

FERMAX

BUS-2



BUS-2 SYSTEM

TECHNOLOGY

VIDEO DOOR ENTRY SYSTEM 2 COMMON WIRES (WITHOUT POLARITY)

FEATURES

- The **DIGITAL BUS-2** video entry system is a simplified installation system with minimum wiring and powerful features. The frequency modulation (FM) based transmission system guarantees maximum audio and video signal quality in B/W and COLOUR at all points of the installation. The system provides maximum protection against outside interference.
- It requires **2 wires (without polarity)** throughout the installation.
- The system enables management by block or building: **up to 199 homes* and 2 entry accesses**.
- The maximum system distance is 250 ms. We recommend CAT2 twisted pair cable for maximum distances and homes capacity. (See *System Technical Information*).
- The **BUS-2 AMPLIFIER** comes complete with built-in voice synthesizer. When the electric lock is activated, a message is reproduced: *"The door is open, please close the door behind you"*.
- The **TV CAMERA** included in the BUS-2 panels comes in COLOUR as standard.
- **BUS-2 MONITORS AND TELEPHONES** must be programmed with the house number where they are installed, using a process identical to the FERMAX ADS system.
- **Communication is private**.
- Maximum capacity in combination with other systems: in larger projects and urbanizations we can combine BUS-2 facilities in individual buildings with an MDS installation in control of the general entrances, allowing facilities of approximately 2000 panels, 630.000 monitors, guard units and access and automation control functions, according to MDS features. **MDS/BUS-2 DECODERS** are required.

* Following the cable/section recommendations specified, while incorporating the signal regenerators necessary depending on the installation.



Basic components

1. OUTDOOR PANEL

There are three panel options: **WITH BUTTONS**, **WITH KEYPAD** or **WITH ELECTRONIC DISPLAY**.

PUSHBUTTON PANELS

- The panel is supplied with a COLOUR camera (at the same price as the B/W camera).
- Select the outdoor panel, Cityline model with the desired combination of buttons for the number of homes in the building, in line with the options indicated below.
- Select the corresponding flush box or panel accessory as required. The first number of the description indicates the "Cityline Series Number". See *Cityline panels section*.
- Call extension modules ref. 2441 are required for more than 8 homes. They are installed in the flush-mounted box.

