



Direct Brigade Alarm

CodeRed ASE MK4

User Manual

Direct Brigade Alarm (DBA) CodeRed ASE MK4 User Manual

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1 DEFINITIONS

Acronyms and terms used in this document are defined below.

Acronym	Meaning
ActivFire	Fire protection equipment verification and certification scheme provided by CSIRO
AS	Australian Standards
AS1670.3:2018	Fire detection, warning, control and intercom systems — System design, installation and commissioning. Part 3: Fire alarm monitoring
AS4428.6:2018	Fire detection, warning, control and intercom systems — Control and indicating equipment, Part 6: Alarm signalling equipment
ASE	Alarm Signalling Equipment
CAD	Computer-aided dispatch
CH1	Primary MK4 Comms Channel (Telstra 4G LTE)
CH2	Backup MK4 Comms Channel (Optus 4G LTE)
Chubb	DFES's current automatic fire alarm monitoring service provider
CodeRed	Chubb's brand and system for automatic fire alarm monitoring
ComCen	DFES Communications Centre dispatching fire brigade by CAD
CSC	FAMS's Customer Service Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DBA	Direct Brigade Alarm
DBANS	Direct Brigade Alarm Notification System
DFES	Department of Fire and Emergency Services
DFES Contractor	Chubb FAMS
F or f	MK4 Comms channel state in a fault condition
FAMS	Fire Alarm Monitoring Services operated by Chubb Fire & Security
FDAS	Fire Detection and Alarm System
FDAS Cable	Supervised transmission path interfacing FDCIE relays with MK4
FDCIE	Fire Detection Control and Indicating Equipment or FIP
FIP	Fire Indicator Panel or fire panel
LCD	Liquid Crystal Display
MK4	CodeRed ASE model name
Monitoring Centre	DFES operates two monitoring centres: 1. ComCen for fire brigade emergency response


Acronym	Meaning
	2. FAMS CSC for administration, accounts, and notifications
N or n	MK4 Comms channel state in a normal condition
NCC	National Construction Code
NFC	Near Field Communication
Ohms	Unit of electrical resistance
PsF	MK4 supervised input monitoring FDCIE Power Supply Fault
PSU	FDCIE Power Supply Unit
SYS ID	MK4 System identification is used to distinguish different monitored signals
TESTMODE	ASE Mode is used for testing, fire drills and maintenance with events logged in DBANS but not transmitted to ComGen CAD or FAMS CSC
TrF	MK4 supervised input monitoring transmission path of FDAS Cable
V	Unit of electrical potential difference (voltage)

Table 1

2 INTRODUCTION

DFES operates an automatic fire alarm monitoring network with over 4330 DBAs across Western Australia, conforming to AS 1670.3. The CodeRed ASE Model MK4 is a new dual cellular device designed and manufactured in Australia. It conforms to AS 4428.6:2018 and is certified for use in Australia with ActivFire Certificate of Conformity afp—3776. MK4 is provided to DFES customers for automatic fire alarm monitoring in Western Australia, whether for new DBA connections or maintenance replacements.

3 NFC DEVICE

The MK4 is designed with near field communication (NFC)  technology requiring key fob or mobile app to place the MK4 into the **TESTMODE**. During the transitional period, DFES will initially supply customers with a temporary key fob (site key), which will be disabled once the mobile app is ready for the fire industry in Western Australia.

