

PRODUCT MANUAL

FIRE SYSTEM STATUS PANEL

Part No. 5884



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GENERAL SAFETY WARNINGS

PERSONAL SAFETY

- Everyone is responsible for safety.
- The installer/service personnel should be trained and authorized to complete the required work.
- Ensure that the machine is safely isolated during installation and testing to protect all personnel.
- Complete all required risk assessments and job safety analysis (JSA) before commencing work.
- Observe all site specific and machine OEM procedures regarding the following:
 - working at heights
 - working in heat
 - working in confined spaces
 - all other site specific occupational health and safety (OH&S) procedures

MACHINE

- Carry out all prestart operations as per site and machine OEM procedures.
- Ensure the machine is safely isolated during installation and testing to protect the machine and other equipment in the area.
- Do not operate any machine with a known fault and report all findings to the supervisor in writing.
- Test and operate machine as per machine OEM and site procedures.
- Read and understand machine and site specific operational and testing instructions.

PRODUCT

Before applying power to the equipment, the user/repairer/ installer must read all product instructions. If in doubt, seek assistance.

- Ensure electrical connections are made as per RCT's recommendations. Test circuits prior to connecting power to any component.
- The equipment contains no user serviceable parts inside. Return the unit to RCT for repairs.
- Retain product and installation instructions for future use.
- Ensure that RCT's recommended service procedures are included in the machine's service routine.
- Observe all machine, site and RCT product warnings.
- Follow all machine, site and RCT product operating procedures at all time.

The application of safety should not be limited to the above recommendations.

PRODUCT OVERVIEW

The Muirhead® Fire System Status panel, part number 5884, is a unique product that incorporates the following features:



1. CYLINDER PRESSURE CORRECT

The alert indicator is green when the cylinder pressure is correct, above 1200 kPa.

2. CYLINDER PRESSURE LOW

The alert indicator is amber and will flash when the cylinder pressure is below 1200 but above 900 kPa (the audible alarm will pulse on for one second every 30 seconds).

3. SYSTEM FAULT

- The alert indicator is red when the cylinder is discharged or the pressure is below 900 kPa. (On initial discharge, the audible alarm will be on constantly before a two-second pre-shutdown warning period indicated by the alarm switching from continuous to pulsing.)
- The ETR output deactivates whilst the auxiliary output activates.
- The red alert indicator flashes when the override is activated.

4. PANEL TEST / 1 SHOT OVERRIDE

- When the cylinder pressure is correct, the panel test button acts as a test button. When the button is pressed, the system will simulate that the fire system has been set off.
- When the cylinder pressure is discharged, the button acts as an extension to the six-second delay. When the button is pressed, the delay will increase by 20 seconds (only once).

5. KEY OVERRIDE SHUTDOWN BYPASS

The key switch override will bypass the control unit to allow for machine operation. This switch is to be used in situations where the control unit requires bypassing, e.g. to move the machine after the fire system has discharged or when the fire system is empty.

FEATURES AND FUNCTIONS

- Supply voltage 12 to 24 volts DC
- Compact and robust design
- Environmentally sealed – IP65
- Audio and visual indication on reader
- Modular design

OPERATION AND USE

The control unit does not operate while the ignition is not active.

After ignition is applied, the unit pulses the alert indicators and alarm twice to show that they are operating. The control unit state is displayed by the alert indicators as follows:

- If the cylinder pressure is correct (input 1 closed) and not low (input 2 closed), the green alert indicator illuminates.
- If the cylinder pressure is okay (input 2 closed) but the low pressure is active (input 1 open), the amber alert indicator illuminates.
- If the cylinder pressure is discharged (input 2 open), the red alert indicator illuminates. It will then remain active until the battery power (pin 8) is cycled—cycling power to the ignition input (pin 4) does NOT clear the red alert indicator.

If the control unit detects that the cylinder pressure is discharged (input 2 open), a timing cycle is initiated. At the end of the time period (default setting of six seconds), the alarm pulses for two seconds and then the ignition ETR output is turned off.

The shutdown delay may be adjusted to 15 or 20 seconds.

- If the panel test button is pressed during the six-second cycle, the time delay period is extended by 20 seconds.
- The red alert indicator flashes for this extended period and then the ignition output is turned off.
- This extension can only be applied once.
- If the control unit is shut down after the 6-second cycle, the 20-second extension is still available once only.

The panel test button then has no further effect except that the amber alert indicator illuminates for up to two seconds to confirm operation.

