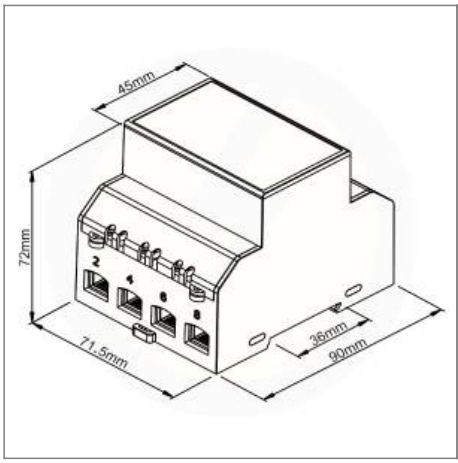
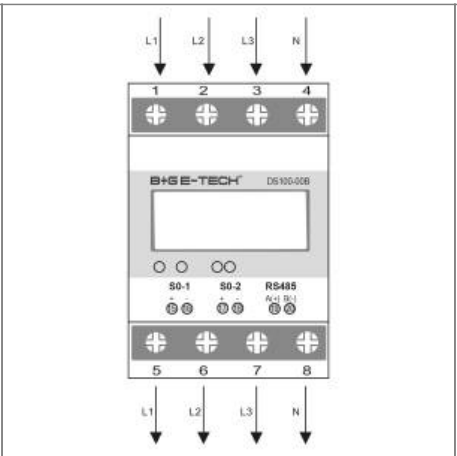
# lamaPLC: B+G E-Tech DS100 Energy Meter with Modbus

This series' digital bidirectional power meter is built for direct measurement in 3-phase AC systems, supporting loads up to 100 A. It is MID B&D certified by SGS UK.





## Technical data

- Type designation: DS100-009 (Article no. 1042204-M23)
- MID certified according to certificate 0120/SGS0622 from SGS UK
- 0.25-5A nominal current / 100A limit current (limit current = can be continuously loaded!)
- Electronic electricity meter (3-phase current according to EN 61036, for 4-wire three-phase networks) 3p4w
- digital LCD (backlit)
- 6 digital digits + 2 decimal places = 999999.99 kWh
- Connection: 3x230V/400V AC
- Operating range: 3*161/279 to 300/500 / 0.1 ~ 100A
- Frequency range: 50Hz +/- 10%
- Start current Cos-Phi = 1: 0.4% of Ib
- Self-consumption: ≤ 1W /12VA per phase
- Accuracy class: 1
- Pulse length: 80ms
- LED counting pulses: 1000imp/kWh
- Temp. range: -25°C to +55°C
- Rel. humidity: up to 75% - briefly up to 95%
- Mounting: DIN rail (DIN EN50022) / 4TE=71.5mm
- Dimensions: 71.5x90x72mm
- Weight: approx. 350g
- Approved for billing purposes to third parties

## Modbus map

| Address | Measuring | Var.type | Unit/resolution | Rel.addr |
|---|---|---|---|---|
| **Input register block** | | | | |

| Address | Measuring | Var.type | Unit/resolution | Rel.addr |
|---|---|---|---|---|
| 31024 | Phase 1 to neutral volts | int32 | mV | Basis 1024, 0x00, lenght: 80 word |
| 31026 | Phase 2 to neutral volts | int32 | mV | 0x02 |
| 31028 | Phase 3 to neutral volts | int32 | mV | 0x04 |
| 31030 | Phase L1 - L2 volts | int32 | mV | 0x06 |
| 31032 | Phase L2 - L3 volts | int32 | mV | 0x08 |
| 31034 | Phase L3 - L1 volts | int32 | mV | 0x0A |
| 31036 | Average line to neutral volts | int32 | mV | 0x0C |
| 31038 | Average line to line volts | int32 | mV | 0x0E |
| 31040 | Phase 1 current | int32 | mA | 0x10 |
| 31042 | Phase 2 current | int32 | mA | 0x12 |
| 31044 | Phase 3 current | int32 | mA | 0x14 |
| 31046 | Neutral current | int32 | mA | 0x16 |
| 31048 | Three-phase vector current | int32 | mA | 0x18 |
| 31050 | Phase 1 active power | int32 | W | 0x1A |
| 31052 | Phase 2 active power | int32 | W | 0x1C |
| 31054 | Phase 3 active power | int32 | W | 0x1E |
| 31056 | Total active power | int32 | W | 0x20 |
| 31058 | Phase 1 apparent power | int32 | VA | 0x22 |
| 31060 | Phase 2 apparent power | int32 | VA | 0x24 |
| 31062 | Phase 3 apparent power | int32 | VA | 0x26 |
| 31064 | Total apparent power | int32 | VA | 0x28 |
| 31066 | Phase 1 reactive power | int32 | var | 0x2A |
| 31068 | Phase 2 reactive power | int32 | var | 0x2C |
| 31070 | Phase 3 reactive power | int32 | var | 0x2E |
| 31072 | Total reactive power | int32 | var | 0x30 |
| 31074 | Phase 1 frequency | int16 | Hz/10 | 0x32 |
| 31075 | Phase 2 frequency | int16 | Hz/10 | 0x33 |
| 31076 | Phase 3 frequency | int16 | Hz/10 | 0x34 |
| 31077 | Combinated frequency | int16 | Hz/10 | 0x35 |
| 31078 | Phase 1 power factor | int16 | 0.1 | 0x36 |
| 31079 | Phase 2 power factor | int16 | 0.1 | 0x37 |
| 31080 | Phase 3 power factor | int16 | 0.1 | 0x38 |
| 31081 | Total power factor | int16 | 0.1 | 0x39 |
| 31082 | Phase 1 active power forward | int32 | W/10 | 0x3A |
| 31084 | Phase 2 active power forward | int32 | W/10 | 0x3C |
| 31086 | Phase 3 active power forward | int32 | W/10 | 0x3E |
| 31088 | Total active power forward | int32 | W/10 | 0x40 |
| 31090 | Phase 1 active power reverse | int32 | W/10 | 0x42 |
| 31092 | Phase 2 active power reverse | int32 | W/10 | 0x44 |
| 31094 | Phase 3 active power reverse | int32 | W/10 | 0x46 |
| 31096 | Total active power reverse | int32 | W/10 | 0x48 |
| 31098 | Phase 1 active power demand | int32 | W/10 | 0x4A |
| 31100 | Phase 2 active power demand | int32 | W/10 | 0x4C |
| 31102 | Phase 3 active power demand | int32 | W/10 | 0x4E |

