MUNI MP342 CaliCase 4-Bay Docking Station User Guide

Contents

MUNI

MUNI MP342 CaliCase 4-Bay Docking Station

Specifications

- Product Name: MP342 MUNI 4-Bay CaliCase
- Features: Internal rechargeable batteries, USB disk storage, portable design
- Power Supply: AC 110~240V
- Charging Time: Approximately 3 hours
- Bump Test Capacity: Up to 1500 unit tests

Product Usage Instructions

1. General Information
The MP342 is the MUNI Calibration and Bump Test CaliCase. Records of calibrations and bump tests are stored in its USB disk. The CaliCase includes internal rechargeable batteries and is portable for remote use.

2. Description
The MP342 Component Diagram includes various components like a cradle, LED indicators, buttons, ports, pressure gauges, and more. LED Indications provide information on different statuses indicated by the LEDs.

3. Installation and Set Up

3.1 Charging
Locate the charging port on the right side of the CaliCase. Connect the DC adapter to an AC 110~240V power supply for charging. A full charge takes approximately 3 hours and lasts for up to 1500 unit bump tests.

3.2 Gas Connections
Follow the manufacturer's instructions for gas connections.

3.**3 Power On/Off**
To power on/off, press and hold the Cal button for about 3 seconds.

3.4 Initial CaliCase UDisk and Software Set-Up

Before performing bumps or calibrations, configure the CaliCase to match sensor types on the MUNIs to be tested. Enter calibration gas concentrations and expiration dates. The CaliCase and UDisk must be set up with calibration gas values. Ensure the UDisk is inserted in Port [14] for proper operation.

FAQ

Q: What should I do if the unit LED blinks green slowly?
A: The slow green blinking indicates a low battery. Connect the unit for charging.

Q: How long does a full charge last?
A: A full charge lasts for up to 1500 unit bump tests.

Q: Can I use a different UDisk with the CaliCase?
A: No, only the UDisk provided by mPower will function correctly with the MP342.

Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced by the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

CAUTION

- USE ONLY IN AREAS KNOWN TO BE NON-HAZARDOUS.
- USE OF NON-mPOWER COMPONENTS WILL VOID THE WARRANTY AND CAN COMPROMISE THE SAFE PERFORMANCE OF THIS PRODUCT

General Information

MP342 is the MUNI Calibration and Bump Test CaliCase. All records of calibrations and bump tests performed on the CaliCase are stored in its USB disk. The CaliCase includes internal rechargeable batteries and is portable for remote use. CaliCase comes with the following standard features

- Ability to bump test, calibrate, set configurations, and upgrade firmware for MUNI
- 1 to 4 MUNIs can be tested at once.
- Rechargeable internal battery, up to 1500 bump tests before recharging
- USB flash for bump test and event log storage for up to 1 million bump tests
- 1 Internal gas cylinder plus 2 inlets: one for extra gas, one for fresh air
- 2 Buttons: one for calibration, one for bump test

This Manual describes only the operation of the MUNI 4-Bay CaliCase docking station and it is assumed that the operator is already familiar with the MUNI User's Guide, including simple maintenance, firmware configurations, and mPower Suite software operations.

Description

P342 Component Diagram

An exploded view of the MP342 main components is shown below.

1	Unit Cradle & LED x 4
2	Status LED
3	CAL Button
4	BUMP Button
5	USB Data Line Port
6	Air Inlet
7	Charging Port
8	Exhaust Port
9	Gas Inlet 2
10	Pressure Gauge
11	Thumb Screw x 2
12	Demand-flow Regulator
13	Gas Inlet 1 (C-10 fitting)
14	USB UDisk Port

LED Indications

The interpretations of the various LED indicators are listed below.

