PRODUCT DESCRIPTION

The DL2 is a dialer module, which contains a Digital Alarm Communicator Transmitter (DACT). The dialer sends alarm, supervisory, and trouble information to a compatible Digital Alarm Communicator Receiver (DACR) through one or two dial-up telephone lines (two per NFPA 72). The dialer supports 20 PPS 4/2 format and Dual Tone Multi-Frequency (DTMF) or Pulse mode dialing. Every 24 hours, the dialer performs an automatic test call to verify communications between the fire alarm panel and the Central Monitoring Station (CMS).

INSTALLATION

Warning!

Disconnect external ac power and battery power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.
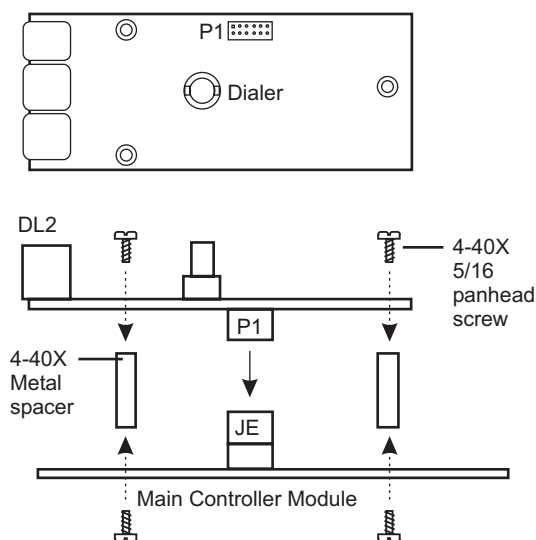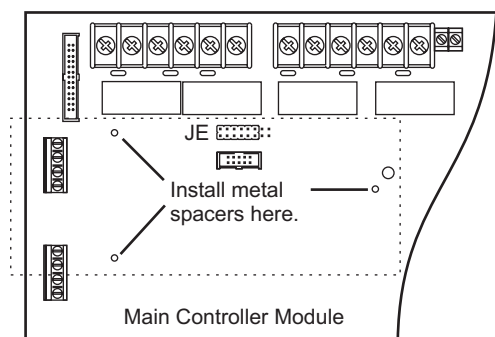
Caution!

Carefully match mounting holes up with spacers to ensure proper connector mating.

Observe static-sensitive material handling practices.

Mounting the DL2

1. Install three metal spacers (P/N 362329) with the screws provided in the three locations indicated below.
2. Mount the DL2 on the three metal spacers.
3. Mate connector P1 on the DL2 with connector JE on the Main Controller Module.
4. Secure the DL2 to the spacers with the screws provided.

JE

Install metal spacers here.

Main Controller Module

P1

Dialer

DL2

4-40X 5/16 panhead screw

4-40X Metal spacer

P1

JE

Main Controller Module

SPECIFICATIONS

Input power
Supervisory — 10 mA
Active — 20 mA

Mounting — Mounts on the Main Controller Module

Phone line — One/two loop start lines on public switched telephone network, pulse or DTMF dialing. Party, ground start, and PBX start lines are not acceptable. NFPA 72 requires two phone lines.

Wall connector — Standard RJ31X or RJ38X phone jack

Line supervision — Trouble when line voltage less than 10 V and line current less than 5 mA.

Communications protocol — SIA pulse format 20 PPS 4/2 double round, 1400 Hz handshake, 1900 Hz carrier

CMS telephone numbers — Two 24-digit numbers

FCC registration number — 4Z2USA-22549-AL-E

Dialing retries — five to ten

Clock accuracy — Within one hour/year

Compliance — Communications Canada, CS-03; FCC/CFR 47 parts 15 and 68; NFPA 72; UL 864; ULC S527-M87

