TALLEY

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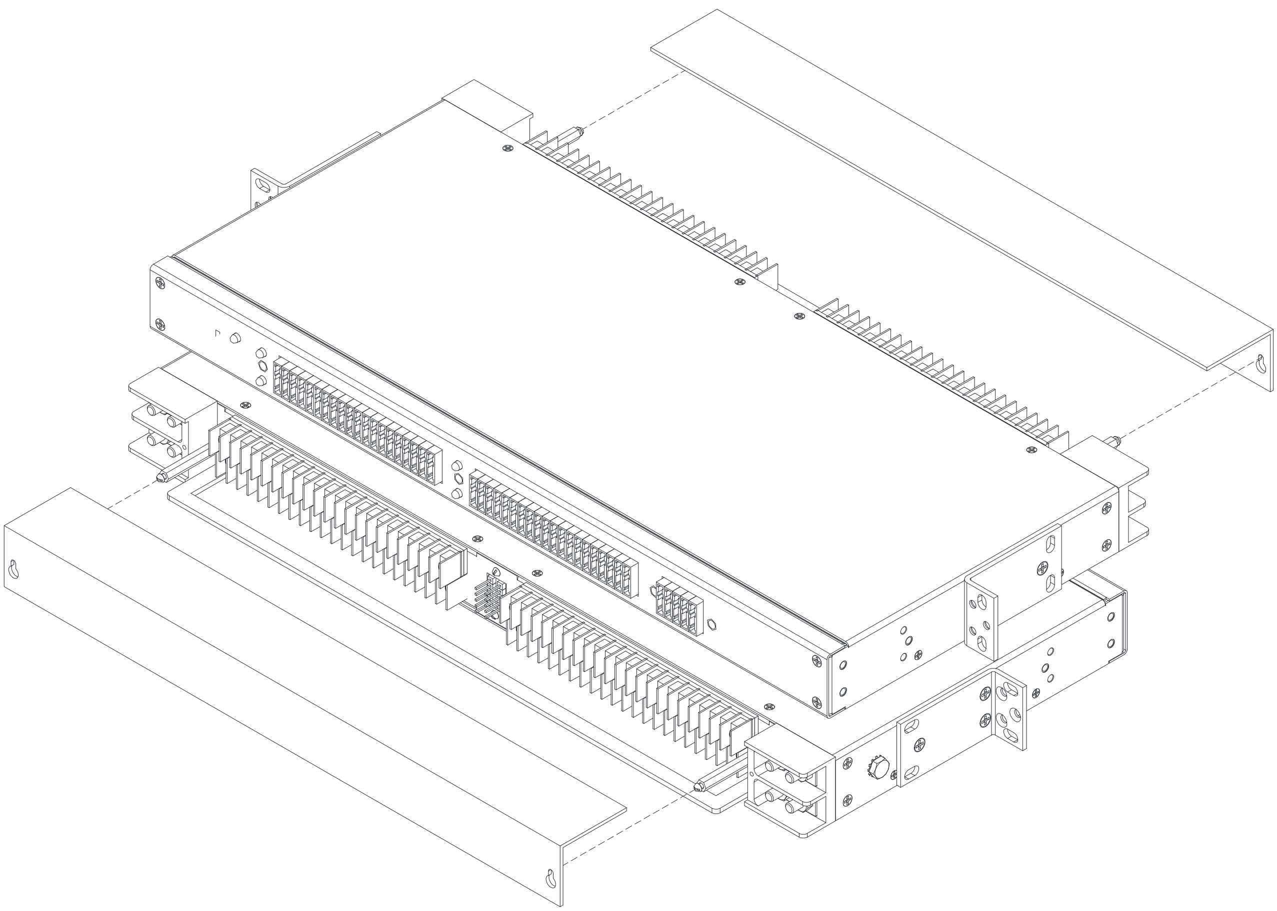
530-101732 Rev L
0223-03K
September 30, 2010

