

PRODUCT LISTING DATA SHEET (Active Fire Protection Equipment)

Product designation

Simplex, Model 4100U / 4100U-S1, fire indicator panel

(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, 8030

Supplier's description

As a microprocessor based fire alarm system, the Simplex, Model 4100U / 4100U-S1, fire indicator panel can be used as a standalone system with one cabinet, or as a wide ranging system with one or more cabinets acting as a host panel to a number of remote cabinets.

The Simplex, Model 4100U / 4100U-S1, fire indicator panel is an analogue addressable system that, depending upon its configuration, accommodates up to 2,000 points. It has a 9A PSU with an option of two charging currents for batteries, a number of switched power outputs and relays, plus one integral addressable loop.

The Model 4100U-S1 is a particular configuration of a standard 4100U system packaged and documented to be suitable for applications requiring only one or two addressable loops, with a limited number of ancillary connections.

The system card bay has a back-plane designated Power Distribution Interface (PDI) which accepts a range of specific cards. This includes 4100MXP, and the IDNET addressable loop interface card which not only communicates with the existing MAPNET detectors and devices, but also with new devices with a maximum of 250 on the loop.

Existing 4100 series cards can be used, including the Simplex 8A power supply with a 4A battery charger.

A number of Simplex, Model 4100U / 4100U-S1, fire indicator panels can be networked by adding the 4100-6014 Network Interface Card (NIC) to each CIE. Two smaller media interface cards plug on to each NIC. The communication media can be either wired RS485 or fibre-optic.

Conformance criteria and evaluation

The Simplex, Model 4100U / 4100U-S1, fire indicator panel 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'.

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



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.

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/manufacturer'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 4100U / 4100U-S1, fire indicator panel and may be subject to change. Complete and current details should be determined from the designated supplier's/manufacturer's technical manual/data sheets.

System capacity:	2000 addressable points, plus 2000 point of annunciation (500 addressable points on 4100U-S1) Up to 119 addressable cards
Cabinet size:	Dependent upon system configuration
Cabinet material:	1.6 mm Zintex
Cabinet finish:	Powder coated
Cabinet colour:	Cream Wrinkle
Mounting:	Wall mount
Mains input:	240 Vac, +6%, -10%, 50Hz
Internal power supply:	24 Vdc @ 9A
Standby battery:	24 V sealed lead acid up to 110 Ah (40 Ah max on 4100U-S1)
Battery charger:	27.3 Vdc (nominal)
PSU supervision:	Charger high/low, Battery low/fail
Temperature:	5°C to 45°C
Humidity:	10% to 90% RH non-condensing

Voltage and current ratings of modules and assemblies:

Module	Name	Quiescent	Alarm
n/a	Master Controller Assembly (includes SPS, CPU, CPU Motherboard with RUI I/F, Operator Interface with LCD)	373mA	470mA
4100-6035	Alarm Relay Card	15mA	37mA
4100-3101	IDNet Module without Devices	75mA	115mA
	- per device add	0.8mA	1mA
	- with 250 devices add	200mA	250mA
4100-1289	64/64 Controller plus Switch LED Modules		
	- no LED on	20mA	
	- per LED on add	3mA	3mA
	- with 64 LED's on add	210mA	210mA
4100-0620	Transponder Interface, Basic Unit	87mA	87mA
4100-0625	Transponder Interface, Local Mode	112mA	112mA
4100-6014	Network Interface Card	28mA	28mA
4100-6056	Wired Media Module	55mA	55mA
4100-6057	Fibre Optic Media Module	25mA	25mA
4100-6038	Dual RS232 Interface	132mA	132mA

Device loads

Device Type	Min – Max (Volts)	I _Q Signal average (mA)	I _A 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**Tested modules:**