Note: The test only can be initiated when there is no fault and will illuminate the amber alert indicator for two seconds. Then, perform a normal shutdown sequence after the programmed time period—the ignition and the green alert indicator are restored when the panel test button is released.

INSTALLATION GUIDE

- 1 Install the control unit in a suitable location near the operator.
- 2 Refer to the wiring table below and the wiring diagram/s in this manual to connect the control unit. It is recommended that the wiring is installed alongside the OEM wiring ensuring that it is secured at regular intervals; this will provide protection from heat and abrasion, and any other excess damage that may occur with extended vehicle operation. When securing the wiring to the OEM wiring, ensure that the loom is away from moving vehicle parts which could lead to loom damage.

WIRING CONNECTIONS

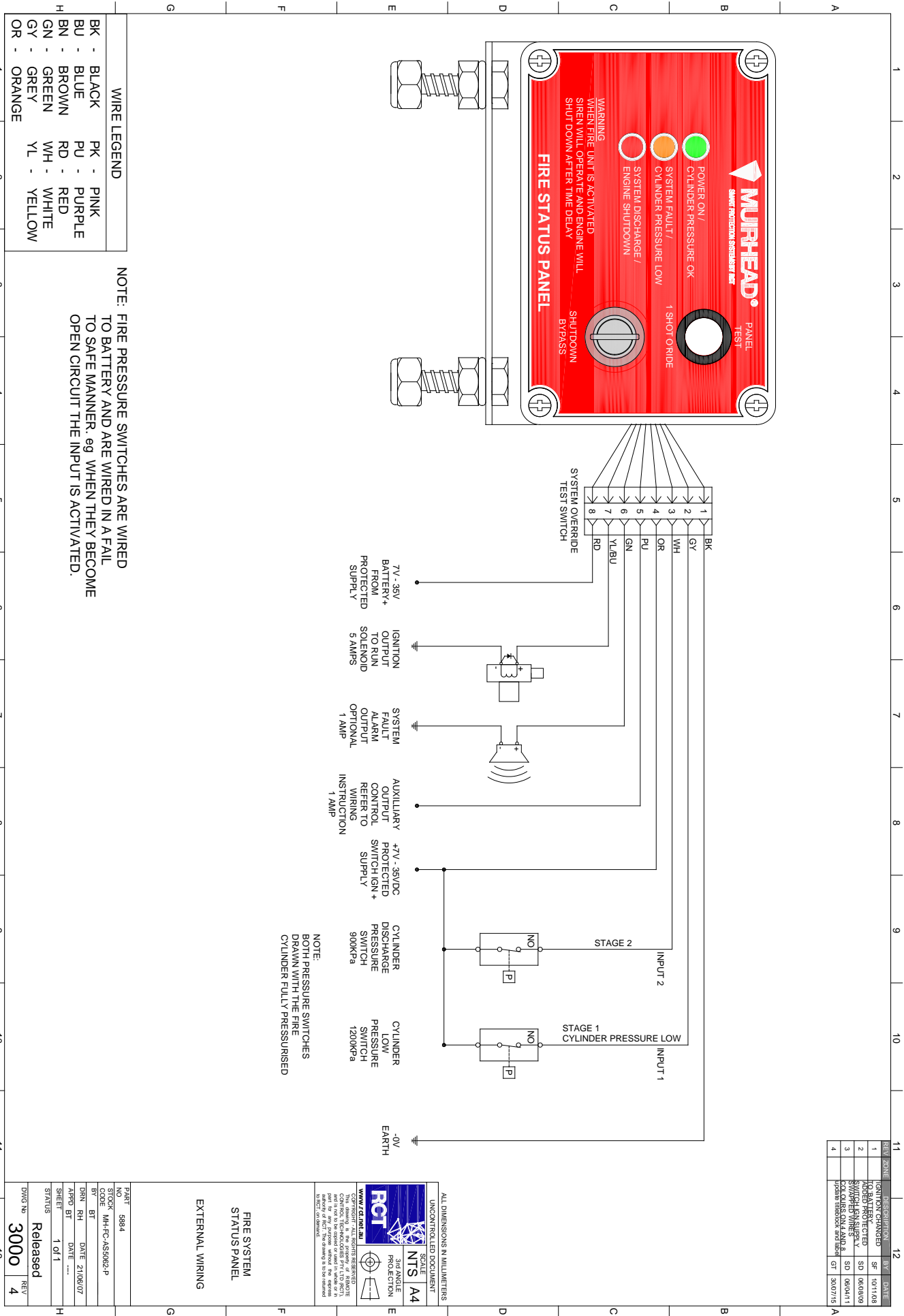
NO.	COLOUR	FUNCTION	DESCRIPTION
1	Black	Earth	0 V
2	Grey	Input 1	Cylinder pressure OK (normally closed; the circuit opens when pressure is low). Amber alert indicator illuminates when input opens.
3	White	Input 2	Cylinder pressure discharge (normally closed; the circuit opens when the cylinder loses pressure, indicating cylinder pressure discharge) red alert indicator.
4	Red	Input 3	Ignition input.
5	Purple	Output 2	Aux output (operates opposite to ignition output). 1 A continuous.
6	Green	Output 3	Fault alarm. 1 A continuous.
7	Yellow/Blue	Output 1	ETR ignition output for run solenoid. 5 A continuous.
8	Orange	Battery +VE	Power (8 to 35 V).

