# GSM Automatic Dialer

Model: FBXAD02/GSM

## Technical Product Specification Document




FORBIX SEMICON® presents a wireless panic-button automatic dialer. A remote button press sends SMS alerts and missed calls to the configured phone list. The system is suitable for hospitals (Code Blue), factories, offices and care homes.

Complete wireless operation: Remotes communicate by radio. The dialer uses a SIM card for SMS and calling over the mobile network.

Smart and configurable: Phone numbers, SMS text, missed-call options and WiFi are set from a browser page. The unit can run its own hotspot or join an existing WiFi network.

Professional and reliable: RF remotes with GSM alerting, designed and supported by FORBIX SEMICON®.

## Components included in the set

**The FBXAD02/GSM system typically includes the following:**

- 1 x GSM Automatic Dialer unit (SIM slot, RF antenna, GSM antenna, status LEDs)
- Wireless patient / panic remotes (RF5xx family; up to 20 in standard firmware)
- 1 x Regulated AC power supply adapter
- A23 batteries for remotes (as supplied with remotes)
- Web configuration over WiFi (FORBIX-GSM hotspot or existing network)

## Technical Data

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**GSM Automatic Dialer, FBXAD02/GSM : Technical Product Document**

**Product designed and manufactured by FORBIX SEMICON®**

# GSM Automatic Dialer - Features

Model: FBXAD02/GSM




**Features:**

- Wireless remotes trigger alerts over the mobile network.
- One button press can notify many phones at the same time.
- Supports SMS alerts and missed-call alerts.
- Up to 20 wireless remotes in the standard build.
- Up to 15 phone numbers in the auto-calling list.
- Each number can enable SMS, missed call, or both.
- Configurable SMS text for Call, Maintenance and Cancel.
- Configurable remote name word (for example Remote or R).
- Can create its own WiFi hotspot for setup.
- Can join an existing office or hospital WiFi network.
- Browser-based settings - no special software required.
- Local alert outputs for Call, Maintenance and shared status.
- Built-in test page for SMS and missed-call checks.

**On a remote button press:**

- Top button starts a Call / Code Blue style alert.
- Center button starts a Maintenance alert.
- Bottom button sends a problem-resolved Cancel SMS.
- Selected phones receive the configured SMS text.
- Selected phones then receive a short missed call.
- The SMS identifies which remote was pressed.
- Call and Maintenance also switch on local outputs.
- Outputs remain on until a Cancel is received.

**Phone book and messages:**

- Store up to 15 numbers with country code if needed.
- Tick SMS and/or Missed call for each contact.
- CALL prefix example: Alert or Code Blue.
- MAINT prefix example: Maintenance Alert.
- CANCEL prefix example: Problem resolved.
- Remote labels become Remote 1, Remote 2, and so on.
- Settings remain stored after power loss.
- Factory reset clears phones, WiFi and message text.

**Timing and alert order:**

- Missed-call ring time is adjustable (default 12 seconds).
- Repeat presses of the same button can be ignored for a set time.
- Short radio repeats can be filtered (default 3 seconds).
- Default order: SMS then missed call for each number.
- Optional SMS-first mode: all SMS, then all missed calls.

**Applications:**

- Hospitals and clinics - Code Blue escalation.
- Factories and plants - safety and machine panic alerts.
- Offices and warehouses - help and security buttons.
- Elderly care homes and guest houses.
- Any site that needs fast multi-person phone alerts.

# How to Use and WiFi Connection

Hotspot setup and joining an existing network

**First-time setup (hotspot mode):**

- Insert a valid 2G-capable SIM with SMS and voice service.
- Power on the dialer and wait for network registration.
- On a phone or laptop, open WiFi settings.
- Connect to the network named FORBIX-GSM.
- Default password: 12345678.
- Status may show No internet, secured - this is normal.
- Open a browser and go to http://192.168.4.1
- Open Settings and add phone numbers (up to 15).
- Enable SMS and/or Missed call for each number.
- Set SMS prefixes and remote name word if required.
- Save settings. Use Testing to verify SMS and calls.

**Daily operation:**

- Top button = Call / Code Blue alert.
- Center button = Maintenance alert.
- Bottom button = Cancel / problem resolved (SMS only).
- Staff receive SMS and short missed calls as configured.
- Use Home page to check SIM, signal and active alerts.