LED	**Color**	**Description**
	Green	Power on

Status LED	Green blinking	Low battery
	Orange	Charging
	Red blinking	1) USB Disk error 2) Date/time error 3) No pump detected
	None	Power off
Unit LED	Green blinking fast	Cal/bump testing
	Green blinking slow	Unit firmware upgrading
	Orange	Sensor type mismatch
	Green	1) Cal/bump test pass 2) Unit firmware upgrade pass
	Red	1) Cal/bump test fail 2) Unit firmware upgrade fail
All LEDs	Orange blinking	CaliCase firmware upgrading
	Orange	CaliCase firmware upgrade aborted
	Orange	Charging
	Red blinking	1) USB Disk error 2) Date/time error 3) No pump detected
	None	Power off
Unit LED	Green blinking fast	Cal/bump testing
	Green blinking slow	Unit firmware upgrading
	Orange	Sensor type mismatch
	Green	1) Cal/bump test pass 2) Unit firmware upgrade pass
	Red	1) Cal/bump test fail 2) Unit firmware upgrade fail
All LEDs	Orange blinking	CaliCase firmware upgrading
	Orange	CaliCase firmware upgrade aborted

Installation and Set Up

Charging
The charging port is located on the right side of the CaliCase. Connect the DC adapter to an AC 110~240V power supply (wall outlet). A full charge takes approximately 3 hours and lasts for up to 1500 unit bump tests.

Gas Connections

Thread the main gas cylinder into the internal demand-flow regulator (DFR) **[12]** C10 inlet fitting **[13]**. Once tightly connected, the gauge **[10]** will indicate the cylinder gas pressure. If needed, a second gas can be connected to a hose-barb port **[9]** using a separate DFR. We recommend that any soft tubing (e.g., Tygon) used for port **[9]** be kept as short as possible to minimize potential loss of calibration gas. The MP342 CaliCase is compatible with all the gases for sensors offered with the MUNI monitors.

Power On/Off
Press and hold the Cal/button for about 3 seconds.

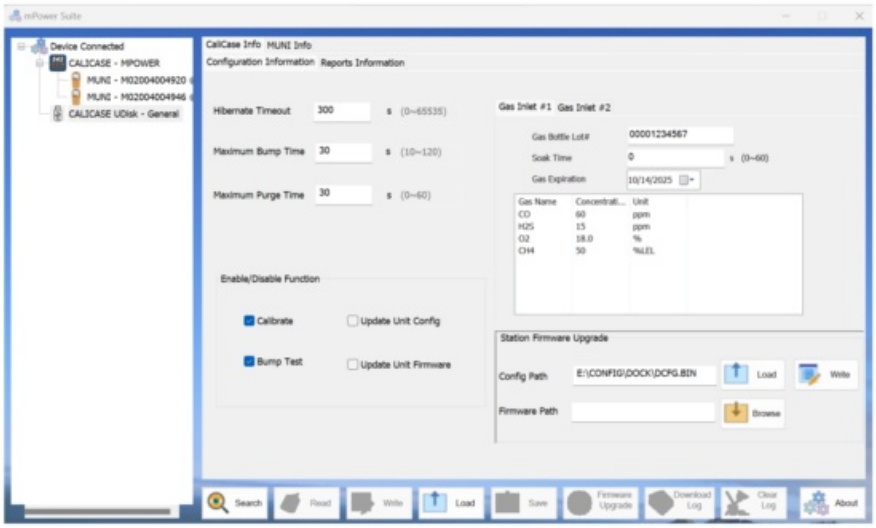
Initial CaliCase UDisk and Software Set Up
Before the first bump or calibrations can be performed, the CaliCase must be configured to match the sensor types on the MUNIs to be tested and enter the calibration gas concentrations and expiration date(s). The calibration gas is set up on both the CaliCase itself and the removable UDisk thumb drive. (The MUNI span concentrations do not need to match the CaliCase and UDisk values)

IMPORTANT!! The MP342 will not operate properly without the UDisk inserted in Port [14]!! Only the UDisk provided by mPower will function correctly.

