SIEMENS

Data sheet

6ES7134-6PA20-0BD0

SIMATIC ET 200SP, Analog input module, AI Energy Meter 480V AC ST, suitable for BU type D0, channel diagnostics



General information		
Product type designation	AI Energy Meter 480VAC ST	
Firmware version	V4.0	
• FW update possible	Yes	
usable BaseUnits	BU type D0	
Supported power supply systems	TT, TN	
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 transformer	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 	No
 Reactive power compensation 	No
• Line analysis	No
● I&M data	Yes; I&M0 to I&M3
 Isochronous mode 	No
Engineering with	
 STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1
 STEP 7 configurable/integrated as of version 	V5.5 SP4 and higher
 PROFIBUS as of GSD version/GSD revision 	GSD Revision 5
 PROFINET as of GSD version/GSD revision 	V2.3
Operating mode	
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	Supply via voltage measurement channel L1
Type of supply voltage	AC 100 - 277 V
permissible range, lower limit (AC)	90 V
permissible range, upper limit (AC)	293 V
Line frequency	
 permissible range, lower limit 	47 Hz
 permissible range, upper limit 	63 Hz
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
Inputs	256 byte
Outputs	12 byte
Hardware configuration	
Automatic encoding	Yes
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Selection of BaseUnit for connection variants BU type D0, BU20-P12+A0+0B • 2-wire connection BU type D0, BU20-P12+A0+0B Operating hours counter • present Yes • present Ves Sommary Status St	 Mechanical coding element 	Yes
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 • unshielded, max. 200 m Analog value generation for the inputs Measurement principle Sigma Delta Sampling frequency, max. 1024 kHz Interrupts/diagnostics/status information Alarms Oblignostic alarm Yes • Limit value alarm Yes • Hardware interrupt Yes; Kontioring of up to 16 freely selectable process values (exceeding or undershooting of value) Diagnostics indication LED Yes; green LED • Channel status display Yes; green LED • for romodule diagnostics Yes; green ILED • for romodule diagnostics Yes; green ILED • for module diagnostics Yes; green/red DIAG LED • Measuring procedure for current measurement TRMS • Measuring procedure for current measurement TRMS • Curve shape of voltage Sinusoidial or distorted	-	
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Measuring range — Frequency measurement, min. 45 Hz — Frequency measurement, max. 65 Hz Measuring inputs for voltage	Parameter length	74 byte
— Frequency measurement, min. 45 Hz — Frequency measurement, max. 65 Hz Measuring inputs for voltage 65 Hz	 Bandwidth of measured value acquisition 	2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz
 — Frequency measurement, max. Measuring inputs for voltage 	Measuring range	
Measuring inputs for voltage	— Frequency measurement, min.	45 Hz
	— Frequency measurement, max.	65 Hz
— Measurable line voltage between phase 277 V	Measuring inputs for voltage	
and neutral conductor	 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. 	90 V
 Measurable line voltage between phase and neutral conductor, max. 	293 V
 Measurable line voltage between the line conductors, min. 	155 V
 Measurable line voltage between the line conductors, max. 	508 V
 Internal resistance line conductor and neutral conductor 	3.4 MΩ
 Power consumption per phase 	20 mW
 Impulse voltage resistance 1,2/50µs 	1 kV
 Measurement category for voltage measurement in accordance with IEC 61010- 2-030 	CAT II; CAT III in case of guaranteed protection level of 1.5 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
 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	Parameterizable: 2 250 mA, default 50 mA
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	0.5; calculated
— Measured variable phase angle	±1 °; not covered by IEC 61557-12
— Measured variable frequency	0.05
Potential separation	

Potential separation channels

• between the channels

No

between the channels and backplane bus

Yes; 3 700V AC (type test) CAT III

Isolation	
Isolation tested with	2 300V AC for 1 min. (type test)
A web is not as a slitic up	
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	0°0
 horizontal installation, max. 	00 °C
 vertical installation, min. 	0°0
 vertical installation, max. 	50 °C
Altitude during operation relating to sea level	
Ambient air temperature-barometric pressure-	On request: Ambient temperatures lower than 0 °C (without
altitude	condensation) and/or installation altitudes greater than 2 000 m
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. 	296 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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