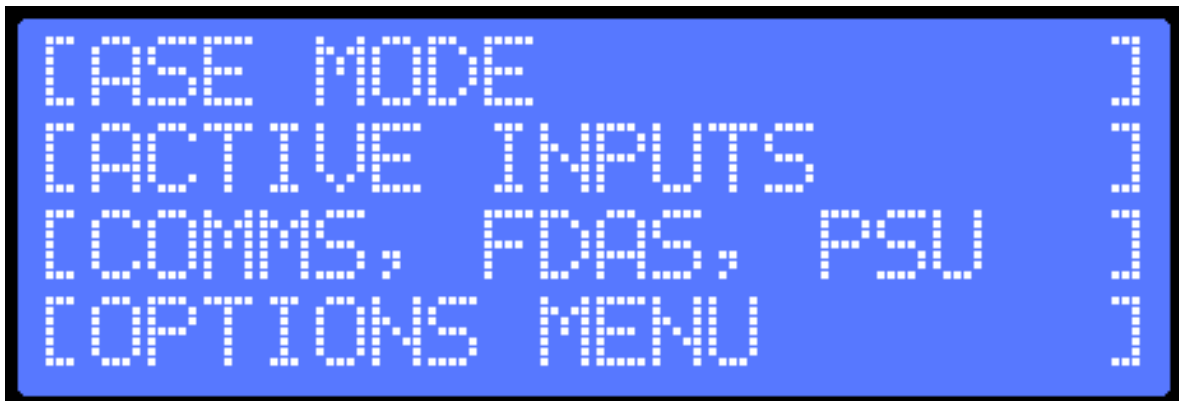


MK4 NFC key fob

Trained and authorised personnel, such as fire wardens and shift engineers, will require a personal NFC device, a mobile app, to place the MK4 into the **TESTMODE** once the transition period is over and site keys become disabled.

4 LCD DISPLAY

The MK4 has a white-on-blue LCD divided into four lines, each indicating separate information.



4.1 LINE 1 [ASE MODE]

The ASE mode can be

- **CODE RED NORMAL**
- **TESTMODE NNNm remain**, where NNN is the number of minutes until NORMAL MODE resumes.

4.2 LINE 2 [ACTIVE INPUTS]

This line displays all current active inputs monitored by the ASE.

Format = **SYSN ALM/FLT/DIS**, where N is the system number that has active inputs

Example = **SYS1 ALM** indicates system 1 is in alarm.

4.3 LINE 3 [COMMS & FDAS WIRING]

This line displays the current communication status with the monitoring centre, the wiring fault status of the inputs, and the power supply status.

Format = **CH1 N CH2 f TrF PsF**, where **N** or **n** indicates normal, and **F** or **f** indicates a fault. The active communication channel is indicated by a capital letter.

TrF indicates a wiring fault on one or more inputs. See the history log in **TESTMODE** to determine which input has a wiring fault.

PsF indicates a fire panel power supply fault. This will be due to the power supply relay failure transmitted on the last pair of input cables to MK4 input 8. With old fire panels, where the power supply fault is not monitored, the 220 ohms End-of-Line resistor shall be installed in MK4 input 8 to remove the **PsF** indication.

4.4 LINE 4 [OPTIONS MENU]

This line displays the options menu. The buttons ① ② ③ and ④ below the LCD are used to traverse the menu to perform a function or retrieve information from the ASE.

5 MONITORING CENTRE – MK4 STATUS UPDATE

5.1 LCD Flashing

Information on lines 1, 2, and 3 of the LCD shall flash if the monitoring centre has not received and acknowledged a status change.

If the System has an alarm status not received by the monitoring centre, then it will flash fast. All other statuses not received by the monitoring centre will flash slowly.

For example, if there is a transmission path fault that the monitoring centre hasn't received, the **TrF** text on the LCD will be flashing (slow).



5.2 Activating TESTMODE

To activate test mode, hold your NFC device close to the display and near the NFC image.



If you have an authorised device, the ASE will enter test mode, and line 1 will indicate **TESTMODE**.

5.3 De-activating TESTMODE

To deactivate test mode, hold your NFC device close to the display and near the NFC image.



If you have an authorised device, the ASE will enter normal mode, and line 1 will indicate **CODE RED NORMAL**.

ATTENTION: Any active inputs will be transmitted to the fire brigade dispatch centre.






6 MK4 TESTMODE – OPTIONS MENU

You may use the Options Menu to perform the following tasks:








1. [Communications](#)
 - a. View the wireless signal strength
 - b. View/Diagnose wireless channel status
 - c. Perform communication loss test
2. [Display](#)
 - a. Test the LCD display
3. [History](#)
 - a. View the event history of the ASE

6.1 Communications











View the wireless signal strength

1. Press the Options button  (i.e. button )
2. Press the button under 'Comms' (i.e. button )
3. Press the button under 'Sig' (i.e. button )
4. The bottom line displays the signal strength for each channel enabled.
 - a. 0 – Low
 - b. 31 – High
5. To return to the menu, repeatedly press the button under 'Back' (i.e. button ). Alternatively, it will timeout and return automatically.

