



Your Smart Energy Diverter

User Guide — Free Hot Water from Your Solar System

Works with the mySigen app, your SigenStor battery system and your immersion heater

1. What Your Energy Diverter Does

On a sunny day, your solar panels often make more electricity than your home is using at that moment. Normally, that spare electricity is exported to the grid. Your SolarSmart energy diverter puts it to better use first: it automatically switches on your immersion heater and uses that spare solar power to heat your hot water — effectively for free.

In plain terms, the system constantly asks one question: "Is there spare solar power right now?" When the answer is yes, your hot water cylinder becomes a second battery, storing that energy as heat you can use later for showers, baths and taps.

The parts working together

- **Your solar panels** generate electricity during daylight.
- **The Sigen Sensor** measures, second by second, how much power your home is using and how much is spare.
- **Your SigenStor battery** stores electricity for use after dark.
- **The smart switch (Shelly)** is the diverter itself — a small controller wired to your immersion heater that turns it on and off automatically.
- **The mySigen app** is where you watch it all working and change the settings. Everything in this guide happens in the app.

Good to know

Your immersion cylinder thermostat still works exactly as before. Once the water reaches the temperature set on the cylinder, the heater stops drawing power even if the diverter has switched it on. Nothing can overheat.

2. Reading the Home Screen

Open the mySigen app and select your system. The System tab shows a live 3D picture of your home with four numbers around it. These update in real time:

What you see	What it means
SOLAR (e.g. 1.0 kW)	How much power your panels are generating right now.
HOME (e.g. 0.8 kW)	How much power your home is using right now — including the immersion when the diverter has switched it on.
SigenStor (e.g. 0.2 kW · 46.3%)	Power flowing in or out of your battery, and how full it is. It will say "Charging" or "Discharging".
GRID (e.g. 0 kW)	Power flowing to or from the electricity grid. "Exporting" means you are selling spare power; "Importing" means you are buying.

The green animated lines show which way the energy is flowing at that moment. Above the picture you will also see the weather, your connection status ("Normal", "On Grid") and, below it, a Real Time Info panel with more detail such as your battery's usable capacity.

A quick health check

On a bright day with the water not yet hot, a healthy diverter looks like this: SOLAR is high, HOME jumps up by the size of your immersion element (typically 2–3 kW), and GRID shows at or near 0 kW. That means your spare solar is heating water instead of being exported.

3. Finding Your Immersion in the App

1. From the home screen, tap the **Device** tab at the top (next to "System").
2. Scroll down to **Smart Home Devices**.
3. Tap the **Immersion** tile. The tile shows its current mode (e.g. "Auto") and how much power it is drawing right now (e.g. 2.71 kW when heating, 0.00 kW when off).

This opens the Immersion page — the control centre for your diverter. Here you can see:

- **Control Mode** — whether the immersion is being run automatically or by hand (Section 4).
- **The active schedule** — the times and days when automatic control is allowed to run (Section 5).
- **Energy Usage** — how many kWh the immersion has used today, this month, and over its lifetime. This is a great way to see how much free hot water you are getting.

4. Auto vs Manual Control

Auto (Time-based) — the everyday setting

In Auto mode the system runs itself. You set a schedule (a time window and days of the week) and an energy rule (Section 6), and the diverter decides moment to moment whether to switch the immersion on. Your system is normally handed over with Auto "In Use" and a schedule of 00:00–24:00, every day — meaning the diverter is free to act whenever its energy rule is satisfied.

Manual Control — the override

Sometimes you just want hot water now — visitors arriving, a dull week, an empty cylinder. Tap Enable Manual on the Immersion page to take direct control and switch the heater on yourself. In Manual mode the immersion will draw power from whatever source is available, including the grid, so it will heat your water but it may not be free.

Remember to switch back

When you are finished with a manual boost, return the immersion to Auto so the diverter can go back to using only your spare solar. If Manual is left on, you may be paying grid rates for hot water without realising.

5. Schedules — When the Diverter Is Allowed to Run

The schedule does not force the immersion on. It simply defines the window during which the automatic rules are allowed to operate. To view or change it:

1. On the Immersion page, tap the pencil icon beside **Auto (Time-based)**.
2. You will see **Schedule 01** with a start time, an end time, and the days of the week it applies to. "Select All" runs it every day.
3. Adjust the times or days if you wish, then tap **Save**.