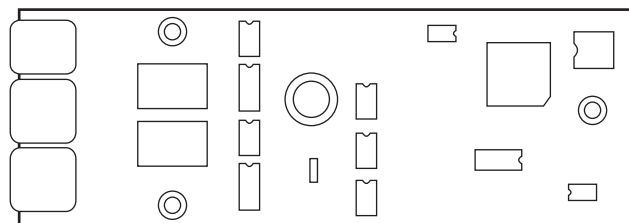**Programming phone** — Any tone dial phone with an RJ11 plug

Environmental conditions
Temperature range — 32 to 120 °F (0 to 49 °C)
Humidity range — 0 to 93%, non-condensing

Dialer codes

Event	Code
Fire alarm report codes	01-32
Fire alarm restore codes	41-72
Normal 24 hr check-in	90
Abnormal 24 hr check-in	91
Supervisory alarm	92
Trouble	93
Trouble / supervisory restore	94
AC power fail	96
Battery trouble	97
Telephone line trouble	98
Dialer disabled	99

PRODUCT DIAGRAM

Notes

1. Connect J1 and J2 to RJ31X or RJ38X telephone jacks installed by an authorized telephone company representative (CA31A or CA38A in Canada).

2. Install the RJ31X (RJ38X) jacks within 5 ft (1.5 m) of the control panel and allow two extra feet of cable for a total of 7 ft (2.13 m).

3. The dialer installation kit includes a protective bushing (P/N 362316) for enclosure knockouts.

4. Before programming can proceed, the dialer will notify the central monitoring station (CMS) for any previously entered numbers.

Ring (red)

Surge protector

Tip (green)

RJ31X 8 pin modular connector for phone line 1

No T-taps!

Black

Yellow

Premises phones

To phone line 2 wired same as phone line 1

Ring (red)

Surge protector

Tip (green)

RJ31X 8 pin modular connector for phone line 2

The phone key pad is only for module programming. Rotary dial phones will not work. See dialer programming, on the following pages, for more information.

Programming phone

Enable/disable switch

J3

J2

J1

Dialer

Status LED

2. 7 ft (2.13 m)

Use J1 when using only one phone circuit

IMPORTANT INFORMATION

FCC information

1. The dialer complies with Part 68 of the FCC rules. The Dialer's FCC registration number and Ringer Equivalence Number (REN) are on the back of the dialer. This information must be provided to the telephone company if requested.

2. An FCC compliant telephone cord and modular plug cord is supplied with the dialer. The dialer is designed to be connected to the telephone network using the supplied cord and an RJ31X or RJ38X jack, which must also comply with FCC Part 68 rules.

3. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5). To be certain of the number of devices that may be connected to a line as determined by the total RENs, contact the local telephone company.

4. If the dialer causes harm to the telephone network, the telephone company will notify you an advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC, if you believe it is necessary.

5. The telephone company may make changes in it's facilities, equipment, operations, or procedures that could affect the operation of the dialer. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

6. If trouble is experienced with the dialer, for repair or warranty information, contact GS Building Systems Corp. 6411 Parkland Drive, Sarasota, Florida USA 34243. If the dialer is causing harm to the telephone network, the telephone company may request you disconnect the dialer until the problem is resolved.

7. No repairs may be performed on the dialer by the user.

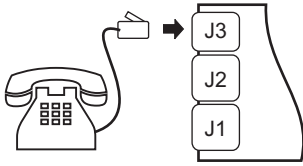8. The dialer can not be used on public coin phones or party line service provided by the telephone company.

Canada DOC information

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Notice: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The temination on a loop may consist of any combination of devices subject only to the requirements that the sum of the Load Numbers of all devices does not exceed 100.

DIALER PROGRAMMING

Notes

1. A confirmation tone indicates the correct entry of a program item.
2. Phone lines must be loop start on a public-switched network. PBX, party lines, and ground start lines are not acceptable.
3. The dialer does not place calls, monitor the panel, or monitor the phone lines during the programming process.
4. After initial programming, the dialer notifies the central monitoring station that it is disabled before programming can proceed.
5. Two phone lines are required to comply with NFPA 72.
6. The dialer will automatically switch to pulse dialing after three consecutive failures using tone mode. It will switch back to tone dialing after failing to connect using pulse mode, upon re-programming, or upon enabling disconnect switch.