Westell

FUSE PANEL
Technical Practice

N250140-N-L34

20/20 GMT (23" panel)
NEBS Level 3 Certified



FEATURES

- 2 isolated groups (busses) of 20 GMT fuses each (15Amps/GMT postition).
- Polarity insensitive (+/- 24 or +/- 48 Vdc) battery voltage (other voltages, see Ordering Options).
- This panel can operate at 200 Amps of output current per panel (100 Amps per Bus).
- Barrier terminal strips for fused outputs and isolated battery returns (grounds).
- Three sets of Form C relay contacts are provided to extend alarms
- One set of alarm contacts for each; MAJOR Bus A, MAJOR Bus B and MINOR External Input Alarm.
- MINOR External Input Alarm activated by a ground signal applied to the input pin.
- Cable management bar (aka; towel bar) on rear of panel included (flush style).
- Five spare fuse holders provided on the panel's faceplate.
- Single 1.75" mounting height (single panel space).
- Two sets of mounting brackets are supplied (1" & 1-3/4" spacing), both sets of brackets can used for flush and offset mounting options.
- NEBS level 3 certified, with zone 4 earthquake.

1. GENERAL DESCRIPTION

1.1. The Westell N250140-N-L34 Fuse Panel provides up to 40 circuits for the distribution of DC power to equipment. Each of the 40 circuits is individually protected by a GMT style telecommunication fuse located on the panel's faceplate. Alarm circuits are provided to indicate and extend alarm conditions when faults occur. Normal Operation LEDs are provided to indicate the status of each bus in the panel.

1.2. Input wiring is connected to a high current, 2-hole lug input block located at the rear of the panel. Each group of fuses or bus has its own completely isolated inputs, allowing the distribution of two battery voltages through the same panel.

1.3. The power is distributed to the load side equipment through GMT style fuses. There are 20 fuses per fuse group and two groups per panel. Each fuse position is available for installer connection at the rear of the panel. A designation card is provided for keeping records of which position is connected to which equipment and what amperage is to be used.

1.4. Each panel is equipped with dummy fuses in all unused positions. The panel also can hold up to 5 spare fuses in the faceplate.

1.5. Alarm circuits are provided to alert service personnel of fault conditions. A fuse alarm is caused when any of the GMT distribution fuses opens. A red fuse alarm LED on the faceplate will illuminate and the green Normal Operation LED will extinguish to signal a fuse alarm, and also the appropriate MAJOR relay contacts will change states. These fuse panels have common (C), normally open (NO) and normally closed (NC) terminals for both Major and Minor alarms. A major alarm being a fuse or input power failure in that bus and a minor alarm being an external alarm. The external alarm is ground activated (20mA required to activate alarm). Note, the use of the alarm contacts is optional, if you do not wish to extend the alarms, you don't have to do anything with the alarm pins.
The "Normal" condition of the relay exists when the panel is powered up without any blown fuses or externally activated alarms.

The red External Alarm LED on the units face plate will light when a ground is connected to the MINOR "Alarm In" terminal (20mA max. signal required to activate alarm).

1.6. The N250140-N-L34 Fuse Panels are made from 0.050" steel and painted off white. Brackets will fit 23" wide racks and use only one 1.75" panel space. The panel is supplied with universal brackets (1" & 1-3/4" spacing) that will fit both 19" and 23" wide racks and use only one 1.75" panel space. The panel has a clear L shaped lexan to protect the wiring connections on the back of the panel.

2. APPLICATION

2.1. The N250140-N-L34 Fuse Panels are designed to be used in the distribution of DC power. They are rack mount panels that can provide fused DC power to up to 40 individual circuits (20/20 GMT), or 20 pieces of equipment, providing redundant battery feeds to each.

