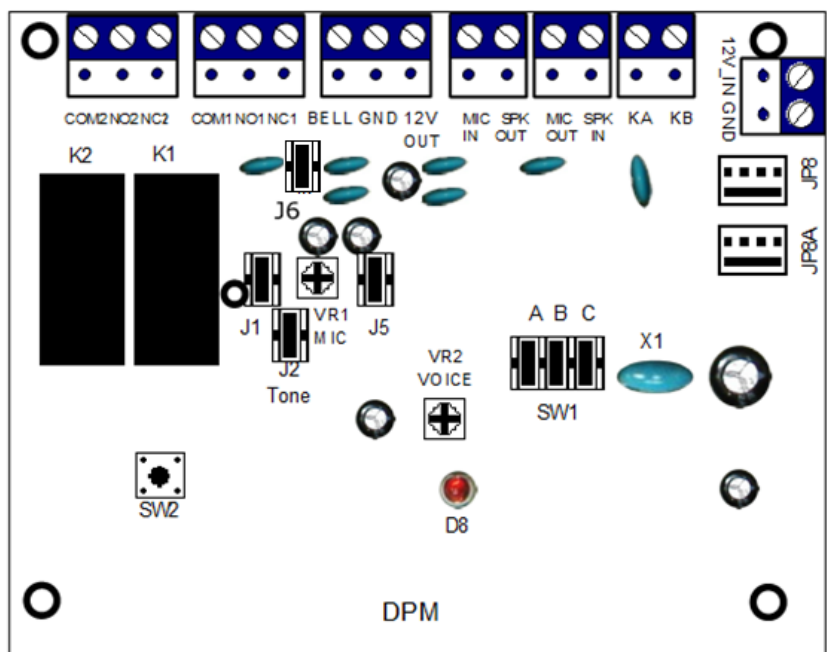


DM02 Door Station Interface

Introduction



The DM02 Door Station Module provides the functions of Comfort's Door Station, but using a third party audio or video Intercom system like the Fermax CityMax and Cityline series, DS01, DS02 or the DP03X Door Station. Instead of having the DP03 Door Station at the door or gate, the third party Intercom outdoor call station or DP03X will be used. The DM02 module is mounted within or next to the main Comfort control panel. When a visitor presses the doorbell on the intercom call station, the Intercom Indoor handsets will ring, as well as the internal telephones connected to Comfort. Either the intercom handset or the internal telephones can be used to talk to the visitor and open the door or gate. The DM02 provides two relay outputs to operate 2 doors or gates. When the security system is armed, Comfort will dial to the programmed telephone number to allow the user to talk to the visitor and to open the door or gate as well as disarm the security system.

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Specifications

- PCB Dimensions: 108 x 88 mm
- Maximum Number of Door Station: 3
- Power Supply: 12V (supplied by Comfort) @ 50 mA max
- Relays Rating: 3A 30VDC

Contents

The DM02 package consists of the following

- Comfort DM02 Manual (this booklet).
- 4 way cable for RS485 communications
- 4 x 2 way removable terminal blocks
- 3 x 3 way removable terminal blocks

Settings

Connections

- JP5 - COM2/NO2/NC2: Terminals for changeover Relay K1
Contacts for Open Door Response
- JP4 - COM1/NO1/NC1: Terminals for changeover Relay K2
Contacts for Open Gate Response
- JP3 - BELL/GND/12V_OUT: Connect Doorbell signal to BELL and GND. The J1 shunt must be set according to the Jumper Settings section below.
- JP7 - MIC/SPK: Connection to Intercom Outdoor Station.
- JP6 - MIC/VOICE: Connection to Comfort MIC/VOICE.
- JP2 - KA/KB: RS485 to Comfort
- JP1 - 12V_IN/GND: Voltage supply from Comfort.
- JP8/JP8A- Alternative connection for KA/KB/12V/GND (JP2 and JP1) for short distances up to 30 cm from Comfort.