| Address | Measuring | Var.type | Unit/resolution | Rel.addr |
|---|---|---|---|---|
| 31104 | Total active power demand | int32 | W/10 | 0x50 |
| 31082 | Phase 1 reactive power forward | int32 | var/10 | 0x52 |
| 31084 | Phase 2 reactive power forward | int32 | var/10 | 0x54 |
| 31086 | Phase 3 reactive power forward | int32 | var/10 | 0x56 |
| 31088 | Total reactive power forward | int32 | var/10 | 0x58 |
| 31090 | Phase 1 reactive power reverse | int32 | var/10 | 0x60 |
| 31092 | Phase 2 reactive power reverse | int32 | var/10 | 0x62 |
| 31094 | Phase 3 reactive power reverse | int32 | var/10 | 0x64 |
| 31096 | Total reactive power reverse | int32 | var/10 | 0x66 |
| 31098 | Phase 1 reactive power demand | int32 | var/10 | 0x68 |
| 31100 | Phase 2 reactive power demand | int32 | var/10 | 0x6A |
| 31102 | Phase 3 reactive power demand | int32 | var/10 | 0x6C |
| 31104 | Total reactive power demand | int32 | var/10 | 0x6E |
| **Holding register block** | | | | |
| 40270 | Total active energy forward | int32 | kWh/100 | Basis 270, 0x00, lenght: 52 word |
| 40280 | Total active energy reverse | int32 | kWh/100 | 0x0A |
| 40290 | Total active energy | int32 | kWh/100 | 0x14 |
| 40300 | Total reactive energy forward | int32 | kvarh/100 | 0x1E |
| 40310 | Total reactive energy reverse | int32 | kvarh/100 | 0x28 |
| 40320 | Total reactive energy | int32 | kvarh/100 | 0x32 |
| 41280 | Phase 1 active energy | int32 | kWh/100 | Basis 1280, 0x00, lenght: – word |
| 41290 | Phase 1 active energy forward | int32 | kWh/100 | |
| 41300 | Phase 1 active energy reverse | int32 | kWh/100 | |
| 41310 | Phase 1 reactive energy forward | int32 | kvarh/100 | |
| 41320 | Phase 1 reactive energy reverse | int32 | kvarh/100 | |
| 41330 | Phase 1 reactive energy | int32 | kvarh/100 | |
| 41380 | Phase 2 active energy | int32 | kWh/100 | |
| 41390 | Phase 2 active energy forward | int32 | kWh/100 | |
| 41400 | Phase 2 active energy reverse | int32 | kWh/100 | |
| 41410 | Phase 2 reactive energy forward | int32 | kvarh/100 | |
| 41420 | Phase 2 reactive energy reverse | int32 | kvarh/100 | |
| 41430 | Phase 2 reactive energy | int32 | kvarh/100 | |
| 41480 | Phase 2 active energy | int32 | kWh/100 | |
| 41490 | Phase 2 active energy forward | int32 | kWh/100 | |
| 41500 | Phase 2 active energy reverse | int32 | kWh/100 | |
| 41510 | Phase 2 reactive energy forward | int32 | kvarh/100 | |
| 41520 | Phase 2 reactive energy reverse | int32 | kvarh/100 | |
| 41530 | Phase 2 reactive energy | int32 | kvarh/100 | |

