SOLAR ELECTRIC

KOSTAL

KOSTAL Smart Energy Meter-G2

Smart energy meter



Technical information

KOSTAL Smart Energy Meter - G2: suited to numerous purposes.

Flexible in use

- Integrated 3-phase energy measurement of up to 63 A
- Higher measurement currents possible using converter
- 2 LAN interfaces
- 2 RS485 interfaces (Modbus RTU)

Smart performance

- High measurement accuracy
- Current sensor and energy manager for connecting AC batteries
- Smart control for multiple-inverter connection



Smart connected

- Can be combined with PIKO 4.2-20, PIKO EPC, PIKO CI, PIKO MP plus, PIKO IQ, PLENTICORE plus, PLENTICORE BI
- Data display
- Functions can be extended via software updates

Easy to install

- Installation in control cabinet on top-hat rail
- Simple device configuration using online interface and preset values
- Software is updated via online interface

KOSTAL Smart Energy Meter - G2: in combination with KOSTAL solar inverters

PIKO IQ / PLENTICORE

- 24-hour home consumption measurement
- Dynamic active power control
- Pre-configured Modbus RTU interfaces (RS485)
- Multiple-inverter connection with KOSTAL inverter
- Provision of measurement data when using battery functionality in combination with PLENTICORE
- Battery on the PLENTICORE is recharged from additional local generators

PIKO MP plus

- 24-hour home consumption measurement
- Dynamic active power control
- Pre-configured Modbus RTU interfaces (RS485)
- Battery management with optional battery functionality for the PIKO MP plus[1]

PIKO 4.2-20 / PIKO EPC

- 24-hour home consumption measurement
- Dynamic active power control
- Multiple-inverter connection with KOSTAL inverter

PIKO CI

- 24-hour home consumption measurement
- Dynamic active power control

[1] Battery activation code for the KOSTAL Smart Energy Meter can be purchased at shop.kostal-solar-electric.com

Technical data KOSTAL Smart Energy Meter - G2

			KOSTAL Smart Energy Meter - G2 [1]
System data	Process data		Dual Core Cortex-A53, 1,2 GHz 512 Mbyte LPDDR4, 4 GByte eMMC
	Operating system		Embedded Linux with integrated TCP/IP stack
	LAN interfaces for Modbus TCP		2 x (10/100 Mbit)
	RS485 interfaces for Modbus RTU		2 x (half-duplex, max. 115 200 baud)
	Rated voltage	V	max. 230/400 V~
	Operating voltage	V	110/230 V~ ± 10%
	Frequency range	Hz	50/60 ± 5 %
	Self-consumption - voltage path per phase	VA	< 0.01
	Self-consumption - current path per phase	VA	< 2
	Self-consumption - entire device	W	< 5
	Current (rated current/limiting current)	A	5 / 63 [3]
	Starting current	mA	< 25
	Product standards		EN 61010, EN 50428, EN 60950
Measurement accuracy [2]	Voltage	%	± 0.5
	Current	%	± 0.5
	Active power	%	± 1.0
	Apparent power	%	± 1.0
	Reactive power	%	± 1.0
	Power factor	%	± 1.0
	Active energy / reactive energy according to IEC 62053-22 / -23 (typical)		Class 1
Mechanical data	Housing material		Fibreglass-reinforced polyamide
	Incandescent wire test according to IEC 695-2-1		Yes
	Protective class		II
	Protection class		IP2X
	Weight	kg	0.3
	Dimensions (H/W/D)	mm	88 x 70 x 65
	Connection cross-section (mechanical, e.g. for connecting external transformers)	mm^2	10-25 (1.5-25)
	Torque for screw terminals	Nm	2
Conditions	Ambient temperature	°C	-25 ... 45
	Storage temperature	°C	-25 ... 70
	Relative humidity (non-condensing)	%	Up to 75% as an annual average Up to 95% on up to 30 days/year
	Max. height above sea level for operation	m	2000

