



NXRTi-DRY

Dry Contact Card

User's Manual

Thank you for selecting this uninterruptible power supply (UPS) option. The UPS provides you with protection for connected equipment. This Dry Contact Card option provides optional communication hardware for the UPS. Please read this manual and the UPS User's Manual before installing the NXRTi-DRY Contact Card into the Series UPS models NXRTi-1000, NXRTi-2000 and NXRTi-3000 as it provides important information that should be followed during installation and maintenance of the UPS and batteries, allowing you to correctly set up your system for the maximum safety and performance. Included is information on customer support and service, if it is required. If you experience a problem with the UPS, please refer to the Troubleshooting section in this manual to correct the problem. If the problem is not corrected, please collect information so that the Technical Support personnel can more effectively assist you.

WARNING: Any changes or modifications not expressly approved by the manufacturer of this device could void the user's authority to operate the equipment.

Important Safety Instructions: (Save These Instructions)

CAUTION! (UPS having Internal Batteries): Risk of electrical shock – Hazardous live parts inside this unit are energized from the battery supply even when the input AC power is disconnected.

CAUTION! (No User serviceable Parts): Risk of electrical shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION! (Non-isolated Battery supply): Risk of electric shock, battery circuit is not isolated from AC input, hazardous voltage may exist between battery terminals and ground. Test before touching.

WARNING! (Fuses): To reduce the risk of fire, replace only with the same type and size of fuse.

WARNING! Unit intended for installation in a controlled environment.

CAUTION! Do not dispose of batteries in a fire, the battery may explode.

CAUTION! Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes.

CAUTION! A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries:

- Remove watches, rings or other metal objects.
- Use tools with insulated handles.

To reduce the risk of electric shock, disconnect the UPS from the main supply before installing a computer interface signal cable. Reconnect the power cord only after signaling interconnections have been made.

Servicing of batteries should be performed or supervised by personnel with knowledge of batteries and the required precautions. Keep unauthorized personnel away from batteries.

These UPS units are extremely heavy. Do not install the UPS in a rack or enclosure by its front two ears only. Adjustable rack rails are required for this type of installation.

The instructions contained within this safety manual are deemed important and should be closely followed at all times during installation and follow-up maintenance of the UPS and batteries.



CAUTION

The unit has a dangerous amount of voltage. If the UPS indicator is on, the unit's outlets may have a dangerous amount of voltage even when not plugged into the wall outlet because the battery may continue to supply power.

Care should be taken to undertake installation indoors, free from electrically-conductive particles which are under temperature and humidity control, in order to reduce the risk of electric shock.

It is best to disconnect the device using the power supply cord. Ensure that the equipment is placed in a position near the outlet where easily accessible.







Except for replacing the batteries, all servicing on this equipment must be carried out by qualified service personnel.

Before conducting any maintenance, repair, or shipment, first ensure that everything is turned off completely and disconnected.

For additional safety instructions, please use the Safety Manual as a reference.

Special Symbols

The following symbols used on the UPS warn you of precautions:

	RISK OF ELECTRIC SHOCK - Please observe the warning that a risk of electric shock is present
	CAUTION: REFER TO OPERATOR'S MANUAL - Refer to the operator's manual for additional information, such as important operating and maintenance instructions.
	SAFE GROUNDING TERMINAL - Indicates primary safe ground
	LOAD ON/OFF - Pressing the button turns on/off the output receptacles and the indicator light.
	RJ45 RECEPTACLE - The receptacle provides network interface connections and telephone or telecommunications equipment should not be plugged into it.
	Please do not discard of the UPS or the UPS batteries as the UPS may have valve-regulated lead-acid batteries. Please recycle batteries appropriately.

EMC Standard/Safety Standard

Our products are manufactured in accordance with the following EMC international grade standards and has passed the CE authentication:

EMC standard number	Safety standard number
IEC62040-2	IEC62040-1
IEC61000-4-2	GB4943-2005
IEC61000-4-3	
IEC61000-4-4	
IEC61000-4-5	

Introduction

The information provided in this manual covers installation of the optional Dry Contact Card into the high-voltage, single phase 1000-3000 VA uninterruptible power systems. Electrical installation must also carefully follow local legislation and regulations. Only qualified personnel should conduct these installations as failure to acknowledge electrical hazards could prove to be fatal.

Functional Description

The Dry Contact Card is a UPS option which is used to provide UPS internal status to the outside, or control peripheral devices in accordance with the UPS status, in the form of dry contacts. The Dry Contact Card is inserted into the INTELLIGENT SLOT which is also the SNMP slot in the rear of the UPS. (Fig 1)



Fig. 1 – Dry Contact Card installation into SNMP Slot

The Dry Contact Card DB-9 Interface assignments are show in Fig. 2

DB-9 Pin Number	Functional Description	Input / Output
1	UPS Failure	Output
2	UPS Summary Alarm	Output
3	Ground	

4	Remote Shutdown	Input
5	Common Source	
6	Bypass Active	Output
7	Battery Low	Output
8	UPS ON	Output
9	Utility Failure	Output