**Connect to an existing WiFi network:**

- First join FORBIX-GSM and open Settings in a browser.
- In the WiFi section, enter the office WiFi SSID.
- Enter the office WiFi password.
- Select Join WiFi network (SSID above).
- Press Save all settings and restart.
- The dialer restarts and joins the existing network.
- Connect your PC or phone to the same office WiFi.
- Open http://forbix-gsm.local in the browser.
- Settings and Testing pages work on the LAN.
- Hotspot mode can be selected again later if needed.

**What hotspot vs existing WiFi means:**

- Hotspot: dialer creates FORBIX-GSM for direct setup.
- Existing WiFi: dialer joins hospital or office network.
- Existing WiFi allows access from many devices on LAN.
- Calling and SMS still use the SIM - not WiFi internet.

**Good practice:**

- Confirm Home page signal is Fair or better.
- Keep the GSM antenna clear of metal panels.
- Test at least one SMS and one missed call after install.

# Device, Indicators and Dimensions

Model: FBXAD02/GSM




**Front panel indicators:**

- POWER - unit power is on.
- SYNC - wireless remote signal received.
- NETWORK - mobile network / SIM status.
- CALL - Call / Code Blue output active.
- MAINT - Maintenance output active.
- CALL&MAINT - shared alert output active.

**Hardware notes:**

- SIM slot on the side of the enclosure.
- Telescopic antenna for RF remote reception.
- Stubby antenna for GSM mobile network.
- WiFi for configuration (hotspot or STA).
- Alert outputs available for lamps or buzzers.

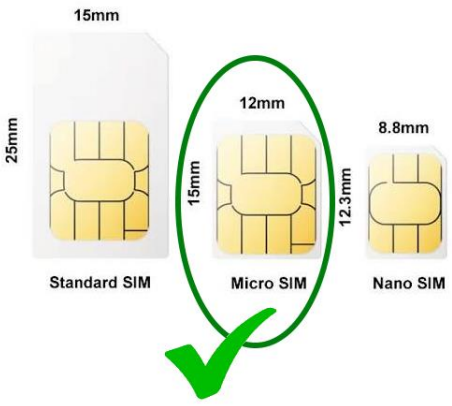
## Dimensions

**Mechanical dimensions:**

- Enclosure type: ABS plastic
- Box size (H x W x D): 195 x 150 x 75 mm
- Unit weight: 245 gms
- Mounting: wall (keyholes on back cover) / table
- Front panel screws: 4 corners

**Antenna and connectors:**

- RF telescopic antenna length (extended): 180 mm
- GSM stub antenna length: 50 mm (total)
  40mm antenna + 10mm SMA connector
- SIM card type: Micro SIM (picture below)
- Power input: 12 VDC (via 110-2220VAC/2Amps Adapter)



# Remote Controller Trigger Button

## Model: FBX521



**Features:**
3 buttons
RED light indicator, glows when any button is pressed
Top button (ON) => send ON/CALL signal to the receiver
Bottom button (OFF) => send OFF/CANCEL signal
Center button (optional), function of which can be altered as per application requirement

**Technical details:**
Transmitter PA +10dbm
Operating frequency: 315 – 480 MHz
System operates works on signal hop mechanism. Signal transmission happens at more than 12-15 predefined frequencies
Modulation type: GFSK
Radio IC: CC1100 (Chipcon/TI) sub-GHz frequency
Data packet error correction mechanism: FEC

**Precautions and mounting locations:**
Remotes can be hand operated or mounted on the a door / wall / bed / table or any flat surface
Easy mounting of remote jacket with 2 screws
For indoor purpose use only
Keep away from metallic enclosures
Do not connect the battery in opposite direction

**Range of communication:**
30-40 meters indoors (depending on environmental condition)
100-150 meters outdoors (in open line of sight)
Pressing the button for at least 2-3 seconds improves the range of communication

**Mechanical:**
Enclosure type: ABS plastic (color white)
Remote controller size:120 x 40 x 20 mm
Remote controller weight: 45 gms

**Environmental Requirement:**
Operating Temperature: 0°C to 40°C
Storage Temperature: 5°C to 25°C
Relative Humidity: 5% (0°C) ~ 95% (40°C) RH

**Battery and operating voltage:**
12 Volt (DC battery)
Battery model: 23A
Battery type: Alkaline (dry)
Battery replaceable: Yes
Battery rechargeable: No
Battery mounting: Back cover
Battery life: 3-4years, depending on the usage

