SIEMENS

Data sheet 6AG2134-6PA00-4BD0

SIPLUS ET 200SP AI Energy Meter TX RAIL -40 to +70°C TX with 85 °C for 10 minutes with conformal coating Based on: 6ES7134-6PA00-0BD0 . AI energy meter ST, suitable for BU type D0, Color code CC00, Channel diagnostics

General information	
Product type designation	AI energy meter 400VAC ST
Firmware version	
• FW update possible	Yes
usable BaseUnits	BU type D0, BU20-P12+A0+0B
Product function	
• Voltage measurement	Yes
— with voltage transformer	No
• Current measurement	Yes
— without current transformer	No
— with current transformer	Yes
• Energy measurement	Yes
• Frequency measurement	Yes
• Power measurement	Yes
• Active power measurement	Yes
• Reactive power measurement	Yes
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No

Operating mode	
• cyclic measurement	Yes
• acyclic measurement	Yes
• Acyclic measured value access	Yes
• Fixed measured value sets	Yes
• Freely definable measured value sets	No
CiR – Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
Installation type/mounting	
Mounting position	Horizontal
Supply voltage	
Design of the power supply	Supply via voltage measurement channel L1
Type of supply voltage	100 - 240 V AC
permissible range, lower limit (AC)	90 V
permissible range, upper limit (AC)	264 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	
• Address space per module, max.	44 byte; 32 byte input / 12 byte output
Hardware configuration	
Automatic encoding	
• Mechanical coding element	Yes
Time of day	
Operating hours counter	
• present	No
Analog inputs	
Cycle time (all channels), typ.	50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	No
• Hardware interrupt	No
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	No
• Parameter length	38 byte
• Bandwidth of measured value acquisition	2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz

Measuring range

— Frequency measurement, min.	45 Hz
— Frequency measurement, max.	65 Hz

Measuring inputs for voltage

— Measurable line voltage between phase and neutral conductor	230 V
— Measurable line voltage between the line conductors	400 V
— Measurable line voltage between phase and neutral conductor, min.	90 V
— Measurable line voltage between phase and neutral conductor, max.	264 V
— Measurable line voltage between the line conductors, min.	155 V
— Measurable line voltage between the line conductors, max.	460 V
— 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
— Internal resistance line conductor and neutral conductor	3.4 MΩ
— Power consumption per phase	20 mW
— Impulse voltage resistance 1,2/50µs	1 kV

Measuring inputs for current

— measurable relative current (AC), min.	5 %; Relative to the secondary rated current; 1 A, 5 A
— measurable relative current (AC), max.	100 %; Relative to the secondary rated current; 1 A, 5 A
— Continuous current with AC, maximum permissible	5 A; at > +60 °C max. permissible current 1 A per phase
— 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
— Zero point suppression	Parameterizable: 20 ... 250 mA, default 50 mA
— Surge strength	10 A; for 1 minute
Accuracy class according to IEC 61557-12	
— Measured variable voltage	0.5
— Measured variable current	0.5
— Measured variable apparent power	1
— Measured variable active power	1
— Measured variable reactive power	1
— Measured variable power factor	0.5
— Measured variable active energy	1
— Measured variable reactive energy	2
— Measured variable phase angle	±1 °; not covered by IEC 61557-12
— Measured variable frequency	0.05

Potential separation

Potential separation channels	
• between the channels and backplane bus	Yes; 3 700V AC (type test) CAT III

Isolation

Isolation tested with	2 300 V AC for 1 minute (type test) and according to EN 50155 (routine test)

Standards, approvals, certificates

Railway application	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50124-1	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
• EN 50125-1	Yes; Rail vehicles - see ambient conditions
• EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
• EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
• EN 50155	Yes; Rail vehicles - temperature class Tx, horizontal mounting position, salt spray Class ST2
• EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
• Fire protection acc. to EN 45545-2	Yes; Rail vehicles - verification on request

Ambient conditions

Ambient temperature during operation	
• horizontal installation, min.	-40 °C; = Tmin
• horizontal installation, max.	70 °C; = Tmax; +85 °C for 10 min (Tx acc. to EN 50155)

Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Dimensions	
Width	20 mm

Weights	
Weight (without packaging)	45 g

Other	
Note:	For use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A Online Support article 109736776
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

last modified: 05/16/2018