When upgrading from the old 7650 control unit, refer to the wiring table below as a guide to interface the 7650 wiring to the new 5884 control unit.

PART NO. 7650 12-PIN PLUG	PART NO. 5884 8- PIN PLUG	DESCRIPTION
1 Black	1 Black	Earth
2 Yellow/Blue	7 Yellow/Blue	Run solenoid, 5 A continuous.
3 Red	8 Red	Switch via 15 A circuit breaker.
4	4 Red	Via pressure switch.
5	5 Purple	Operates opposite to ignition output. 1 A continuous.
6	6 Green	Continuous (this output is positive on the new 5884 panel).
7		Not used in new 5884 fire panel.
8		Not used in new 5884 fire panel.
9		Not used in new 5884 fire panel.
10	3 White	Input 2 cylinder pressure discharge (active open from high). Red alert indicator.
11		Not used.
12		Not used.
	2 Grey	Input 1 cylinder pressure OK (active closed to high). Amber alert indicator when input opens.

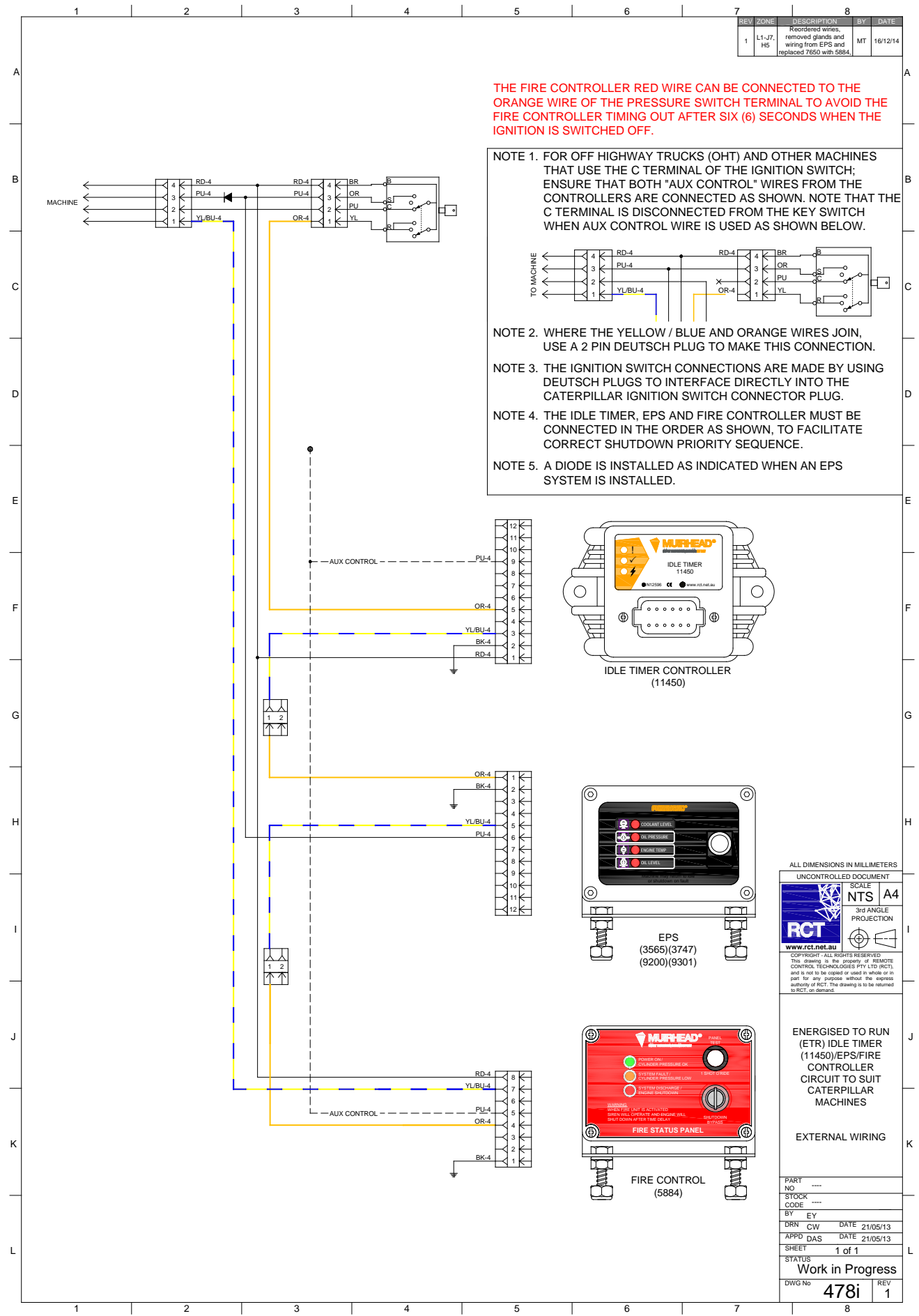
DIAGRAMS

External Wiring Diagram (300o)



ETR External Wiring Diagram (478i)

If the control unit is installed on a machine that has an EPS control unit or if an 11450 idle timer control unit is already installed, then follow the ETR circuit wiring as specified below:



CALIBRATION

CALIBRATION (CAL) MODE

- 1 To enter CAL mode, press and hold the panel test button and apply power to the control unit. After six seconds, all the alert indicators will flash.
- 2 Release the panel test button.
- 3 All alert indicators will be off, except for the one displaying the current shut down delay period. The alert indicators display the delay period as outlined below:
 - a) GREEN - delay is 6 seconds
 - b) AMBER - delay is 15 seconds
 - c) RED - delay is 25 seconds
- 4 Activate and release the panel test button to change the periods required. Turn off the power to the control unit when complete to save settings.

Note: The alarm will activate while in CAL mode and whenever the panel test button is pressed.

SPECIAL NOTE 1

- 1 When the 6-second delay to shut down is selected, the override operates for 20 seconds.
- 2 When the 15-second delay to shut down is selected, the override operates for 15 seconds.
- 3 When the 25-second delay to shut down is selected, the override operates for 10 seconds.

NO EXTENSION MODE

The 5884 can also be configured for no extension on shutdown. The process for setting this function is below.

- 1 Press and hold the control unit panel test push button once in calibration mode for more than 10 seconds and then release it. You should now be in NO EXTEND mode (denoted by the flashing alert indicator):
 - a) GREEN - Flashing: 6 seconds + no extend
