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
 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
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	
• Inputs	256 byte
Outputs	20 byte
Hardware configuration	
Automatic encoding	Yes
 Mechanical coding element 	Yes
 Type of mechanical coding element 	type C
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	una acyclic data/
shielded, max.	200 m
unshielded, max.	200 m
Analog value generation for the inputs	250 111
Sampling frequency, max.	2 048 kHz
Interrupts/diagnostics/status information	Z OTO NI IZ
Alarms	
Diagnostic alarm	Yes
Limit value alarm	Yes
Hardware interrupt	Yes; Monitoring of up to 16 freely selectable process values (exceeding or
- Haraware interrupt	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	Yes
Overload current	Yes
Diagnostics indication LED	V
Monitoring of the supply voltage (PWR-LED)	Yes
Channel status display	Yes; green LED
 for channel diagnostics 	Yes; red Fn LED
f the second sec	
for module diagnostics	Yes; green/red DIAG LED
for module diagnostics Integrated Functions Measuring functions	Yes; green/red DIAG LED

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 VA
— Rated value short-time withstand current restricted to 1 s	100 A
 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
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 fledital current Measured variable phase angle	±0.5 °; not covered by IEC 61557-12
Measured variable phase angle Measured variable frequency	0.05; only valid for the permissible voltage measuring range
Measured variable frequency Measured variable harmonic	1
Measured variable narmonic Measured variable THDU	1
— Measured variable THDI	1
Accuracy class line analysis acc. to IEC 61000-4-30	Class S
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
ntial 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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