View/Diagnose wireless channel status






1. Press the Options button  (i.e. button )
2. Press the button under 'Comms' (i.e. button )
3. Press the button under 'Diag' (i.e. button )
4. Press the button under the channel you would like to diagnose 'CH1' or 'CH2' (i.e. button  or )
 - a. 'radio' – cellular modem fault
 - b. 'iccid' – SIM card fault
 - c. 'session' – unable to establish a data session
 - d. 'PPP' – unable to start PPP session
 - e. 'ok' – channel is normal
5. To return to the menu, repeatedly press the button under 'Back' (i.e. button ). Alternatively, it will timeout and return automatically.

Perform communication loss test

1. Press the Options button  (i.e. button )
2. Press the button under 'Comms' (i.e. button )
3. Press the button under 'Test' (i.e. button )
4. Press the button under the channel you would like to test 'CH1', 'CH2' or 'ALL' (i.e. button ,  or )
5. Press the button under 'Y' to confirm your selection and start the test (i.e. button )
6. The selected channel(s) will be disabled for 90 seconds. To cancel the test, press the 'Back' button at any time (i.e. button )
7. To return to the menu, repeatedly press the button under 'Back' (i.e. button ). Alternatively, it will timeout and return automatically.









6.2 Display

Test the LCD display

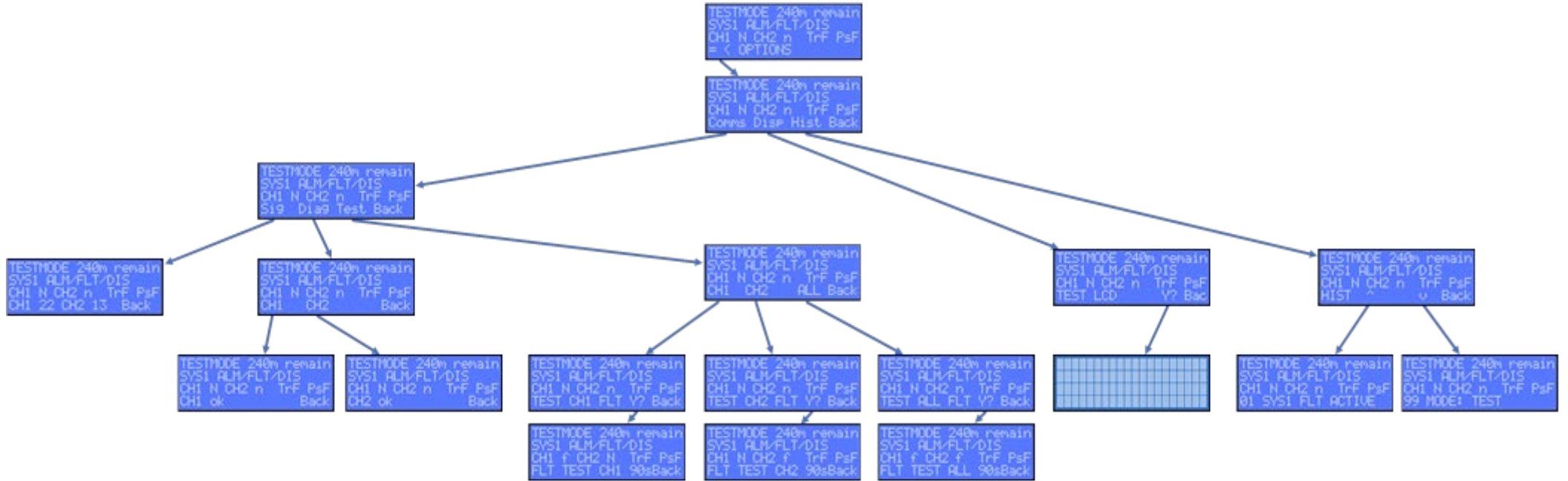
1. Press the Options button  (i.e. button )
2. Press the button under 'Disp' (i.e. button )
3. Press and hold the button under 'Y?' to turn on all pixels on the display (i.e. button )
4. To return to the menu, repeatedly press the button under 'Back' (i.e. button ).
Alternatively, it will timeout and return automatically.

