SINEAX A 210 / A 220
Multifunctional Power Monitor

63 measured quantities
8 energy meters
5 average power values P, Q, S each

Application
The A 210/A 220 power measuring instrument is suitable for control panel mounting and measures all the important measurands in 3-phase and single-phase systems.

It displays the measurands with a high contrast 14 mm high LED display. The instrument is also suitable for measurements in high and middle voltage systems because of the freely programmable factors for the current and voltage transformers.

It replaces a large number of analog instruments and delivers high-accuracy values.

The basic execution is an instrument with 2 SO-outputs, which can be programmed as pulse or limit outputs. Extension modules increase the functionality and flexibility. The EMMOD 201 module has an RS232/RS485 interface and supports data exchange with a control system via MODBUS RTU. Memory and a digital input (switching between high and low tariffs) for monitoring, or the storage of average power values (load profile) complete the functionality. The user-friendly A200plus software supports parameter setting and reading the measured values.

The EMMOD202 has 2 galvanically isolated analog outputs. Any of the important input measurements can be assigned to the 4 - 20 or 0 - 20 mA signal, and it is possible to program an inverted characteristic.

EMMOD203 users can communicate with the Ethernet and Internet worlds with the MODBUS protocol over TCP/IP and HTTP. In addition, the module has an extensive memory, which supports backed up recordings for up to one year. The data are recorded with an exact time stamp, which is given by an internal, battery backed up clock.

Further modules are the EMMOD204 (Profi bus-DP), the EMMOD205 (LON) and the EMMOD206 (M-Bus).

All the modules can be upgraded by simply plugging in the extension module without having to open the power monitoring instrument. A separate power supply is not required.

Features
- Measurement of current, voltage, active, reactive and apparent power, active and reactive energy, neutral conductor current, power factor and frequency
- 4 meters for active power: Incoming/outgoing with high/low tariff
- 4 meters for reactive power: Inductive/capacitive with high/low tariff
- 5 values each for active, reactive and apparent power averages with programmable interval times
- Two SO-outputs for pulse or limit values
- Dimensions: SINEAX A 210: 96 x 96 x 46 mm
  SINEAX A 220: 144 x 144 x 46 mm
- Programmable conversion factors
- Flexible power supply with an AC/DC wide-range power supply unit
- Electrically isolated current inputs (1 A or 5 A)
- Upgrade extension modules with RS232/RS485 interface, load profile memory, MODBUS, synchronizing input, analog outputs, Ethernet, Profibus-DP or LON
- Accurate measured values for U, I ≤ 0.5%, F ≤ 0.02 Hz, others 1%
- Storage of minimum and maximum values
- Measurement in single-phase systems, 3-wire and 4-wire systems in 4 quadrant operation

Benefits
- High functionality (63 measurand values) in a compact form (depth 46 mm)
- Therefore low costs for purchase, engineering and installation
- Safe 3-way galvanic isolation between all circuits and between the 3 current inputs
- Large LED display that can be read from a distance, especially suitable for badly lit rooms
- Robust front (IP 66) for tough industrial applications
- Storage of all counter values, the min./max. values, the display mode and the programmed data on failure of the power supply
SINEAX A 210 / A 220
Multifunctional Power Monitor

Function
The instrument measures the currents I1, I2, I3 and the voltages U1, U2, U3, the frequency, and the phase angles between the individual currents and voltages. All the other measurands are calculated from these. The measurements are made internally via integrated current transformers. Therefore it is possible to make direct connections without an external transformer.

Each input is sampled 32 times per cycle. This allows measurements to be made including up to the 15th harmonic.

The calculation of the measurands is made in accordance with DIN 40 110 part 1 and part 2, however in 4-quadrant operation.

In the figures at this data sheet only SINEAX A 210 is shown. Display and operating are identical with the A 220.