3. CIRCUIT DESCRIPTION

3.1. Power is connected to the fuse panel via ¼" studs on 5/8" centers located at the rear of the panel (Torque 5.5 ft-lbs). These inputs are high current stud blocks that supply current to the fuse panel. Connect the battery return cable to the stud input that is labeled "RTN" and the Battery supply cable is connected to the terminals labeled "BAT".

3.2. Distribution of current from each bus is provided by GMT style fuses. Each bus has 20 fuse holders for distribution, the fuses are labeled F1 to F20 on each bus. Each fuse position is made available at the rear of the fuse panel. Maximum output current of each fused position is rated at 15 Amps, provided the maximum bus current or BDFB fuse is not exceeded (each bus is rated at 100Amps max).

3.3. Fuse alarm circuitry provides 1 set of form "C" contacts (C, NO and NC) for each type of alarm (Major Bus A, Major Bus B and Minor-Ext). In the event of a fuse or external alarm, the proper relay will change states, providing a connection between the Normally Open "NO" and Common "C" terminals. The normally closed "NC" terminal will open to high impedance. The MINOR indicates an external ground input alarm (aka; bay or rack alarms). Ground activates the external alarm inputs.

4. INSTALLATION

Please read completely before beginning.

WARNING: Installation should only be performed by an experienced Installer familiar with DC power distribution systems.

4.1. Unpack and inspect the Westell Fuse Panel for possible damage incurred during shipping. If damage is found, file a claim immediately with the carrier, and notify Westell's customer service department.

4.2. Once the panel is unpacked, verify that there are three mounting brackets. Adjust the position and orientation of the correct mounting brackets on the fuse panel, such that it will fit the rack you wish to mount the panel in. This panel, due to the quantity of screw terminal positions, will only mount in a 23" rack. Westell uses higher density Phoenix style blocks (ie, mechanical elevator blocks that clamp onto bare wire) in its 19"/23" universal fuse panels. Brackets can be installed for flush mounting of the fuse panel, or for a 5" offset mounting.

4.3. Mount the panel on the equipment rack using the thread forming #12-24 rack mounting screws and tooth lock washers provided.

WARNING: For safety reasons all wiring should be done with the power source removed (when possible).

4.4. Remove the distribution fuse feeding the input cables that are to be connected to the new panel. Using input cables specified by the Job Engineer, hook up the input cables to the input terminal block on the fuse panel ("BAT" & "RTN" for each bus). Each high current input terminal uses a two hole compression lug (1/4" on 5/8", torque to 5.5 ft-lbs).

4.5. The battery ("BAT") outputs are available at the terminal blocks (#6 screw, up to 10awg fork) at the rear of the panel. Each fuse position is numbered and that fused circuit is available at the terminal block position with the same number.

4.6. All battery return ("RTN") connections are also terminated on barrier strips (#6 screw, up to 10awg fork). Note that these returns are isolated from the chassis frame.

4.7. This panel has MAJOR Bus A, MAJOR Bus B and MINOR External alarms. Each alarm has a common (C), normally open (NO) and normally closed (NC) alarm contact.

The Minor External Input Alarm is used for alarms that originate outside the panel (bay alarms). A ground signal is supplied from another device in the bay to activate this alarm.
In an alarm the "C" contact will short to the "NO" contact, and the "NC" will open. Wire-wrap the alarm connections as per your alarm system requirements. Westell recommends you fuse the alarm battery supply (ABS) to 1A or less to protect the alarm wiring and circuitry.

4.8. **CHASSIS GROUND;** For safety reasons, and as recommended by NEBS, the chassis should be electrically connected to the rack ground. From step 4.3. the panel should already be ground to the rack via the #12-24 thread forming rack screws and outside tooth lock washers. In addition to grounding via the mounting brackets, it is recommended you ground the chassis using a ground cable and the #10 bolt and locks on side of chassis (#10 screw torque; 2ft/lbs or 2.7Nm).

4.9. Power up the panel by installing the distribution fuses supplying the panel. The panel should power up with the Normal Operation LED illuminated and without any red LEDs illuminated, and the relays should be in the "normal" state ("C" connected to "NC").

