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Data sheet 6ES7134-6PA00-0CU0



SIMATIC ET 200SP, Analog input module, AI Energy Meter 480V AC/CT HF for 1A/5A current transformer, class S power analyser, FITS TO BU-TYPE U0, channel diagnosis

General information	
Product type designation	AI Energy Meter 480 VAC/CT HF, PU 1
HW functional status	From FS02
Firmware version	
● FW update possible	Yes
usable BaseUnits	BU type U0
Supported power supply systems	TT, TN, IT
Product function	
● Voltage measurement	Yes
— without voltage transformer	Yes
— with voltage transformer	Yes
● Current measurement	Yes
— without current transformer	No
— with current transformer	Yes
— 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 V15 or higher
● 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

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● PROFINET from GSD version/GSD revision	V2.3
Operating mode	
● Switching between operating modes in RUN	Yes
● Cyclic measured value access	Yes
● Acyclic measured value access	Yes
● Fixed measured value sets	Yes
● Freely definable measured value sets	Yes
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
Installation type/mounting	
Mounting position	any
Supply voltage	
Design of the power supply	DC
Type of supply voltage	24 V DC
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 5 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
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 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	Yes
● Overload current	Yes

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Diagnostics indication LED	
● Monitoring of the supply voltage (PWR-LED)	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
Measuring range	
— Frequency measurement, min.	45 Hz
— Frequency measurement, max.	65 Hz
Measuring inputs for voltage	
— Measurable line voltage between phase and neutral conductor	300 V
— Measurable line voltage between the line conductors	519 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 MΩ
— Power consumption per phase	60 mW; 300 V AC
— Impulse voltage resistance 1,2/50µs	2.5 kV
Measuring inputs for current	
— measurable relative current (AC), min.	1 %; Relative to the secondary rated current 5 A
— measurable relative current (AC), max.	100 %; 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 mΩ
— 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 apparent power	0.5
— Measured variable active power	0.5
— Measured variable power factor	0.5
— Measured variable active energy	0.5
— Measured variable phase angle	±0.5 °; not covered by IEC 61557-12
— Measured variable frequency	0.05
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

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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; < 0 °C as of FS02
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °C; < 0 °C as of FS02
● 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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