Subject to technical changes. Errors excepted. You can find current information at www.kostal-solar-electric.com. Manufacturer: KOSTAL Industrie Elektrik GmbH, Hagen, Germany

[1] 2-year warranty. This does not affect your statutory warranty.
[2] Accuracy class according to IEC 61557-12 With reference to measuring value, Energy Manager.
If using external converters, the particular measurement accuracy must be taken into account. If using current sensors via the sensor bar, subject to the power factor the accuracy of the active power is class 2.
[3] Limiting current I_N / phase 63 A. Higher currents possible via converter.

www.kostal-solar-electric.com

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SOLAR ELECTRIC

KOSTAL Energy Meter

Power meter - Series C



Data sheet

Technical data KOSTAL Energy Meter - Series C

			KOSTAL Energy Meter - Series C [1]
System data	Compatible with wallbox ENECTOR		---
	Rated voltage	V	max. 208/415 V~
	Operating voltage	V	120/240 V~
	Frequency range	Hz	50/60
	Power consumption		<1.3 W / 2.6 VA
	Current inputs - base current (Ib)	A	5
	Current inputs - minimum current (Imin)	A	0.25
	Current inputs - maximum current (Imax)	A	65
	Current inputs - starting current (Ist)	mA	20
	Current inputs - Overload For 10 ms		30 Imax (1950 A)
	Current inputs - input impedance	VA	< 3.4
	Current inputs - Peak factor		4 (Imax peak 92A)
	Digital output		V_{ON} 2.5 V ac/dc, max 100 mA. V_{OFF} 42 V ac/dc
	Digital input		Contact for voltage measurement: 5 V DC +/- 5%. Contact for current measurement: 5 mA max.
	Overvoltage category		III
	Pollution degree		2
	Directives/Standards		EMV, LVD, EN 62052-11, EN 61010-1
Measurement accuracy [2]	Current		From 2 A to 65 A: ± 0,5% rdg / From 0,5 A bis 2 A: ± 1% rdg
	Phase to phase voltage		From Un min. -20% to Un max. +15% : ± 0,5% rdg
	Phase to neutral voltage		From Un min. -20% to Un max. +15%: ± 0,5% rdg
	Active and apparent power		From 1-65 A (PF=0,5L - 1 - 0,8C): ± 1% rdg From 0,5-1 A (PF=1) ± 1,5% rdg
	Reactive power		Von 1-2 A (sinΦ=0,5L - 0,5C) and from 0,5-1 A (sinΦ=1): ± 2% rdg Von 2-65 A (sinΦ=0,5L- 0,5C) and from 1-65 A (PF=1): ± 2,5% rdg
	Active energy / reactive energy		Class 1 (EN62053-21) / Class 2 (EN62053-23)
	Frequency		From 45 to 65 Hz: ± 0,1% rdg
Mechanical data	Enclosure material		Housing: PBT Transparent cover: polycarbonate
	Mounting		DIN rail (3-TE module)
	Protection class - front / terminals		IP40 / IP20
	Weight	g	270
	Dimensions (H/W/D)	mm	90/53.4/62.4
	Connections	mm^2	Measuring inputs (phase 1/2/3): 2.5-16 Neutral: 0.06-2.5 Inputs, outputs and communication: 0.2-1.5
	Torque	Nm	Measuring inputs (phase 1/2/3): 2.5 Neutral: 0.5 Inputs, outputs and communication: 0.4
Conditions	Operating temperature	°C	-25 ... 55
	Storage temperature	°C	-25 ... 70
	Relative humidity (non-condensing)	%	90
	Max. Altitude during operation above sea level	m	2000

[1] 2-year warranty. This does not affect your statutory warranty.