4.10. If you wish to verify the fuse alarm circuit, you can insert a blown fuse into one of the empty fuse holders. The red Fuse Alarm LED should light and the Normal Operation LED should extinguish and the appropriate "MAJOR" alarm extension relay should change states to extend the alarm. If you wish to verify the externally activated alarms you can connect a GND to the External Alarm In and the External Alarm LED should light and the minor External alarm extension relay should change states to provide the alarm extension.

4.11. Install panel output distribution fuses as required. Use the provided designation card to keep a record of which equipment is connected to which circuit and what the fuse rating is. Be careful not to overload the panel bus or BDFB fuse position rating supplying the panel.

5. SPECIFICATIONS

5.1. Voltage	-/+24 or -/+48 VDC Typical -/+22 to -/+58 VDC Max.
5.2. Current/Fuse	15 Amps Maximum
5.3. Current/Bus	100 Amps Max.
5.4. Current/Panel	200 Amps
5.5. Output Fuse	GMT Style Fuse Holders
5.6. Output/Bus	20 Fuses (40 per panel)
5.7. Output/Panel	2 Busses per Panel
5.8. Input Block	Two ¼" Stud on 5/8 center
5.9. Output Block	#22 AWG to 12 AWG wire Or fork/ring for #6 screw, 10awg forks/rings will work
5.10. Alarm Block	0.045" sq wire wrap pin
5.11. Relay output	2 Amps/58Vdc max
5.12. Relay activation	Gnd, 20mA max.
5.13. Dimensions	1¾ H, 21 W,11½ D (excluding brackets)
5.14. Rack Mounting	23" Racks for 1" or 1-3/4" Panel Spaces
5.15. Weight	Appx 8 Lbs
5.16. Operating Temp.	-20° to +60°C (-5° to +140°F)
5.17. Color	Off White

Compatible lugs for input block
2 hole compression lugs for 1/4" studs on 5/8" centers.
Panduit# LCD2-14A 2awg wire
LCD4-14A 4awg wire
LCD6-14A 6awg wire
LCD8-14A 8awg wire

Output lugs (locking fork recommended):
Ring or fork for #6 screw (up to 10awg)

Ordering Options:
1) N250140-N130-L34 (+/-130 Vdc)
Same as the N250140-N-L34 but for +/- 130 Vdc battery voltage.
2) N250140-N105-L34 (Ringing)
Same as the N250140-N-L34 but for sup-aud. ringing voltage.

6. TECHNICAL SERVICES

6.1 If technical or customer assistance is required, contact Westell by calling or using one of the following options:

Voice: (800) 377-8766
email: global_support@westell.com

For additional information about Westell, visit the Westell World Wide Web site at http://www.Westell.com.

6.2 This equipment is identified by a model number. Be sure to have the model number and serial number available when making inquiries about the equipment.

