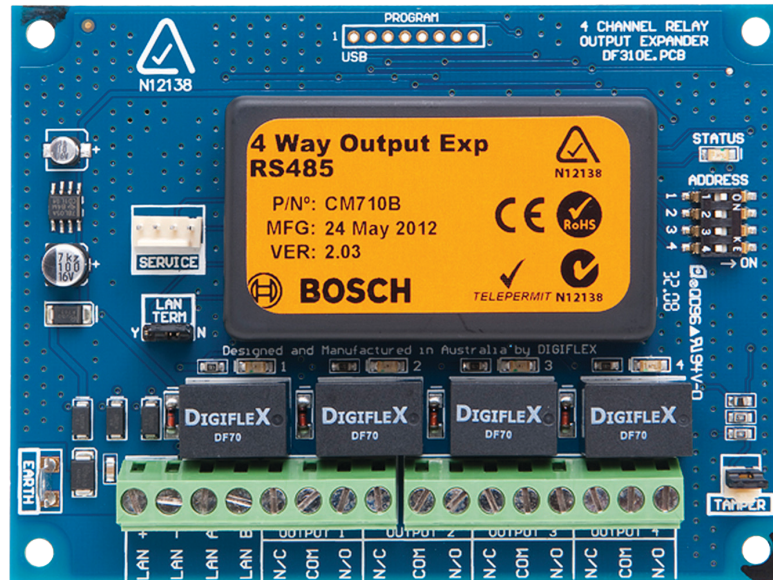


CM710B

4 Way Output Expander Module



Security Systems

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Installer Reference Guide
Security System

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CM710B - 4 WAY OUTPUT EXPANDER MODULE

The CM710B Relay Output Module can be added to the Solution 16i, Solution 144 or Solution E control panels to increase the number of programmable outputs available on the system. Outputs can be used to operate LED Indicators, Garage Doors, Lighting, Sprinklers, Pumps, Air Conditioning, Door Strikes etc.

Each output includes Normally Open (NO), Normally Closed (NC) and Common (COM) terminals. Figure 2: includes examples showing control of an LED indicator and two door strikes in an access control application.

CM710B Output Expander Compatibility	
Panel Supported	Modules Supported
Solution 16i	1
Solution 144	8
Solution E	16

Table 1: CM710B Compatibility

Features

The CM710B module is LAN based, and can be remotely located from the main panel and connected via the 4 wire RS485 system LAN. Each CM710B module must be assigned a unique address using the on-board dip switches. See Table 2: and Table 3: for a list of valid module addresses and the corresponding output mappings for each module.

Always connect new modules while the system is powered down. The control panel will only recognise new modules after power up.

A dedicated service keypad and tamper input are provided. If the tamper input is not required, you should fit the supplied shunt to the tamper input pins. To assist with installation, the module includes indicators to show module and individual output status at all times.

A four way dip switch is used to select the output expanders address. The address setting determines the output numbers for each expander as shown in Table 2: and Table 3: on page 3. You should consult these tables before you begin output programming

Programming

Output programming options are fully detailed in the panel installation and quick reference guides. The following sequence outlines the correct output programming procedure.

- 1) Program the output name. Output names are used to simplify programming, user interaction and reporting.
- 2) Program the output event type. Over 60 different event types are available to suit a variety of application.
- 3) Program the output event assignment.
- 4) Program the output polarity.
- 5) Program the output time parameter.
- 6) Program any specific output options.

Programming Considerations

- 1) The CM710B expander does not need to be enabled via panel programming. The panel will recognise it after power cycle or after performing a LAN scan function (MENU 6-0-2).
- 2) Some outputs are defaulted as Not Used in panel programming. These must be programmed as valid event types before they become active.

Module Address Switches and Output Numbering

Table 2: and Table 3: list the module address settings and corresponding output numbers that apply when adding output expanders to the listed panels. Each output expander module added to the Solution 16i will provide a maximum of 4 additional outputs.



Only one CM710B can be assigned to each address. All modules are supplied from the factory set to address 1. You must power cycle the panel or perform a LAN scan whenever you change the module address. The LAN must be in the unlocked state or the LAN scan will not find new modules.

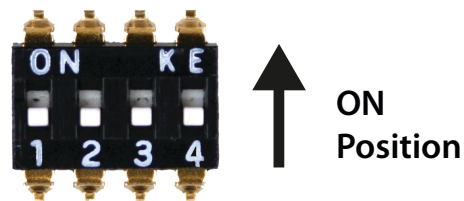


Figure 1: Address Switch Activation

Panel Output Assignments

The following tables list the output numbers which become available when adding output expander modules to the system.