Jumper Settings

- J1: Shunt J1 to positions 1-2 (closer to Terminal Block) if the doorbell input (to BELL terminal) is a DC signal of 5V to 24 VDC. Leave J1 open if the Doorbell input is an AC signal 5 V to 24 VAC. Shunt J1 to positions 2-3 (Away from Terminal Block) if the doorbell input is a voltage free contact. **If J1 is shunted to 2-3 but a DC voltage is present at the BELL Terminal, it will cause the DM02 to be detected as a Keypad .**
- J2 - Tone: Shunt for louder Beep tone volume. This affects specific Door station beeps like the beeping tone caused by lack of communications. Default Open (soft).
- J5 - Shunt J5 if for connection to Comfort's DP03X. This will enable the LED indicator on the DP03X to be turned on when the Door Station is active. Remove J5 if connected to DS01/DS02. **Inserting**

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the shunt when connected to DS01/02 will cause distortion on the Door Station speaker.

- J6 - Shunt J6 if the DM02 is to be connected to DS01/02. Leave the shunt J6 open when connected to DP03X.
- SW1 – Set of 3 shunts to set the ID (see "Door Station ID").

Trimmers

- Trimmers VR1 and VR2 have been removed from DM02. Adjustments are made via Tuning Parameters in Configurator 3.

LED Indicators

- D8 – Turns on when the microphone circuit is enabled; i.e. the outdoor intercom is in talk mode.

Switch

- SW2 – Doorbell: Simulates a press of the doorbell for testing.

Door Station ID

Comfort is able to support up to 3 door stations. SW1 is a set of 3 headers which is used to determine the ID, in accordance to the following table:

ID	SW1-A	SW1-B	SW1-C
1	Short	Short	Short
2	Open	Short	Short
3	Short	Open	Short

Do not set more than 1 door stations with the same IDs as this conflict of IDs will result in communication failure.

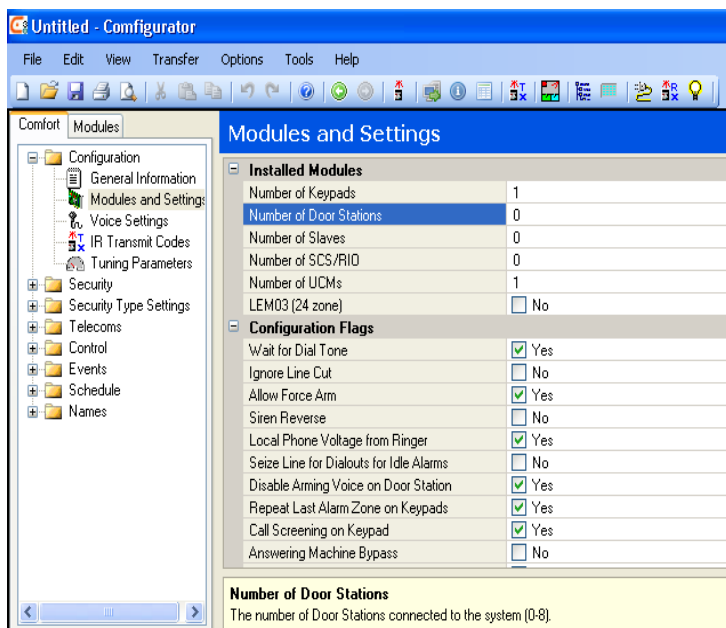
After changing the ID of the door station, remember to reset the DM02 by unplugging and plugging the 12V_IN/GND terminal block.

In the Configurator software, the number of door station must be set to equal the maximum (ID) number of door station in the system. This can be found under "Configuration"->"Modules and Settings"->"Number of Door Stations".

Note:

if there is only 1 Door Station in the system, its ID must be set to 1, otherwise a Communications Failure Trouble alarm will occur.

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Alternatively, the number of door stations may be set using the keypad. To do so, login to Engineer Menu 7, 4, 1 and set **location 1674** to the number of door stations.