6.3 History

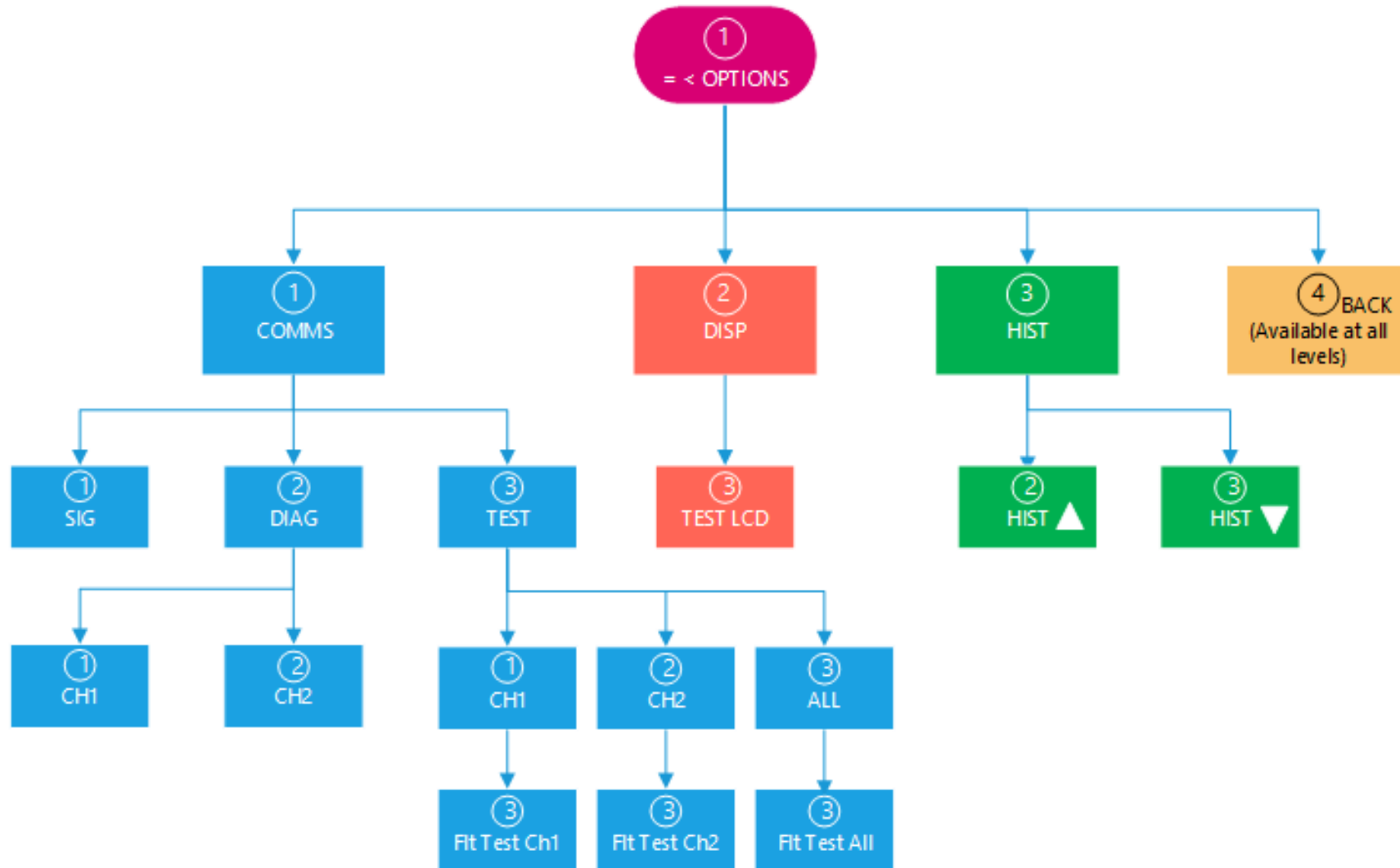
View the event history of the ASE

1. Press the Options button  (i.e. button )
2. Press the button under 'Hist' (i.e. button )
3. Repeatedly press the button under  (i.e. button ) to go up through the history and repeatedly press the button under  (i.e. button ) to go down through the history.
 - a. 01 SYS8 ALM NORMAL
 - i. '01' – Event number
 - ii. 'SYS8' – System number
 - iii. 'ALM' – System state input type
 - iv. 'NORMAL' – System state
 - b. 12 CH2: N
 - i. '12' – Event number
 - ii. 'CH2:' – Communication channel number
 - iii. 'N' – Channel state (N – Normal, F – Fault)
 - c. 99 MODE: TEST
 - i. '99' – Event number
 - ii. 'MODE:' – ASE mode
 - iii. 'TEST' – ASE in test mode (TEST or NORMAL)
4. To return to the menu, repeatedly press the button under 'Back' (i.e. button ).
Alternatively, it will timeout and return automatically.