2441 16 CALL EXTENSION MODULE



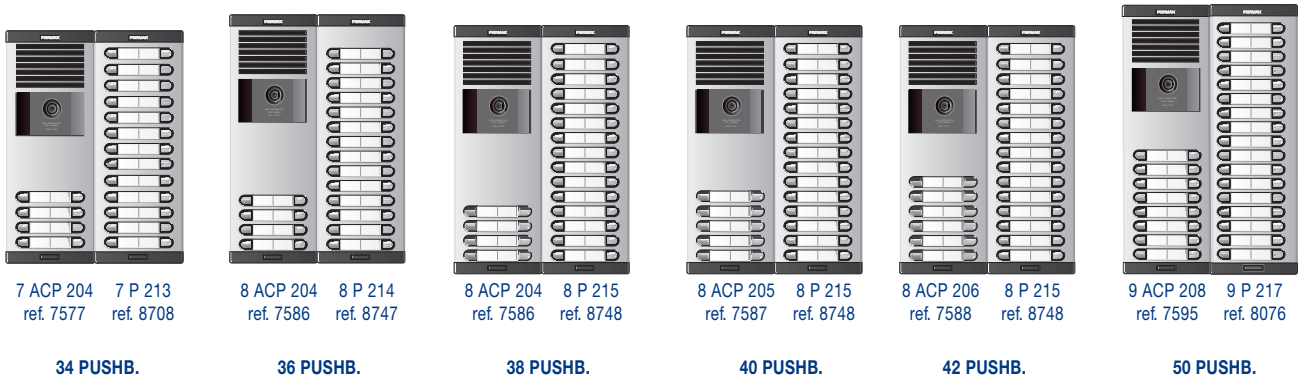
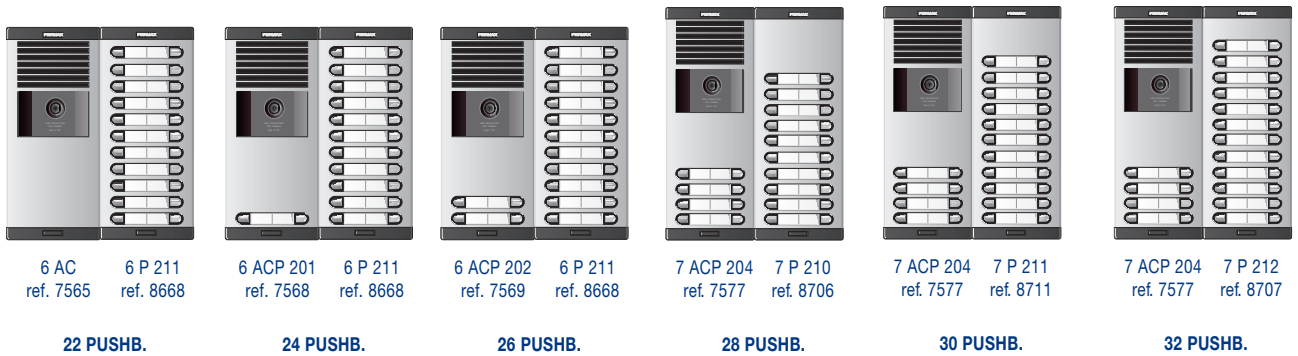
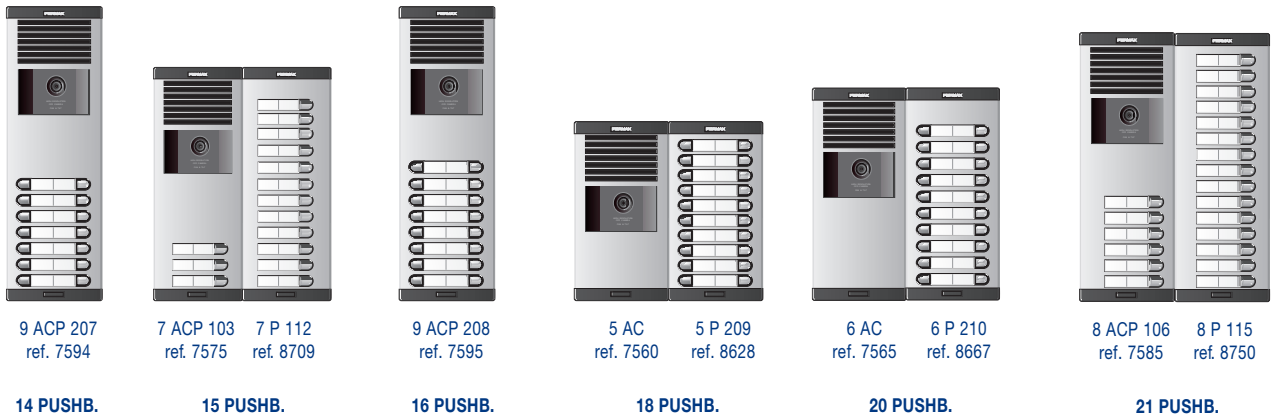
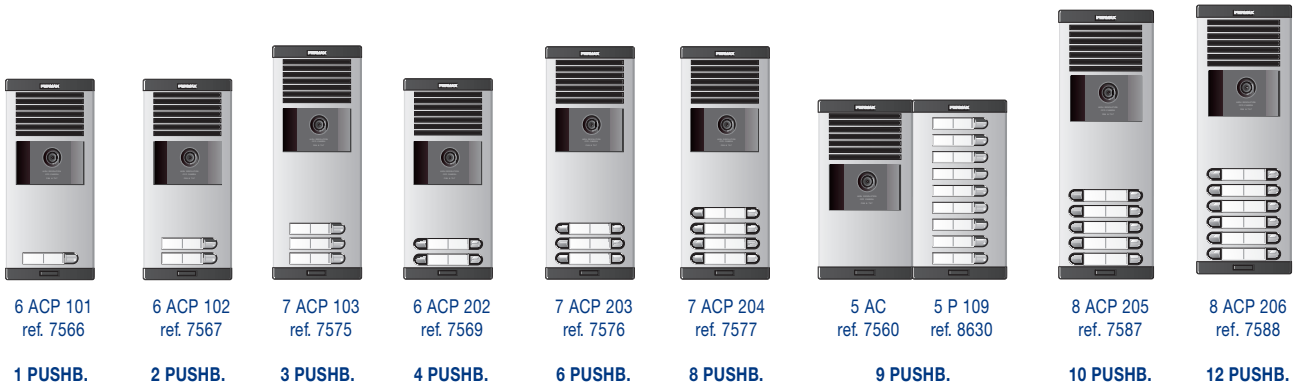
7 ACP 204
Ref. 7577