7. WARRANTY & REPAIRS

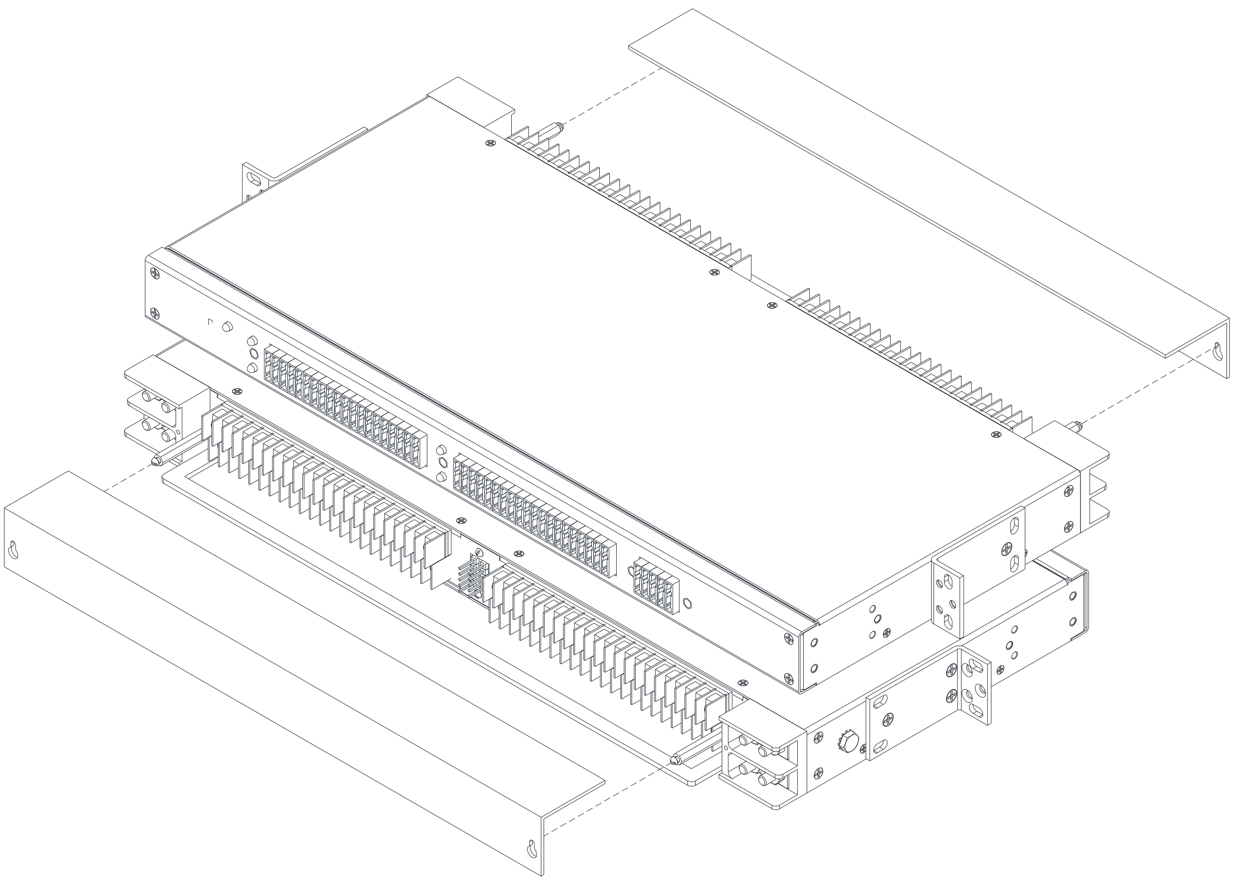
7.1 Westell warrants this product to be free of defects at the time of shipment. Westell also warrants this product to be fully functional for the time period specified by the terms and conditions governing the sale of the product. Any attempt to repair or modify the equipment by anyone other than an authorized Westell representative will void the warranty.

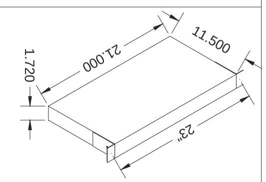
7.2 Westell will repair or replace any defective Westell equipment without cost during the warranty period if the unit is defective for any reason other than abuse, improper use, or improper installation. To return defective equipment, first request a Return Material Authorization (RMA) number from Westell by calling or emailing (Customer Service) at the address below. Once an RMA number is obtained, return the defective unit (freight prepaid), along with a brief problem description, to the address we will provide to you when you contact us.

email: rgmdept@westell.com
Voice: (800) 377-8766

Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Westell will continue to repair or replace faulty equipment beyond the warranty period for a nominal charge. Contact Westell for details.