 - b) AMBER - Flashing: 15 seconds + no extend
 - c) RED - Flashing: 20 seconds + no extend
- 2 Activate and release the panel test button to change the periods required. Turn off the power to the control unit when complete to save settings.

Note: Select the red flashing calibration setting, 20 seconds + no extend (**Thiess specification**).

SERVICE INFORMATION

SERVICE SCHEDULE

The manufacturer recommends that the following service procedure should be performed at each machine's scheduled service interval.

SERVICE PROCEDURE

1 Perform a visual inspection; include the following:

- a) Control unit
- b) Wiring connections and looms
- c) Fire suppression tank pressure switch (low)
- d) Fire suppression tank pressure switch (discharge)

2 Perform a system test as per the following:

- a) Turn the ignition key to the on position and with the cylinder pressure correct, the alert indicator will illuminate green. The output to the ETR circuit will be activated.
- b) Turn the ignition key to the off position and with the cylinder pressure correct, the green alert indicator and ETR output will turn off. The auxiliary output will turn on.
- c) Push and hold the panel test button. The green alert indicator will turn off and the amber alert indicator will turn on for two seconds. The red alert indicator will switch on after the preset period. The ETR output will turn off and the auxiliary output will turn on. The alarm will be active in this state. When the panel test button is released, the system will revert back to the run state.
- d) To check the low cylinder pressure circuit, open circuit the wire at input 1 pressure switch (1200 kPa). When open, the green alert indicator will switch off, the amber alert indicator will switch on and the alarm will pulse on and then off. In this state, the alarm will pulse every 30 seconds.
- e) To check the cylinder discharged circuit, open circuit the wire at input 2 cylinder discharged pressure switch. The red alert indicator will switch on and the alarm will be active and pulse for last two seconds prior to shutdown. Once the shutdown has occurred, the alarm will stay active.
- f) Repeat part (e), but push the panel test button during the 6-second cycle. This will extend the shutdown for 20 seconds. During this override period, the alarm will stay active. The delay extension will only operate once.
- g) Once part (f) is performed, insert the key into the key switch and turn to activate it. This will override the ETR circuit only. The alarm will stay active.

