

# Westell

## N215228-NCY

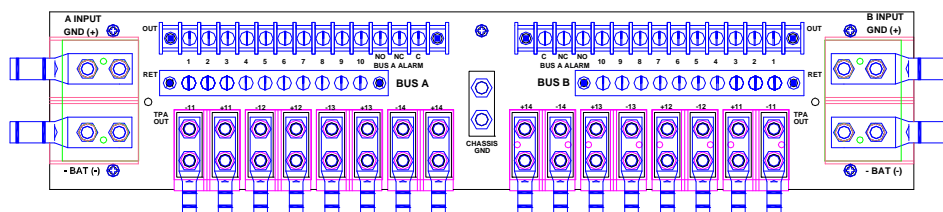
Standard Panel

&

## N215228-NCY

NEBS Level 3 Certified

### GMT and TPA Fuse Panel Technical Practice



### FEATURES

- f* -24 to -48 VDC input voltage.
- f* 2 buses (200 Amps/bus)
- f* 10 GMT fuses per bus (15 Amps/GMT max., 30 Amps/GMT-bus max).
- f* 4 TPA style fuses per bus (50 Amps/TPA max).
- f* Power and alarm LED's for bus A and bus B.
- f* One GMT fuse alarm and one TPA fuse alarm relay per bus (dry form "C" contacts)
- f* Brackets supplied are reversible for both 19" and 23" racks.
- f* Note: NEBS Certified panels contain different materials to meet NEBS Level 3 specifications.

## **1. GENERAL DESCRIPTION**

1.1. The Westell N215228-NCY Fuse Panels provide fused distribution of DC power to equipment. The panel has 2 buses. Each bus consisting of 10 GMT style fuse positions and 4 TPA style fuse positions. Alarm circuits are provided to indicate and extend alarm conditions when faults occur.

1.2. Wiring for the panel is connected to easy access terminal blocks on the back of the panel.

1.3. The Power is distributed to the load side equipment through GMT and TPA style fuses. There are 10 GMT style fuses per bus and 4 TPA style fuses per bus. The GMT fuses are 15 Amps max. each, or 30 Amps max. per GMT group for each bus. The TPA fuses are 50 Amps max. each, and the total Amps per bus, including TPA and GMT, is 200 Amps. A designation card is provided for keeping records of which position is connected to which equipment and what amperage of fuse is to be used.

1.4. Alarm circuits are provided to alert service personnel of fault conditions. A GMT fuse alarm is caused when any of the GMT fuses open. When a GMT fuse alarm occurs, there is a red LED that will illuminate on the front of the panel. A TPA fuse alarm occurs when any of the TPA fuses open. When a TPA fuse opens, there is a red LED on that fuse holder that will illuminate. Each bus has its own set of alarms. The alarms have common (C), normally closed (NC), and normally open (NO) contacts for fuse alarms.

1.5. The N215228-NCY Fuse Panels are made from 0.050" steel and painted telephone grey (custom colour & finish available, consult factory). The panel is shipped with universal mounting brackets to fit both 19" and 23" wide racks.

## **2. APPLICATION**

2.1. The N215228-NCY Fuse Panels are designed to be used in the distribution of DC power. They are rack mount panels that provide fused DC power through 20 GMT style fuses, and 8 TPA style fuses.

## **3. CIRCUIT DESCRIPTION**

3.1. Power is connected to the panel through 1/4" stud input blocks. There is one for each bus, labelled A INPUT and B INPUT. These inputs are high current terminals with a maximum continuous current of 200 Amps. There is a ground and negative battery input for each bus.

3.2. Distribution of current from each bus is provided by GMT and TPA style fuses. Each bus has 10 GMT fuses and 4 TPA fuses. Each fuse position is made available at the rear of the panel. The GMT fuses for both bus A and bus B are numbered 1 - 10. The TPA fuses are numbered 11-14 for bus A and bus B.

3.3. Fuse alarm circuitry provides dry form "C" contacts. In the event of a fuse alarm, the relay switches, making a connection between common (C) and normally open (NO). When there is no alarm, there is a connection between "C" and normally closed (NC).

## **4. INSTALLATION**

Please read completely before beginning.

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 shipper/receiver of the damage.

4.2. Once the panel is unpacked, verify that there are two mounting brackets. Fasten the mounting brackets to the sides of the fuse panel using the screws provided so that it will fit your rack spacing. The mounting brackets are reversible to accommodate 19" and 23" rack spacing. The mounting brackets can also be fitted for flush mounting, or for 5" offset mounting.