For most homes, leaving the window at 00:00–24:00 every day is ideal — the energy rules (next section) already make sure the immersion only runs when it makes sense. You would narrow the window only if, for example, you never want the immersion running overnight.

You will also notice a **Ready by** option at the top of the Schedule screen. This lets you ask for the water to be hot by a certain time (for example, ready for morning showers), and the system will top up as needed to meet it — using the grid if there was not enough solar. Use it if a guaranteed hot cylinder matters more to you than running on free power alone.

6. Energy Source Control — Choosing How It Decides

This is the heart of the diverter. Inside the schedule editor, under Energy Source Control, tap the Energy Source Type dropdown. There are three modes:

Surplus PV Only — the classic diverter (recommended)

The immersion runs exclusively on spare solar energy. Nothing is drawn from the grid to heat water. Two settings appear with this mode:

- **Starting Power (kW)** — how much spare solar must be available before the immersion switches on. This is normally set to match your immersion element (typically 3.0 kW).
- **Rated Power (kW)** — the size of your immersion element (typically 3.0 kW). Your installer sets this and it should not need changing.
- **Battery Boost** — an on/off switch. When ON, your SigenStor battery is allowed to top up the difference on partly-cloudy days: if the sun is providing most, but not quite all, of what the immersion needs, the battery bridges the gap so heating can continue. When OFF, the immersion waits until solar alone can cover it.

Why did I see a small grid import with Battery Boost on?

When the immersion is running on a mix of solar and battery, clouds can pass and power levels shift second by second. Brief, small imports from the grid while the system rebalances are normal and cost very little. Over the day, the overwhelming share of your hot water is still coming from your own energy.

Battery Level Control — heat water with stored energy

This mode uses your battery's state of charge to decide, and is useful if you would rather convert stored electricity into hot water once the battery is comfortably charged. You set two thresholds:

- **Device Activation Threshold** (e.g. 45%) — the immersion is allowed to switch on once the battery is above this level.
- **Device Deactivation Threshold** (e.g. 15%) — the immersion switches off if the battery falls to this level, so you always keep a reserve for the evening.

Example: with 45% / 15% set, a battery at 46% will start the immersion. You will see the battery "Discharging" (e.g. 1.9 kW) and HOME jump up while the water heats. When the battery reaches 15%, heating stops and the remaining charge is kept for your home.

Depends on System — fully automatic

The system chooses the most available power source — solar, battery, or grid — automatically. This is the "just make it work" option. It prioritises your own energy but will use the grid when needed, so it maximises convenience rather than savings.

Mode	Best for	Uses grid?
Surplus PV Only	Maximum savings — hot water from spare solar only. Recommended for most homes.	No (brief momentary imports possible with Battery Boost on)
Battery Level Control	Turning stored battery energy into hot water while protecting an evening reserve.	No
Depends on System	Guaranteed hot water with least thought.	Yes, when solar and battery are not enough

Whichever mode you choose, tap Save at the bottom of the screen. Changes take effect straight away.

7. Scheduling a Night-Time Boost from the Grid

If you are on a smart or night-rate electricity tariff, overnight units can cost a fraction of the daytime price. A night-time boost uses that cheap window to guarantee a hot cylinder every morning — regardless of how sunny yesterday was. It is especially useful in winter, when there is less surplus solar to divert.

Option A — Use "Ready by" (simplest)

At the top of the Schedule screen, next to "Schedule", you will see Ready by. Tap the "+" to add one, set the time you want hot water by (for example 07:00 for morning showers) and the days it applies to, then Save. The system heats the water in time for your deadline, using the grid only for whatever your solar and battery could not cover.

Option B — Add a dedicated night schedule

1. On the Immersion page, tap the pencil icon beside **Auto (Time-based)** to open the Schedule screen.
2. Tap the "+" beside **Schedule** at the top to create **Schedule 02**. Schedules run alongside each other, so your daytime Surplus PV Only schedule keeps working as normal.

3. Set the start and end times to match your cheap-rate window — for example **02:00–05:00** — and tick the days you want it (every day, or perhaps just winter weekdays).
4. If your daytime schedule was set to 00:00–24:00, shorten it so the two windows do not overlap (for example 05:00–24:00).
5. Under **Energy Source Control**, set the Energy Source Type for Schedule 02 to **Depends on System**. There is no solar at night, so the immersion will draw from the grid (and battery, if it has charge to spare) during this window.
6. Tap **Save**. The boost will run automatically each night within the window you set.