Cityline panels designation: The Cityline Panel 7 ACP 204 ref.7577 is a CITYLINE series 7 panel with amplifier, TV camera and 8 pushbuttons (2 columns x 4 rows).

7	The Cityline Series Number is indicated (defines the height).
AC	Indicates that the panel has an amplifier and telecamera
P	Indicates that the panel has pushbuttons
204	Distribution 2 columns x 4 rows (8 buttons)



ref. 2441



FLUSH-MOUNTED BOXES

8856	FLUSH-MOUNTED BOX S6
8857	FLUSH-MOUNTED BOX S7
8858	FLUSH-MOUNTED BOX S8
8982	FLUSH-MOUNTED BOX S9

8829	JOINING BOLTS SET
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Necessary between flush-mounted boxes.

DIRECT/DIGITAL PANELS (WITH KEYPAD)*

- The panel has a numeric keypad to call the apartments: **PRESS DOOR NUMBER + BELL**. The keypad incorporates access control function. When a code is entered, the lock release is activated.
- The LCD display version, called ADS DIGITAL, allows up to 350 different codes. The directory makes it possible to search the list of residents on the display.

7550	BUS-2 DIRECT VIDEO CITY PANEL
8735	DIRECTORY PANEL S7
8857	FLUSH-MOUNTED BOX S7
8957	SURFACE BOX S7
8257	SINGLE DECORATIVE FRAME

7551	BUS-2 DIGITAL VIDEO CITY PANEL
8858	FLUSH-MOUNTED BOX S8
8958	SURFACE BOX S8
8258	SINGLE DECORATIVE FRAME S8

2. POWER SUPPLY AND ACCESSORIES

4840	POWER SUPPLY 24VDC/2A
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DIN6 format. Requires a BUS-2 power adapter module (ref.3243). One is needed for every 24 monitors.

3243	POWER SUPPLY ADAPTER MODULE BUS-2
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DIN4 format.

4820	BUS-2 24DC/2A POWER SUPPLY
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DIN10 format. Equivalent to ref.4840 and ref.3243.

3246	BUS-2 PANEL SWITCHER
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Necessary for installations with 2 accesses.

3248	BUS-2 2-TRUNK SHUNT
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Necessary for facilities with several branches or trunk lines.

3249	BUS-2 REGENERATOR
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Necessary to regenerate the BUS-2 signal to extend distances and monitor capacity in the installation (up to 199 apartments). The system admits up to 64 apartments with no need to include a regenerator. Following the wiring recommendations specified.



ref. 7550

ref. 8735



ref. 7551



ref. 4840

3247 BUS-2 RELAY

Direct installation in BUS-2 lets you activate an additional function from the F1 or F2 telephone buttons and BUS-2 monitors, with no need for additional wiring. The relay can also be activated by the call or electric lock activation. Timer relay.

COMBINATION WITH OTHER SYSTEMS

In residential complexes, it is necessary to combine a BUS-2 system in the interior blocks or buildings with an MDS system in general entrances. A decoder is required for each interior block

3245 BUS-2 / MDS DECODER**3. DOOR LOCK RELEASE**

Select the electric locks needed to complete the installation.

3070 UNIVERSAL ELECTRIC LOCK MOD.450N-412-S

Normal operation and continuous current power supply (12Vdc).

3057 UNIVERSAL ELECTRIC LOCK MOD.450A-412-S

Automatic operation and continuous current power supply (12Vdc).

AC door release/electric lock may be used, adding an additional 12Vac power supply (ref.4800) to the installation.