6.4 MK4 Options Menu Diagram



6.5 MK4 Options Menu Flow Chart



7 MK4 INTERFACING WITH FDCIE

MK4 will be interfaced with FDCIE with one or more FDAS Cables depending on the amount of the required monitored signals being transmitted to the fire brigade. The DFES contractor will connect the FDAS Cable from MK4 to the FDCIE relays.

7.1 FDAS Mandatory Signals to DFES CAD

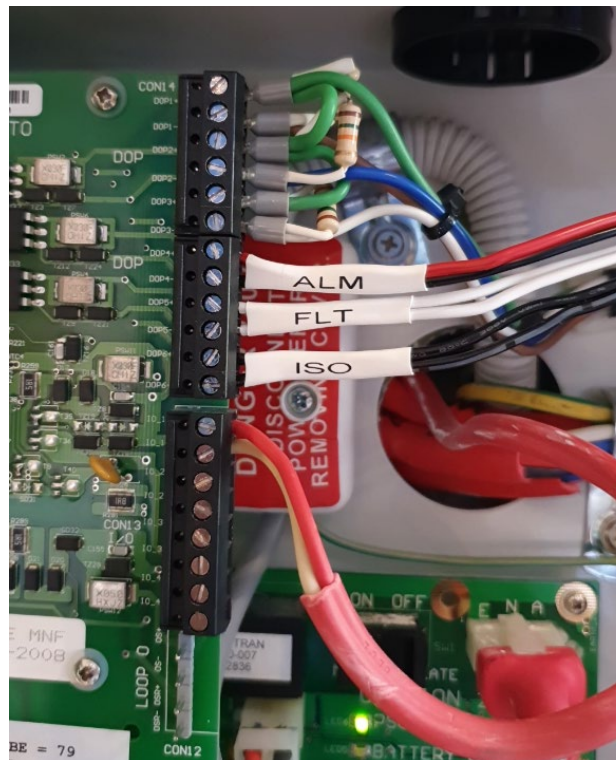
In Western Australia, specific signals such as Alarm, Fault, and Disable are mandatory. With the adoption of the NCC 2022 and AS 1670.3:2018 Amd1 2021, FDCIE Power Supply Failure is also becoming a mandatory signal.

Additional signals from [Table 3](#), such as Sprinkler or sub-panel alarms, etc., are determined by the installation requirements and system provisions outlined in the NCC.

7.2 FDCIE Relay Wiring

The FDAS Cable shall be connected to the normally closed (NC) and common (COM) terminals of the volt-free FDCIE relay being monitored. Where FDCIE provides a fail-safe, normally energised fault, or PSU relay, the FDAS Cable shall be wired normally open (NO) and common (COM).

The FDAS Cable pairs will be labelled to assist with troubleshooting.



FDAS Cable - FDCIE Relay side labelling

7.3 Troubleshooting

The customers' fire services contractor shall perform the troubleshooting. If signals are stuck on the MK4 after being cleared on the FDCIE, please check that the FDCIE relay has returned to its default or normal state before doing any other steps.

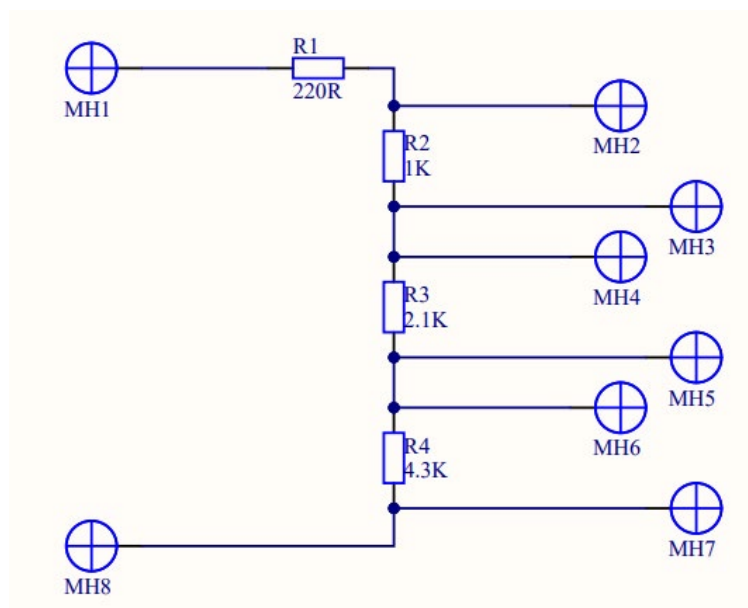
Table 2 below can assist in diagnosing the issue by referencing FDAS Cable nominal resistance and voltage levels for each pair or input. The resistance cannot be measured when a circuit is live or under load. To measure resistance, MK4 must be powered down.