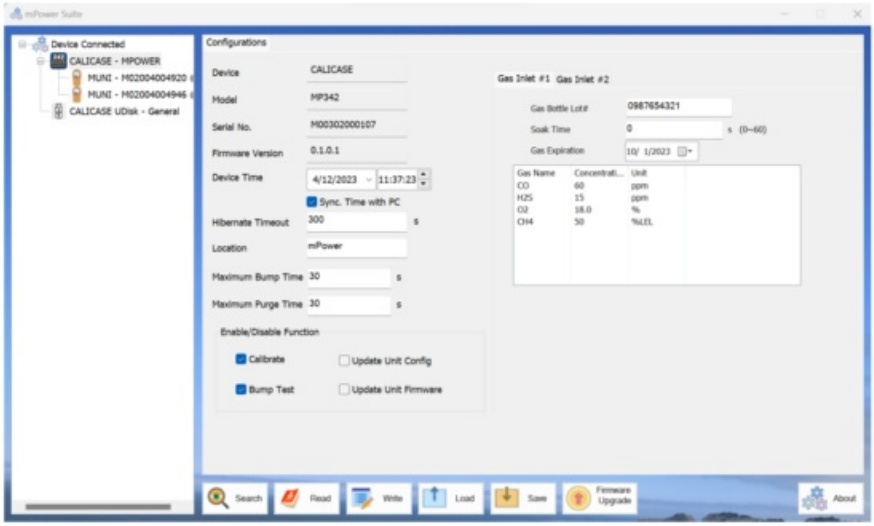
Connect the CaliCase to a PC using the Type A male-to-male USB cable at port **[5]**. Insert the UDisk into a USB port on the computer. Use mPower Suite software to configure the gas concentrations and other parameters. Download mPower Suite at **Software Downloads | mPower Electronics Inc. (mpowerinc.com).** Also, it is best to have the latest firmware installed in both the CaliCase and MUNI, as earlier firmware versions may not be fully compatible with each other.

Procedure

1. Launch the mPower Suite
2. Click the Search button at the CaliCase, MUNIs, and UDisk should appear listed in the left panel.
3. Click on the UDisk icon to open the CaliCase Info window and enter the calibration gas names, concentrations, and units. Make sure that the gas types match those of the MUNI sensors.
4. Enter the gas cylinder lot number and expiration date, making sure that the expiration date is past the current date (but not more than 3 years from the current date). Be sure to enter an expiration date for Gas #2 even if no Gas #2 is used.
5. Click the “Write” button on the lower right to send the information to the
6. Click on the MUNI Info tab and click “Write” in the middle of the No parameter changes need to be made here.



7. Click on the CaliCase icon in the left panel to open its Configuration
8. Enter other parameters and functions as listed below and click “Write” on the bottom



1. **Soak time** – The time allowed for flushing the gas tubing before CAL/BUMP Can be set from 0-60 seconds. The default is 0 seconds.
2. **Gas Inlet#1** – Set gas cylinder parameters of inlet 1 (Internal gas inlet)
3. **Gas Inlet#2** – Set gas cylinder parameters of inlet 2 (External gas inlet)
4. **Firmware Upgrade** – Select a computer file to upgrade the CaliCase Obtain the latest firmware at Software Downloads | mPower Electronics Inc. (mpowerinc.com) .
5. **Hibernate Timeout** – The CaliCase automatically turns Default is 300 seconds.
6. **Maximum Bump time** – The maximum time allowed for a Bump Can be set from 10-120 seconds. The default is 30 seconds.
7. **Maximum Purge time** – The maximum time allowed for clearing the gas tubing after CAL/BUMP. Can be set from 0-60 seconds. The default is 30 seconds.
8. **Calibrate** – If not selected, the calibration function will be
9. **Bump test** – If not selected, the bump test function will be
10. **Update Unit Config** – If selected, the CaliCase will update the MUNI configuration when pressing the CAL or BUMP button (see Section 5.2).
11. **Update Unit Firmware** – If selected, the CaliCase will update the MUNI firmware when long pressing the BUMP The MUNI firmware must first be downloaded to the computer and the file path selected on the UDisk MUNI Info tab (see Section 5.2). Note that MP342 is only compatible with MUNI firmware version 1.0.9 or later.

9. Turn off the CaliCase by holding down the Cal Insert the UDisk into Port **[14]** and then turn on the CaliCase to automatically load the UDisk parameters onto the CaliCase.

Calibration Parameter Priority

When a calibration is initiated, the CaliCase uses the parameters stored in the CaliCase itself and overrides the values stored in the MUNI configuration. Therefore, the MUNI span concentrations do not need to match the CaliCase and UDisk values. Each time the CaliCase is turned on, the calibration parameters automatically get loaded from the UDisk onto the CaliCase and override the existing CaliCase parameters. Therefore, if new values are programmed onto the UDisk via PC and inserted into the CaliCase, the CaliCase must be turned off and back on for those UDisk values to take effect. After the first setup, it is not necessary to re-configure the CaliCase directly. The direct CaliCase procedures listed above are only needed for a few items such as the Location name and syncing the device time and date.

