SIEMENS

Data sheet

6ES7134-6PA21-0BU0



SIMATIC ET 200SP, analog input module, AI Energy Meter RC ST, for Rogowski coils or current/voltage transformer 333 mV, suitable for BU type U0, channel diagnostics

Product type designation Product type designation Product type designation V8.0 Product type designation V8.0 V8.0 V8.0 V8.0 V8.0 V8.0 V8.0 V8.0	General information	
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 Yes - without voltage transformer Yes - without voltage transformer Yes - without voltage transformer Yes - without current transformer Yes - without current transformer No - with current transformer No - with current-voltage-converter Yes - With Rogowski coil Yes - With current-voltage-converter Yes - With current-voltage-converter Yes - Frequency measurement Yes • Power measurement Yes • Power measurement Yes • Power factor measurement Yes • Power factor measurement Yes • Reactive power measurement Yes • Reactive power compensation Yes • Reactive power compensation Yes • Iae analysis No <		Al Energy Meter RC ST
• 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 Yes - without voltage transformer Yes - without voltage transformer Yes - without ge transformer Yes - with voltage transformer Yes - without current transformer No - with current transformer No - with current transformer No - With Cognessize Yes; 333 mV interface - With current-voltage-converter Yes; 333 mV interface - With current-voltage-converter Yes; 333 mV interface - Energy measurement Yes - Frequency measurement Yes - Reactive power measurement Yes - Reactive power measurement Yes - Reactive power compensation Yes <td< td=""><td></td><td></td></td<>		
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Color code for module-specific color identification plate CC20 Supported power supply systems TT, TN, IT Product function Yes • Voltage measurement Yes, max. 3 + neutral conductor - with outpage transformer Yes, max. 3 + neutral conductor - with current transformer No - With current transformer With current-voltage-converter Yes, 333 mV interface Energy measurement Yes - With current-voltage-converter Yes, 333 mV interface Energy measurement Yes Power measurement Yes Active power measurement Yes Active factor measurement Yes Active power compensation Yes Active power compensation Yes Active power compensation Yes Iam analysis Isochronous mode No Engineering with STEP 7 TIA Portal configurable/integrated from version PROFIBUS from GSD version/CSD revision PROFIBUS from GSD version/CSD revision One GSD file		BU type U0
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With Rogowski coilYes With current-voltage-converterYes; 333 mV interface With current-voltage-converterYes; 333 mV interface Energy measurementYes Frequency measurementYes Power measurementYes Active power measurementYes Reactive power measurementYes Power factor measurementYes Power factor measurementYes Reactive power compensationYes Reactive power compensationYes Reactive power compensationYes; I&M0 to I&M3 Line analysisNo Line analysisNo STEP 7 TIA Portal configurable/integrated from versionSTEP 7 V16 or higher with HSP STEP 7 configurable/integrated from versionSTEP 7 V16 or higher with HSP STEP 7 configurable/integrated from versionConfigurable via GSD file PROFIBUS from GSD version/GSD revisionOne GSD file each, Revision 3 and 5 and higher- PROFINET from GSD version/GSD revisionV2.3	 — without current transformer 	No
With current-voltage-converterYes; 333 mV interface• Energy measurementYes• Frequency measurementYes• Power measurementYes• Active power measurementYes• Active power measurementYes• Reactive power measurementYes• Power factor measurementYes• Active factor measurementYes• Beactive power compensationYes• Line analysisNo• Line analysisNo• I&M dataYes; I&M0 to I&M3• Isochronous modeNoEngineering withSTEP 7 V16 or higher with HSP• STEP 7 configurable/integrated from versionConfigurable via GSD file• STEP 7 configurable/integrated from versionOne GSD file each, Revision 3 and 5 and higher• PROFINET from GSD version/GSD revisionV2.3	— with current transformer	No
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• Isochronous mode No Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version STEP 7 V16 or higher with HSP • STEP 7 configurable/integrated from version Configurable via GSD file • PROFIBUS from GSD version/GSD revision One GSD file each, Revision 3 and 5 and higher • PROFINET from GSD version/GSD revision V2.3	Line analysis	No
Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • STEP 7 configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PROFINET from GSD version/GSD revision • V2.3	I&M data	Yes; I&M0 to I&M3
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		.
Operating mode		V2.3
- Switching between exercising medeo in DUN. Very Fearmedule version 20 1/20 O it is prescible to the write the	, , ,	Vegi For modulo version 22 1/20 Q, it is possible to dimensionally with the
• 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	• Switching between operating modes in RUN	between 25 user data variants, 23 of which are pre-defined and 2 of
Cyclic measured value access Yes	 Cyclic measured value access 	Yes
Acyclic measured value access Yes	 Acyclic measured value access 	Yes
Fixed measured value sets 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