04/2025 - EN - DOC02966508 - Contact: KOSTAL Solar Electric GmbH, Hanferstr. 6, 79108 Freiburg i. Br., Germany, Tel. +49 761 477 44 - 100, Fax +49 761 477 44 - 111, www.kostal-solar-electric.com
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Freigegebene Energiezähler / Released energy meters

Version: 10 / 2026

Freigegebene Energiezähler / Released energy meters	1-phasig / 1-phase	3-phasig / 3-phase	Wechselrichter / Inverter	Multi Device Control (MDC)	Hausverbrauch Messung / Building consumption	Mit Batterie[2] / with battery[2]	Backupbetrieb / Backup mode	Mit Wallbox ENECTOR G2 über MDC / with wallbox ENECTOR G2 via MDC	Mit Wallbox ENECTOR G2 über KSEM G2 / with wallbox ENECTOR G2 via KSEM G2 ab/from SW 2.8.0	Mit Wallbox ENECTOR G1 über KSEM / with wallbox ENECTOR G1 via KSEM	Doppelpower - mehrere Wechselrichter / Dual power - more inverter	Für dynamische Wirkleistungsregelung[1,3] / For dynamic active power control[1,3]
KOSTAL Smart Energy Meter G2 (KSEM)		X	PIKO IQ	-	X	-	-	-	X	X	X	X
			PLENTICORE BI	-	-	X	-	-	X	X	X	-
			PLENTICORE plus	-	X	X	-	-	X	X	X	X
			PLENTICORE BI G2	-	-	X	-	-	X	X	X	-
			PLENTICORE plus G2	-	X	X	-	-	X	X	X	X
			PLENTICORE G3	X	X	X	X	X	X	X	X	X
			PLENTICORE MP G3	X	X	X	X	X	X	X	X	X
			PLENTICORE BI G3	X	X	X	X	X	X	X	X	X
			PIKO CI[4]	-	X	-	-	-	X	X	-	X
			PIKO EPC[4]	-	X	-	-	-	X	X	-	X
			PIKO 4.2-20[4]	-	X	-	-	-	X	X	-	X
KOSTAL Smart Energy Meter G1 (KSEM)		X	PIKO IQ	-	X	-	-	-	-	X	X	X
			PLENTICORE BI	-	-	X	-	-	-	X	X	-
			PLENTICORE plus	-	X	X	-	-	-	X	X	X
			PLENTICORE BI G2	-	-	X	-	-	-	X	X	-
			PLENTICORE plus G2	-	X	X	-	-	-	X	X	X
			PLENTICORE G3	X	X	X	X	X	-	X	X	X
			PLENTICORE MP G3	X	X	X	X	X	-	X	X	X
			PLENTICORE BI G3	X	X	X	X	X	-	X	X	X
			PIKO CI[4]	-	X	-	-	-	-	X	-	X
			PIKO EPC[4]	-	X	-	-	-	-	X	-	X
			PIKO 4.2-20[4]	-	X	-	-	-	-	X	-	X
KOSTAL Energy Meter - Series C (KEM-C)		X	PIKO IQ	-	X	-	-	-	-	-	-	X
			PLENTICORE BI	-	-	X	-	-	-	-	-	-
			PLENTICORE plus	-	X	X	-	-	-	-	-	X
			PLENTICORE BI G2	-	-	X	-	-	-	-	-	-
			PLENTICORE plus G2	-	X	X	-	-	-	-	-	X
			PLENTICORE G3	X	X	X	X	X	-	-	-	X
			PLENTICORE MP G3	X	X	X	X	X	-	-	-	X
			PLENTICORE BI G3	X	X	X	X	X	-	-	-	X
KOSTAL Energy Meter - Series P (KEM-P)		X	PIKO IQ	-	X	-	-	-	-	-	-	X
			PLENTICORE BI	-	-	X	-	-	-	-	-	-
			PLENTICORE plus	-	X	X	-	-	-	-	-	X
			PLENTICORE BI G2	-	-	X	-	-	-	-	-	-
			PLENTICORE plus G2	-	X	X	-	-	-	-	-	X
			PLENTICORE G3	X	X	X	X	X	-	-	-	X
			PLENTICORE MP G3	X	X	X	X	X	-	-	-	X
			PLENTICORE BI G3	X	X	X	X	X	-	-	-	X
KOSTAL Energy Meter MP - Series P (KEM-MP-P)	X		PLENTICORE MP G3	X	X	X	X	X	-	-	-	X