Calibration and Bump Test Procedures

Calibration

1. Turn on 1-4 MUNI instrument(s) and place them face-down into their cradle(s).
2. If the Status LED **[2]** is off, turn on the CaliCase by pressing and holding the CAL button **[3]** until the Status LED turns green.
3. Press the CAL button **[3]** to initiate The Unit LED(s) **[1]** should blink green for about 60 to 100 seconds and then stay GREEN if passed or RED if failed.
4. A Calibration Report will be saved on the
5. To abort a calibration, press and hold the BUMP button **[4]** until the Unit LED(s) turn
6. To power off, press CAL for about 4 seconds until the Status LED turns

Bump Test

1. Turn on 1-4 MUNI instrument(s) and place them face-down into their cradle(s).
2. If the Status LED **[2]** is off, turn on the CaliCase by pressing and holding the CAL button **[3]** until the Status LED turns green.
3. Press the BUMP button **[4]** to initiate a The buzzer will be tested and the Unit LED will blink green for about 30 seconds and then stay GREEN if passed or RED if failed.
4. A Bump Test Report will be saved on the
5. To abort a calibration, press and hold the BUMP button **[4]** until the Unit LED(s) turn
6. To power off, press CAL for about 4 seconds until the Status LED turns

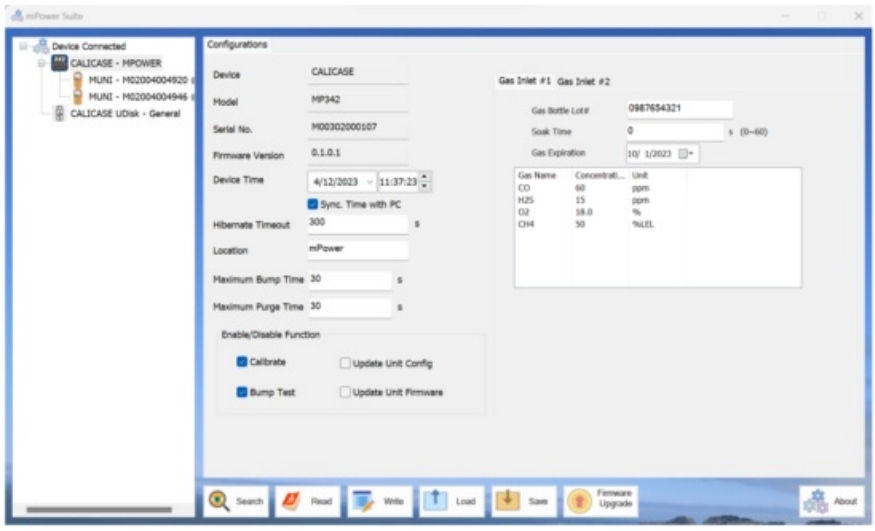
Additional Operations

Manual MUNI Configurations

The CaliCase can be used to manually set individual MUNI configurations for field measurements. See the MUNI Manual for more information on each of the parameters including firmware upgrades.

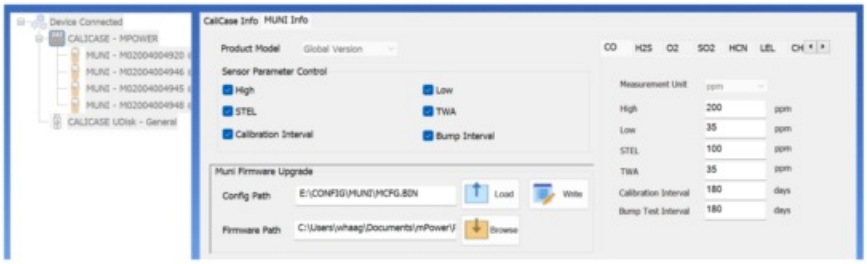
1. Turn on 1-4 MUNI instrument(s) and place them face-down into their cradle(s).
2. Open mPower Suite and click “Search” on the bottom
3. Select the MUNI from the list that appears on the left

