



ACTIVE FIRE PROTECTION-EQUIPMENT LISTING SCHEME

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Page 1 of 8

## PRODUCT LISTING DATA SHEET (Active Fire Protection Equipment)

### Product designation

#### **Simplex, Model 4100/4120, control and indicating equipment**

(Refer to the Technical Specification section of this document for further specific detail)

### Supplier

#### **Simplex Fire Products**

47 Gilby Road, MOUNT WAVERLEY, VIC, AUSTRALIA, 3149

### Manufacturer

#### **Tyco Safety Products**

17 Mary Muller Drive, CHRISTCHURCH, NEW ZEALAND, 8241

### Supplier's description

The Simplex, Model 4100/4120, control and indicating equipment (CIE) has the capacity to monitor and control 1024 devices, depending upon system options. The devices can be either conventional zones of detectors or analogue addressable devices. In the event of AC mains loss, standby batteries provide a backup of 24 Vdc supply. The Simplex 4100 systems use a Master Controller Board with a Flash EPROM allowing custom on-site changes directly into the CIE. Battery backed RAM provides historical data even during complete power-down of the system.

A number of Simplex 4100 CIE can be networked by adding a Network Interface Card to each CIE. This Network is called a Simplex 4120 Network. The Simplex, Model 4100/4120, control and indicating equipment incorporates the following configurations;

- 4120 Network communication using RS485 communication protocol and 4120 Network card.
- Universal transponders.
- Network Display Unit (NDU). The 4120 NDU is a network annunciator and manual system controller for a 4120 network. It provides alpha-numeric annunciation for up to 2500 network points.

Multiplex transponders can also be connected to each 4100/4120 CIE in remote locations to form a distributed system (maximum 31 transponders).

The 4100 MAPNET II (Multi Addressable Peripheral Network) card accommodates up to 127 addressable monitor/control devices. The zone adaptor module (ZAM) allows non-addressable modules including devices to interface with MAPNET II circuits. The MAPNET II is compatible with Simplex 4100 CIE, miniplex and universal transponders, and the Simplex 4120 Network. Communication between addressable devices and addressable modules is via the MAPNET II two-way communication. Each MAPNET II Quad Fault Isolator allows an addressable interface module which may incorporate up to four loops. Each Quad Fault Isolator module requires four consecutive MAPNET II device address to be dedicated to its operation. The MAPNET II line isolator unit may also be installed in field to protect against a short circuit on any communication line.

The 4100MXP is an expansion card for the Simplex 4100/4120 CIE. It powers and communicates with up to 250 MX analogue addressable detectors and modules on a two wire loop of up to 2km.

A 2 line, 80 character alphanumeric LCD display is used to annunciate a 40 character custom label message per device or circuit, the device point type, the current status of the device or circuit, as well as operator prompts for



This product listing data sheet should be read in conjunction with the general requirements of the terms and conditions of listing under the ActivFire Scheme.

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acknowledging status changes or inputting commands. Alarm, Isolation, and Fault conditions are indicated at the operator's panel by dedicated LEDs and a piezoelectric sounder. Each of these system conditions has a dedicated acknowledge button.

The Simplex 4120 uses a switch mode power supply to provide up to 8 Amps of power at 24 Vdc for load devices and system operation, plus up to 4 Amps for battery charging responsibilities. The power supply can communicate directly with the Master Controller via internal serial communication.

A Simplex Alarm Acknowledgment Module (AAM) may be optionally fitted to the Simplex, Model 4100/4120, control and indicating equipment. The AAM consisting of;

- a wall-mounted faceplate housing a normally open momentary pushbutton and high intensity red LED,
- a Simplex Model 4098-9714EA Photoelectric Smoke Detector mounted on a Simplex, Model 4098-9794 base assembly,
- a Simplex 4090-9001 Input Alarm Module.

The Alarm Acknowledgment Module (AAM), Model AAM2, may be optionally fitted to Simplex, Model 4100/4120, control and indicating equipment. It is designed to allow the resident of a Sole Occupancy Unit to acknowledge a false alarm and clear the cause of the fire alarm before the Fire Brigade is called. The AAM2 is designed for use with the Simplex, Model 4100/4120, control and indicating equipment when a sounder base is used with the detector.

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### Conformance criteria and evaluation

The Simplex, Model 4100/4120, control and indicating equipment has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 4428.1-1998, 'Fire detection, warning, control and intercom systems - Control and indicating equipment - Fire'.
2. Australian Standard AS 1603.4-1987, 'Automatic fire detection and alarm systems - Control and indicating equipment' including Amdt 1 (June 1988) / Amdt 2 (October 1989).
3. SSL Test Specification FTS-136, Version 1.4, 'Alarm Acknowledgment Module'.

