

Integriti / Concept 2A Standard Power Supply.

P/N: 996090PCB&K

INSTALLATION MANUAL

Overview

The Integriti/Concept 2A Standard Power Supply is designed primarily for use as a battery-backed supply for Integriti and Concept Modules that support the 10-way “External Power” bus connection.

e.g. Integriti ILAM/SLAM, Integriti 8 Zone Expander, Concept 2-Door Reader Module, Concept Mini Expander, etc.

When used with these Modules, the power connection is made via the appropriate 10-way cable. (Note that monitoring and control functions are not provided via the 10-way cable on this Power Supply)

Low-level AC Fail and Low Battery outputs are provided and may be connected to Integriti/Concept Zone Inputs for monitoring and/or reporting. *See p2 & p3 for details.*

The product is supplied as a PCB and installation kit and is also available pre-installed in the Integriti/Concept Small Powered Enclosure. Plug-on screw terminal output connections are also provided, allowing the product to be used as a general purpose, battery-backed, 13.75V supply to power legacy or 3rd party equipment.

This product features a high reliability design that offers exceptional stability when used with the recommended battery type. It has also been designed for compatibility with Proximity type reader heads.

NOTE: This manual cannot be used for the earlier “Integriti 2A Smart Power Supply. Rev B” which was sold under the same part number. For information on the earlier product please refer to the installation manual 636090 Rev 1.1, August 2013.

The two products can be identified as follows:

	<u>Current 2A Standard Power Supply</u>	<u>Earlier 2A Smart Power Supply</u>
PCB P/N & Revision:	934050_L	936550_B
10-way bus output:	Concept (P1) and Integriti (P2)	Integriti Only (P2)

Parts List

- Integriti/Concept 2A Standard Power Supply PCB assembly.
- Installation Guide. (This document)
- Installation Kit containing:
 - 4 x Metal M3 Mounting Clips.
 - 4 x M3x10mm screws.
 - 1 x Integriti 10-way PSU Cable. 430mm.
 - 1 x Concept 10-way Ribbon Cable. 600mm.
 - 1 x Battery Cable. 60cm.
 - 1 x 6.3mm QC crimp terminal. (Earth)
 - 1 x 0.1” Jumper Link. (For LK1. Current limit setting)
 - 2 x 2-Way Plug on Screw Terminals.
 - 1 x 8-Way Plug on Screw Terminal.

Related Parts & Accessories

(Purchased separately)

- Inner Range 2.5A In-line transformer. P/N 999012.
- Inner Range 1.5A 3-wire Plug-pack. P/N: 999004.
- 3A Transformer and Fused Terminal Block Kit (Must be installed by a suitably qualified electrician).
P/Nos: 560007 (T’former) & 999022 (Term. Block).
- Replacement Integriti 10-way PSU Cable. 430mm.
P/N: 996792
- Replacement Concept 10-way Ribbon Cable. 600mm.
P/N: 993034
- Replacement Fuse Pack (30 pieces). P/N: 999000.

Disclaimer: While every effort has been made to ensure the accuracy of this manual, the manufacturer and/or its agents assume no responsibility or liability for any errors or omissions. Due to ongoing development, this manual is subject to change without notice.

INSTALLATION.

Mounting the Board

The 2A Standard Power Supply is typically supplied as a PCB kit for use in a variety of Integriti and Concept enclosures using the Mounting Clips and M3 screws provided.
A snap-off mounting strip can be retained or removed to cater for the various mounting clip and standoff patterns in a wide range of Integriti and Concept products and enclosures.

Use of the Inner Range In-line transformer (P/N 999012) or 3-wire Plug-pack (P/N: 999004) for AC power input does not require installers to be specially certified, but if the Plug-pack is used, the Current Limit must be set to 1A. *See LK1 details below.*
For 2A operation (Link 1 Fitted), a 3 Amp Transformer (recommended) is required, and if not already fitted in the enclosure, must be installed by a suitably qualified person.

Installation Details

Links:

- LK1 Input Current Limit.
Fitted: 2A. Transformer must be 2.5 Amps minimum. (3 Amps recommended)
Removed: 1A. Transformer must be 1.5A minimum.