Note: Once the system test has been completed, turn the key switch off and ensure all wiring is reconnected to the original position. Refer to the external wiring diagram in this manual.

Note: Once a system has been discharged or a discharge test has been carried out and the ETR output has switched off, shutting down the machine, the battery power to the unit must be cycled to reset the system. Turning the ignition on and off WILL NOT RESET the system.

PARTS LIST

PART NO.	DESCRIPTION
5884	Fire System Status panel
0475	Tank pressure switch low warning 1200 kPa (not supplied with unit)
2348	Tank pressure switch discharge 900 kPa (not supplied with unit)

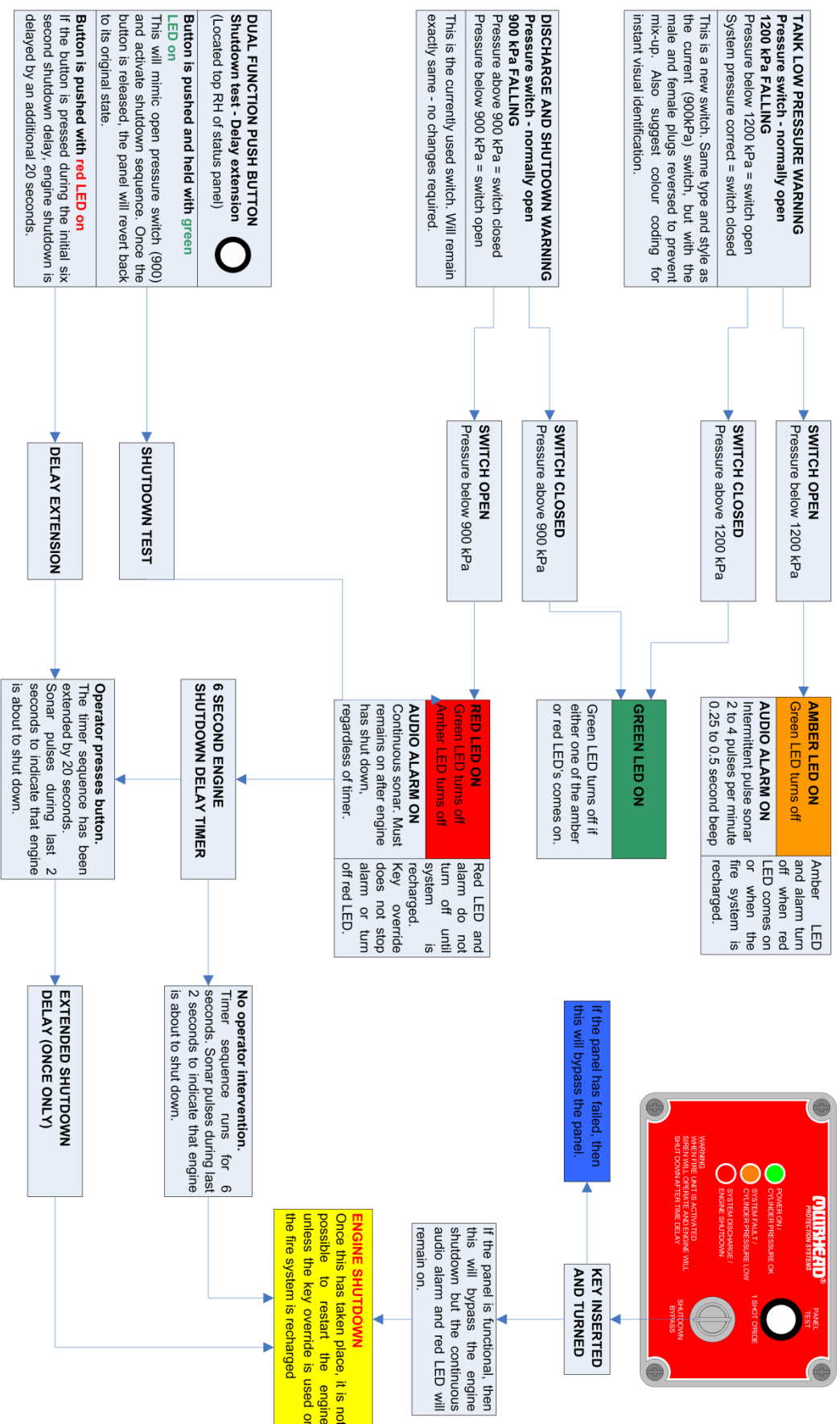
TECHNICAL SPECIFICATIONS

Dimensions, control unit only	Length: 120 mm Width: 80 mm Height/Depth: 55 mm
Dimensions, boxed for freight	Length: 235 mm Width: 130 mm Height/Depth: 127 mm
Weight, control unit only	0.5 kg
Weight, including harness / packaging for freight	0.7 kg
Input nominal voltage	12/24 V DC
Operating temperate range	-40 to +80 °C
Connection types	8-pin Deutsch receptacle
Inputs	Earth, ignition, battery
Min & max input voltage	7 to 35 V DC
Enclosure type	ABS
Environmental protection IP rating	IP65
Programming/Adjustment	Yes

COMPLIANCE AND STANDARDS

TBA

5884 - FIRE SYSTEM STATUS PANEL (FUNCTIONAL FLOW CHART)



TROUBLESHOOTING

RCT

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FILE: FC0025-90.vsd

CREATED ON: 11/11/2008
MODIFIED ON: 14/09/2015
Sheet 1 of 1

GLOSSARY

<i>A</i>	Amp (Ampere)
<i>AC</i>	Alternating Current
<i>AMS</i>	Advanced Management System
<i>Aux</i>	Auxiliary Output
<i>CAN</i>	Controller Area Network
<i>CMIO</i>	Control Master Input Output PCB
<i>CMR</i>	Control Master Receiver
<i>CMT</i>	Control Master Transmitter
<i>CM2200</i>	Control Master 2200 Remote Set