3071 UNIVERSAL ELECTRIC LOCK MOD.450N-S

Normal running and short shield. AC lock. Requires 12Vac/1.5A power supply (ref.4800).

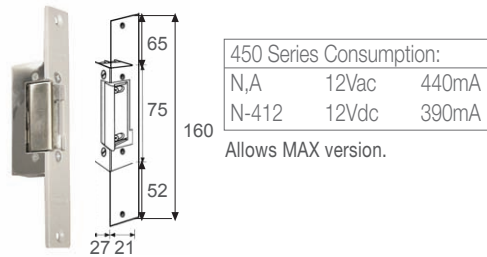
4. MONITORS AND TELEPHONES

LOFT BUS-2 monitors include as standard:

- * Electric lock and guard unit call pushbutton
 - Panel camera auto-on switch (main and backup)
 - Additional F1 and F2 functions for: switching on lights, opening 2nd door, etc. BUS-2 RELAY is required in the installation.
 - Doorbell, for direct pushbutton connection to the home entrance.
 - 2 call tones. Call volume control (maximum, medium and disconnected)
- The system enables in-house extension with a 2nd monitor or 2 additional telephones with no extra power supply.

3220 BUS-2 LOFT B/W MONITOR**3235 BUS-2 LOFT COLOUR MONITOR****3223 BUS-2 LOFT COMPACT COLOUR 3,5" MONITOR****3221 BUS-2 LOFT CONNECTOR****3224 BUS-2 LOFT COMPACT CONNECTOR****3308 BUS-2 LOFT DESKTOP CONNECTOR****3397 BUS-2 EXTRA LOFT TELEPHONE****3380 DECORATIVE FRAME 200(W)x240(H)****5. DISTRIBUTORS**












The BUS-2 system has distributors which become necessary at all bifurcations of the signal, both in video and audio installations. The distributors also act as insulators, preventing damaged equipment leaving the rest of the building without service. They provide LED signalling to easily locate incidents in the installation when they occur.