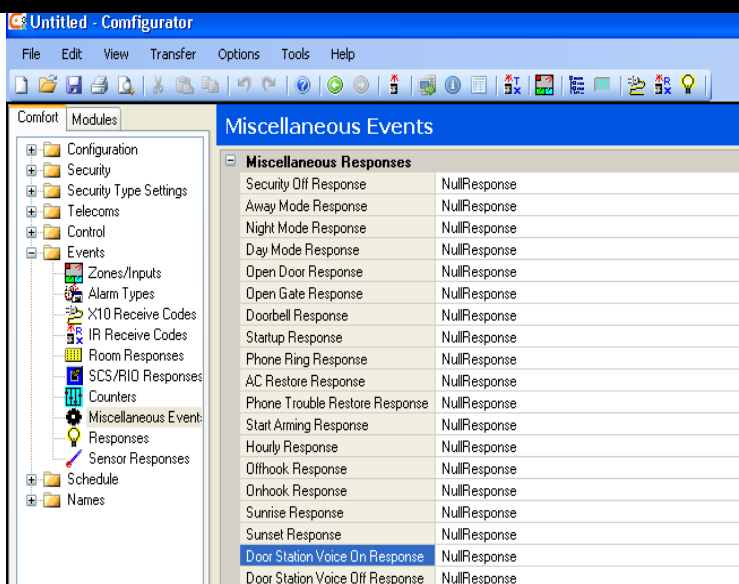
The system must be reset in both cases for the changes to take effect

If any door station loses communications with Comfort, it will be reported as "Communications Failure, ID#" where ID# is the ID for the door station (49 for ID 1, 50 for ID 2, and 51 for ID 3).

Doorphone Voice On and Off Responses

Some third party intercoms will not turn on their audio path until their in-house handset is off hook. If DM02 is used with this type of intercom, a means to simulate the handset going off hook and on hook is needed so as to allow the mic and speaker on the intercom to be activated. This is done via the DS Voice On and DS Voice Off Responses in Events > Misc Events in Configurator 3.1.3 and above. See the screenshot below. The DS Voice On Response is activated when the door station is turned on by pressing 0 for Door station. The DS Voice Off Response is activated when the door station is terminated by exiting from the menu or by hanging up the local phone after talking to the Door station. These responses can be used to turn on and off a relay to simulate the intercom handset off hook or on hook. Refer to the third party intercom technical information or the technical support for more information.

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Programming the Door/Gate Relays

A door strike or automatic gate can be opened from the Door Station menu. The two menu commands

“4 to Open Gate, 7 to Open Door”

can be programmed to open a gate or a door using a relay connected to any Comfort output or the relays K1 (Gate) and K2 (Door) on the DM02.

Go to Configurator > Events > Miscellaneous Events and look for the events Open Door Response and Open Gate Response in the list.

Select or create a Response to be assigned to Open Door Response and Open Gate Response as required. If no Response is selected, the corresponding menu to Open Gate and/or Open Door will not be announced. Once a nonzero Response is selected, the corresponding menu item will be announced.

To control the relays K1 and K2 on a DM02, use Action 200 (Open Door). In Response Wizard select Output > Open Door, then select the Door Station ID, the Door number 1 for K1 (Gate) and 2 for K2 (Door), and the duration in 100 ms units. (Please note that before Configurator 2.2.3, there is a bug which prevents the Door Station ID from being selected)

If there is more than 1 Door Station, use the IF Door Station ID action to program the outputs according to the ID of the door station eg

```
If DoorStationId = 49 Then
    Pulse Output01 For 20
```

The above Response for Open Gate or Open Door Response will pulse Output 1 for DP ID 1, output 2 for DP ID2 and Output 3 for DP ID 3.

Installation Examples

J5 **MUST NOT** be shunted otherwise distortion on the Door station speaker will result.