1: Voltage inputs
2: Current inputs
3: Protection impedances
4: Electrical insulation
5: Microprocessor
6: Interface for extension module
7: Display of the units
8: Operating keys
9: Digital display
10: Extension module

Fig. 1. Block diagram.
SINEAX A 210 / A 220
Multifunctional Power Monitor

Table 1: Standard versions

The following transducer versions are available as standard versions. It is only necessary to quote the Order No.:

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number A 210</th>
<th>Encoding item</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 V / 5 A, power supply 100 to 230 V AC/DC</td>
<td>149 783</td>
<td>210-121200</td>
</tr>
<tr>
<td>500 V / 5 A, power supply 24 to 60 V AC/DC</td>
<td>150 300</td>
<td>210-121100</td>
</tr>
<tr>
<td>500 V / 1 A, power supply 100 to 230 V AC/DC</td>
<td>152 447</td>
<td>210-111200</td>
</tr>
</tbody>
</table>

Please complete the Order Code 210-1... . acc. to “Table 2: Specification and ordering information” for versions with user-specific input ranges and/or variable sensitivity.

Table 2: Specification and ordering information (see also Table 1: “Standard versions”)

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINEAX A210, Multifunctional power monitor, size 96 x 96 mm</td>
<td>210-</td>
</tr>
<tr>
<td>SINEAX A220, Multifunctional power monitor, size 144 x 144 mm</td>
<td>220-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Features, Selection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nominal voltage</td>
<td></td>
</tr>
<tr>
<td>500 V (Ph-Ph), 290 V (Ph-N): Overload ≤20%</td>
<td>1</td>
</tr>
<tr>
<td>2. Nominal current</td>
<td></td>
</tr>
<tr>
<td>1 A</td>
<td>1</td>
</tr>
<tr>
<td>5 A</td>
<td>2</td>
</tr>
<tr>
<td>3. Nominal frequency</td>
<td></td>
</tr>
<tr>
<td>50 / 60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>4. Power supply</td>
<td></td>
</tr>
<tr>
<td>24...60 V AC/DC</td>
<td>1</td>
</tr>
<tr>
<td>100...230 V AC/DC</td>
<td>2</td>
</tr>
<tr>
<td>5. Test certificate</td>
<td></td>
</tr>
<tr>
<td>Without test certificate</td>
<td>0</td>
</tr>
<tr>
<td>Test certificate German</td>
<td>D</td>
</tr>
<tr>
<td>Test certificate English</td>
<td>E</td>
</tr>
<tr>
<td>6. Built-on extension module</td>
<td></td>
</tr>
<tr>
<td>Without</td>
<td>0</td>
</tr>
<tr>
<td>EMMOD 201 Interface MODBUS/RTU, data logger, digital input</td>
<td>1</td>
</tr>
<tr>
<td>EMMOD 202 2 analog outputs</td>
<td>2</td>
</tr>
<tr>
<td>EMMOD 203 Ethernet, real-time clock, 2 digital inputs, 2 MB data logger</td>
<td>3</td>
</tr>
<tr>
<td>EMMOD 204 Interface Profibus-DP</td>
<td>4</td>
</tr>
<tr>
<td>EMMOD 205 Interface LON, digital input</td>
<td>5</td>
</tr>
<tr>
<td>EMMOD 206 Interface M-Bus, digital input &lt;230 V AC/DC</td>
<td>7</td>
</tr>
</tbody>
</table>
SINEAX A 210 / A 220
Multifunctional Power Monitor

Technical data
System/application
Single-phase, 3-wire balanced or unbalanced, 4-wire balanced or unbalanced, 4-quadrant operation

Measurements available

<table>
<thead>
<tr>
<th>Measured quantities</th>
<th>Measuring path</th>
<th>max</th>
<th>min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>1-N, 2-N, 3-N</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Voltage</td>
<td>1-2, 2-3, 3-1</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Current</td>
<td>1, 2, 3, N</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Current I_{avg}</td>
<td>1, 2, 3</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Active power P</td>
<td>1, 2, 3, ∑</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Reactive power Q</td>
<td>1, 2, 3, ∑</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Apparent power S</td>
<td>1, 2, 3, ∑</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>\cos\phi (4-quadrant display)</td>
<td>1, 2, 3, ∑</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>\cos\phi inductive min.</td>
<td>1, 2, 3</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>\cos\phi capacitive min.</td>
<td>1, 2, 3</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Frequency</td>
<td>U, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P-meter incoming/outgoing (HT/NT)</td>
<td>∑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q-meter in./cap. (HT/NT)</td>
<td>∑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 active power interval value</td>
<td>∑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 reactive power interval values</td>
<td>∑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 apparent power interval values</td>
<td>∑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Programmable values (basic unit)
Trip points, pulse rate, transformer ratio, type of system, interval time for average power values.
Programming can be locked with a jumper at the back of the instrument.
However, the limit values can still be changed.
All min. and max. values and the counter values can be reset.
The resetting of the counter values can also be blocked with the above mentioned jumper.
All the measurands, the selected display, the counter values and the programmed data are kept on a power failure.