4. Adjust any configuration parameters desired and click “Write” at the bottom

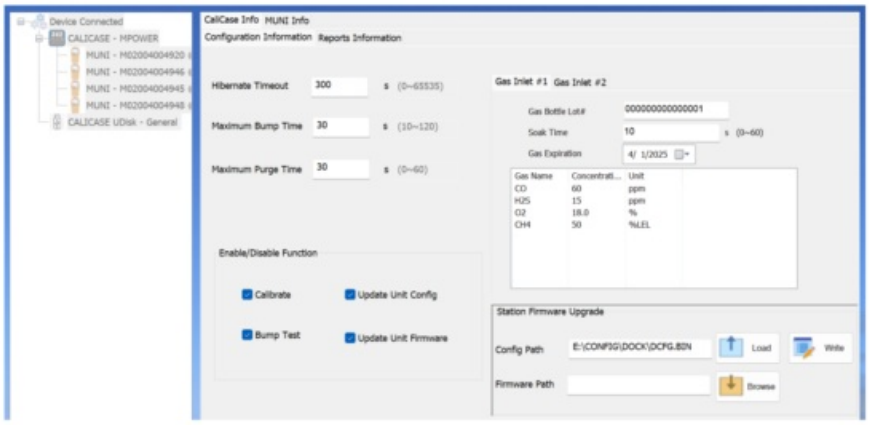


Automated Multiple Configuration and/or Firmware Updates

The CaliCase can be used to simultaneously update 1-4 MUNI configurations and/or firmware. To do so, the path to a saved configuration and/or firmware must be entered into the UDisk MUNI Info tab.



1. Insert the UDisk into the PC, Open mPower Suite, click “Search” and click on the UDisk in the left panel.
2. Click “Load” to read a previously saved MUNI configuration template from the
3. Make any parameter changes
4. For firmware updates, browse the computer to select the firmware path
5. Click “Write” on the middle panel to save the MUNI configuration template and firmware to the UDisk.
6. Click on the CaliCase Info Tab and make sure that the Update Unit Config and/or Update Unit Firmware boxes are checked. If desired, also enter CaliCase Station Config and Firmware Paths. Click on Write in the Station Firmware Upgrade box.
7. Insert the UDisk memory back to the CaliCase while it is Then power it on to transfer the UDisk information to the CaliCase. If a CaliCase firmware path is entered, it will update itself automatically.
8. Turn on 1-4 MUNI instrument(s) and place them face-down into their cradle(s).
9. The configuration of all the MUNIs will be automatically updated when a Calibration or Bump Test is initiated.
10. Long press the BUMP button and the CaliCase will check and upgrade the firmware on all MUNI units.