Solution 16i Panel					
Module Number	Address Setting				Output Numbers
	SW1	SW2	SW3	SW4	
Control Panel					1 to 4
1 =	OFF	OFF	OFF	OFF	5 to 8
1 x CM710B can be fitted to the Solution 16i panel.					

Table 2: CM710B Address Configuration On Solution 16i Panel

Solution 144 and Solution E Panels					
Module Number	Address Setting				Output Numbers
	SW1	SW2	SW3	SW4	
Control Panel					1 to 5
Virtual Outputs					6 to 8
1 =	OFF	OFF	OFF	OFF	9 to 12
2 =	ON	OFF	OFF	OFF	13 to 16
3 =	OFF	ON	OFF	OFF	17 to 20
4 =	ON	ON	OFF	OFF	21 to 24
5 =	OFF	OFF	ON	OFF	25 to 28
6 =	ON	OFF	ON	OFF	29 to 32
7 =	OFF	ON	ON	OFF	33 to 36
8 =	ON	ON	ON	OFF	37 to 40
9 =	OFF	OFF	OFF	ON	41 to 44
10 =	ON	OFF	OFF	ON	45 to 48
11 =	OFF	ON	OFF	ON	49 to 52
12 =	ON	ON	OFF	ON	53 to 56
13 =	OFF	OFF	ON	ON	57 to 60
14 =	ON	OFF	ON	ON	61 to 64
15 =	OFF	ON	ON	ON	65 to 68
16 =	ON	ON	ON	ON	69 to 72
Up to 16 x CM710B can be fitted to the Solution E panel. Up to 8 x CM710B can be fitted to the Solution 144 panel.					

Table 3: CM710B Address Configuration On Solution E and Solution 144 Panels

Output Defaults - Solution 144 and Solution E Panels

The table below list the default values for all output parameters in the Solution 144 and Solution E. Outputs 1 to 4 are High current digital outputs and Output 5 is the on board relay output. Outputs 9 to 72 are only available if the optional Output Relay Expander Modules (CM710B) or Universal Expander Modules (CM705B) are fitted. Options marked N/A = Not Applicable.

Programming Option	Output 1	Output 2	Output 3	Output 4	Output 5	Output 9 - 40
Output Name	External Siren	Strobe Light	Smoke Sensor PWR	Internal Siren	On Board Relay	Output x Name
Event Type	36 (External Siren)	48 (Strobe)	49 (Smoke Sensor GND)	37 (Internal Siren)	54 (Keyfob Function 2)	00 (Not Used)
Event Assignment	0	0	0	0	0	0
Output Polarity	14 Speaker Output	6 1 Shot Low + Reset	11 Low 1 Shot Open	6 1 Shot Low + Reset	4 Open 1 Shot Low	0 Open To Low
Time Parameter						
N° Of Hours	000	008	000	000	000	000
N° Of Minutes	005	000	000	005	000	000
N° Of Seconds	000	000	010	000	002	000
N° Of 1/10 Seconds	000	000	000	000	000	000
Output Options						
Off On Low Battery	Y	Y	N	Y	N	N
Guest Control	N	N	N	N	N	N
Reserved	N	N	N	N	N	N
Monitor Overload	Y	Y	Y	Y	N	N
Monitor Device Fail	Y	Y	N	Y	N	N
Alarm On Device Fail	N	N	N	N	N	N
Block If All On	N	N	N	N	N	N
Show Status On Keypad	N	N	N	N	N	N
Show Status On Keypad	N	N	N	N	N	N

Table 4: Solution 144 and Solution E Output Defaults

Zone Allocation When Using the CM705B Universal Expander

The Solution 144 and Solution E panels also support the CM705B Universal Expander Modules. The CM705B is like having 1 x CM704B zone expander, 1 x CM710B output expander and 1 x CM720B power supply module all in one and as such, each universal expander added to the system will consume the address of the corresponding single function module.

For example if a universal expander is assigned to address 4, then you cannot assign a CM704B, CM710B or CM720B module to address 4 and the outputs corresponding to module 4 will be provided on the universal expander as per the table below. See the CM705B installation guide for more information.

Module Number	Address Setting					Output Number
	SW1	SW2	SW3	SW4	SW5	
4 =	ON	ON	OFF	OFF	OFF	21 to 24

Table 5: Outputs Allocated To Module Address 4

Output Event Types - Solution 144 and Solution E Panels

The table below list the various output event types which are available on the Solution 144 and Solution E control panels. Refer to the full installation manual for more detail on the individual event types.