Factory default
Brightness: (mid setting)
Limit value / S01: Off
Limit value / S02: Off
Transformer ratio: 1 : 1
Jumper: Not in the LOCK position
Connecting mode: 4-wire asymmetric load
Synchronizing interval: 15 min.

Applicable regulations and standards
IEC 1010 resp. EN 61 010: Safety regulations for electrical measuring, control and laboratory equipment

EN 60 529: Protection types by case
DIN 43 864: Current interface for the transmission of impulses between impulse encoder counter and tariff meter (SO output)
DIN 40 110: AC quantities
IEC/EN 61326-1: Electrical equipment for measurement, control and laboratory use, EMC requirements
EN 60 688: Electrical measuring transducers for converting AC electrical variables into analogue and digital signals
IEC 68-2-1/-2/-3/-6/-27 resp.
EN 60 068-2-1/-2/-3/-6/-27

Ambient tests
-1 Cold, -2 Dry heat,
-3 Damp heat, -6 Vibration,
-27 Shock

Measuring inputs
Nominal frequency: 50, 60 Hz
Nominal input voltage: Phase-phase: 500 V
Phase-N: 290 V
Nominal input current: 5 A or 1 A
Waveform: Sine
Own consumption: Current circuit: ≤ I² · 0.01 Ω
Voltage circuit: ≤ \( \frac{U_{LN}^2}{300 \text{k}\Omega} \)

Continuous overload withstand
10 A at 346 V in single-phase AC system
10 A at 600 V in three-phase system

Short duration overload withstand

<table>
<thead>
<tr>
<th>Input variable</th>
<th>Number of applications</th>
<th>Duration of overload</th>
<th>Interval between two overloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>577 V LN</td>
<td>10</td>
<td>1 s</td>
<td>10 s</td>
</tr>
<tr>
<td>100 A</td>
<td>10</td>
<td>1 s</td>
<td>100 s</td>
</tr>
<tr>
<td>100 A</td>
<td>5</td>
<td>3 s</td>
<td>5 min.</td>
</tr>
</tbody>
</table>

Measuring range
U, I, S: ≤ 120% of nominal value
P, Q: ≤ ± 120% of nominal value
F: 45 to 65 Hz
\cos\phi: ± 1
Overload indicator: oL
The frequency is measured from the current or voltage. The voltage has priority.
Pulse/limit value outputs

Depending on the function selected, the two digital outputs can be used either as pulse outputs for active and reactive energy or as limit signals.

The outputs are passive, and are galvanically isolated from all the other circuits by opto-couplers. They are suitable to drive tariff devices (S0-standard DIN 43 864) or 24 V-relais.

Limit value outputs:

The limits can be associated with any measurand. Depending on the type of connection an OR or an AND function is possible for the following values.

3-wire unbalanced load: \( U_{12}/U_{23}/U_{31}, \ I_{1}/I_{2}/I_{3}, \ I_{avg1}/I_{avg2}/I_{avg3} \)

4-wire unbalanced load: \( U_{1}/U_{2}/U_{3}, \ U_{12}/U_{23}/U_{31}, \ I_{1}/I_{2}/I_{3}, \ I_{avg1}/I_{avg2}/I_{avg3}, \ P_{1}/P_{2}/P_{3}, \ Q_{1}/Q_{2}/Q_{3}, \ S_{1}/S_{2}/S_{3}, \ PF_{1}/PF_{2}/PF_{3} \)

Alarm ON: OR function of the phase measurands
Alarm OFF: AND function of the phase measurands
Delay time: Fixed at 1 s (cannot be modified)

Pulse outputs:

The reactive and active energy can be read out at the pulse outputs in the form of standard S0 pulses for the driving of electronic and electromechanical counting mechanisms.