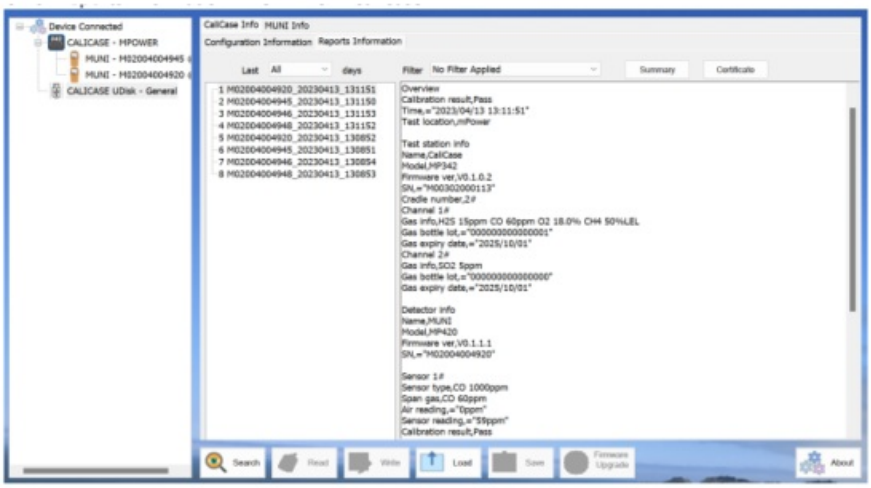


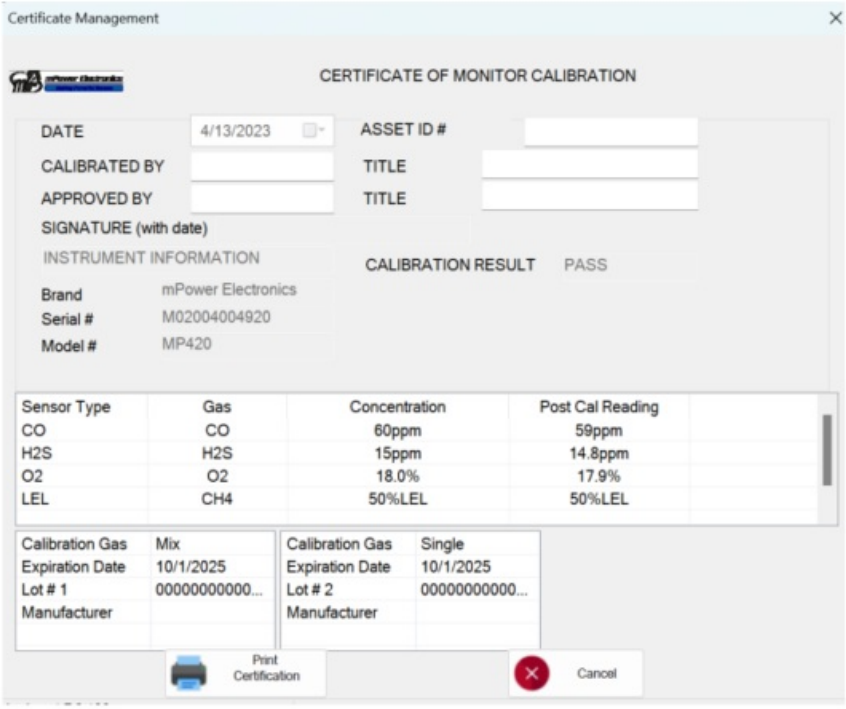
NOTES:

1. If the CaliCase has a low battery charge (Status LED is flashing in GREEN), the CaliCase will skip the firmware upgrade when it is powered on, to avoid the risk of firmware corruption.
2. The UDisk must be inserted back into the CaliCase before powering it

Bump/Calibration Results Download & Certificate

1. Remove the UDisk from the MP342 MUNI CaliCase and insert it into a Using mPower Suite, select the UDisk when it appears in the left panel after several seconds.
2. Select the tabs for CaliCase Info and Reports If desired, choose a Filter and/or Last number of Days to limit the types of Calibration or Bump events shown.
3. Select a Cal/Bump event in the middle The right panel shows the event overview followed by the detailed results for each sensor.
4. Click on Summary for a list of filtered event results in tabular
5. Click on Certificate to complete and print a calibration





UDisk Reports Information MP342 MUNI CaliCase

Replacement Parts

Description	Part Number	List Price*
USB cable, docking stations to computer, Length 50 cm	M410-0002-001	$25.00
UDisk, 16G, for MP342 MUNI CaliCase	M490-0145-001	$22.00
Demand Flow Regulator, Micro, for CaliCase	M490-0081-000	$349.00

These prices are for reference and may change at any time. Please refer to the latest version of the mPower List Price Guide or contact mPower for a quotation.

UDisk


USB Cable

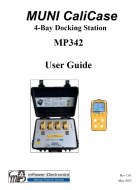
Disposal

Proper Product Disposal at the End of Life
The Waste Electrical and Electronic Equipment (WEEE) directive (2002/96/EC) is intended to promote the recycling of electrical and electronic equipment and its components at the end of life. This symbol (crossed-out wheeled bin) indicates a separate collection of waste electrical and electronic equipment in the EU countries. This product may contain one or more Nickel-metal hydride (NiMH), Lithium-ion, or Alkaline batteries. Specific battery information is given in this user guide. Batteries must be recycled or disposed of properly. At the end of its life, this product must undergo separate collection and recycling from general or household waste. Please use the return and collection system available in your country for the disposal of this product.

Technical Support and mPower Contacts

mPower Electronics Inc.
2910 Scott Blvd. Santa Clara, CA 95054 Phone: 408-320-1266
Fax: 669-342-7077
info@mpowerinc.com www.mpowerinc.com

Documents / Resources

	MUNI MP342 CaliCase 4-Bay Docking Station [pdf] User Guide MP342 CaliCase 4-Bay Docking Station, MP342, CaliCase 4-Bay Docking Station, Bay Docking Station, Docking Station, Station

References

- Gas detector, alarm systems equipment supplier
- User Manual