Smart Meter Compatibility Report

Iskraemeco AM550 (P1): protocol, readable data, configuration and limitations

Scope

This report describes how the Reduxi controller reads the Iskraemeco AM550 smart meter over the P1 interface: the protocol, the readable data, the configuration needed, the compatibility status and the known limitations.

The status reflects the meter drivers implemented in the current Reduxi controller software. It is a compatibility statement for this meter, not a log of individual bench measurements. On the first installation of this meter type, a short commissioning check is recommended: compare the power and energy values shown in Reduxi with the meter's own display.

Status levels

Status	Meaning
Supported, in use	The Reduxi controller reads this meter in installations today.
Protocol supported	The Reduxi controller supports the meter's protocol. The additional support needed before first use is listed per meter.

Summary

Brand	Model	Interface	Protocol	Status	Additional support needed
Iskraemeco	AM550	P1	DLMS/COSEM push (HDLC) or DSMR 5.0, depending on the DSO	Supported, in use	None

P1 meter

Protocol

The Iskraemeco AM550 sends a DSMR / IEC 62056-21 ASCII telegram on the P1 port. Reduxi reads the telegram between the / start and ! end characters and extracts values by OBIS code. Units are taken from the telegram (kW, kWh, kvar, kvarh, V, A) and normalised to W, Wh, var, varh. Encrypted P1 telegrams (as used in Luxembourg and parts of Austria) are decrypted when the block cipher key and authentication key are entered.

The Iskraemeco AM550 sends either the DSMR telegram or a DLMS/COSEM (HDLC) push, depending on the DSO firmware. The controller has readout profiles for both.

Readable data – P1 telegram

Value	OBIS code
Active energy import	1.8.0, or the sum of tariffs 1.8.1–1.8.4
Active energy export	2.8.0, or the sum of tariffs 2.8.1–2.8.4
Reactive energy import / export	3.8.0 / 4.8.0, or the sum of tariffs 3.8.1–3.8.4 / 4.8.1–4.8.4
Active power import / export	1.7.0 / 2.7.0 (fallback 1.4.0 / 2.4.0)
Reactive power import / export	3.7.0 / 4.7.0 (fallback 3.4.0 / 4.4.0, or quadrants 5.7.0+6.7.0 / 7.7.0+8.7.0)
Active power import per phase L1 / L2 / L3	21.7.0 / 41.7.0 / 61.7.0
Active power export per phase L1 / L2 / L3	22.7.0 / 42.7.0 / 62.7.0
Reactive power import per phase L1 / L2 / L3	23.7.0 / 43.7.0 / 63.7.0
Reactive power export per phase L1 / L2 / L3	24.7.0 / 44.7.0 / 64.7.0
Current L1 / L2 / L3	31.7.0 / 51.7.0 / 71.7.0
Voltage L1 / L2 / L3	32.7.0 / 52.7.0 / 72.7.0
Frequency	14.7.0

A value is shown only when the meter includes its OBIS code in the telegram.

Readable data – DLMS/COSEM push (selected markets only, depending on grid operator)

Active and reactive power import/export, active and reactive energy import/export, frequency, current and voltage per phase, and active power import/export per phase. The exact set depends on the push list configured in the meter by the grid operator.

Configuration requirements

- Physical connection: the meter's RJ12 P1 port, connected to the Reduxi controller through the Reduxi P1 Wi-Fi converter or a wired P1 serial cable.
- Serial settings: 115200 baud, 8 data bits, no parity, 1 stop bit (DSMR 4/5 default). Selectable in the device form.
- The P1 port must be enabled by the grid operator where it is closed by default (for example Fluvius in Belgium, or the operator in Luxembourg, which also issues the decryption key).
- Encrypted telegrams: enter the block cipher key and the authentication key in the device form.
- Polling: every 1 s. A telegram must arrive within 15 s, otherwise the reading is marked as failed. DSMR 5 meters send a telegram every second; DSMR 4 meters every 10 s.
- Sign convention: import and export are read as separate values; if the meter is installed in reverse, enable "Import/export invert" in the device settings.

Limitations

- Gas, water and heat sub-meters connected to the electricity meter (M-Bus channels in the P1 telegram) are not read.
- Tariff indicator, power-failure log, voltage sag/swell counters and text messages are not read.
- Values the meter does not publish cannot be shown; per-phase data depends on the meter model and grid-operator configuration.