The pulse rate is programmable:
1 ... 5000 Imp./Wh ... GWh resp. 1 ... 5000 Imp/varh ... Gvarh
The duration of the pulses cannot be programmed and also cannot be changed by hardware means.

Pulse duration: > 100 ms
For systems with external transformers, the pulses are for the primary energy data.

Power supply

DC, AC power pack 50 to 400 Hz
100 to 230 V AC/DC ±15% or 24 to 60 V AC/DC ±15% (UL) 85 to 125 V DC
Power consumption: < 3 VA (without interface module)

Display

14 mm LED digital display; adjustable brightness
3 digits with sign, frequency: 4 digits, energy: 8 digits
Colour: red

Zero value suppression
PF resp. \( \cos \phi \): Display ---, if \( Sx < 0.2\% \) Snenn
Currents: Display 0, if \( Ix < 0.1\% \) Inenn

Example of the display for 4-quadrant measurements
### SINEAX A 210 / A 220
Multifunctional Power Monitor

#### Display levels: e.g. 4-wire unbalanced load

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U1</td>
<td>U1_{\text{max}}</td>
<td>U1_{\text{avg}}</td>
<td>U1_{\text{avg max}}</td>
<td>U1_{\text{min}}</td>
<td>U1_{\text{min max}}</td>
</tr>
<tr>
<td></td>
<td>U2</td>
<td>U2_{\text{max}}</td>
<td>U2_{\text{avg}}</td>
<td>U2_{\text{avg max}}</td>
<td>U2_{\text{min}}</td>
<td>U2_{\text{min max}}</td>
</tr>
<tr>
<td></td>
<td>U3</td>
<td>U3_{\text{max}}</td>
<td>U3_{\text{avg}}</td>
<td>U3_{\text{avg max}}</td>
<td>U3_{\text{min}}</td>
<td>U3_{\text{min max}}</td>
</tr>
</tbody>
</table>

| 2 | I1 | I1_{\text{max}} | I1_{\text{avg}} | I1_{\text{avg max}} | IN | IN_{\text{max}} |
|   | I2 | I2_{\text{max}} | I2_{\text{avg}} | I2_{\text{avg max}} |   |   |
|   | I3 | I3_{\text{max}} | I3_{\text{avg}} | I3_{\text{avg max}} |   |   |

| 3 | P1 | P1_{\text{max}} | P |   |   |   |
|   | P2 | P2_{\text{max}} | P |   |   |   |
|   | P3 | P3_{\text{max}} | P |   |   |   |

| 4 | Q1 | Q1_{\text{max}} | Q |   |   |   |
|   | Q2 | Q2_{\text{max}} | Q |   |   |   |
|   | Q3 | Q3_{\text{max}} | Q |   |   |   |

| 5 | S1 | S1_{\text{max}} | S |   |   |   |
|   | S2 | S2_{\text{max}} | S |   |   |   |
|   | S3 | S3_{\text{max}} | S |   |   |   |

<table>
<thead>
<tr>
<th>6</th>
<th>PF1</th>
<th>PF2</th>
<th>PF3</th>
<th>PF</th>
<th>PF_{\text{min ind}}</th>
<th>PF_{\text{min cap}}</th>
</tr>
</thead>
</table>

#### Accuracy data

**Reference conditions acc. to IEC 688 resp. EN 60 688**
Sine 50 - 60 Hz, 15 - 30°C, application group II

**Measurement accuracy** (related to nominal value)
- Current, voltage: ± 0.5%
- Power: ± 1.0%
- Power factor: ± 1.0%
- Energy: ± 1.0%
- Frequency: ± 0.02 Hz (abs.)