Input 1 Relay State	Input 2 Relay State	Input 3 Relay State	Min (V)	Max (V)	Resistance (Ohms)
the resistor network is an open-circuit fault			4.944	5	∞
CLOSED	CLOSED	CLOSED	4.426	4.924	220
OPEN	CLOSED	CLOSED	3.771	4.406	1220
CLOSED	OPEN	CLOSED	3.193	3.691	2320
OPEN	OPEN	CLOSED	2.797	3.173	3320
CLOSED	CLOSED	OPEN	2.485	2.777	4520
OPEN	CLOSED	OPEN	2.252	2.465	5520
CLOSED	OPEN	OPEN	2.059	2.232	6620
OPEN	OPEN	OPEN	0.993	2.039	7620
the resistor network is a short-circuit fault			0	0.973	0

Table 2

FDAS Cable internal resistance configuration on the FDCIE relay side:

- Pair 1 or Input 1 – MH2 & MH3
- Pair 2 or Input 2 – MH4 & MH5
- Pair 3 or Input 3 – MH6 & MH7



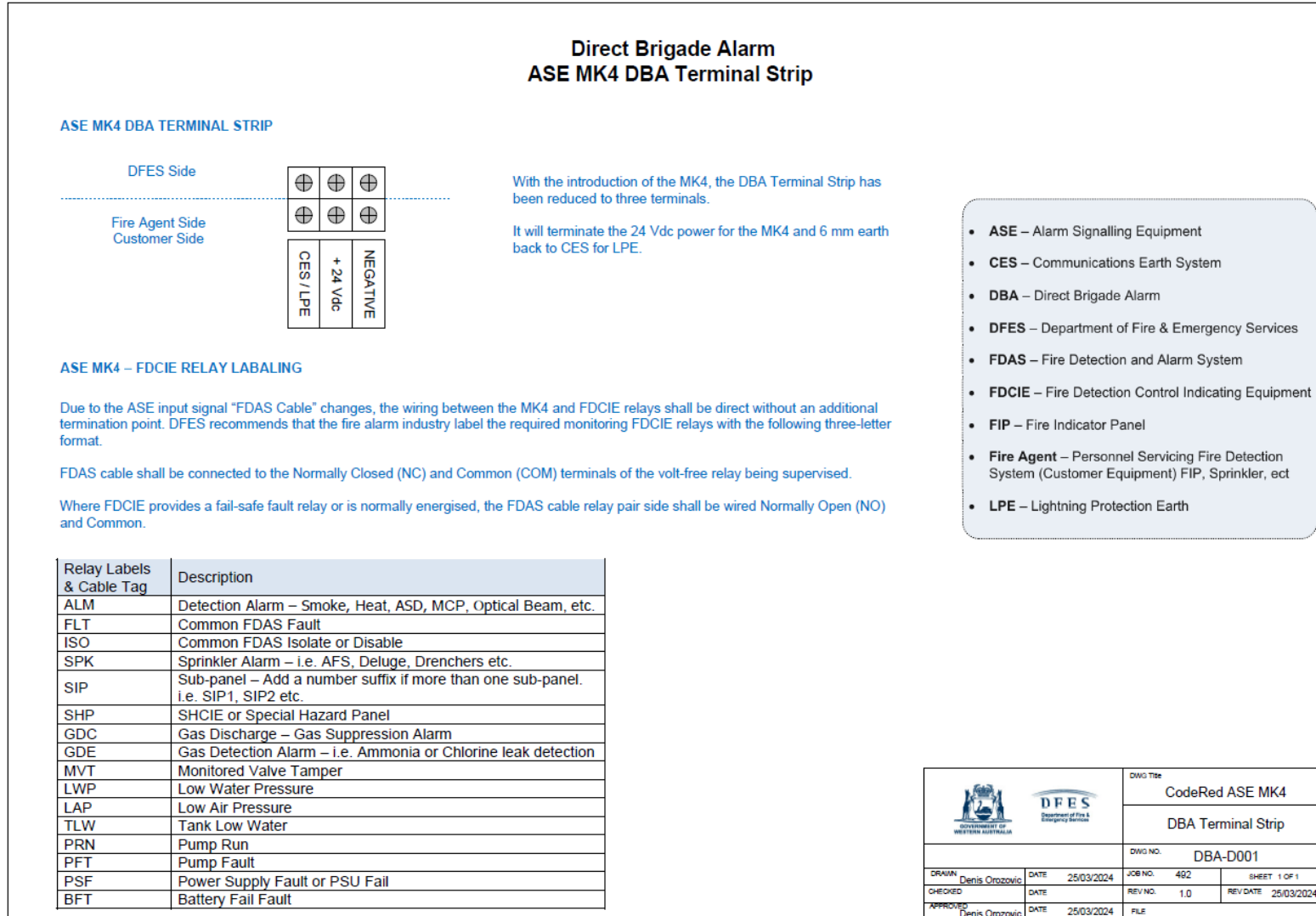
7.4 Labelling of the Monitored Signals

The below three-letter format shall be used to label FDCIE relays and FDAS Cable pairs.

Relay Labels & Cable Tag	Description
ALM	Detection Alarm – Smoke, Heat, ASD, MCP, Optical Beam, etc.
FLT	Common FDAS Fault
ISO	Common FDAS Isolate or Disable
SPK	Sprinkler Alarm – i.e. AFS, Deluge, Drenchers etc.
SIP	Sub-panel – Add a number suffix if more than one sub-panel. i.e. SIP1, SIP2 etc.
SHP	SHCIE or Special Hazard Panel
GDC	Gas Discharge – Gas Suppression Alarm
GDE	Gas Detection Alarm – i.e. Ammonia or Chlorine leak detection
MVT	Monitored Valve Tamper
LWP	Low Water Pressure
LAP	Low Air Pressure
TLW	Tank Low Water
PRN	Pump Run
PFT	Pump Fault
PSF	Power Supply Fault or PSU Fail
BFT	Battery Fail Fault

Table 3

7.5 DBA Terminal Strip Diagram



8 DBA STICKERS

Upon installation completion, the DFES contractor will place two stickers on the FDCIE.

8.1 Systems ID Label