	24 V
Rated value (DC)	24 V 19.2 V
permissible range, lower limit (DC) permissible range, upper limit (DC)	19.2 V 28.8 V
	20.0 V
Input current	40.5
Current consumption (rated value)	12.5 mA
Current consumption, max.	17 mA
Power loss	
Power loss, typ.	400 mW; 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 	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
Cycle time (all channels), typ.	50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)
Cycle time (all channels), typ. Cable length	values (cyclic und acyclic data)
Cycle time (all channels), typ. Cable length • shielded, max.	values (cyclic und acyclic data) 200 m
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max.	values (cyclic und acyclic data)
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs	values (cyclic und acyclic data) 200 m 200 m
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Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm	values (cyclic und acyclic data) 200 m 200 m 2 048 kHz Yes
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Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Hardware interrupt	values (cyclic und acyclic data) 200 m 200 m 2 048 kHz Yes Yes
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Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost	values (cyclic und acyclic data) 200 m 200 m 200 m 2048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes Yes Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes Yes Yes Yes Yes Yes Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow • Overload current	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow • Overload current Diagnostics indication LED	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow • Overload current Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED)	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow • Overload current Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length • shielded, max. • unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms • Diagnostic alarm • Limit value alarm • Limit value alarm • Hardware interrupt Diagnoses • Supply voltage • Hardware interrupt lost • Parameter assignment error • Module fault • Channel not available • Overflow/underflow • Overload current Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length shielded, max. unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Limit value alarm Hardware interrupt Diagnoses Supply voltage Hardware interrupt lost Parameter assignment error Module fault Channel not available Overflow/underflow Overload current Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel diagnostics for channel diagnostics	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz 2 048 kHz Yes Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length shielded, max. unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Limit value alarm Hardware interrupt Diagnoses Supply voltage Hardware interrupt lost Parameter assignment error Module fault Channel not available Overflow/underflow Overload current Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics e for channel diagnostics	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes
Cycle time (all channels), typ. Cable length shielded, max. unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Limit value alarm Hardware interrupt Diagnoses Supply voltage Hardware interrupt lost Parameter assignment error Module fault Channel not available Overload current Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics of or channel diagnostics Integrated Functions Measuring functions	values (cyclic und acyclic data) 200 m 200 m 2 048 kHz Yes Yes Yes, Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes Yes; green LED Yes; green/red DIAG LED
Cycle time (all channels), typ. Cable length shielded, max. unshielded, max. Analog value generation for the inputs Sampling frequency, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Limit value alarm Hardware interrupt Diagnoses Supply voltage Hardware interrupt lost Parameter assignment error Module fault Channel not available Overflow/underflow Overload current Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics e for channel diagnostics	values (cyclic und acyclic data) 200 m 200 m 200 m 2 048 kHz Yes Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value) Yes

 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
- Overvoltage category	CAT II according to IEC 61010 Part 1
Measuring inputs for current (Rog. or I/U converter)	
— Measurable current at AC, max.	424 mV
— Continuous voltage, maximum permissible	2 V
— Rated value, short-time withstand voltage restricted to 1 s	2 V 30 V
— Input resistance	120 kΩ
– Zero point suppression	Yes; 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 power racion Measured variable active energy 	0.5
— Measured variable active 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
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	
	3 000 m: Destrictions for installation altitudes > 2 000 m. acc marval
 Installation altitude above sea level, max. 	3 000 m; Restrictions for installation altitudes > 2 000 m, see manual

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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	

last modified:

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