KOSTAL

KEM or KSEM? KOSTAL makes it easy

KEM vs. KSEM

The right energy meter for every system

The KOSTAL Energy Meter is often enough

Many installers routinely rely on the KOSTAL Smart Energy Meter (KSEM) for KOSTAL systems. This was a safe choice for a long time – but it is not always necessary for many systems. Particularly for a typical system with PLENTICORE G3 and ENECTOR G2, the more affordable KOSTAL Energy Meter (KEM) is often sufficient. This is because the system architecture has changed with the new device generation: the PLENTICORE G3 now handles the intelligent control of the wallbox.

KEM or KSEM: A Decision Guide

In earlier systems, the KSEM handled not only the measurement of energy flows but also key tasks in controlling the wallbox. This made it a fixed part of system planning for many installers.

With PLENTICORE G3 and ENECTOR G2, this is different: the inverter controls the wallbox directly. The energy meter provides the measurement data required for this.

This means: in this combination, a KSEM is no longer required. The more cost-effective KEM fulfils the necessary tasks.

When is the KEM the right choice?

The KOSTAL Energy Meter is suitable for typical systems with a PLENTICORE inverter. It records energy flows in real time across three phases and transmits the measurement data to the inverter via a pre-configured Modbus RTU interface.

The KEM supports, among other things:

- 24-hour household consumption
- measurement transmission of the required measurement data to the inverter
- the combination of PLENTICORE G3, PIKO CI G2 and ENECTOR G2
- systems with a direct connection value of up to 100 A

In short: for a current standard system, the KEM is often the simpler and more cost-effective solution.

When is the KSEM needed?

The KOSTAL Smart Energy Meter remains the right choice when the system configuration requires additional functions or extended connection options.

This applies in particular to:

- PLENTICORE G2 with ENECTOR G2
- PLENTICORE G2 or G3 with ENECTOR G1
- PLENTICORE G2 in a device network
- Systems with PIKO CI

The KSEM has its own web interface and additional computing power, and supports applications that go beyond the basic functions of the KEM.

In short: the KSEM is the right choice for systems with extended functional requirements.

KEM or KSEM

A Decision Guide

KEM vs. KSEM

Device Combination and Scope of Functions

The choice of the right energy meter depends on the planned system configuration. This overview helps you quickly find out whether the KEM is sufficient or the KSEM is required.

Device combination	KEM	KSEM
1 x PLENTICORE G2 or G3	Recommended	Also possible
1 x PLENTICORE G2 or G3 with battery storage	Recommended	Also possible
PLENTICORE G3 in a device network	Recommended	Also possible
PLENTICORE G3 with ENECTOR G2	Recommended	Also possible
PLENTICORE G2 with ENECTOR G2	-	Yes
PLENTICORE G2 or G3 with ENECTOR G1	-	Yes
PLENTICORE G2 in a device network	-	Yes
PIKO CI – one or more inverters	-	Yes
PIKO CI for domestic connections above 63 A with converter-based metering	-	Yes

Plan more easily and offer more cost-effective solutions

A KSEM offers many possibilities – however, these are not needed in every system. Choosing the energy meter to match the actual system configuration avoids unnecessary costs and lets you offer your customers a more cost-effective overall package.

So check this during system planning:

1. Which inverter generation is being used?
2. Is it a single standard system or a more complex system configuration?
3. Are functions required that go beyond the basic functions of the KEM?

This turns a familiar standard choice into needs-based planning.

Only as much energy meter as necessary

The KSEM remains the powerful solution for more complex systems. For many current installations with PLENTICORE G3, however, it is no longer necessary. Particularly in the combination of PLENTICORE G3, battery storage and ENECTOR G2, the KEM offers all the required basic functions. This makes planning simpler and the system more cost-effective – without sacrificing the relevant functions. **The KEM is often enough.**

Version 08/2026 - EN