Listing is subject to ActivFire Scheme terms and conditions as applicable to the designated registrant and supplier.

Conformance with SSL Test Specification FTS-136 requires the fitment of the Simplex AAM or AAM2 alarm acknowledgment module.

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### Limitations/conditions of conformance

**Limitations/conditions of conformance, where identified on this Product Listing Data Sheet, are derived from qualifications within the report of the testing agency and/or other related technical documentation. It is recommended that all details with respect to design, assembly and installation instructions and restrictions should be checked against the supplier's/maker's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.**

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. Compatibility of this equipment with new or existing actuating devices should be verified prior to installation.

### Technical specification

The following details are a representative extract of the technical specification for the Simplex, Model 4100/4120, control and indicating equipment and may be subject to change. Complete and current details should be determined from the designated supplier's/manufacturer's technical manual/data sheets.

**Power supply:** Universal Power Supply (UPS)  
**Nominal output voltage:** 27.3 Vdc  
**Maximum rated current:** 12 A  
**Circuit current limit PTC:** 4 A

**Battery charger:**  
**Battery charger voltage setting:** 27.3 Vdc  
**Maximum rated output current:** 2.53 A

**Power supply:** Simplex 4100A - 0157  
**Nominal output voltage:** 28.5 Vdc  
**Maximum rated current:** 12 A  
**Circuit current limit PTC:** 4 A  
**Standby current consumption:** 147 mA

**Battery charger:**  
**Battery charger voltage setting:** 27.9 Vdc  
**Maximum rated output current:** 4 A

**LCD message:** Fault / Yellow  
 No faults: Off  
 AC voltage status abnormal: Flash  
 Charger voltage 2% off range: Flash (limits 28.5 Vdc & 26.4 Vdc)  
 Battery charger capacity: Flash at 23.5 Vdc  
 Battery low: Flash at 18.5 Vdc  
 Battery disconnected: Flash

**Mains supply indicator:** Green LED ON

**Panel:**  
 Quiescent panel load: 1.09 A @ 27.84 V

#### Device loads

Device Type	Min – Max (Volts)	I <sub>q</sub> Signal Average (mA)	I <sub>A</sub> Average (mA)
Tyco MX, 814RB Relay Base	20-40	0.05	0.10
Tyco MX, 814SB Full Volume Sounder Base	20-40	0.4	15
Tyco MX, 814SB Mid Volume Sounder Base	20-40	0.4	12
Tyco MX, 814SB Low Volume Sounder Base	20-40	0.4	9
Tyco MX, 814IB Isolator Base	20-40	0.08	0.08
MIM800 Mini Input Module	20-40	0.275	0.275 - 2.8 Note 1
CIM800 Input Module	20-40	0.275	0.275 - 2.8 Note 1
SNM800 Sounder Notification Module	20-40	0.45	0.45 - 3.0 Note 1
RIM800 Relay Interface Module	20-40	0.285	0.29 - 2.8 Note 1
Tyco, CP820, Addressable Manual Call Point	20-40	0.275	0.275 - 2.8 Note 1
Tyco MX, 814CH, Multi-Sensor, Carbon monoxide / Heat Type A/B	20-40	0.27	3 Note 1
Tyco MX, 814H, Heat Type A, B, C, or D	20-40	0.25	3 Note 1
Tyco MX, 814I, Smoke Ionisation	20-40	0.33	3 Note 1
Tyco MX, 814PH, Multi-Sensor, Photoelectric Smoke / Heat Type A/B	20-40	0.275	3 Note 1
Tyco MX, 814P, Photoelectric Smoke	20-40	0.275	3 Note 1
DIM800, Detector Interface Module	20-40	0.1	0.1

Note 1: With LED on.