**RF antenna:**
PCB trace antenna / wire coil antenna / metal antenna (depends on environment necessity

**Mounting provisions:**
Remote controller can be carried in hand or mounted on the wall using a jacket provided along with the package

**Application and features:**
Nurse call system for hospitals: remote with patients
Steam bath sauna rooms / spas / restaurants etc.
OPD token system for dispensaries: remote with doctors
Office peon calling system: remote with clerk / manager
Guest house attendant call unit: remote with customers in room

# Regulated AC Power Supply Adapter

## Model: FBXADP12V2A



**Important Note:**
*This product (Model: FBXADP12V2A 12V 2A Power Supply Adapter) is sourced from a qualified vendor. FORBIX SEMICON® performs quality verification at the batch level to ensure baseline specifications are met prior to distribution. However, as a non-manufactured part, this adapter is expressly excluded from the standard FORBIX SEMICON® product warranty.*

**Environmental Requirement:**
Operating Temperature: 0°C to 40°C
Storage Temperature: 5°C to 25°C
Relative Humidity: 5% (0°C) ~ 95% (40°C) RH

**Mechanical**:
Enclosure: 80mm (L) × 50mm (W) × 30mm (H) Input Connector : 2 Pin Input plug
Out Cord: UL1185 18AWG VW-1 80° 300V, FT1 Line with word on the cord Length: 0.6m - 1.2m
DC Plug : 5.5mm × 2.1mm × 12mm

**Input Characteristics:**
Rated Voltage: 100 – 240V AC Variation
Range: 90 – 264V AC
Rated Frequency: 50/60Hz
Variation Frequency: 47 – 63Hz
Input Current: 0.6A Max. @ Any input AC voltage & output full load
Inrush Current: 35A Max. Cold start @ 240V AC input, rated output load & 25°C ambient
AC Leakage Current: 0.25mA Max. @ 240V AC input

**Output Characteristics:**
Voltage: 12V
Min. Load: 0.01A
Rated Load: 2A
Output Power: 24W

**Combined Load / Line Regulation:**
Voltage: 12V
Min. Load: 0.01A
Rated Load: 2A
Line Regulation: ± 1%
Load Regulation: ± 3%

Ripple and Noise :
Under normal voltage & nominal load, the ripple & noise are as follows when measure with Max. Bandwidth of 20MHz & parallel 10µF electrolysis capacitor & 0.1µF ceramic capacitor crossed connect at testing point.
Ripple & Noise (Max.): 120mVp-p

Turn on Delay Time: 2S Max. @ 115V AC input and output Max. Load
Rise Time: 40ms Max. @ 115V AC input and output Max. Load
Hold Up Time: 5msec Min. @ 115V AC input and output Max.
Load Efficiency: Average efficiency 87.4% minimum @ 25%, 50%, 75% & 100% of full-loading and 230V AC input (After warm up 30 minutes).

# Remote Controller Battery

## Model: A23




Battery type: Alkaline
Composition: Manganese Dioxide (mercury free) Battery model: A23
Chemical System: Zn / KOH-H2O / MnO2 Conditions

Nominal voltage: 12 V
Open circuit voltage: 12.3...12.9 V
New battery 12.2...12.9 V
Voltage drop 10.8…10.5 V after 1 year storage at 20°C all measurements at 22 ± 2°C ambient

Capacity rated: 50 mAh discharge under 10kΩ load 24hours/day

End Voltage (EV): 6.0V minimum: 47 mAh discharge under 10kΩ load; 24hours/day

End Voltage (EV): 6.0V Standard discharge time nominal: 55 h at 10kΩ load new battery

EV: 6.0V MAD: (minimum average 50 h at 10kΩ load after 12 months storage at 20°C duration)

EV: 6.0V 52 h at 10kΩ load for IQC measurement EV: 6.0V (tested within 30 days after delivery)

Discharge currents standard: 0.05 mA max. recommended current under continuous discharge: 0.5 mA max. recommended current under pulse discharge: 15 mA

**Important Note:**
*This product (Model: A23 12V Alkaline Balttery) is sourced from a qualified vendor. FORBIX SEMICON® performs quality verification at the batch level to ensure baseline specifications are met prior to distribution. However, as a non-manufactured part, this adapter is expressly excluded from the standard FORBIX SEMICON® product warranty.*

**Environmental Requirement:**
Operating Temperature: 0°C to 40°C
Storage Temperature : 5°C to 55°C
Relative Humidity : 5% (0°C) ~ 95% (35°C) RH
≥90 % remaining capacity after 12 months storage
Storage should not be more than Max. 3 yrs.