Output Event Type Table					
00 - Disabled	P	26 - Entry Timing	A	52 - Exit Error	A
01 - Battery Trouble	P	27 - Exit Timing	A	53 - Keyfob Function 1	A
02 - AC Trouble	P	28 - End Of Exit Time	A	54 - Keyfob Function 2	A
03 - Telco Line Fail	P	29 - Chime On	A	55 - Output In PreDelay	Op
04 - Comm Fail	Rr	30 - Chime Zone Faulted	A	56 - Follow PIN Code	Ur
05 - 3rd Dial Attempt	Rr	31 - Auto Arm Pre Alert	A	57 - Part Entry Time	A
06 - Dest Reporting	Rr	32 - Ready To Arm All On	A	58 - TimeZone	Tz
07 - Disabled		33 - Ready To Part Arm	A	59 - Temperature Hi/Lo	Kp
08 - Destination Kiss Off	Rr	34 - Ready To Part 2 Arm	A	60 - Door	Dr
09 - Keyfob Function 1	Ur	35 - Close Sent OK	A	61 - Door Open Too Long	Dr
10 - Keyfob Function 2	Ur	36 - External Audible	A	71 - CLI Trigger	CLI
11 - Dialler Disabled	P	37 - Internal Audible	A	72 - GSM Signal Lost	P
12 - Output Device Missing	P	38 - Any Zone Alarm	A	73 - GPRS Failure	P
13 - Output Trouble	Op	39 - Fire Alarm	A	74 - Ethernet Fail	P
14 - Panel On Line	P	40 - Burglary Alarm	A	75 - Macro	Ma
15 - Incoming Call	P	41 - Silent Alarm	A		
16 - System Trouble	P	42 - Duress Alarm	A		
17 - Box Tamper	Zn	43 - Keypad Medical	A		
18 - Zone Trouble	Zn	44 - Keypad Fire	A		
19 - Zone Mirror	Zn	45 - Keypad Panic	A		
20 - Zone Alarm	A	46 - Device Tamper	A		
21 - Area Disarmed	A	47 - Access Denied	A		
22 - Area Part Or All On	A	48 - Strobe	A		
23 - Area All On	A	49 - Smoke Sensor GND	A		
24 - Area Part On	A	50 - Sensor Watch	A		
25 - Area Part 2 On	A	51 - Senior Watch	A		

Legend:

(Ma) = Macro	(P) = Panel Event Assignment	(Ur) = User Event Assignment
(CLI) = CLI Trigger Table	(Op) = Output Event Assignment	(Tz) = Time Zone Event Assignment
(A) = Area Event Assignment	(Zn) = Zone Event Assignment	(Dr) = Door Group Event Assignment
(Kp) = Keypad	(Rr) = Reporting Destination	

Table 6: Output Event Types



Note

The event types available on the Solution 16i panel differ from those in the above table. Please refer to the Solution 16i Quick Reference Guide for detailed event type information.