# Modbus topics on lamaPLC

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|---|---|---|
| • Eastron Modbus maps | 2026/04/23 21:51 | modbus, modbus rtu, eastron, modbus map, mid |
| • lamaLib: #temp | 2026/04/23 21:52 | tia, scl, lamalibsimatic, source code, energy meter, modbus, register, word |
| • lamaLib: energyMeterToModbusRegs | 2026/04/23 21:52 | tia, scl, lamalibsimatic, source code, energy meter, modbus, register, word |
| • lamaPLC Communication: Modbus | 2026/04/23 21:51 | modbus, communication, bus, modicon, standard, rtu, tcp, multimaster, coil, register |
| • lamaPLC: B+G E-Tech DS100 Energy Meter with Modbus | 2026/06/05 15:59 | communication, modbus, b g, e-tech, ds100, energy meter, em |
| • lamaPLC: Communication with Eastron Smart X96 | 2026/06/05 15:59 | communication, modbus, energy meter, em, eastron, smart, x96 |
| • lamaPLC: DM56A04 / DM36B06 digital tube display with Modbus Communication | 2026/02/14 18:25 | dm56a04, dm36b06, eletechsup, 7-segment, display, modbus, rtu, modbus rtu, arduino |
| • LamaPLC: Eastron SDM 230 with Modbus Communication | 2026/06/05 15:50 | modbus, modbus rtu, eastron, modbus map, mid, sdm 230, sdm, arduino, code |
| • LamaPLC: Eastron SDM 630 Energy Meter with Modbus communication | 2026/06/05 15:50 | modbus, modbus rtu, eastron, modbus map, mid, sdm, sdm 630, arduino, code |
| • LamaPLC: Eastron SDM 72 | 2026/06/09 21:11 | modbus, modbus rtu, eastron, modbus map, mid, sdm 72, sdm, arduino, code |
| • lamaPLC: Measurement | 2026/06/05 15:43 | energy meter, em, communication, modbus, easton, sdm120, xtm35sc, sdm230, ds100-00b, b g e-tech, sdm54, sdm72, sdm630, smart, x96-5, x96-5fj |
| • lamaPLC: PTA8C04 4-channel PT100 Modbus Modul | 2026/02/14 18:42 | pta8c04, sensor, modbus, rtu, rs-485, communication, platine, um72 |
| • lamaPLC: RP2040_ETH_Modul: Modbus TCP example | 2026/05/12 16:20 | code, micropython, 2026, rp2040 eth, modbus, test |
| • lamaPLC: RP2040_ETH_Modul: Modbus TCP sniffer | 2026/05/12 16:20 | code, micropython, 2026, rp2040 eth, modbus, sniffer |
| • LamaPLC: S7-1500 and Metrawatt EM2389 Modbus TCP communication | 2026/04/23 21:52 | simatic, s7, modbus, communication, metrawatt, em2389, source code, scl, mid |
| • LamaPLC: S7-1500 and Sicam Q200 Modbus TCP communication | 2026/04/23 21:52 | simatic, s7, modbus, tia portal, communication, sicam, q200, sicam q200, source code, scl, class a |
| • lamaPLC: S7-1500 and UICPAL Temp.humi.sensor Modbus TCP communication | 2026/04/23 21:52 | bus, communication, s7, simatic, s7 1500, s7 1200, scl, uicpal, temperature, humidity, modbus, example, download, tia portal |
| • lamaPLC: TM1650 7-Segment Display with I²C like or Modbus Communication | 2026/02/14 18:26 | tm1650, stc8g, tp8485e, hyuduo5x1b64edtk1244, 7-segment, display, modbus, rtu, modbus rtu, arduino |
| • lamaPLC: TTL to RS485 Module | 2026/02/14 23:49 | modbus, rtu, modbus rtu, hw-097, rs-485, max485 |
| • LamaPLC: UICPAL Temp.humi.sensor | 2023/06/25 00:43 | simatic, s7, modbus, communication, temperature, humidity, sensor |
| • LamaPLC: XTM35SC Energy meter with Modbus communication | 2026/06/05 15:59 | xtm35sc, modbus, modbus rtu, measuring, power, communication, current meter, voltmeter |

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|---|---|---|
| • lamaPLC: YR-3180 - Weight sensor module with UART or Modbus communication | 2026/02/15 00:00 | communication, modbus, rtu, sensor, weight, yr-3180, hx710b, arduino, ttl, rs-485 |
| • Modbus for Grundfos pumps | 2026/04/23 21:51 | modbus, modbus tcp, modbus rtu, grundfos |
| • NT18B07: 7 Kanal RS485 Temperatur Sensor with Modbus RTU | 2026/02/14 18:49 | nt18b07, sensor, modbus, rtu, rs-485, communication, platine |
| • Simatic Modbus S7 error- and statuscodes | 2026/04/23 21:52 | communication, bus, modbus, error, modbus error code, 7000, 7001, 7002, 7003, 7004, 7005, 7006, 80a1, simatic, s7, siemens, tia |
| • Waveshare | 2026/04/23 21:52 | waveshare, converter, modbus, modbus rtu, modbus tcp, communication |
| • XTM35SC current / voltage meter | 2026/04/23 21:52 | xtm35sc, modbus, modbus rtu, measuring, power, communication, current meter, voltmeter |

communication, modbus, B+G, E-Tech, DS100, Energy Meter, EM