3240 2-WAYS BUS-2 DISTRIBUTOR**3241 4-WAYS BUS-2 DISTRIBUTOR**

ref. 3240

TECHNICAL INFORMATION

VIDEO DOOR ENTRY SYSTEM: CITYLINE PANEL / LOFT MONITOR

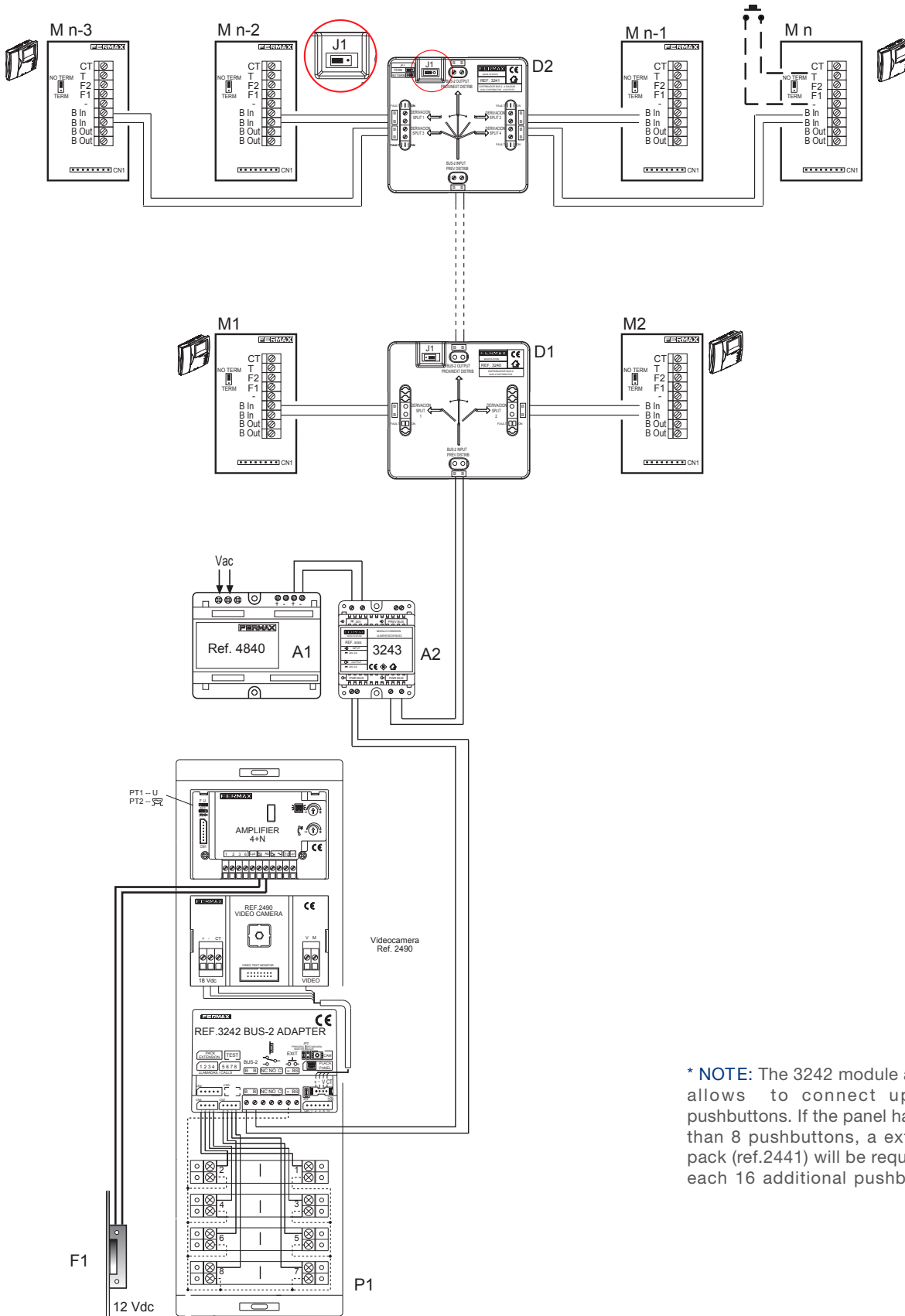
N° APARTMENTS	N° SERIE											
		PANEL	FLUSH BOX	ADDITIONAL PANEL	FLUSH BOX	JOINING BOLTS	PACK EXTENSION	BUS-2 POWER SUPPLY	ADAPTATOR	DISTRIBUTOR 4 WAYS	LOFT MONITOR	LOFT CONECTOR
		R E F E R E N C E S				8829	2441	4840	3243	3241	3220/3235	3221
Q U A N T I T Y												
1	S6	7566	8856					1	1	1	1	1
2	S6	7567	8856					1	1	1	2	2
3	S7	7575	8857					1	1	1	3	3
4	S6	7569	8856					1	1	1	4	4
5	S7	7576	8857					1	1	2	5	5
6	S7	7576	8857					1	1	2	6	6
7	S7	7577	8857					1	1	2	7	7
8	S7	7577	8857					1	1	2	8	8
9	S5	7560	8855	8630	8855	1	1	1	1	3	9	9
10	S8	7587	8858				1	1	1	3	10	10
11	S8	7588	8858				1	1	1	3	11	11
12	S8	7588	8858				1	1	1	3	12	12
13	S9	7594	8982				1	1	1	4	13	13
14	S9	7594	8982				1	1	1	4	14	14
15	S7	7575	8857	8709	8857	1	1	1	1	4	15	15
16	S9	7595	8982				1	1	1	4	16	16
17	S5	7560	8855	8628	8855	1	1	1	1	5	17	17
18	S5	7560	8855	8628	8855	1	1	1	1	5	18	18
19	S6	7565	8856	8667	8856	1	1	1	1	5	19	19
20	S6	7565	8856	8667	8856	1	1	1	1	5	20	20
21	S8	7585	8858	8750	8858	1	1	1	1	6	21	21
22	S6	7565	8856	8668	8856	1	1	1	1	6	22	22
23	S6	7568	8856	8668	8856	1	1	1	1	6	23	23
24	S6	7568	8856	8668	8856	1	1	1	1	6	24	24
25	S6	7569	8856	8668	8856	1	2	2	2	7	25	25
26	S6	7569	8856	8668	8856	1	2	2	2	7	26	26
27	S7	7577	8857	8706	8857	1	2	2	2	7	27	27
28	S7	7577	8857	8706	8857	1	2	2	2	7	28	28
29	S7	7577	8857	8719	8857	1	2	2	2	8	29	29
30	S7	7577	8857	8719	8857	1	2	2	2	8	30	30
31	S7	7577	8857	8707	8857	1	2	2	2	8	31	31
32	S7	7577	8857	8707	8857	1	2	2	2	8	32	32
33	S7	7577	8857	8708	8857	1	2	2	2	9	33	33
34	S7	7577	8857	8708	8857	1	2	2	2	9	34	34
35	S8	7586	8858	8747	8858	1	2	2	2	9	35	35
36	S8	7586	8858	8747	8858	1	2	2	2	9	36	36
37	S8	7586	8858	8748	8858	1	2	2	2	10	37	37
38	S8	7586	8858	8748	8858	1	2	2	2	10	38	38
39	S8	7587	8858	8748	8858	1	2	2	2	10	39	39
40	S8	7587	8858	8748	8858	1	2	2	2	10	40	40
42	S8	7588	8858	8748	8858	1	3	2	2	11	42	42
44	S9	7595	8982	8074	8982	1	3	2	2	11	44	44
46	S9	7584	8982	8075	8982	1	3	2	2	12	46	46
48	S9	7595	8982	8075	8982	1	3	2	2	12	48	48
50	S9	7595	8982	8076	8982	1	3	3	3	13	50	50