This sticker displays the number of signals connected to ASE and monitored by the fire brigade. It helps identify the number of monitored systems and their SYS ID, which can be cross-referenced with the MK4 LCD Display [LINE 2 \[ACTIVE INPUTS\]](#) in the event of an alarm activation.

DBA:			
SYS:	DESCRIPTION:	SYS:	DESCRIPTION:
	FDAS ALM + FLT + ISO		TANK LOW WATER
	SPRINKLER		PANEL BATTERY
	GAS DETECTION		PSU FAIL
	GAS DISCHARGE		PUMP RUN
	SUB INDICATOR PANEL		PUMP FAULT
	VALVE TAMPER		
	LOW WATER PRESSURE		

8.2 Conditions of Use





FOR A SAFER STATE

DIRECT BRIGADE ALARM (DBA)
End User Agreement (EUA) Conditions of Use

FALSE FIRE ALARM NOTIFICATION:
To advise DFES of a false fire alarm activation, please contact DFES Communications Centre on **08 9395 9209** or **08 9395 9210**

ALARM SIGNALLING EQUIPMENT (ASE):
The ASE remains the property of DFES and may not be interfered with or disconnected without written approval from DFES.

FIRE SYSTEM MODIFICATIONS:
Modifications to the DBA monitored fire system must be authorised by DFES and performed by a registered fire service contractor with a fire industry association in Australia.

FIRE SYSTEM IMPAIRMENT NOTIFICATION:
DFES requests a Fire System Impairment Notice for fire systems undergoing repair or maintenance work that will extend for over 24 hours. Scan the QR Code to complete the DFES Impairment Form.



FIRE ALARM MONITORING SERVICES (FAMS)
CUSTOMER SERVICE CENTRE (24/7) - 1300 793 722
Further information can be found at -
www.firealarmmonitoringservices.com.au

IN THE EVENT OF FIRE RING 000 TO ENSURE FIRE SERVICE RESPONSE

DFES Impairment Form