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Note that the MIC and Voice Terminals on DM02 must be connected to Comfort DP Voice and Mic

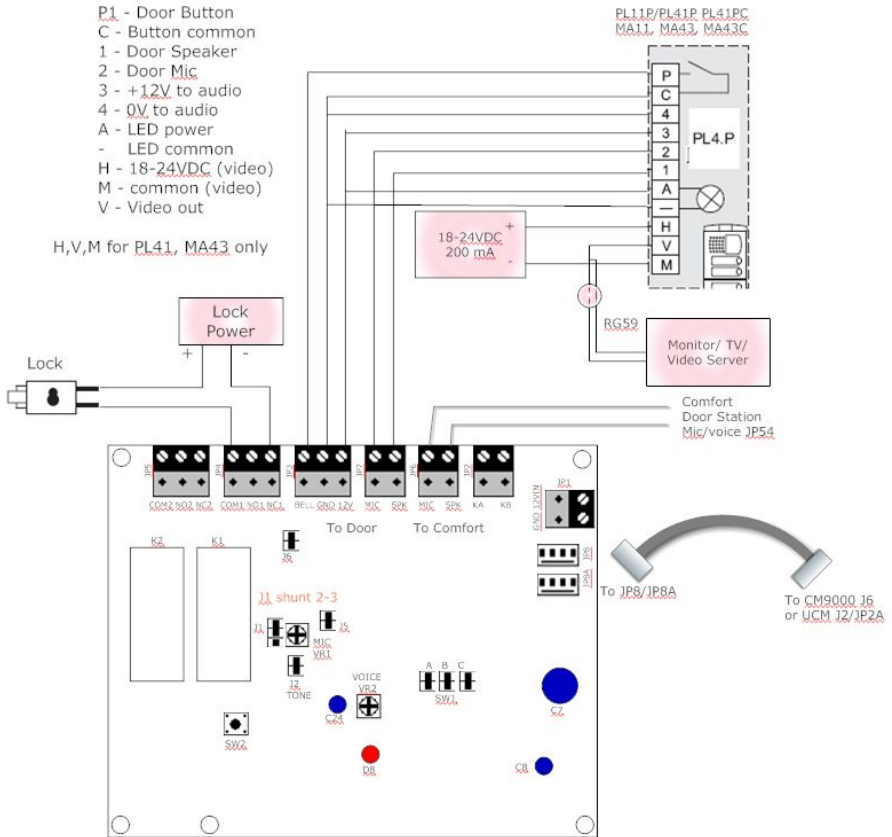
The connections between Comfort's DM02 and Fermax Door Stations are as follows:

Fermax	DM02	Remarks
1	NO2	Shorted to Terminal 3 to open electric Lock
2	SPK	Audio from indoor to outdoor
3	GND, COM2	Common Ground (Shorted with 1 to trigger electric lock)
4 and L+	BELL	Call wire, sends signal when push-button is pressed.
6	MIC (TO DOOR)	Audio from outdoor to indoor

Note that either NO2 and COM2 (Relay K2) OR NO1 and COM1 (Relay K1) may be used for opening the electric lock. The commands on the Door Station Menu "4 to Open Gate" and "7 to Open Door" should be programmed to control K1 and K2 respectively

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Connection to DS01/DS02



For connection to DS01or DS02, **J1 must be set to the 2-3 position** as the pushbutton gives a voltage-free contact. (Pin 1 is marked by a circle)

Use RG59 (75 ohms) coaxial cable for Video connections.

J5 MUST NOT be shunted otherwise distortion on the Door station speaker will result.

J6 MUST be Shunted for DS01/DS02

Note that the MIC and Voice Terminals on DM02 must be connected to Comfort DP Voice and Mic

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A summary of the DS01/02 to DM02 connections is shown below:

H, M, V are applicable for models PL41P, PL41PC, MA43, and MA43C with camera only.

L- and L+ on DS02 models are not used in connection with DM02.