CM710B Connection Diagram - Rev F PCB

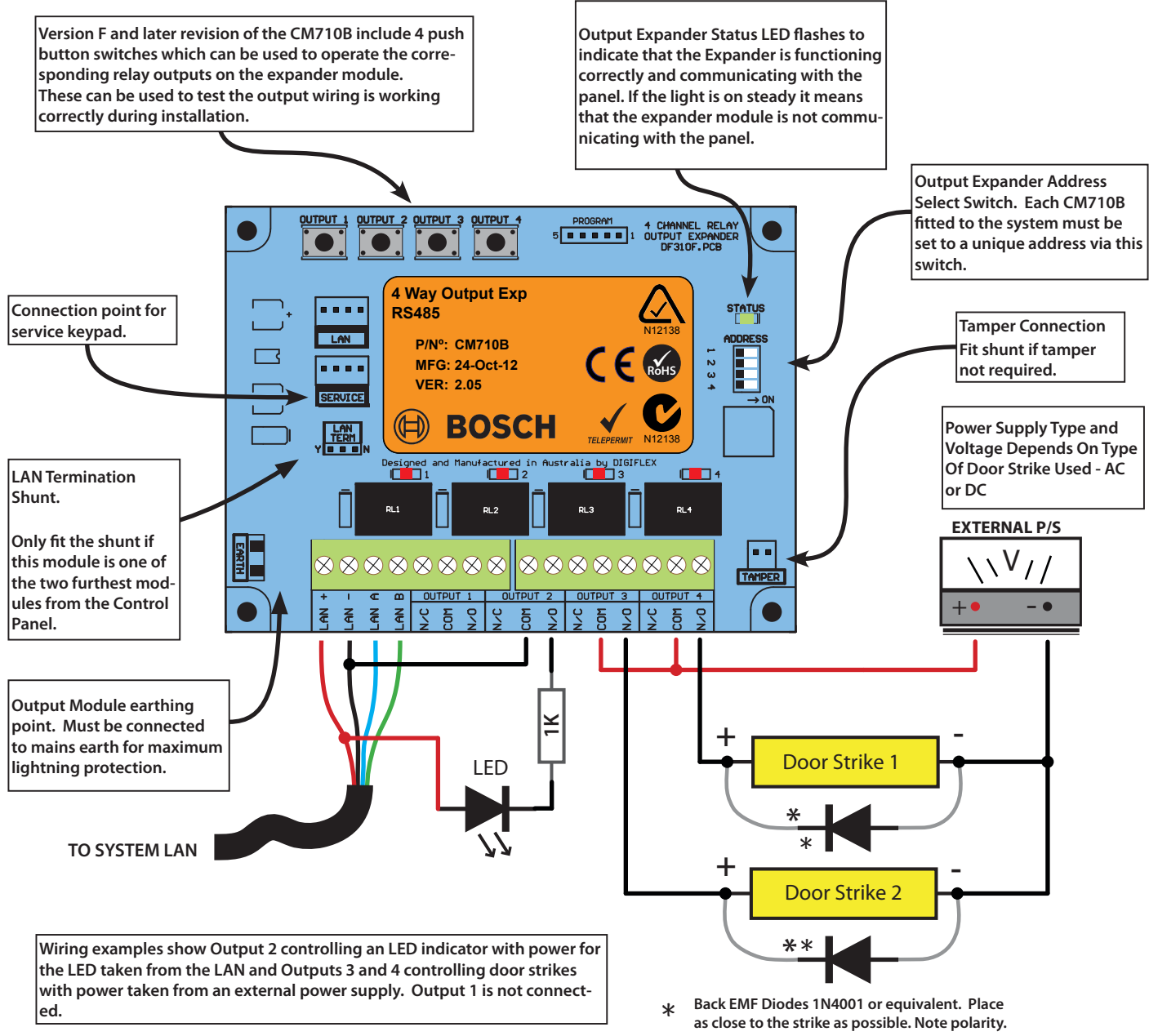


Figure 2: CM710B Connection Diagram

Note When controlling inductive loads such as Door Strikes always install protection diodes as shown. Note the Cathode or marked end of the diode connects to the (+) positive voltage. When using the outputs to switch power from an external power supply you must only connect the negative of the power supply to the negative of the CM710B module (LAN -).

Output Defaults - Solution 16i Panels

The table below list the default values for all output parameters in the Solution 16i panel. Outputs 1 to 4 are high current digital outputs. Outputs 5 to 8 are only available if the optional output expander board (CM710B) is fitted. Options marked N/A = Not Applicable.

Solution 16i Default Output Programming					
Programming Option	Output 1	Output 2	Output 3	Output 4	Output 5-8
Output Name	External Siren	Strobe Light	Smoke Sensor PWR	Internal Siren	Output ? Name
Event Type	36 (External Siren)	48 (Strobe)	49 (Smoke Sensor GND)	37 (Internal Siren)	0
Event Assignment	0	0	0	0	0
Output Polarity	14	6	11	6	0
Time Parameter					
N° Of Hours	000	008	000	000	000
N° Of Minutes	005	000	000	005	000
N° Of Seconds	000	000	010	000	000
N° Of 1/10 Seconds	000	000	000	000	000
Output Options					
Do not Operate If Low Battery	Y	Y	Y	Y	N
Display Output Overload	Y	Y	Y	Y	N/A
Report Output Overload	Y	Y	Y	Y	N/A
Display Missing Output Device	Y	N	N	N	N/A
Report Missing Output Device	Y	N	N	N	N/A
Alarm On Device Fail	N	N	N	N	N/A
Block Output If Armed All On	N	N	N	N	N
Display Status On Keypad	N	N	N	N	N

Table 7: Solution 16i Output Defaults

CM710B Specifications

- Part Number:** CM710B - 4 Way Relay Output Expander Module (RS485 LAN)
- Operating Voltage:** 10.0V DC. - 14.5V DC. @ 30mA Max 200mA. (All relays and LEDs Operated)
- Outputs:** 4 x Form C Relay Outputs - Contact rated at 24V DC @2A Max
- Module Connection:** Max total LAN length using multi strand security cable = 300m ,
(RS485 LAN) Max total LAN length using 2 pair twisted shielded data cable (Belden 8723) = 1200m.
See manual for complete wiring instructions.
- Operating Environment:** 0° to 55°C RH 5 to 85% at 30°C non-condensing.
- Fixing Method:** The CM710B can be mounted in the MW700, MW710, MW720 or MW730 enclosures using clip in PCB mounts supplied.
- Warranty:** 3 years from date of manufacture (return to base)



In the interest of ongoing product development this document is subject to change without notice.

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