REV	Qty	Description or Release Note	ECN	CKD	APD	DATE
A		Original				
B		Updated views and title block info				
C		Updated views (tie bar)				
D		Updated views and footprint	396			
E		Removed one GND PEM	426			
F		Changed to Q bracket	777			30 Sept 10

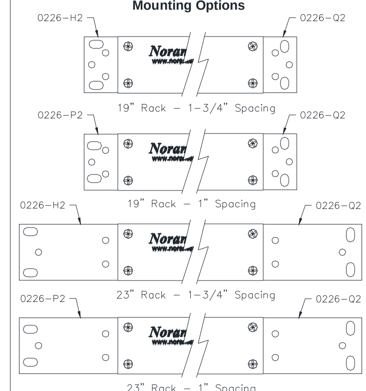




- Volume = 415.380 in^3
  = .240 ft^3
- Uses one Rack Space
- Reversable brackets allow panel to be mounted in 19" or 23" rack.

Panel Footprint

Mounting Options

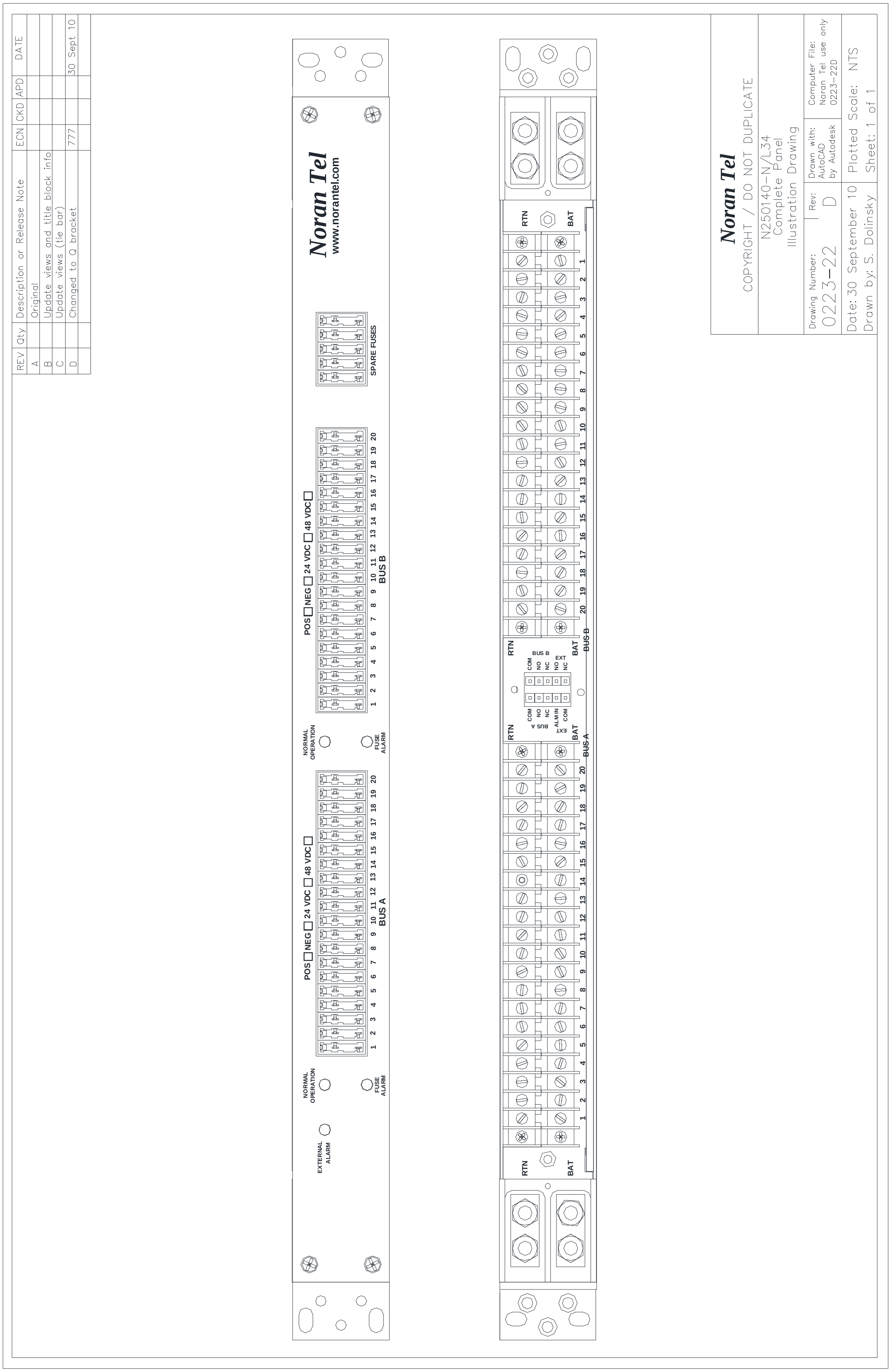


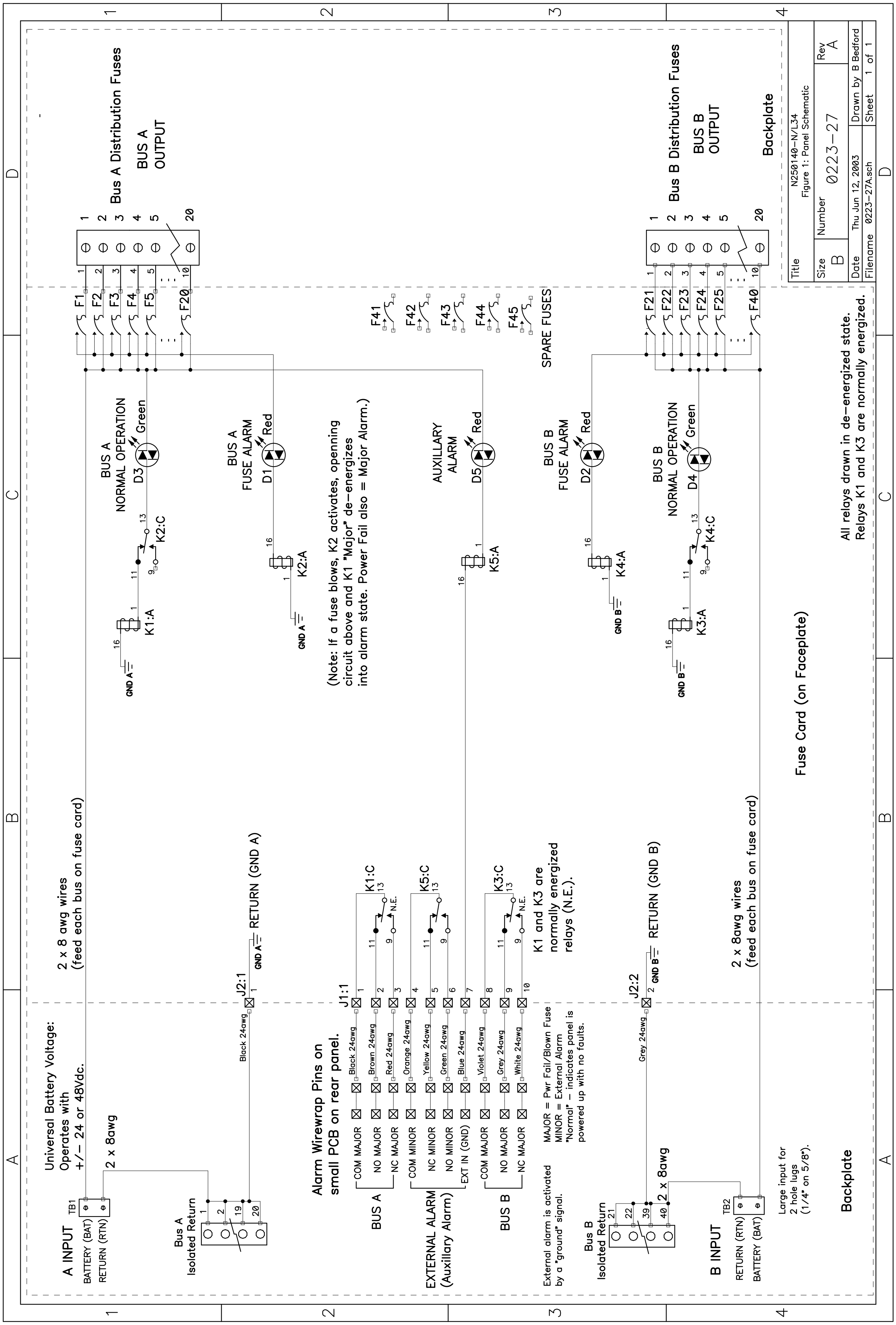
Noran Tel

N250140-N/L34
Complete Panel
Illustration Drawing

Drawing Number:	Rev:	Drawn with:	Computer File:
0223- 21	F	AutoCAD by Autodesk	Noran Tel use only 0223-21F

Date:30 September 10	Plotted Scale: NTS
Drawn by: S. Dolinsky	Sheet: 1 of 1


REV Qty Description or Release Note ECN CKD APD DATE
A Original
B Update views and title block info