The whole signal distribution must be done by means of distributors. You can combine two models in the same installation: 2-Way distributor (ref.3240) and 4-Way distributor (ref.3241).
 * The system powers a DC electric lock (Vdc). We recommend lock release ref.3070 (normal operation). If an AC electric lock ref.3071 (normal operation) is used, an additional power supply 12Vac/1.5A (ref.4800) is required.

BASIC INSTALLATION OF A BUS-2 VIDEO DOOR ENTRY SYSTEM AT BUILDINGS WITH 1 ACCESS AND CITYLINE PANEL

- P1** Cityline BUS-2 outdoor panel (ref.7577).
Include COLOR camera (ref.2490)
- F1** Door lock release 12 Vdc (ref. 3070)
- A1** Power supply 24Vdc (ref.4840)
- A2** BUS-2 power supply connexion module (ref.3243)
- D1-D2** 2-Ways BUS-2 distributor (ref.3240) and 4-Ways BUS-2 (ref.3241)
- M1-Mn** BUS-2 COLOUR Loft monitor (ref.3230) or B/W (ref.3220)
+ BUS-2 Connector (ref.3221)

CABLE	DISTANCE B/W	DISTANCE COLOUR
Pair Twisted 2x1,3 mm ² - CAT 2	250 m	150 m
Pair Twisted UTP 5 100 m	100 m	100 m
Parallel cable 2x1 mm ²	120 m	100 m
Parallel cable 2x0,5 mm ²	80 m	80 m
Parallel cable 2x0,28 mm ²	70 m	25 m