Technische Änderungen und Irrtümer vorbehalten. Aktuelle Informationen finden Sie unter www.kostal-solar-electric.com.
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Freigegebene Energiezähler / Released energy meters	1-phasig / 1-phase	3-phasig / 3-phase	Wechselrichter / Inverter	Multi Device Control (MDC)	Hausverbrauch Messung / Building consumption	Mit Batterie[2]/ with battery[2]	Backupbetrieb/ Backup mode	Mit Wallbox ENECTOR G2 über MDC/ with wallbox ENECTOR G2 via MDC	Mit Wallbox ENECTOR G2 über KSEM G2/ with wallbox ENECTOR G2 via KSEM G2 ab/from SW 2.8.0	Mit Wallbox ENECTOR G1 über KSEM / with wallbox ENECTOR G1 via KSEM	Doppelpower - mehrere Wechselrichter / Dual power - more inverter	Für dynamische Wirkleistungsregelung[1,3] / For dynamic active power control[1,3]
M-TEC Energy Hero[7,8)]		X	PLENTICORE G3	X	X	X	X	-	-	-	X	
B+G E-Tech GmbH SDM630-Modbus[8)]		X	PIKO IQ	-	X	-	-	-	-	-	-	-
			PLENTICORE plus	-	X	-	-	-	-	-	-	-
TQ-System GmbH B-control EM 300 LR[8)]		X	PIKO IQ	-	X	-	-	-	-	-	-	X
			PLENTICORE plus	-	X	X	-	-	-	-	-	X

[1] Der Energiezähler kann anstelle eines Rundsteuerempfängers zur dynamischen Wirkleistungsregelung verwendet werden.
The energy meter can be used instead of a ripple control receiver for dynamic active power control.

[2] Im gesamten System darf nur eine Batterie verbaut sein. / Only one battery may be installed in the entire system.

[3] Nulleinspeisung (Zero Feed-In) in Kombination mit einer Wallbox ENECTOR und Komfortfunktionen ist technisch nicht möglich.
Zero feed-in in combination with an ENECTOR wallbox and comfort functions is not technically possible.

[4] Einstellungen am Wechselrichter sind nicht notwendig. Alle Einstellungen werden im KOSTAL Smart Energy Meter durchgeführt.
Settings on the inverter are not necessary. All settings are made in the KOSTAL Smart Energy Meter

[5] Nur KSEM G2 / only KSEM G2

[6] Nur über MDC / only via MDC

[7] Ab PLENTICORE G3 SW 3.07.03 / from PLENTICORE G3 SW 3.07.03

[8] Phasenbezogenes Einspeisen ist mit diesem Energiezähler nicht möglich / Phase-specific metering is not possible with this energy meter

Einstellen Energiezähler:

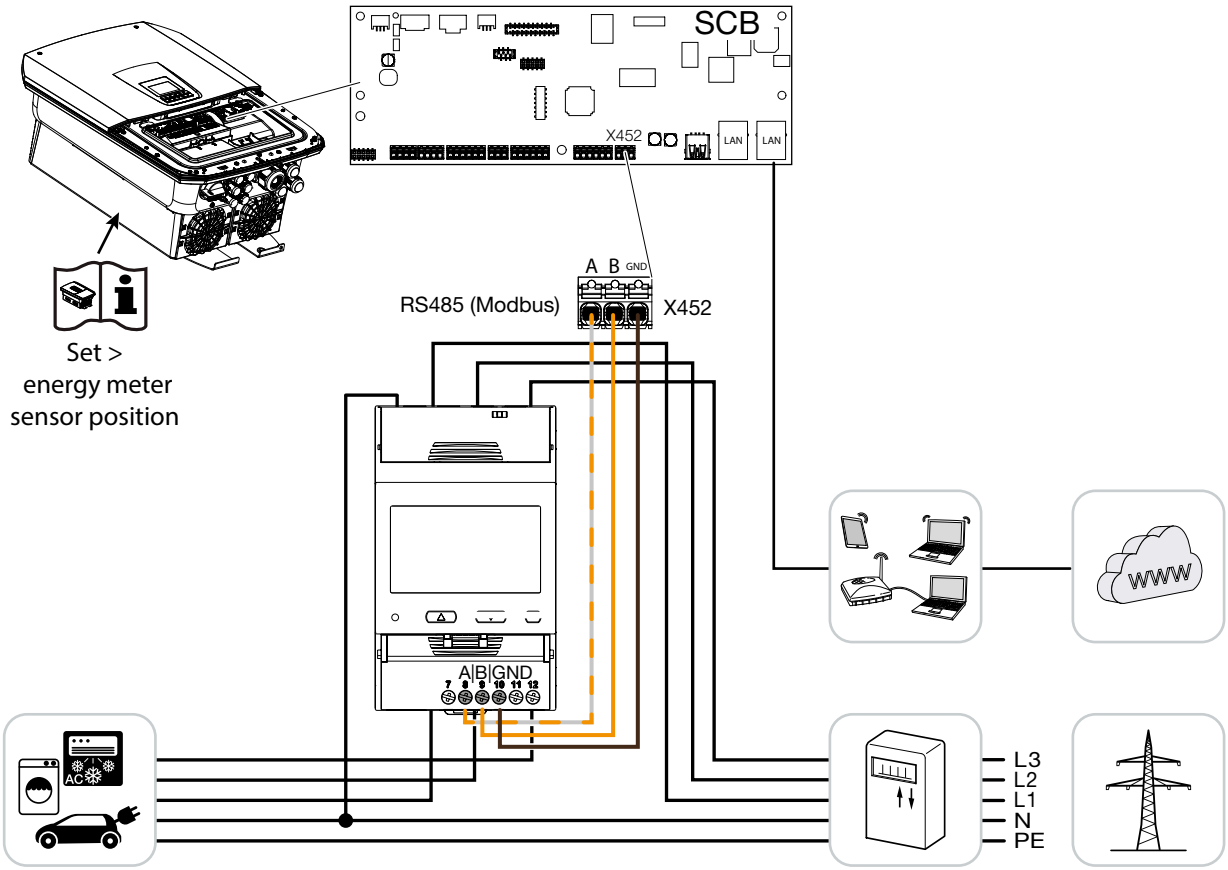
- Bei Erstinstallation
- Im Wechselrichter unter dem Menüpunkt: Servicemenü > Energiemanagement > Energiezähler
- Im Webserver unter dem Menüpunkt: Servicemenü > Energiemanagement > Energiezähler

Set Energy Meter:

- During first installation
- Under the inverter menue item: Servicemenue > Energy management > Energy meter
- Under the Webserver menue item: Servicemenue > Energy management > Energy counter

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Anschluss/Connection - KOSTAL Energy Meter - Series C (KEM-C)