Connectors:

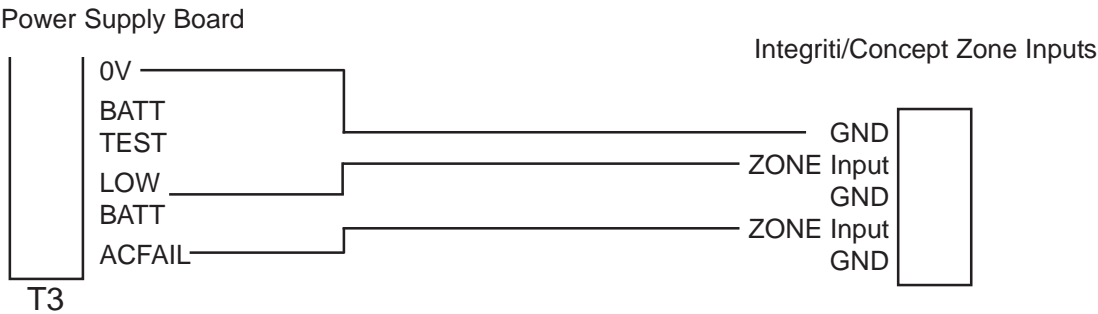
- P1 Direct connection to compatible Concept Modules using the 10-way ribbon cable.
When used with a Concept Mini Expander, this cable duplicates all the connections on T3. *See the Mini Expander Installation Manual for details.*
P2 Direct connection to compatible Integriti Modules using the Integriti PSU cable. Power connection only.
T1 16V AC Transformer or Plug-pack input connections.
T2 Terminals for 12V SLA Battery. 6.5 - 7.0 AH. Use Battery cable supplied.
T3 13.75V DC Output and Input/Outputs for low-level monitoring and control.
ACFAIL: AC Fail indicator Alarm Output. *See Note 2 and wiring diagram below.*
LOW BATT: Low Battery indicator Alarm Output. *See Note 2 and wiring diagram below.*
BATT TEST: Battery Charger control input. *See Note 1 below and wiring diagram on Page 3.*
Switch to 0V to perform Battery Testing.
0V: Common 0V connection for DC output and “BTEST” input.
T4 Earth. Connect to suitable earth point. e.g. Metal chassis, plugpack earth wire, etc.

IMPORTANT NOTE:

BATT FAIL and AC FAIL outputs have Integriti/Concept default End-Of-Line (EOL) Resistors pre-installed on the PCB. This allows direct connection to Integriti or Concept Zone Inputs without requiring external EOL Resistors. *See details & drawing below.*

Alarm Output Wiring

LOW BATTERY & AC FAIL ALARMS. Outputs are provided on the Power Supply for indication of Low Battery and AC Fail conditions. End-of-Line Resistors are already fitted on the Power Supply PCB, so the alarm outputs are wired directly to Zone Inputs on Integriti or Concept Modules as shown below, and programmed appropriately.
When the power supply is connected to a Concept Mini Expander via the 10-way ribbon cable, Zones 7 & 8 on that expander are connected internally to the AC fail and Low Battery inputs. *See the Mini Expander Installation Manual for more details.*



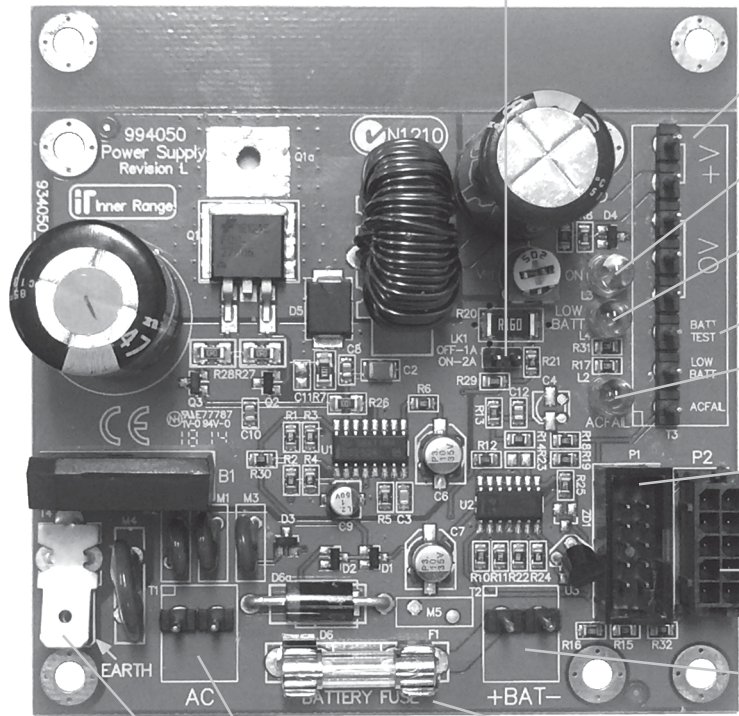
INTEGRITI/CONCEPT 2A STANDARD POWER SUPPLY PCB LAYOUT.

LK1. Current Limit select.

Fitted: Current Limit = 2A.

Removed: Current Limit = 1A.

See details on page 2.



T1. 16-18 VAC I/P.

See p2 for details.

T5. Earth connection.

See p2 for details.