Entering the programming mode

1 Connect the phone to J3.

2 Take the handset off the hook.

3 The status LED will display two rapid green flashes, and then turn solid green.

Entering the password

1 When the Status LED turns solid green, press 4727 (GSBS) on the telephone keypad.

2 Listen for the confirmation tone to verify that the dialer has accepted the password.

3 Before programming can proceed, the dialer will notify the CMS for any previously entered numbers. The status LED will display a slow green flash during the dialing process.

4 The status LED will display a steady green LED to indicate that the dialer is ready for programming.

Entering the dialer data

Note: Enter the required information for all 8 programming items in sequence.

Programming the primary site ID number (item 01)

1 Press the following telephone keys:
*
0
1

2 Listen for the confirmation tone to verify that you entered 01.

3 Make sure that the status LED displays a steady green pattern interrupted by amber flashes.

4 Enter the 4-digit ID number on the telephone keypad. Use leading zeroes as required.

Programming the primary CMS number (item 02)

1 Press the following telephone keys:
*
0
2

2 Listen for the confirmation tone to verify that you entered 02.

3 Make sure that the status LED displays a steady red pattern interrupted by amber flashes.

4 Enter a 7 to 24-digit number on the telephone keypad to specify the primary CMS number.

Programming the secondary site ID number (item 03)

1 Press the following telephone keys:
*
0
3

2 Listen for the confirmation tone to verify that you entered 03.

3 Make sure that the status LED displays a steady green pattern interrupted by double amber flashes.

4 Enter the 4-digit ID number on the telephone keypad. Use leading zeroes as required.

Programming the secondary CMS number (item 04)

1 Press the following telephone keys:
*
0
4

2 Listen for the confirmation tone to verify that you entered 04.

3 Make sure that the status LED displays a steady red pattern interrupted by double amber flashes.

4 Enter a 7 to 24-digit number on the telephone keypad to specify the secondary CMS number.

- Continued -

Programming 1 or 2 line operation (item 05)

1 Press the following telephone keys:
*
0
5

2 Listen for the confirmation tone to verify that you entered 05.

3 Make sure that the status LED displays a steady green pattern interrupted by rapid amber flashes.

4 Enter 01 or 02 on the telephone keypad. The default setting is 2.

Programming the number of CMS retry calls (item 06)

1 Press the following telephone keys:
*
0
6

2 Listen for the confirmation tone to verify that you entered 06.

3 Make sure that the status LED displays rapid green flashes.

4 Enter 05, 06, 07, 08, 09, or 00 on the telephone keypad. The default is 00 (10).

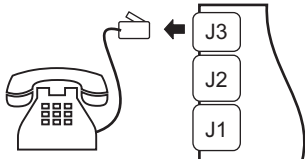## Programming the retry interval (item 07)

1 Press the following telephone keys:
*
0
7

2 Listen for the confirmation tone to verify that you entered 07.

3 Make sure that the status LED displays double green flashes.

4 Enter 0, 30, or 60 on the telephone keypad to specify the number of seconds. The default is 0.

Programming the daily supervision delay (item 08)

1 Press the following telephone keys:
*
0
8

2 Listen for the confirmation tone to verify that you entered 08.

3 Make sure that the status LED displays a slow amber flash.

4 Enter a 2-digit number on the telephone keypad to specify the delay period (in hours). The default is 12.

Exiting the programming mode

1 Disconnect the phone from J3.

2 Put the handset on the hook.

Status LED indications during dialer operations		
Color	**Pattern**	**Description**
Green	Rapid flash	Waiting for password entry
Green	Single flashes	Call to CMS in progress
Amber	Single flashes	Dialer in trouble
Amber	Double flashes	Dialer disabled

Restoring default values

1 Enter the password according to the preceding instructions on this installation sheet.

2 Press the following telephone keys:
*
0
0

3 Make sure that the status LED displays a steady green pattern.

The dialer resets to its default values and returns it to item 01 of the programming mode.