Module description	Module identification	rev.	PCB number	iss.	Current consumption mA	iss.
Master CPU Controller	566-149	D	566-149	C	-	
CPU Mother Board	566-227	D	566-227	C	-	
IDNET Module	566-044	E	566-044	E	-	
SPS Power Supply/IDNET Board	566-071	H	566-069	D	-	
Transponder Interface Card	566-094	C	566-035	C	-	
8-Switch/16 LED Display R/V	566-091	A	566-062	B	-	
24-Switch/24-LED Display R	566-236	A	566-244	B	-	
LED Switch Controller Board	566-060	A	566-060	A	-	
8-LED/16 Switch Display R/G	566-092	A	562-747	B	-	
8-LED/8-Switch Display Y	566-123	B	566-062	B	-	
6-Point (I/O)	565-984	A	565-984	A	-	
Addressable Isolator (IDNET)	565-976	D	565-976	C	-	
Addressable Power Isolator	565-978	C	526-978	C	-	
Addressable Relay IAM with T-Sense	565-980	D	565-980	D	-	
Addressable Relay IAM	565-981	C	565-981	C	-	
Operator Interface	566-284	B	566-284	B	-	
Power Distribution Interface	566-084	B	566-084	B	-	
Alarm Relay Card	566-058	D	566-058	D	-	
Internet Interface	566-355	B	566-355	B	-	
U31,32 Master CPU Controller Firmware Rev 11.10						

Compatible Battery: AUSCELL model LA12-17, 17 Ah (6-50 Ah)**Linear power supply & switch mode charger (combined):****Trade brand:** Simplex
Model: SPS
Rated Power 214 W
Rated Frequency (Hz) 50
Rated Supply Voltage (Range) 240 Vac
Rated Output (VA) and/or Rated Secondary Amps: 10A RMS**Battery charger limits as specified for indicator settings (@40 C°, 92% R.H.**Charger high : ≥ 28.4 V
Charger low: ≤ 26.2 V
Battery low: ≤ 24.3 V
Nominal: 27.35 V
System Fail ≤ 19.3 V**Power supply/battery charger:**

Nominal output voltage: @ 40°C, 92% R.H.	24 V
Max. rated output current: (3 NACs and 1 Auxilliary)	(8.97 A - I _{BAT}) A
Battery charge voltage setting:	27.35 V
Maximum rated output: 1.4 A for 6-18 Ahr & 3.3.A for 28-50 A hr	

Actuating devices:

Actuating device	AZF module: 4100U IDNET		Report
	Max. number of addressable points on an analogue Loop	Max. number of addressable points on an analogue line	
4098-9714E analogue photoelectric smoke detector	250	40*	XF2003/R1, August 2004, AS 4428.1-1998
4098-9717E analogue ionisation smoke detector	250	40*	
4098-9733E analogue heat type A & B detector	250	40*	
4098-9754E analogue multi (heat/photo) detector	250	40*	
<i>The above with 9714E, 9717E and 9733E use a (4098-) 9789E addressable base or 9794E addressable sounder base, or 9793 addressable isolator base (refer SSL report XF1506/R2). The 9754E uses a 9796E addressable base or 9795E sounder base</i>			
4090-9116 IDNET comms isolator	250	40*	
4090-9118 Relay IAM with T-sense	250	40*	
4090-9117 addressable power isolator	250	40*	
4090-9119 Relay IAM with unsupervised input	250	40*	
4090-9120 6-Point - 4 inputs, 2 outputs	250	40*	
4090-9001 supervised IAM	250	40*	
4090-9101 monitor ZAM	250	40*	
4090-9032 manual call point	250	40*	

* Maximum number of detectors allowed by code

Notes:

- The maximum specified loop/line resistance is 40 Ω .
- Maximum quiescent current required by 250 detectors is 125 mA. The maximum allowable current measured in non-alarm state at 25 V for a loop resistance of 40 Ω was 182 mA (using resistive load). This would increase with reduced loop resistance.
- The maximum number of LEDs switched on by an IDNET in alarm is 20. The 182 mA in non-alarm with a 40 Ω loop exceeds that requirement. In alarm the loop supply voltage increases by 5 V providing greater current than 182 mA. The Manufacturer specifies 250 mA in alarm state.

Actuating device	Maximum number of devices allowed per 4100-5004 8 Zone Monitor Card (EOL=3k9)	Report
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

Actuating/interface 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, AS 4428.1-1998
Tyco MX, 814RB, Relay Base	250	40*	
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*	

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