<i>COMMS</i>	Communications
<i>CPU</i>	Central Processor Unit
<i>DC</i>	Direct Current
<i>E.G.</i>	For example
<i>ETR</i>	Energised To Run
<i>ETS</i>	Energised To Stop
<i>ESD</i>	Engine Shutdown
<i>FET</i>	Field Effect Transistor
<i>GND</i>	Ground
<i>H</i>	Hours
<i>HEX</i>	Hexidecimal Numbering System
<i>ID</i>	Identity
<i>i.e</i>	That is
<i>In</i>	Input
<i>IP</i>	Ingress Protection
<i>kg</i>	Kilogram
<i>Km/h</i>	Kilometres Per Hour
<i>LCD</i>	Liquid Crystal Display
<i>LED</i>	Light Emitting Diode
<i>LK</i>	Link
<i>M</i>	Minutes
<i>mA</i>	Milli Amps
<i>MAX</i>	Maximum
<i>MCU</i>	Multi Control Unit
<i>MFU</i>	Multi Function Unit
<i>MHz</i>	Mega Hertz (million(s) cycles per second)
<i>MIN</i>	Minimum
<i>mm</i>	millimetres

<i>mW</i>	Milli Watts
<i>N/A</i>	Not Applicable
<i>N/C</i>	Normally Closed
<i>N/O</i>	Normally Open
<i>OEM</i>	Original Equipment Manufacturer
<i>O/P</i>	Outputs
<i>Out</i>	Output
<i>PB</i>	Push Button
<i>PC</i>	Personal Computer
<i>PCB</i>	Printed Circuit Board
<i>PIN</i>	Personal Identification Number
<i>PLC</i>	Programmable Logic Controller
<i>POT</i>	Potentiometer
<i>PPM</i>	Pulses Per Metre
<i>PWM</i>	Pulse Width Modulation
<i>PWR</i>	Power
<i>RCT</i>	Remote Control Technologies Pty Ltd
<i>Rev</i>	Revision
<i>RF</i>	Radio Frequency
<i>RH</i>	Relative Humidity
<i>RPM</i>	Revolutions per minute
<i>RX</i>	Receiver
<i>RS232</i>	Recommended Standard (number 232) for serial data transfer
<i>Source</i>	The output can supply/drive current out
<i>SYS</i>	System
<i>TOV</i>	Text On Video
<i>TX</i>	Transmitter
<i>V</i>	Volts
<i>°C</i>	Degrees Centigrade
<i>#</i>	Number
<i><</i>	Less Than
<i>></i>	Greater Than
<i>%</i>	Percentage

WARRANTY

Please see the RCT standard warranty, available on our website - www.rct.net.au.

NOTES



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