#### Mechanical

**Dimensions**
- A 210: 96 x 96 x 46 mm;
- A 220: 144 x 144 x 46 mm;

**Panel cutout**
- A 210: 92 +0.8 x 92+0.8 mm
- A 220: 138 +1 x 138+1 mm

**Terminals:**
- **Inputs:** Screw terminals
- **Power supply, outputs:** Clamps

**Power supply, outputs**
- Wire gauge single wire: 0.5 - 2.5 mm²
- Wire gauge fine wire: 0.5 - 1.5 mm²

**Housing material:** ABS
- Flammability class V-0 acc. to UL 94, self-extinguishing, non-dripping, free of halogen

**Weight:**
- 250 g at A 210 resp.
- 300 g at A 220

**Mounting:**
- For control panel mounting

#### Environmental conditions

- **Operating temperature:** – 10 to + 55 °C
- **Storage temperature:** – 25 to + 70 °C
- **Humidity relative:** ≤ 75%
- **Altitude:** 2000 m max.

**Indoor use statement**

1 HT = High tariff
2 LT = Low tariff

#### Safety

**Protection class:** II (voltage inputs with protection impedances)

**Measuring category:** III

**Pollution degree:** 2

**Measurement voltage:** 300 V

**Test voltage:** Between current inputs, power supply, digital outputs, terminals of the plugged-in module: 3700 V / 50 Hz / 1 min.

**On voltage inputs:** 4,25 kV 1.2/50 μs

**Module connections:**
- The pin rail at the back is connected to the voltage inputs via a protection impedance. Only the permitted modules can be plugged-in!

**Enclosure protection:** Front IP 66, terminals IP 20

Inputs, outputs and power supply are electrically isolated. The current inputs are electrically isolated from each other.
Electrical connections

- Measuring input, acc. to measuring mode
- Pulse / Limit value outputs
- Power supply
- Pulse / Limit
- Value outputs

Connecting modes

<table>
<thead>
<tr>
<th>System / application</th>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-phase AC system</td>
<td>![Single-phase AC system diagram]</td>
</tr>
</tbody>
</table>

Connect the voltage according to the following table for current measurement in L2 or L3:

<table>
<thead>
<tr>
<th>Current transf.</th>
<th>Terminals</th>
<th>2</th>
<th>5</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2</td>
<td>1 3</td>
<td>L2</td>
<td>L3</td>
<td>L1</td>
</tr>
<tr>
<td>L3</td>
<td>1 3</td>
<td>L3</td>
<td>L1</td>
<td>L2</td>
</tr>
</tbody>
</table>

4-wire
3 phase symmetric load
I: L1

3-wire
3 phase asymmetric load

4-wire
3 phase asymmetric load

3 single-pole insulated voltage transformers in high-voltage system
**SINEAX A 210 / A 220**

**Multifunctional Power Monitor**

**Maintenance**

No maintenance is required.

**Dimensional drawings** (all dimensions in mm)

**SINEAX A 210**

**SINEAX A 220**

**Scope of supply**

**Basic unit with/without extension module**

Operating Instructions in German, French and English

Fixing clamp

Measuring protocol at instruments with order No.:

A 210: 150 318, 150 326, 152 710 and 152 728

A 220: 152 562, 152 570, 152 752 and 152 744

**Accessories SINEAX A 210/A 220**

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Instructions in German, French and English</td>
<td>151 118</td>
</tr>
<tr>
<td>Top-hat rail adapter (A 210 only)</td>
<td>154 055</td>
</tr>
<tr>
<td>Extension module EMMOD 201 Interface/MODBUS RTU/data logger</td>
<td>150 285</td>
</tr>
<tr>
<td>Extension module EMMOD 202 2 analog outputs</td>
<td>155 574</td>
</tr>
<tr>
<td>Extension module EMMOD 203 Ethernet, 2 MB memory, real-time clock</td>
<td>155 582</td>
</tr>
<tr>
<td>Extension module EMMOD 204 Profibus-DP</td>
<td>158 510</td>
</tr>
<tr>
<td>Extension module EMMOD 205 LON, digital output 125 V, direct connection to summation stations U160x of Gossen-Metrawatt possible</td>
<td>156 647</td>
</tr>
<tr>
<td>Extension module EMMOD 205 LON, synchronizing input</td>
<td>156 639</td>
</tr>
<tr>
<td>Extension module EMMOD 206 Interface M-Bus, digital input &lt;230 V AC/DC</td>
<td>168 965</td>
</tr>
<tr>
<td>Fixing clips as set (4 pce.) for top-hat rail adapter with extension module (A 210 only)</td>
<td>154 394</td>
</tr>
</tbody>
</table>