## Supplementary information

## Evaluated modules

Module description	Assembly number	Rev	PCB number	Iss	Tech. drawing number	Iss	Report
4100 Fuse Card Secondary	002-038	-	001-531	-	002-038-S	-	89/FS218, Dec.-1989,
8 LED Module	562-822	B	-	-	841-624	A	AS 1603.4-1987
16 LED Module	562-806	B	-	-	841-618	A	
8 LED Switch	562-814	B	-	-	841-622	A	
16 LED/8 Switch	562-747	B	-	-	841-623	A	
16 LED/8 Switch	562-805	B	-	-	841-623	A	
Battery Test Module	002-045	-	015-549	-	002-045-S	-	
Power Supply Module	562-808	ER	562-807	B	841-651	E	
Remote Control Board Assembly	562-819	D	-	-	841-655	B	
Remote Control Unit	562-876	A	-	-	841-655	B	
16 LED Board (Status Com. Unit)	562-817	A	-	-	841-654	C	
Remote (Serial Interface Board)	562-791	B	-	-	841-728		
Graphic I/O	562-789	B	562-788	B	-	-	89/FS218, Dec. 1989,
LED Switch Controller	562-729	C	562-728	C	841-615	B	AS 1603.4-1987
Status Command Unit	-	-	962-794	B	841-654	C	
24 point I/O Relay Motherboard PA0957	002-124	C/2/2	004-098	C			XB1199/R1, Jan. 1997 AS 1603:4-1997 inc amdt 1 & 2
Remote Interface II	565-233	D/1	-		841-858		
24 Point Serial Graphic I/O	565-087	F	565-086	A	841-796	A	
Power Supply Controller	565-247	H	565-246		841-863		
Expansion Supply Controller	565-259		565-258		841-871		
UT Master Controller	565-333	H	565-332	E	841-901	E	
UT Motherboard	565-274	B	-				
RUI Module	565-217	C	565-216	B	841-851		
Network Interface Board	565-189		565-248	A	841-864	B	
Quad Fault Isolator (for Mapnet Addressable Loop)	565-158	D	565-157	C	841-824	B	
Supervised Individual Addressable Module (IAM)	2190-9172A		565-281		801-695		
8 Pt. Aux. Relay Card	565-045	F	565-044	C	841-818		
Mapnet Line-Powered Isolator Module	565-191				841-839		
24V Distribution Board	002-109	A/1	004-100	A			
Alarm Acknowledgment Module	AAM						XF1689/R1, Sep 2000 SSL Specification FTS-136v1.4
Modular Interface Network Card	565-516	C	565-515	B			XF1727/R1, Jun. 2001,
RS485 Media Module for Network Interface Card	565-413	B	565-413	B			AS 4428.1-1998
Fibre Optics Media Card for Network Interface Card	565-261	D	565-261	D			
8 Zone Monitor Card P/N 4100-5004 (conventional zone interface module)	565-226	D	565-225	C			
Alarm Acknowledgment Module (AAM2)	ME0420 FA2318				1974-16	B	XF1913/R1, July 2002 SSL Specification FTS-136v1.4
4100MXP Interface mother board	1976-99	C/3	1976-99	C	1976-99	3	XF1924/R1, October 2002, AS 4428.1-1998
4100MXP MX Interface	1976-77	B/2	1976-77	B	1976-77	2	

**EPROMS**

U11 U16 ET Upper	4100+Ver 7.01	Master Card - 4100A Lower U149 - 0	Rev A9.02.15
CFG SSL Test 1	2BCV3 27/4/94 Ver 7.01	Master Card - 4100A Upper U16 - 0	Rev A9.02.15
U14 UT Lower	NET. 101.01 4EFE Ver 7.01 D237	4100MXP	Ver 1.00
Modular Interface Card U6 DNET 4100	740-927 3.02.93-6A31 23 Jan 1998		