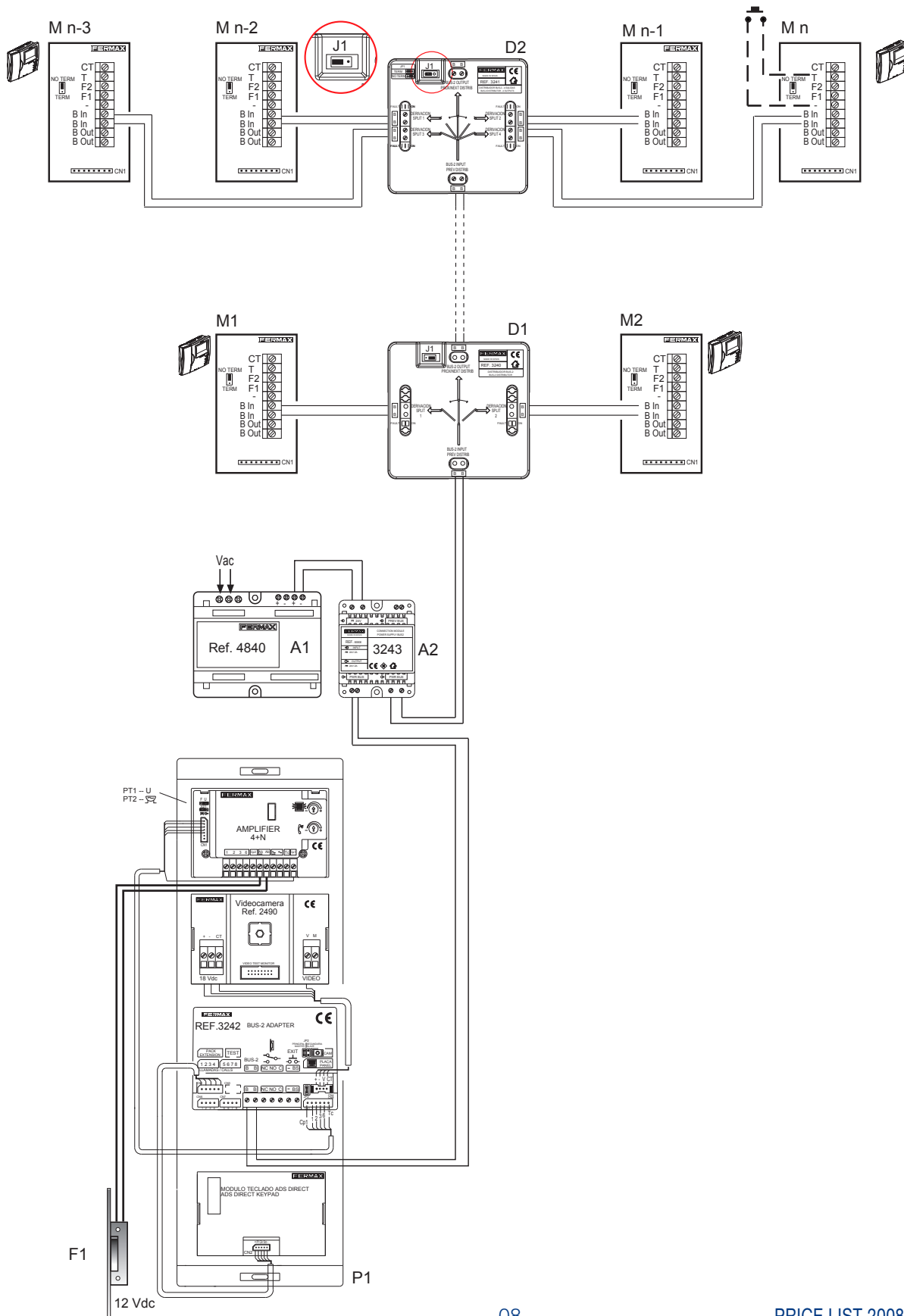


* NOTE: The 3242 module adapter allows to connect up to 8 pushbuttons. If the panel has more than 8 pushbuttons, a extension pack (ref.2441) will be required for each 16 additional pushbuttons.

BASIC INSTALLATION OF A BUS-2 VIDEO DOOR ENTRY SYSTEM AT BUILDINGS WITH 1 ACCESS AND DIRECT PANEL

- P1** Cityline BUS-2 outdoor panel (ref.7577).
Include COLOR camera (ref.2490)
- F1** Door lock release 12 Vdc (ref. 3070)
- A1** Power supply 24Vdc (ref.4840)
- A2** BUS-2 power supply connexion module (ref.3243)
- D1-D2** 2-Ways BUS-2 distributor (ref.3240) and 4-Ways BUS-2 (ref.3241)
- M1-Mn** BUS-2 COLOUR Loft monitor (ref.3230) or B/W (ref.3220)
+ BUS-2 Connector (ref.3221)

CABLE	B/W DISTANCE	COLOUR DISTANCE
Pair Twisted 2x1,3 mm ² - CAT 2	250 m	150 m
Pair Twisted UTP 5 100 m	100 m	100 m
Parallel cable 2x1 mm ²	120 m	100 m
Parallel cable 2x0,5 mm ²	80 m	80 m
Parallel cable 2x0,28 mm ²	70 m	25 m



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