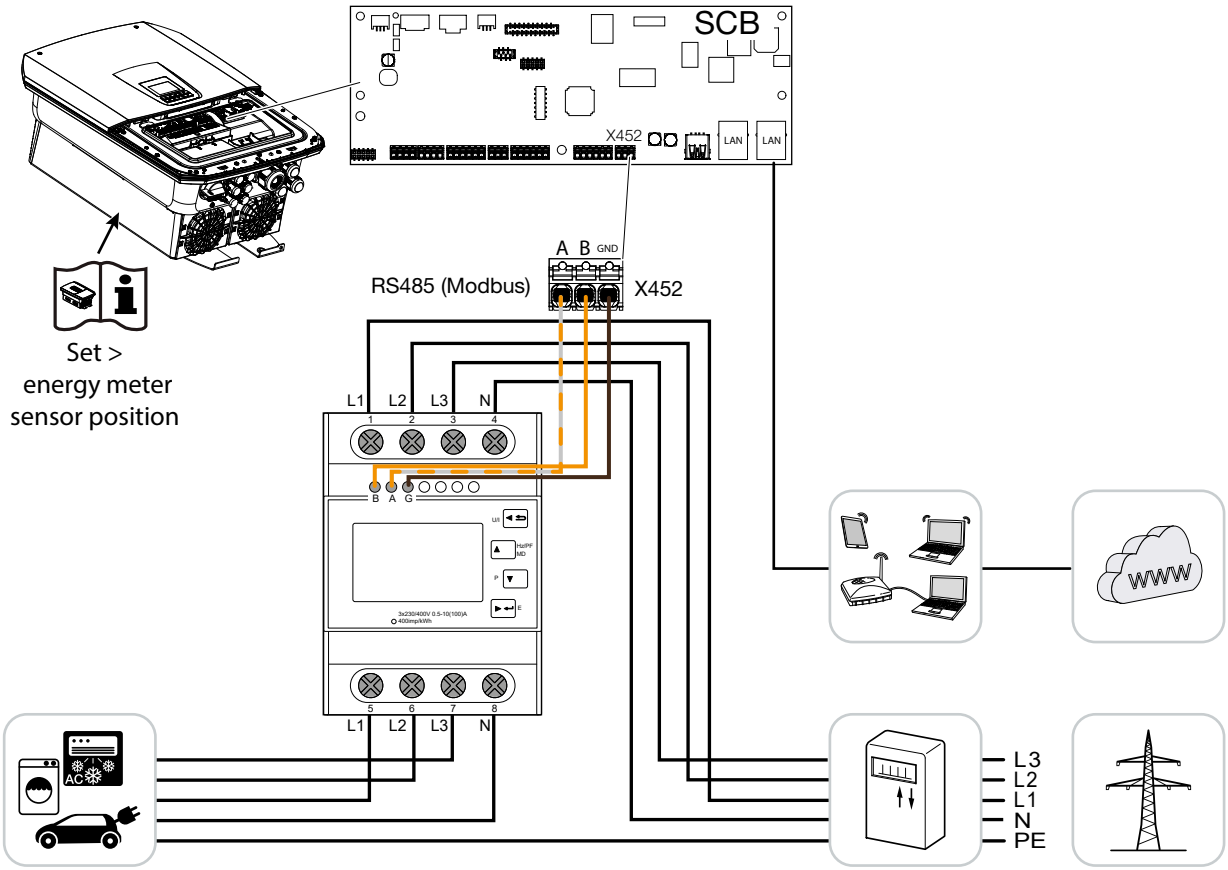


RS485 Settings - KOSTAL Energy Meter - Series C (KEM-C) (vorkonfiguriert/pre configured)	
Menüpunkt/ Menue item	**Wert/ Value**
Adress	1
Bautrate	38400 Baud
Databit	8
Stoppbit	2
Parität	None

Anschluss/Connection	
Wechselrichter/ Inverter	**KEM**
RS485 A	RS485 A
RS485 B	RS485 B
GND	GND

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Anschluss/Connection - KOSTAL Energy Meter - Series P (KEM-P)

