Intuitech Connector Gas Meter for FIBARO: User Manual

Version 1.0.0 · Intuitech GmbH, Menden · smartshop.intuitech.de

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1. What the Connector does

You can only save what you measure. The Intuitech Connector Gas Meter brings the consumption of your gas meter into the FIBARO controller. A pulse sensor on the meter register reports every volume that flows through, a Shelly Plus Uni counts these pulses, and the Connector reads the count regularly. The controller then shows these devices (names in German):

Device	Content
Intuitech Connector Gaszähler	meter reading in m³
Gas heute	consumption since midnight in m³
Gas heute Energie	consumption since midnight in kWh
Gas gestern	consumption of the previous day in m³
Gas Leistung	current power in kW, 15-minute average
Gas Energie gesamt	meter reading in kWh, energy meter



2. Requirements

Controller	FIBARO Home Center 3, Home Center 3 Lite or Nice Yubii Home, firmware 5.220 or later
Gas meter	diaphragm meter with pulse magnet in the last drum, e.g. type plate "1 imp = 0.01 m³"
Pulse sensor	matching the meter, e.g. Honeywell (Elster) IN-Z61 for Honeywell meters with standard register
Field counter	Shelly Plus Uni (second generation), firmware 2.0 or later
Power supply	9 to 28 V DC or 8 to 24 V AC on VAC 1 and VAC 2, or stabilised 5 V on +5 VDC and GND
Network	2.4 GHz Wi-Fi at the meter location, Shelly and controller in the same network

The gas meter belongs to the grid operator. Do not open it and do not touch any seals. The pulse sensor is only plugged into the mount provided on the outside.

3. Wiring

The IN-Z61 has four wires, labelled on its housing: "I" is the pulse contact, "A" the alarm contact.

IN-Z61	Meaning	Shelly Plus Uni
green and brown (I)	pulse	one wire to COUNT IN, the other to GND
yellow and white (A)	tamper alarm	not used, insulate individually

The pulse contact is potential-free, the order of the two wires does not matter. Connect the power supply to VAC 1 and VAC 2, or to +5 VDC and GND. Insulate all unused Shelly wires individually.

4. Setting up the Shelly

1. Power it up. The Shelly opens its own Wi-Fi named "ShellyPlusUni-…".
2. Connect to it and open `http://192.168.33.1` in a browser.
3. Update the firmware.
4. Enter your Wi-Fi. Reserve a fixed address for the Shelly in your router.
5. Switch off the Shelly access point.
6. Set a device name, time zone and a password under Authentication. The manufacturer cloud is not required.
7. Test: while gas is flowing, input 2 (counter) increases in the Shelly web interface.

5. Installing the Connector

Step or variable	Entry
Import	Settings → Devices → + → Other device → Upload file → select the supplied `.fqax`; then open the device "Intuitech Connector Gaszähler", tab Variables
`Shelly_IP`	address of the Shelly
`Shelly_Pass`	Shelly password; taken over encrypted on the next poll, the variable is cleared afterwards
`Zaehlerstand_setzen`	current meter reading in m³, e.g. `3774.957`; taken over and cleared
`kWh_pro_m3`	calorific value times correction factor from your gas bill, e.g. `10.5`
`License_Key`	license key from your order

6. Aligning with the meter register

Deviations only occur if gas flowed while the Shelly had no power. Read the register from time to time; if it differs, enter the reading again in `Zaehlerstand_setzen`. The daily value does not jump. For a reading taken earlier, also enter the Shelly counter at that time in `Impulse_bei_Ablesung`.

7. Examples

Replace the placeholders with your device IDs (Settings → Devices, column ID). Prices and thresholds are example values.

Daily message with yesterday's consumption (Lua scene, trigger every day at 7:00):

```
local m3 = fibaro.getValue(ID_GAS_GESTERN, "value")
fibaro.alert("push", {ID_USER},
  string.format("Gas yesterday: %.2f m³, about %.0f kWh", m3, m3 * 10.5))
```

Heating running in summer (block scene): device "Gas Leistung" greater than 1 kW for 60 minutes and date between 1 June and 31 August, action push message.

High daily consumption (Lua scene, trigger: value change of "Gas heute"; create the global variable `GAS_WARNUNG` first):

```
local today = fibaro.getValue(ID_GAS_HEUTE, "value")
local day   = os.date("%Y-%m-%d")
if today > 8 and fibaro.getGlobalVariable("GAS_WARNUNG") ~= day then
  fibaro.setGlobalVariable("GAS_WARNUNG", day)
  fibaro.alert("push", {ID_USER}, string.format("High gas use today: %.2f m³", today))
end
```

Which heat source is cheaper right now (cost per kWh of heat: gas price divided by boiler efficiency, electricity price divided by the coefficient of performance):

```
local gas   = 12 / 0.90   -- gas price ct/kWh / boiler efficiency
local power = 35 / 3.0    -- electricity price ct/kWh / COP
fibaro.setGlobalVariable("WAERME_GUENSTIG", gas <= power and "GAS" or "STROM")
```

More examples (weekly balance, measuring the effect of a change) are in the German manual.

8. Behaviour on faults

Event	Result
Wi-Fi drops	the Shelly keeps counting, the Connector catches up on the next poll; polling interval grows up to 5 minutes
Controller restarts	nothing is lost
Shelly restarts	its counter starts at zero, the Connector detects this and continues
Gas flowed while the Shelly had no power	this volume is missing, align once (section 6)

9. Messages

Log message	Action
`Zaehlerstand_setzen eintragen`	enter the meter reading
`Passwort fehlt` / `Passwort abgelehnt`	enter the Shelly password in `Shelly_Pass`
`HTTP …` or timeout	check `Shelly_IP` and Wi-Fi reception
`Keine Lizenz`	enter the license key; the controller serial number is shown in the log

10. License and trial

Without a license key the Connector works fully for 14 days. Afterwards polling pauses, the last values remain, and the Shelly keeps counting; after entering the key the Connector catches up. The license is valid for one controller and bound to its serial number.

11. Support

Questions and orders: smartshop.intuitech.de. Please state the serial number of your controller and the Connector version.