4.3. Mount the fuse panel in the required position on the rack using standard rack mounting screws (not provided).

**WARNING:** For safety reasons all wiring should be done with the power source removed.

4.4. Remove the distribution fuse feeding the input cables that are going to be connected to the fuse panel. Connect the main power cables to the input blocks. There is a separate input block for each bus on the panel. See Table 1.1: Terminal Block Designations for more information.

4.5. The battery outputs and ground returns are located on the back of the panel. Each fuse position is individually numbered. The negative battery connections for the GMT fuses are labelled OUT, and the ground returns are labelled RET. The TPA negative battery outputs are labelled "-" and the ground returns are labelled "+". See Table 1.1: Terminal Block Designations or the front/rear view diagram for more information.

4.6. There are three connections for each of the four alarms. There is common (C), normally open (NO), and normally closed (NC). Connect the signal that you want extended in an alarm condition to the "C" connection. When there is an alarm, "C" will become shorted to "NO" and break the connection to "NC".

4.7. Power up the panel by installing the distribution fuse supplying the panel. The four POWER LED's on the front of the panel should be illuminated.

4.8. Install panel output 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. Installer connections are made from the outside edges of the panel inward for ease of wiring

4.9. If you wish to verify the fuse alarm circuit, you can insert a blown fuse into the panel. The alarm LED should illuminate, and the relay should activate to send the alarm extension.

#### 4.10 CHASSIS GROUND

For safety reasons, as recommended by NEBs, this chassis should be grounded via a two hole compression lug to the equipment rack ground. Found on the rear of the panel is two 1/4" studs on 5/8" centers (Torque 5ft/lbs-6.8N/m). A two hole compression lug (see specifications for recommended lug) should be connected to the chassis using the lockwashers and nuts provided. Using appropriate cable that will trip the supply fuse, run this cable to the appropriate rack GND. As an alternative, a compression lug can also be connected on the side of the chassis, where there are two #10 PEM nuts on 5/8" centers. Using #10 screws to connect the lug, be sure to use an outside tooth lockwasher between the chassis and lug, and also between the lug and screw (Torque 2ft/lbs-2.7N/m). The hardware for this alternative is not provided.

A third option for grounding without ground cable is also available. The chassis can be grounded to the rack using #12 outside tooth lockwashers under all (thread forming) rack mounting screws.

NOTE: The first method of grounding with the compression lug and ground cable is preferred.

## 5. Specifications

5.1. Voltage	-24 or -48 VDC Typ. -22 to -55 VDC Max.	5.10. GMT Output Block	#30-#14 AWG wire
5.2. Current/Fuse GMT	15 Amps Max.	5.11. TPA Output Block	Two 1/4" studs on 5/8"centers**
5.3. Current/Fuse TPA	50 Amps Max.	5.12. Relay Current	2 Amps Max.
5.4. Current/Bus GMT	30 Amps Max. per Bus	5.13. Dimensions	3.5" H, 17" W, 10.7" D
5.5. Current/Bus Total	200 Amps Max. per Bus	5.14. Rack Mounting	19" and 23" Racks for 3.5" spacing
5.6. Current/Panel	400 Amps	5.15. Weight	Appx. 10 Lbs.
5.7. Output/Bus	10 GMT, 4 TPA	5.16. Operating Temp.	-20 to +60 C (-5 to +120 F)
5.8. Output/Panel	2 Busses per panel	5.17. Colour	Telephone Gray
5.9. Input/GND	Two 1/4" studs on 5/8"centers**	5.18. GND Connector	Equivalent for wire size**

**\*\*See page 5 for compatible lugs**

**Table 1.1: Terminal Block Designations**

FUNCTION		DESIGNATION
<b>Inputs</b>	A Bus - Battery	BUS A INPUT -
	A Bus Ground	BUS A INPUT +
	B Bus - Battery	BUS B INPUT -
	B Bus Ground	BUS B INPUT +
<b>TPA Outputs</b>	A Bus - Battery	11-14 -
	A Bus Ground	11-14 +
	B Bus - Battery	11-14 -
	B Bus Ground	11-14 +
<b>GMT Outputs</b>	A Bus - Battery	1-10 OUT
	A Bus Ground	1-10 RET
	B Bus - Battery	1-10 OUT
	B Bus Ground	1-10 RET
<b>Alarms</b>		
GMT Bus A Common		C
GMT Bus A Normally Closed		NC
GMT Bus A Normally Open		NO
TPA Bus A Common		C
TPA Bus A Normally Closed		NC
TPA Bus A Normally Open		NO
GMT Bus B Common		C
GMT Bus B Normally Closed		NC
GMT Bus B Normaly Open		NO
TPA Bus B Common		C
TPA Bus B Normally Closed		NC
TPA Bus B Normally Open		NO