**Mechanical**:
Unit Weight: 7.9 gms
Height: 27.70 – 28.50 mm
Diameter: 9.90 – 10.6 mm
Positive Terminal Head Diameter: 5.2 – 5.8 mm

# WiFi Connection for Setup

Join the dialer hotspot from a computer or phone




- Default hotspot name: **FORBIX-GSM**
- Default password: **12345678**
- No internet, secured is normal during local setup.

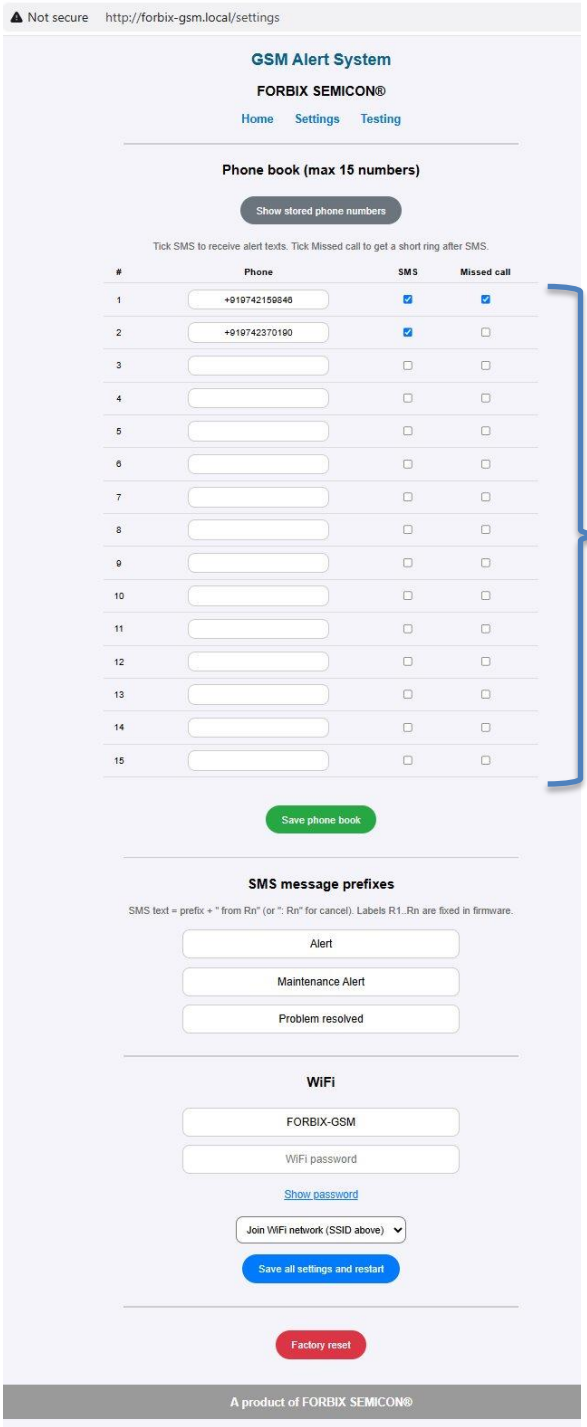
- Open **http://192.168.4.1** after connecting to **FORBIX-GSM**

- Joining an existing LAN / WiFi network use **http://forbix-gsm.local**

- **Note:** Calling and SMS still use the SIM card, not WiFi data.