**Extension module EMMOD 201**

**Communication**

Interface: RS232/RS485 switchable

Protocol: MODBUS RTU for SCADA

Digital input: Synchronizing input for average power values or switching between high/low tariff for the energy counters

Bus interface address: 1 to 247

Baudrate: 1200, 2400, 4800, 9600, 19.2 k

Parity check: no, even, odd, space

**Recording average power values**

Values that can be recorded:

- Pint: active power average value with sign (incoming + / outgoing −)
- Qint: reactive power average value (inductive + / capacitive +)

Amount of data at 15 min intervals:

- 1 value (Pint or Qint) = 166 days
- 2 values (Pint and Qint) = 83 days

**Panel cutout**

Panel cutout 138+1 x 138+1 mm

Side by side mounting possible
SINEAX A 210 / A 220
Multifunctional Power Monitor

Accessories EMMOD 201 (not included in scope of supply)

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software A200plus *)</td>
<td>146 557</td>
</tr>
<tr>
<td>Interface adapter cable</td>
<td>152 603</td>
</tr>
<tr>
<td>Extension cable sub-D 9pol. 2 m</td>
<td>980 179</td>
</tr>
</tbody>
</table>

*) Download free of charge under http://www.camillebauer.com

Dimensional drawing

Extension module EMMOD 202

Input: U, I, Iavg, ln, P, Q, S, F, cos∅
Output: 0 - 20 mA, 4 - 20 mA, inverting
Limitation: 0/3.7 mA resp. 21 mA
Burden voltage: 8 V
Accuracy: 0.1% (without A2..)
Number of channels: 2 (electrically isolated)

Dimensional drawing

Extension module EMMOD 203

Protocol: MODBUS over TCP/IP, HTTP
Real-time clock: Battery backup, synchronised via LAN or external (e.g. 230 V/50 Hz)
Memory: Up to one year with time stamp

Connections

Ethernet RJ45-port: 10/100 base Tx
Tariff switching: Plug-in screw terminals
Synchronizing input: Plug-in screw terminals
Synchronizing input: 5 V – 300 V AC, 1 – 500 Hz
Tariff switching: 5 V – 300 V AC/DC

Dimensional drawing

Accessories EMMOD 203 (not included in scope of supply)

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software A200plus *)</td>
<td>146 557</td>
</tr>
</tbody>
</table>

*) Download free of charge under http://www.camillebauer.com

Extension module EMMOD 204

Interface: Profibus-DP
9-pin D-sub socket
EIA RS485 standard
15 kV ESD protection
Baudrate: Aut. recognition,
9600 bit/s ... 12 Mbit/s
Type: DPV0, SPC4-2
Repeater_Ctrl_Sig (TTL)
Address: 126 (0 - 125)
Set_Slave_Add_Supp

Dimensional drawing
SINEAX A 210 / A 220
Multifunctional Power Monitor

Accessories EMMOD 204 (not included in scope of supply)

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profibus CD (GSD and documentation) *)</td>
<td>156 027</td>
</tr>
</tbody>
</table>

*) Download free of charge under http://www.camillebauer.com

Extension module EMMOD 205

Communication
Interface: LON
Protocol: LONTALK®
Medium: Echelon FTT-10A transceiver, transformer-coupled, reverse polarity, twisted two-wire cable
Transmission: 78 kBit/s

Connections
Bus: Pluggable screw terminals
I/O connector: Digital synchronization input or Digital output 125 V DC

Dimensional drawing

Extension module EMMOD 206

Communication
Interface: M-Bus
Protocol: M-Bus
Baud rate: 300…38’400 Baud

Connections
Bus: Pluggable screw terminals
Digital input: Pluggable screw terminals for mean-value synchronization or tariff switching

Dimensional drawing

Camille Bauer Ltd.
Aargauerstrasse 7
CH-5610 Wohlen / Switzerland
Phone: +41 56 618 21 11
Fax: +41 56 618 21 21
info@camillebauer.com
www.camillebauer.com