Verifying programmed entries

1 Enter the password according to the preceding instructions on this installation sheet.

2 Press the following telephone keys:
*
0
Programming item number
#

3 Listen for the confirmation tone to verify that it sounds the contents of the selected item through the handset.

Testing the dialer

1 Activate and open an SDC and an NAC to verify that the CMS receives the proper signal.

2 Verify that failure of the primary signal path results in the transmission of a trouble signal through the secondary signal path within 4 minutes.

3 Verify that failure of the secondary signal path results in the transmission of a trouble signal through the primary signal path within 4 minutes.
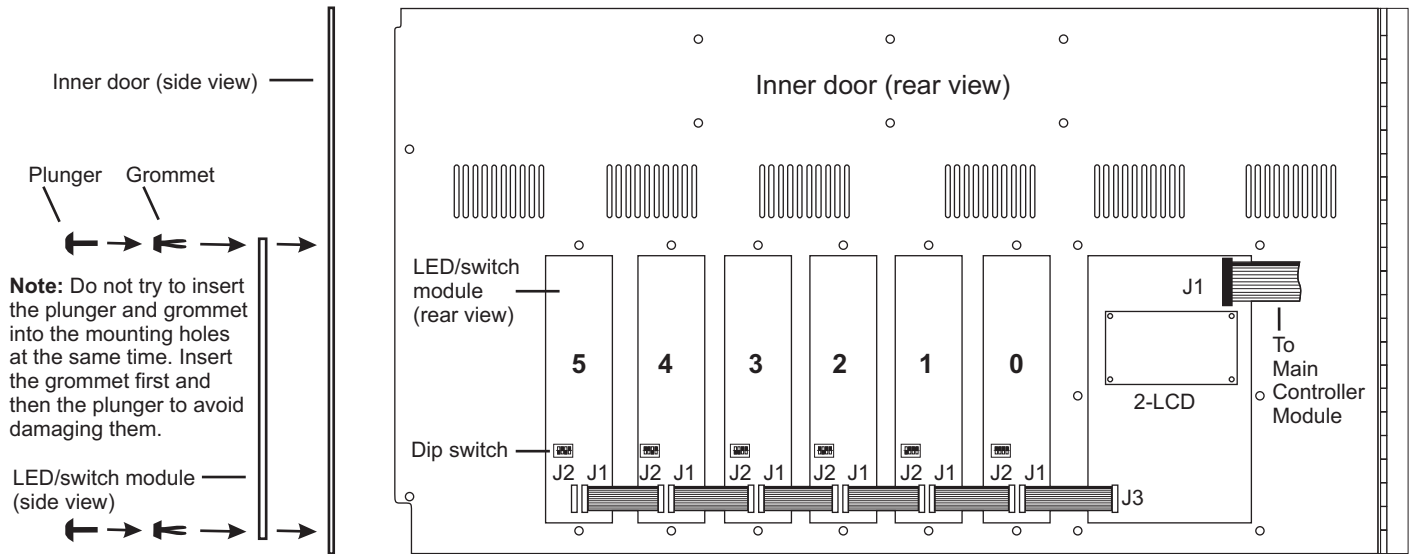
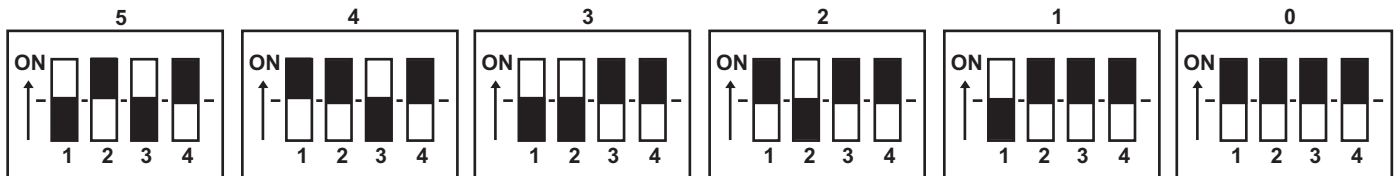| Notes |
|---|
| The primary signal path is along the phone line connected to J1. |
| The secondary signal path is along the phone line connected to J2. |