# Web Settings - Phone Book

Add numbers and select SMS / missed call options



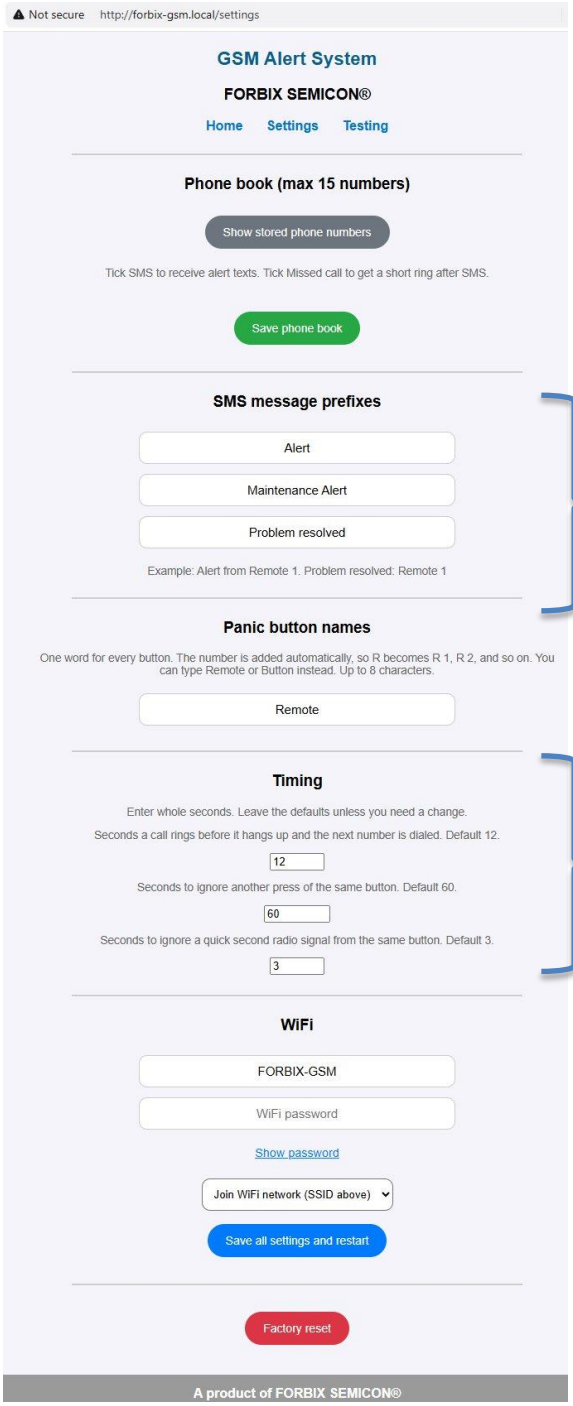

url: http://forbix-gsm.local/settings

- Open Settings, then Show stored phone numbers.
- Enter up to 15 numbers in the phone book.
- Tick SMS and/or Missed call for each contact.
- Press Save phone book to store the list in memory.

Enter Phone Numbers & Preferences

# Web Settings - Messages and WiFi

Configure SMS text, timing and network mode




- Edit CALL, MAINT and CANCEL message prefixes.
- Set the remote name word (Remote, Button, R, ...).
- Adjust ring time and ignore timers if required.
- Choose hotspot mode or join an existing WiFi network.
- Save all settings and restart to apply WiFi changes.

Set SMS format

On press of top button from Remote number 1:

SMS: ***Alert from R1***

On press of centre button from Remote number 5:

SMS: ***Maintenance Alert from R5***

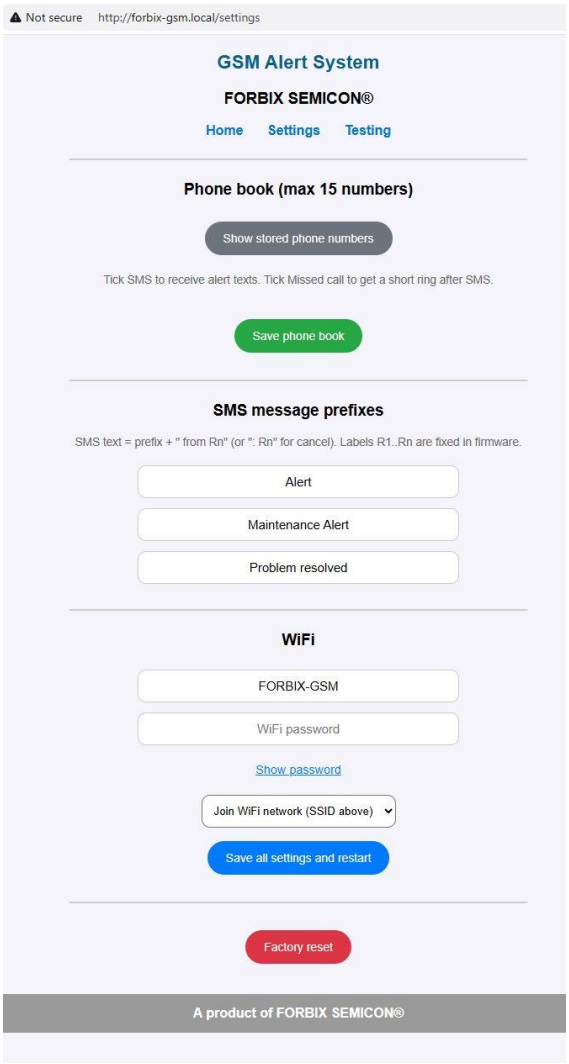
On press of bottom button from Remote number 8:

SMS: ***Problem resolved R8***

**DO NOT Alter these settings**

# Home Status Page

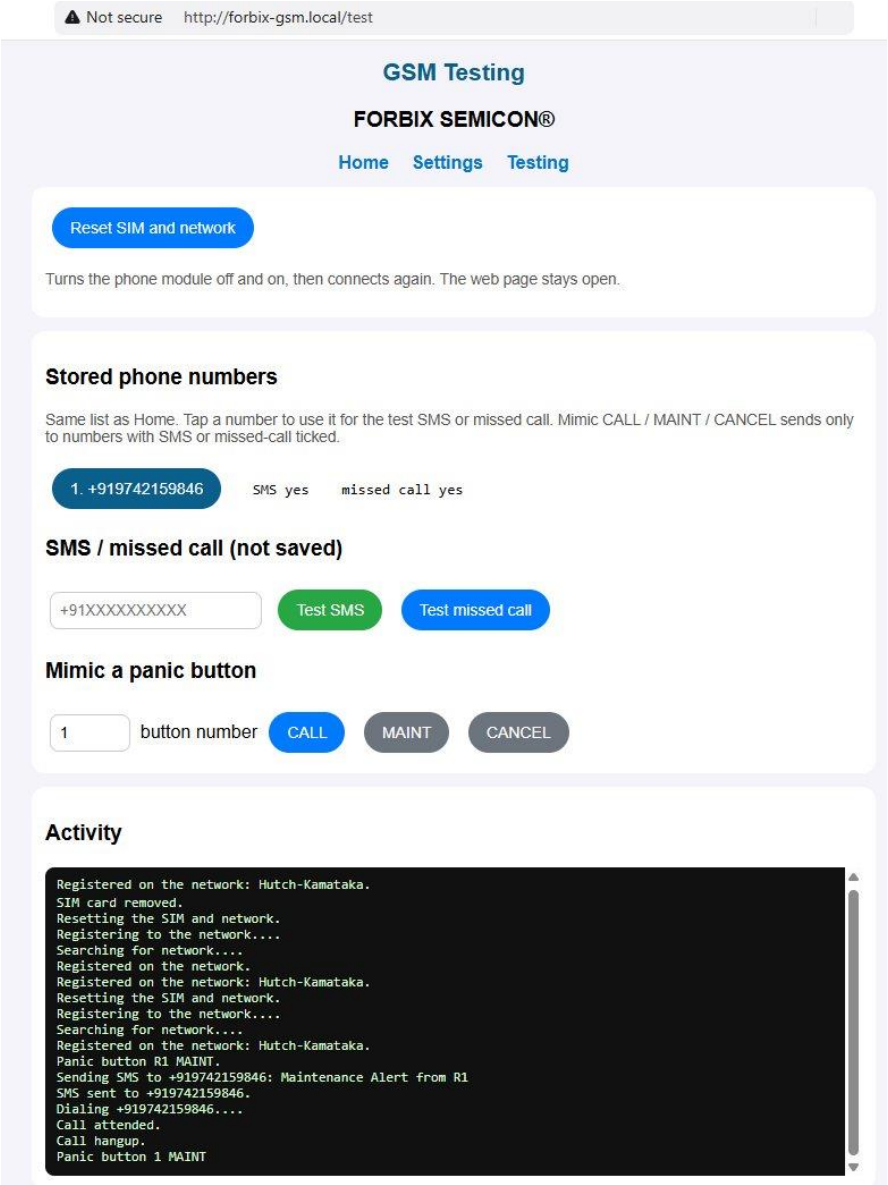
Monitor SIM, network registration and signal




- Shows whether the SIM card is present.
- Shows network registration and operator name.
- Shows signal strength - keep Fair or better.
- Shows active remotes and alert output state.
- Use Show stored phone numbers for a quick list check.

# Testing Page

Verify SMS, missed calls and mimic a remote press




- Reset SIM and network if registration fails.
- Send a test SMS or missed call to any number.
- Mimic CALL, MAINT or CANCEL for a remote number.
- Live activity log shows SMS text and dialing steps.
- Complete these checks after install before live use.

## Revision History

| Version | Changes | Time | Verified | Approved |
|---|---|---|---|---|
| v1.0 | Initial Release Copy | Nov 2026 | Yes | - |

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