## 6. ORDERING OPTIONS

### Standard Panel w/stud input;

NTI-215228-N/C

NTI-N215228-N/C (NEBS Certified)

Dual 200Amp/bus panel with 4 TPA and 10

GMT fuse holders per bus

1/4" stud on 5/8" center input block

### Panel with full lexan;

NTI-215228-N/CY(D)

A full lexan can be added to any version of this panel.

### Compatible lugs for input block

2 hole compression lugs for 1/4" studs on 5/8" centres.

Panduit# LCD2-14A 2 AWG

Panduit# LCD4-14A 4 AWG

Panduit# LCD6-14A 6 AWG

Panduit# LCD8-14A 8 AWG

Panduit# LCD1-14A 1 AWG (green)

Panduit# LCD1/0-14A 1/0 AWG (pink)

Panduit# LCD2/0-14A 2/0 AWG (black)

Panduit# LCC4/0-14A 4/0 AWG

## 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](mailto: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.

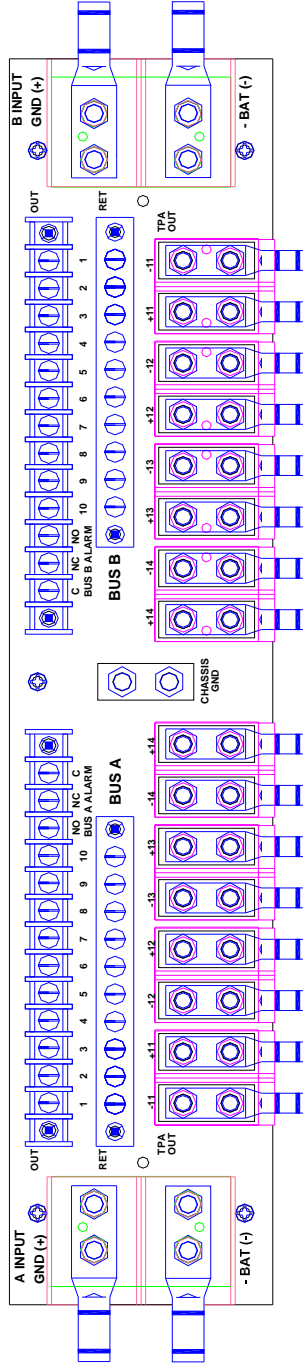
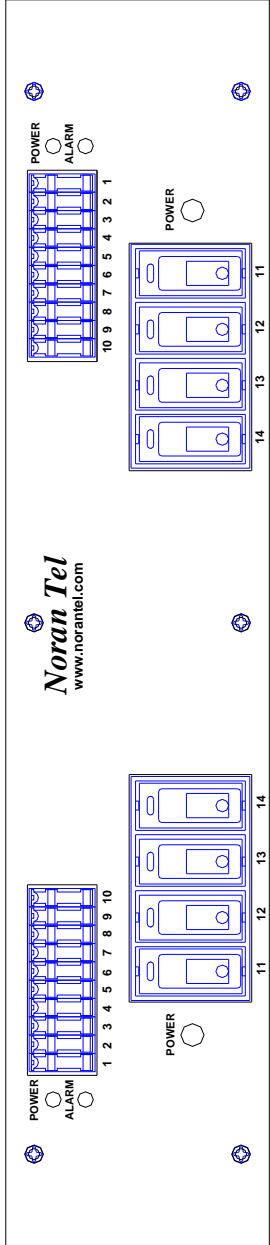
7.2 Westell will repair or replace any defective Westell equipment without cost during the warranty period if the unit is defective for any reason other than abuse, improper use, or improper installation. To return defective equipment, first request a Return Material Authorization (RMA) number from Westell 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](mailto:rgmdept@westell.com)