**Actuating devices**

<b>Actuating device</b>	<b>Maximum number of devices allowed per 562-731 Rev B 8 Point Monitor (3k3)</b>	<b>Report</b>
Apollo, Series 60 P/N 55000-105AUS Heat Type A	40*	XF1065 March 1993
Apollo, Series 60 P/N 55000-106AUS Heat Type B	40*	Compatibility Assessment
Apollo, Series 60 P/N 55000-107AUS Heat Type C	40*	
Apollo, Series 60 P/N 55000-108AUS Heat Type D	40*	
Apollo, Series 60 P/N 55000-240AUS Smoke	40*	
Apollo, Series 60 P/N 55000-310AUS Smoke	40*	
<i>The above detectors with Apollo 45681-200 base</i>		
Brooks, PFS-A Heat Type A	40*	XB0808, Mar. 1992
Brooks, PFS-B Heat Type B	40*	Compatibility Assessment
Brooks, PFS-C Heat Type C	40*	
Brooks, PFS-D Heat Type D	40*	
Brooks, PFS-I Smoke	24	
Brooks, PFS-I MkII Smoke	40*	
Brooks, PFS-P Smoke	24	
Brooks, PFS-P MkII Smoke	31	
<i>The above detectors with Brooks PFS-BA MkII base.</i>		
Cerberus DL01191A Beam Detector	1	XF1535 March 1999, Compatibility Assessment
Hochiki DCA-B-60R Mk V Heat Type A	40*	89/FS218 December 1989
Hochiki DCA-B-90R Mk V Heat Type C	40*	AS 1603.4-1987
Hochiki DFE-60B, Heat Type B	40*	XB0994, 16-Dec-92,
Hochiki DFE-90D, Heat Type D	40*	Compatibility Assessment
<i>The above detectors with Hochiki YBC-RL/4AH4 base</i>		
Hochiki HF-24A Mk1 UV Flame Detector	14	89/FS218 December 1989
Hochiki, SIF-A Mk 1 Smoke	40*	AS 1603.4-1987
Hochiki, SLG-AM Mk 1 Smoke	40*	
Hochiki SLK-A, Smoke	40*	
Hochiki, DCC-A Heat Type A	40*	XB0994, 16-Dec-92,
Hochiki, DCC-C Heat Type C	40*	Compatibility Assessment
<i>The above detectors with Hochiki YBF-RL/4AH4M or YBC-R/3A base.</i>		
Hochiki SPA-AB Beam Detector	13	89/FS218 December 1989 AS 1603.4-1987
Hochiki, DFJ-60B Heat Type B	40*	XF1252/R2, Feb. 1998,
Hochiki, DFJ-90D Heat Type D	40*	Compatibility Assessment
<i>The above detectors with Hochiki YBO-R/4A base</i>		
Hochiki, DFG-60BLKJ Heat Type B (Cool Room)	40*	F711
Hochiki SIH-AM Smoke with YBC-RL/4AH4 base	16	Compatibility Assessment
Hochiki DCD-A, Heat Type A	40*	XF1252/R2 February 1998
Hochiki DCD-C, Heat Type C	40*	Compatibility Assessment
Hochiki SIJ-ASN Smoke	40*	
Hochiki SLR-AS Smoke	40*	
<i>The above detectors with Hochiki YBC-RL/4A base</i>		
Olsen, B111B Beam Detector	40*	SSL Letter, 21-June-1991,
Olsen C24 Smoke with Z54B base	33	Compatibility Assessment
Olsen C29BEx with Olsen Z54 or Z54BEx base	40*	
Olsen P24B Smoke with Z54B base	33	

<b>Actuating device</b>	<b>Maximum number of devices allowed per 562-731 Rev B 8 Point Monitor (3k3)</b>	<b>Report</b>
Olsen P29B Smoke with Z54B base	27	
Olsen R23B Infra-Red Flame Detector	7	SSL Letter, 21-June-1991,
Olsen R24BEx Infra-Red Flame Detector	7	Compatibility Assessment
Olsen T54B Type E Heat	40*	
Olsen T56B Mk 5 Type A Heat	40*	SSL Letter, 21-June-1991,
Olsen T56B Mk 5 Type B Heat	40*	Compatibility Assessment
Olsen T56B Mk 5 Type C Heat	40*	
Olsen T56B Mk 5 Type D Heat	40*	
<i>The above detectors with Olsen Z54B &amp; Z55B bases</i>		
Olsen V41B/V42B UV Flame Detector	40	SSL Letter, 21-June-1991,
Olsen/Cerberus FW81B Type E Heat Detector Cable	1	Compatibility Assessment
Simplex 2098-9201 Smoke	40*	XF1017, September 1994
Simplex 2098-9576 Smoke	40*	Compatibility Assessment
Simplex 4098-9413 Heat Type A	40*	
Simplex 4098-9414 Heat Type B	40*	
Simplex 4098-9415 Heat Type C	40*	
Simplex 4098-9416 Heat Type D	40*	
<i>The above detectors with Simplex 2098-2911 base</i>		
Simplex, 4098-9619EA, Heat Type B	30	XF1727/R1, Jun 2001
Simplex, 4098-9621EA, Heat Type C	30	AS 4428.1 - 1998
<i>The above detectors with Simplex 4098-9788EA base</i>		

\* Maximum number of detectors per AZF/AZC allowed by code.

<b>Actuating device</b>	<b>AAM</b>	<b>Report</b>
Simplex, 4098-9714 Smoke with Simplex 4098-9794 base	500	XF1689/R1 September 2000 SSL Test Specification FTS-136v1.4