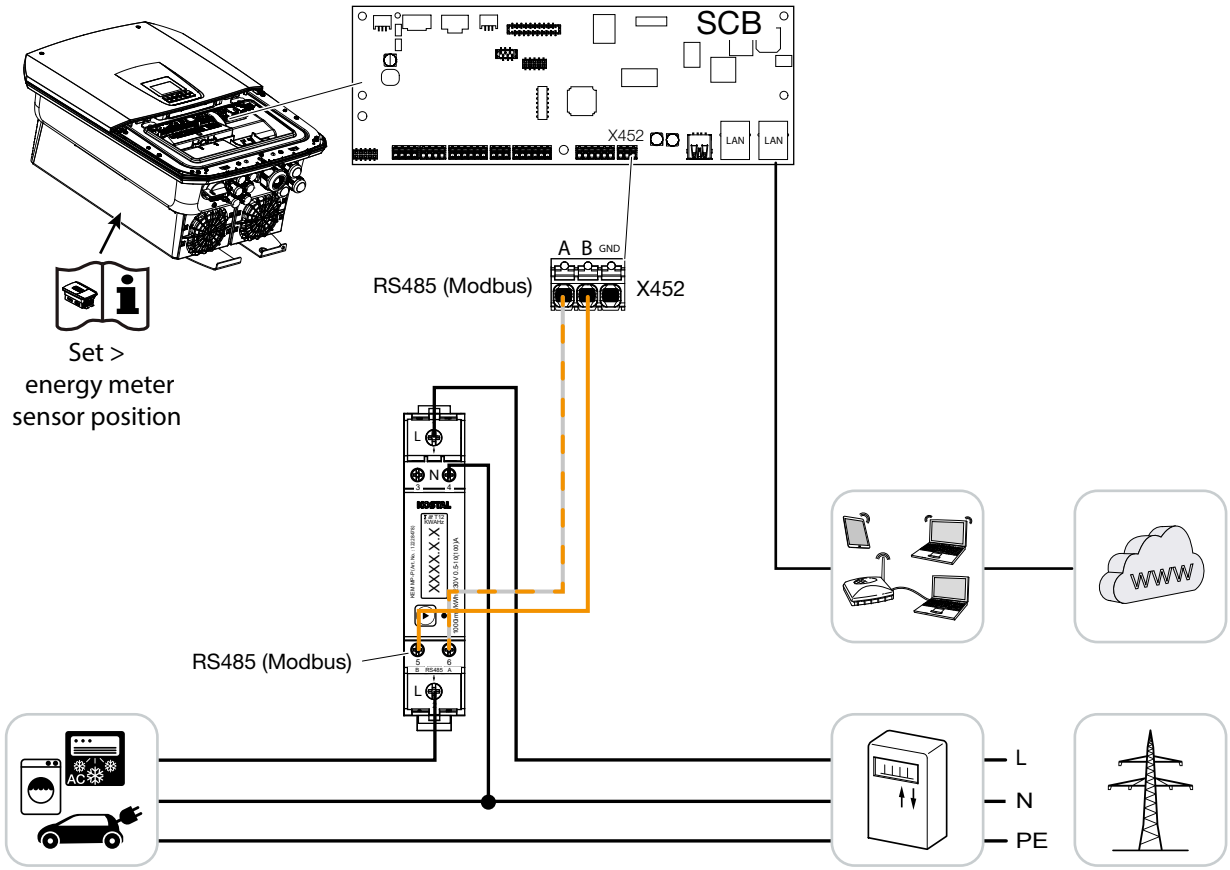


RS485 Settings - KOSTAL Energy Meter - Series P (KEM-P) (vorkonfiguriert/pre configured)	
Menüpunkt/ Menue item	**Wert/ Value**
Adress	1
Bautrate	38400 Baud
Databit	8
Stoppbit	2
Parität	None

Anschluss/Connection	
Wechselrichter/ Inverter	**KEM**
RS485 A	RS485 A
RS485 B	RS485 B
GND	GND

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Anschluss/Connection - KOSTAL Energy Meter MP - Series P (KEM MP-P)



RS485 Settings - KOSTAL Energy Meter MP - Series P (KEM MP-P) (vorkonfiguriert/pre configured)	
Menüpunkt/ Menue item	Wert/ Value
Adress	1
Bautrate	19200 Baud
Databit	8
Stoppbit	2
Parität	None

Anschluss/Connection	
Wechselrichter/ Inverter	KEM
RS485 A	RS485 A
RS485 B	RS485 B
GND	GND

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