Match the window to your tariff

Check your electricity supplier's night-rate hours before setting the times — cheap windows vary by tariff (many Irish smart tariffs run roughly 02:00–05:00 or 23:00–08:00). Setting the boost inside that window means your morning hot water is heated at the cheapest possible rate. And remember: once the cylinder thermostat is satisfied, heating stops on its own, so a 3-hour window does not mean 3 hours of heating.

One thing to be aware of: in Depends on System mode the system may use battery charge as well as grid during the night window. If you would rather keep the battery for your home, keep the boost window short and late (e.g. 03:00–05:00) so the water heats just before the cheap rate ends, leaving less opportunity for battery drain.

8. Watching It Work

After saving your settings, go back to the System tab and watch the live picture. When the diverter switches the immersion on you will see, within a minute or so:

- HOME rise by the size of your immersion element — for example from 1.0 kW to around 3.6 kW.
- The Immersion tile (Device tab) change from 0.00 kW to its running power, e.g. 2.71 kW.
- SOLAR, SigenStor and GRID adjust to show where that power is coming from, depending on the mode you chose.

The Energy Usage figures on the Immersion page (Today / This Month / Lifetime) build up over time, so you can put a number on your free hot water at the end of each month.

9. Device Settings (Occasional Use)

Tap the "..." menu in the top-right of the Immersion page to open Smart Load Settings. You will rarely need this screen, but it is where you can:

- **Rename the device or change its Room** (e.g. "Hot Press" instead of "office") so it is easy to recognise.
- **Device Type** — set to "Hot Water" for an immersion. Leave as configured.

- **Minimum Running Time** — the shortest time the immersion stays on once started (default 1 minute). This prevents rapid on/off switching on flickery, partly-cloudy days, which is kinder to the heater.
- **Parameters** — technical details of your smart switch (type, serial number, channel). For reference only.

Please do not tap "Remove Smart Device"

This deletes the diverter from your system and it would need to be re-commissioned by your installer. If something seems wrong, contact SolarSmart instead.

10. Common Questions

The immersion isn't switching on — is something broken?

Usually not. In Surplus PV Only mode the immersion needs enough spare solar (your Starting Power, typically 3 kW) before it will start. On dull days, or when your home is already using most of the solar, there simply is no surplus to divert — that is the system working correctly, not a fault. Turn on Battery Boost, use Battery Level Control, or use a short Manual boost if you need hot water regardless.

The immersion switched on but the water didn't get hotter.

If the cylinder is already at the temperature set on its thermostat, the thermostat holds the heater off no matter what the diverter does. This is normal and safe.

Why does the Immersion tile say "Auto" but 0.00 kW?

"Auto" means automatic control is enabled; 0.00 kW simply means the conditions to run are not currently met (not enough surplus, battery below its threshold, or water already hot).

Will this interfere with my battery charging?

In Surplus PV Only mode with Battery Boost off, no — the immersion only uses solar that would otherwise be exported. With Battery Boost on, or in Battery Level Control mode, the battery deliberately contributes some of its charge to your hot water; the deactivation threshold makes sure a reserve is always kept.

Can I use it in winter?

Yes, though there is naturally less surplus solar. Many clients use Battery Level Control, the Ready by feature, or a night-time grid boost (Section 7) in winter, and Surplus PV Only from spring to autumn.

11. Recommended Settings at a Glance

Setting	Recommended value	Where
Control Mode	Auto (Time-based)	Immersion page
Schedule 01	00:00–24:00, all days	Schedule editor

Setting	Recommended value	Where
Energy Source Type	Surplus PV Only	Schedule editor > Energy Source Control
Starting Power	3.0 kW (match your element)	Schedule editor
Rated Power	3.0 kW (set at install — leave as is)	Schedule editor
Battery Boost	On for more hot water; Off for solar-only purity	Schedule editor
Battery Level Control thresholds	Activate 45% / Deactivate 15% (if using this mode)	Schedule editor
Night boost (optional)	Schedule 02, cheap-rate window (e.g. 02:00–05:00), Depends on System	Schedule editor
Minimum Running Time	1 minute	Smart Load Settings

Need Help?

If anything in the app looks wrong, or you would like us to tune the settings for your household's routine, contact the SolarSmart Energy team and we will be happy to help.

SolarSmart Energy Ltd