<b>Actuating device</b>	<b>Maximum number of devices allowed per 4100-5004 8 Zone Monitor Card (EOL=3k9)</b>	<b>Report</b>
Simplex, 4098-9618EA, Heat Type A	30	XF1727/R1, Jun 2001
Simplex, 4098-9619EA, Heat Type B	30	AS 4428.1-1998
Simplex, 4098-9621EA, Heat Type C	30	
<i>The above detectors with Simplex 4098-9788EA base</i>		
Simplex 4098-9601EA Smoke	30	
Simplex 4098-9603EA Smoke	30	
<i>The above detectors with Simplex 4098-9788EA base</i>		
Tyco, T614A, Heat Type A	30	XF1910/R1, July 2002
Tyco, T614B, Heat Type B	30	AS 4428.1-1998
Tyco, T614C, Heat Type C	30	
Tyco, T614D, Heat Type D	30	
Tyco, 614CH, CO and Heat	37	PHG0055 XF2125 Tyco compatibility review,
Tyco, 614I, Ionisation Smoke	40	AS 4428.0-1997
Tyco, 614P, Photoelectric Smoke	28	
Tyco, 614TA, Heat Type A	30	PHG0063
Tyco, 614TB, Heat Type B	30	AS 4428.0-1997
Tyco, 614TC, Heat Type C	30	
Tyco, 614TD, Heat Type D	30	
<i>The above detectors with models Tyco 5B or Tyco/Minerva MUB/M614 base</i>		

Actuating device	Maximum number of devices allowed per 2190-9156 Mapnet Monitor Zam (EOL=3k3)	Report
Tyco, T614A, Heat Type A	20	XF1910/R1, July 2002
Tyco, T614B, Heat Type B	20	AS 4428.1-1998
Tyco, T614C, Heat Type C	20	
Tyco, T614D, Heat Type D	20	
Tyco, 614CH, CO and Heat	25	PHG0055 XF2125 Tyco compatibility review,
Tyco, 614I, Ionisation Smoke	29	AS 4428.0-1997
Tyco, 614P, Photoelectric Smoke	19	
Tyco, 614TA, Heat Type A	20	PHG0063,
Tyco, 614TB, Heat Type B	20	AS 4428.0-1997
Tyco, 614TC, Heat Type C	20	
Tyco, 614TD, Heat Type D	20	
<i>The above detectors with models Tyco 5B or Tyco/Minerva MUB/M614 base</i>		

Actuating device	Maximum number of devices allowed per 4090-9101 IDNET Monitor Zam (EOL=3k3)	Report
Tyco, T614A, Heat Type A	20	XF1910/R1, July 2002
Tyco, T614B, Heat Type B	20	AS 4428.1-1998
Tyco, T614C, Heat Type C	20	
Tyco, T614D, Heat Type D	20	
Tyco, 614CH, CO and Heat	25	PHG0055 XF2125 Tyco compatibility review,
Tyco, 614I, Ionisation Smoke	29	AS 4428.0-1997
Tyco, 614P, Photoelectric Smoke	19	
Tyco, 614TA, Heat Type A	20	PHG0063,
Tyco, 614TB, Heat Type B	20	AS 4428.0-1997
Tyco, 614TC, Heat Type C	20	
Tyco, 614TD, Heat Type D	20	
<i>The above detectors with models Tyco 5B or Tyco/Minerva MUB/M614 base</i>		

\* Maximum number of detectors per AZF/AZC allowed by code.

#### 4100MXP

Device type	Maximum addressable points on analogue loop	Maximum addressable points on analogue line	Report
Tyco MX, 814CH, Multi-Sensor, Carbon monoxide / Heat Type A/B	250	40*	XF1924/R1, October 2002, AS 4428.1-1998
Tyco MX, 814H, Heat Type A, B, C, or D	250	40*	
Tyco MX, 814I, Smoke Ionisation	250	40*	
Tyco MX, 814PH, Multi-Sensor, Photoelectric smoke / Heat Type A/B	250	40*	
Tyco MX, 814P, Photoelectric	200	40*	XF1659/R4, AS 4428.1-1998
<i>The above detectors with models Tyco 5B / 5BI or Tyco/Minerva MUB/M614 base or Tyco MX 814RB, 814SB, 802SB and 814IB bases</i>			
Tyco, CP820, Manual Call Point	250	40*	XF1924/R1, October 2002,
Tyco MX, 814RB, Relay Base	250	40*	AS 4428.1-1998
Tyco MX, 814SB, Sounder Base (full volume)	60	40*	
Tyco MX, 814SB, Sounder Base (mid volume)	80	40*	
Tyco MX, 814SB, Sounder Base (low volume)	104	40*	
Tyco MX, 814IB, Isolator Base	128	40*	
MIM800, Mini Input Module	250	40*	
CIM800, Contact Input Module	250	40*	
SNM800, Sounder Notification Module	250	40*	
RIM800, Relay Interface Module	250	40*	

DIM800, Detector Interface Module	250	40*	
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\* Maximum number of detectors per AZF/AZC allowed by code.