C Update views (tie bar)
D Changed to Q bracket 777 30 Sept 10
Noran Tel
www.norantel.com
SPARE FUSES
POS NEG 24 VDC 48 VDC
BUS A
BUS B
NORMAL OPERATION
FUSE ALARM
EXTERNAL ALARM
RTN
BAT
COM NO NC NO NC
EXT
ALM IN
Noran Tel
COPYRIGHT / DO NOT DUPLICATE
N250140-N/L34
Complete Panel
Illustration Drawing
Drawing Number:
0223-22
Rev:
D
Drawn with:
AutoCAD
by Autodesk
Computer File:
Noran Tel use only
0223-22D
Date: 30 September 10
Drawn by: S. Dolinsky
Plotted Scale: NTS
Sheet: 1 of 1


Bus A Distribution Fuses
BUS A OUTPUT
Bus B Distribution Fuses
BUS B OUTPUT
Backplate
Title N250140-N/L34 Figure 1: Panel Schematic
Size B
Number 0223-27
Rev A
Date Thu Jun 12, 2003
Drawn by B Bedford
Filename 0223-27A.sch
Sheet 1 of 1
SPARE FUSES
BUS A NORMAL OPERATION D3 Green
BUS A FUSE ALARM D1 Red
AUXILLARY ALARM D5 Red
BUS B FUSE ALARM D2 Red
BUS B NORMAL OPERATION D4 Green
(Note: If a fuse blows, K2 activates, openning circuit above and K1 "Major" de-energizes into alarm state. Power Fail also = Major Alarm.)
All relays drawn in de-energized state. Relays K1 and K3 are normally energized.
Fuse Card (on Faceplate)
2 x 8 awg wires (feed each bus on fuse card)
RETURN (GND A)
RETURN (GND B)
K1 and K3 are normally energized relays (N.E.).
2 x 8awg wires (feed each bus on fuse card)
Universal Battery Voltage: Operates with +/- 24 or 48Vdc.
2 x 8awg
A INPUT
BATTERY (BAT)
RETURN (RTN)
Bus A Isolated Return
Alarm Wirewrap Pins on small PCB on rear panel.
COM MAJOR
NO MAJOR
NC MAJOR
COM MINOR
NC MINOR
NO MINOR
EXT IN (GND)
BUS A
EXTERNAL ALARM (Auxillary Alarm)
BUS B
MAJOR = Pwr Fail/Blown Fuse
MINOR = External Alarm
"Normal" - indicates panel is powered up with no faults.
External alarm is activated by a "ground" signal.
Bus B Isolated Return
B INPUT
Large input for 2 hole lugs (1/4" on 5/8").
Backplate