INSTALLATION

1 Mount the LED/switch modules.

Inner door (side view)

Plunger   Grommet

Note: Do not try to insert the plunger and grommet into the mounting holes at the same time. Insert the grommet first and then the plunger to avoid damaging them.

LED/switch module (side view)

Inner door (rear view)

LED/switch module (rear view)

5 4 3 2 1 0

Dip switch

J2 J1 J2 J1 J2 J1 J2 J1 J2 J1 J2 J1

J3

J1

2-LCD

To Main Controller Module

2 Connect the LED/Switch Module ribbon cables

1 Connect the ribbon cable from J3 on the 2-LCD to J1 on the first module.

2 Connect the ribbon cable from J2 on the first module to the J1 on the second module.

3 Repeat step 2 until you reach the last module.

Note: White indicates the correct dipswitch position.

3 Set the dip switches on the LED/switch modules.

Dip switch setting	LED addresses	Switch addresses
0	01-16	01-08
1	17-32	09-16
2	33-48	16-24
3	49-64	25-32
4	65-80	33-40
5	81-96	41-48

5 ON 1 2 3 4

4 ON 1 2 3 4

3 ON 1 2 3 4

2 ON 1 2 3 4

1 ON 1 2 3 4

0 ON 1 2 3 4

PRODUCT DESCRIPTION

The front panel LED/switch modules consist of 16 individual LEDs for point annunciation. The LED/switch modules provide eight groups of two LEDs combined with a switch. See the specifications for available LED color options. The protected slip-in label next to each LED/switch identifies its function. Communication with the Main Controller Module requires no point to point wiring, because it is multiplexed using plug-in ribbon cables. Any combination of three annunciator and switch modules may be mounted on the panel's inner door. Blank Plates (model 2-FBP) fill unused inner door spaces.

Models
2-12R4Y
2-16G
2-16R
2-16Y
2-8RY

2-FBP

Models
2-16G8S
2-16R8S
2-16Y8S
2-8GYS
2-8RYS

SPECIFICATIONS

LED/switch options

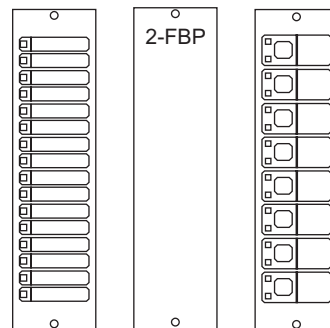| Model	Description
2-12R4Y	12 red LEDs over 4 yellow LEDs
2-16G	16 green LEDs
2-16G8S	16 green LEDs and 8 switches
2-16R	16 red LEDs
2-16R8S	16 red LEDs and 8 switches
2-16Y	16 yellow LEDs
2-16Y8S	16 yellow LEDs and 8 switches
2-8RY	8 red LEDs over 8 yellow LEDs
2-8RYS	8 red / 8 yellow alternating LED/switch pairs
2-8GYS	8 green / 8 yellow alternating LED/switch pairs

Blank plate option   2-FBP

Switches   Momentary push button

Temperature range   32 to 120 °F (0 to 49 °C)

Humidity range   0 to 93%, non-condensing

INSTALLATION SHEET:

Front Panel LED(/Switch) Modules

INSTALLATION SHEET P/N: 270214	FILE NAME: 270214.CDR
REVISION LEVEL: 4.0	APPROVED BY: J. Massing
DATE: 21JUN00	CREATED BY: B. Graham
Related documentation: 2-LCD installation sheet	