T3. Power Supply output

See Page 2 for details.

L3. ON LED.

On if power supply output is present.

L4. LOW BATT.

On when Battery Voltage Low.

T3. Alarm outputs and Control input.

See page 2 and below for details.

L2. AC FAIL.

On when there is no AC Input and power is being supplied by the backup Battery.

P1. Direct ribbon cable Connection to compatible Concept Modules.
See Page 2 for details.

P2. Direct PSU cable Connection to compatible Integriti Modules.
See p2 for details.

T2. Battery +/-
12V. SLA Battery. 6.5 - 7.0 AH.
See p2 for details.

F1. Battery Protection Fuse.
5A Fast Blow. See details on p4.

Power Supply Control Wiring

The Power Supply can be configured to allow external control of the Power Supply Regulator. When the “BATT TEST” input is switched to 0 volts the Power Supply Regulator will be disabled. This will cause the Power Supply unit to run on the Battery if present. If the Battery level drops below 11 volts, the “LOW BATT” output will go into alarm.

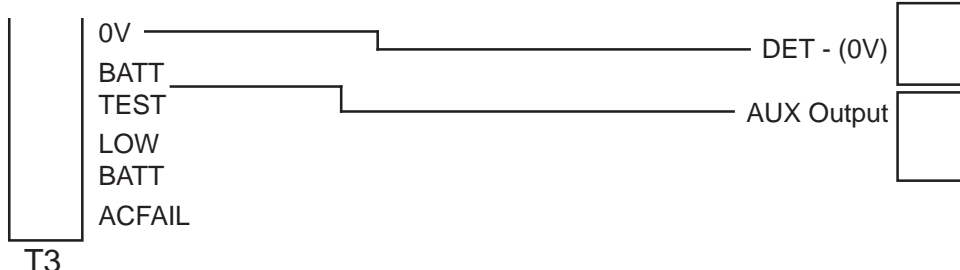
A typical application is Battery testing. Using any spare Auxiliary output from a local Integriti/Concept module, connect the output to “BATT TEST” as shown below. Also connect the “LOW BATT” output to a spare Zone Input as shown on page 2. Program the Auxiliary output to automatically turn on periodically for the required battery test period and the Zone Input to annunciate &/or report the low battery condition as required.

When the Auxiliary is OFF the power supply is enabled; When the Auxiliary is ON the power supply is operating from its battery only.

NOTE: If this product is being used to replace an earlier version of the Concept 2A Power Supply (i.e. The version with JP2 selection pins fitted), note that the BATT TEST input logic is reversed. If the BATT TEST Input is in use, programming may need to be altered, or an interface relay used to maintain the Battery Test functionality.

Power Supply Board

Integriti/Concept Module Auxiliary Output



LED Details:

L2 AC FAIL	RED	ON: AC Input is not present. Power is being supplied by the backup Battery.
L3 ON	GREEN	ON: Power Supply Output Voltage is present.
L4 LOW BATT	RED	ON: Battery Voltage is low. <i>See “T3” details on p2.</i>

Fuse:

F1	Battery Input Safety Fuse. 5A Fast Blow. If blown, Fuse must be replaced with a fuse of the same type and value.
----	---

Power Supply Monitoring and Reporting:

When used with Integriti Modules, this Power Supply does not support status and fault monitoring via the 10-way “External Power” connector. AC Fail and Low Battery must be monitored by wiring the AC Fail and Low Battery outputs to Zone Inputs on the host Module, or another Module nearby. *See Pages 2 & 3 for details.*

Specifications

ELECTRICAL

Input Voltage:	16 - 18V AC
Input Current. 2A O/P:	3A. Inline Transformer P/N: 999012. LK1 FITTED.
1A O/P:	1.5A. Plug-pack P/N: 999004. LK1 MUST BE REMOVED.
Output Voltage:	13.75V DC +/-5%, up to 2A. (Battery fully charged)
Maximum O/P Current limit:	2 Amps or 1 Amp selectable via Link LK1. Allow current for Battery charging when calculating maximum load current.
Low Battery Alarm Voltage:	11.0V
Output Ripple:	100mV RMS max. @ Iout = 2A.
Switching Frequency:	370 kHz. approx.
Load Regulation:	+0 / -500mV @ Iout = 0.1A to 2.0A.
Conversion Efficiency:	85%. approx.
Battery type & capacity:	12V Sealed Lead Acid Battery. 6.5 to 7.0 AH

MECHANICAL

PCB dimensions:	Width: 95mm
	Length: 95mm. 80mm with snap-off mounting strip removed.
	Height: 45mm high.
Operating Temperature:	0° to 50° Celsius (Ambient)
Humidity:	15% to 90% Relative humidity (non-condensing)