Voice: (800) 377-8766

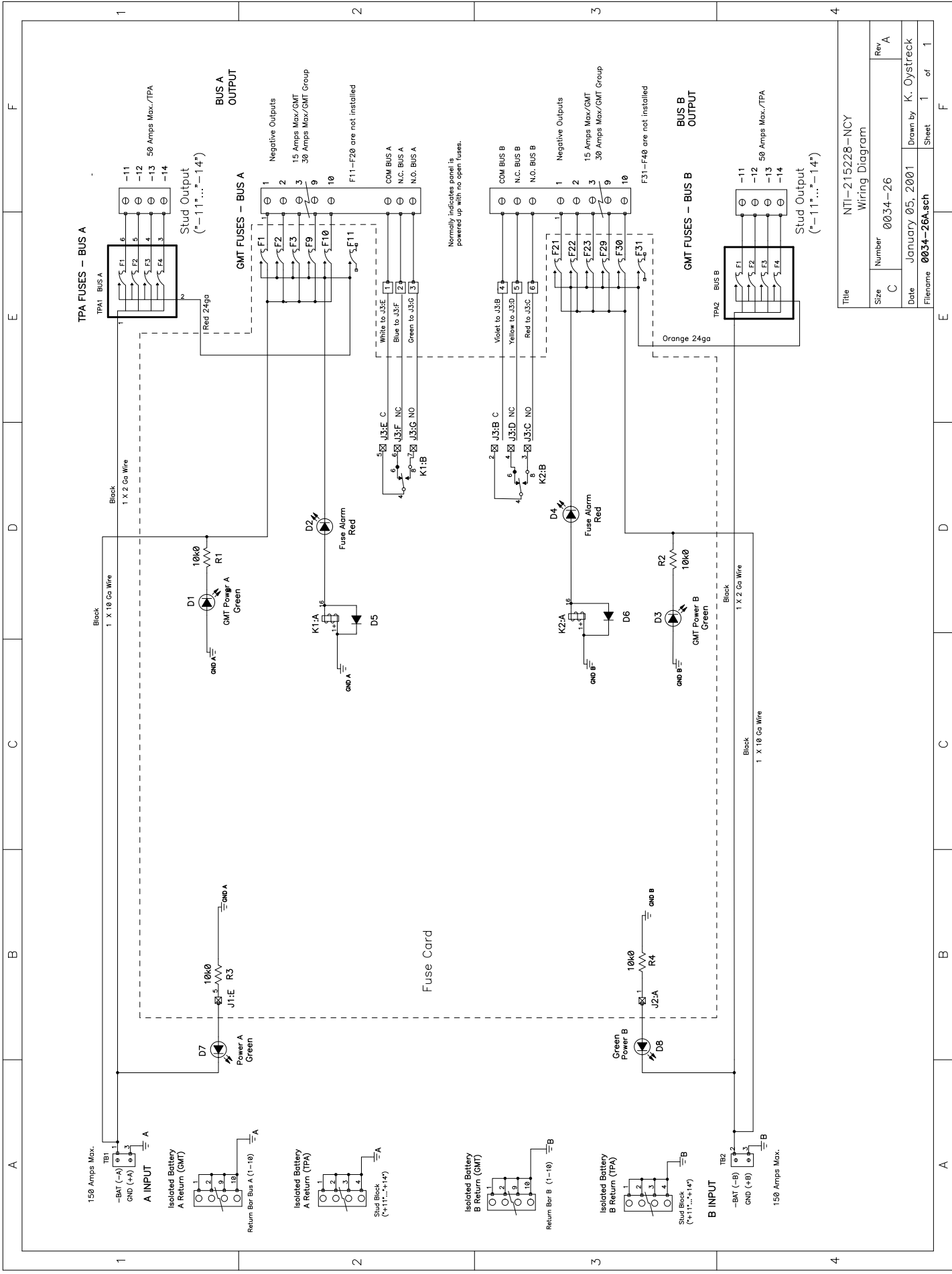
Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Westell will continue to repair or replace faulty equipment beyond the warranty period for a nominal charge. Contact Westell for details.

REV	Qty	Description or Release Note	CKD	APD	DATE
A		Original			



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 NTI-215228-NCY  
 Front and Rear Illustration  
 Illustration Drawing

Drawing Number:	Rev:	Drawn with:	Computer File:
0034-Illustration	00	Autodesk	Noran Tel use only
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Drawn by:	K. Oystreck		
Sheet:	1 of 1		



Title		NTI-215228-NCY	
Size		Wiring Diagram	
Number	0034-26	Rev	A
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