DS01/ 02	DM02	Remarks
1	SPK (to door)	Reception audio line (audio to door station)
2	MIC (to door)	Transmission audio line (audio from door station)
3	12V OUT	Power supply
4	GND	Audio ground
-	GND	LED ground
C	GND	Push-button common
A	12V OUT	LED supply
P	BELL	Push-button
H	-	Camera Power supply +18-24V
M	GND	Camera ground
V	-	Video Out (75 ohm)

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Note that the MIC and Voice Terminals on DM02 must be connected to Comfort DP Voice and Mic

The rest of the connections are as follows:

DP03X	DM02	Remarks
MIC	MIC (TO DOOR)	Microphone audio from DP03X
SPK	SPK	Speaker audio to DP03X
12V	12V OUT	12V supply to DP03X
COM	GND	GND to DP03X
DOOR BELL	BELL	Push-button for DP03X

Problems with Door Station Audio

If the Door station Mic for DS01 or DS02 cannot be heard on the keypad, but the keypad microphone can be heard on the door station, please check the shunt J6 on the DM02

J6 shunt should be removed for DP03X, inserted for DS01/DS02

This may also be due to Tuning Parameters

In Configurator, go to Configuration > Tuning Parameters

Comfort Modules

Configuration

- General Information
- System Information
- Modules and Settings
- Voice Settings
- IR Transmit Codes
- Tuning Parameters
- Security
- Security Type Settings
- Telecoms
- Control
- Events
- Schedule
- Names
- Functions

Tuning

Index	Value	Description
62	65535	AGC Noise Suppression Hold Time
64	65535	AGC Noise Suppression Attack Time
66	65535	AGC Noise Suppression Attack Slope
68	65535	AGC Noise Suppression Decay Slope
70	65535	AGC Vox Energy
72	255	AGC Gain G1
74	65535	AGC Vox Sensitivity
76	2	AAFE Line Out Gain Remote phone
77	2	AFE KP SPKR Out Gain (not intercom)
78	4	AFE GSM Line Out Gain
79	10	AFE KP MIC Gain (KP-DP Intercom)
80	3	AFE KP SPK OUT gain (KP-DP Intercom)
81	6	AFE DP MIC Gain (KP-DP Intercom)
82	1	AFE DP SPK Gain (KP-DP Intercom)
83	4	AFE LINE IN Gain Local Phone
84	4	AFE LINE OUT Gain for Local Phone
85	7	AFE KP MIC Gain (Phone-KP Intercom)
86	2	AFE KP SPK Gain (Phone-KP Intercom)
87	13	AFE Line In Gain for Remote Phone to KP/DP Intercom

Tuning Properties

Index: 81

Value: 6

Value
This is the 16-bit value of the tuning parameter.

UCM I/O Monitor | Clear | Auto Scroll | Show | Login | Command: |

Copy to Clipboard

(137) = 6 | USB: Comfort II ULTRA | English Residential | FileSystem:

Tuning Parameter 81 (AFE DP MIC GAIN KP-DP INTERCOM) was set to 3, it should be increased to 6. This increases the volume from DP Mic to Keypad

Version History

1.1.9 (4 Jan 2016)

Description change for J5 J6. Add trouble shooting audio section

1.1.8 (25 May 2015)

Redefine settings for shunt J5, J6

1.1.7 (23 March 2015)

Improved connection from DS01/02 to DM02, added J6 header

1.1.6 (22 October 2012)

Include description of L- and L+ in DS02 models that is not to be connected to DM02

1.1.5 (3 March 2012)

Include DS02 to DS01 description

Added comment that DM02 Voice/MICX to Comfort must be connected to Comfort DP Voice/Mix

1.1.4 (21 Apr 2011)

Improved instructions on Doorbell input and shunt. If J1 is set to 2-3 but DC voltage is on the BELL input, the DM02 is detected as Keypad.

1.1.3 (21 Feb 2011)

Added Relay ratings

1.1.2 (12 Nov 2009)

Remove MIC/VOICE trimmers descriptions

1.1.0 (13 May 2009)

Added comments that J1 Pin 1 is marked by a circle

1.0.7 (5 May 2008)

Update for DS01 and DP03X, added DS Voice On, Voice Off Responses

Corrected DS01 connections

1.0.3 (15 November 2007)

Reference to DP03X, Updated manual

1.0.2 (3 March 2007):

Changed to DM02. Includes support for voltage-free contacts for doorbell; support for DP03X audio module.

1.0.0 (14 October 2003): Initial Release for DM01



Cytech Technology Pte Ltd

Document Title: DM02 Door Station Interface

Filename: DM02man.odt

Document Version: 1.1.9