L+ 	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	
 horizontal installation, min. 	-30 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C
 vertical installation, max. 	50 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	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	
 Burden power current transformer x/1A, min. 	As a function of cable length and cross section, see device manual
 Burden power current transformer x/5A, min. 	As a function of cable length and cross section, see device manual
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