Fig. 2 – Dry Contact Card DB-9 Interface Assignments

The Dry Contact Card DB-9 Interface function descriptions are show in Fig. 3

Function	Functional Description	Reason
PIN 1, PIN 5 ON	UPS Failure	UPS INTERNAL FAILURE
PIN 2, PIN 5 ON	UPS Summary Alarm	1. UPS IS ON BATTERY 2. BATTERY LOW 3. UPS INTERNAL FAILURE
PIN 3	Ground	
PIN 4	Remote Shutdown	THIS IS THE OUTSIDE INPUT REMOTE SHUTDOWN SIGNAL
PIN 5	Common Source	
PIN 6, PIN 5 ON	Bypass Active	BYPASS IS POWERING THE LOAD
PIN 6, PIN 5 OFF	UPS ON	UTILITY INVERTER MODE
PIN 7, PIN 5 ON	BATTERY LOW	BATTERY LOW
PIN 8, PIN 5 ON	UPS ON	UPS INVERTER POWERING THE LOAD
PIN 8, PIN 5 OFF	BYPASS ACTIVE	BYPASS POWERS THE LOAD
PIN 9, PIN 5 ON	UTILITY FAILURE	UTILITY FAILURE

Fig. 3 – Dry Contact Card DB-9 Function Description

Fig. 4 shows the DB-9 internal interface route

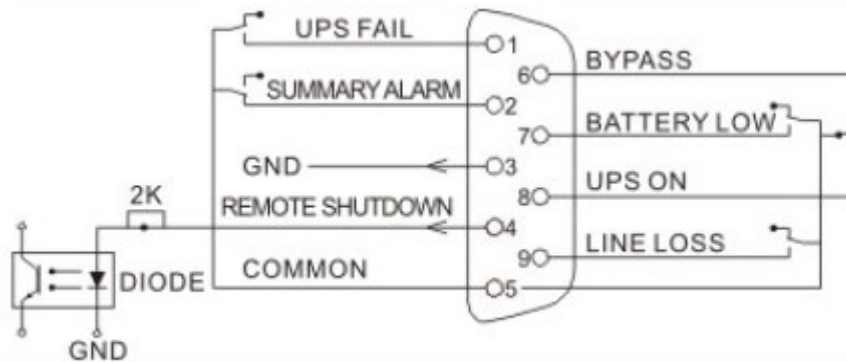


Fig. 4 – Dry Contact Card DB-9 Internal Interface Route

Fig. 5 shows the DB-9 internal electrical parameters

PARAMETER	SYMBOL	MAX	UNIT	
DIODE	REVERSE VOLTAGE	VR	6	VOLTS
	FORWARD CURRENT	IF	80	MILLI-AMPS
	PEAK FORWARD CURRENT	IF(PEAK)	1	AMPS
	DC VOLTAGE	VDC	28	VOLTS
	DC CURRENT	IDC	7.0	AMPS
	AC VOLTAGE	VAC	125 250	VOLTS
	AC CURRENT	IAC	12 7	AMPS

Fig. 5 – Dry Contact Card DB-9 Internal Electrical Parameters

Fig. 6 shows the Application Instructions of the Dry Contact Card

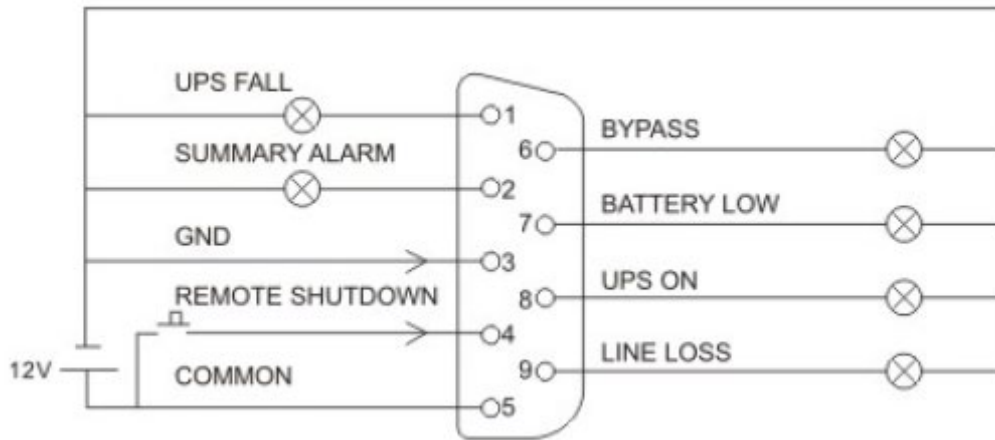


Fig. 6 – Dry Contact Card Application Instructions

Fig. 7 shows the Pin Definitions of the Connecting Terminals on the Dry Contact Card
 NC = NORMALLY CLOSED; NO = NORMALLY OPEN

TERMINAL NUMBER	TERMINAL FUNCTION	TERMINAL NUMBER	TERMINAL FUNCTION
1	UPS FAILURE NC	9	INVERTER ON NC
2	UPS FAILURE NO	10	INVERTER ON NO
3	BYPASS STATUS NC	11	UTILITY FAILURE NC
4	BYPASS STATUS NO	12	UTILITY FAILURE NO
5	UPS ALARM NC	13	OPERATION INDICATION NC
6	UPS ALARM NO	14	OPERATION INDICATION NO
7	BATTERY LOW NC	15	COMMON SOURCE
8	BATTERY LOW NO	16	COMMON SOURCE

Fig. 7 – Pin Definitions for Connecting Terminals on the Dry Contact Card

For the function of connecting terminals on the board, please refer to the DB-9 interface pin instructions. The wire connecting is also similar to the DB-9. It also provides normally open contact (even terminal pin) besides the nor-

mally closed contact (odd terminal pin).

For the function definition of connecting terminals, you can also get relevant information from the silk-screen printing on the rear of the card.

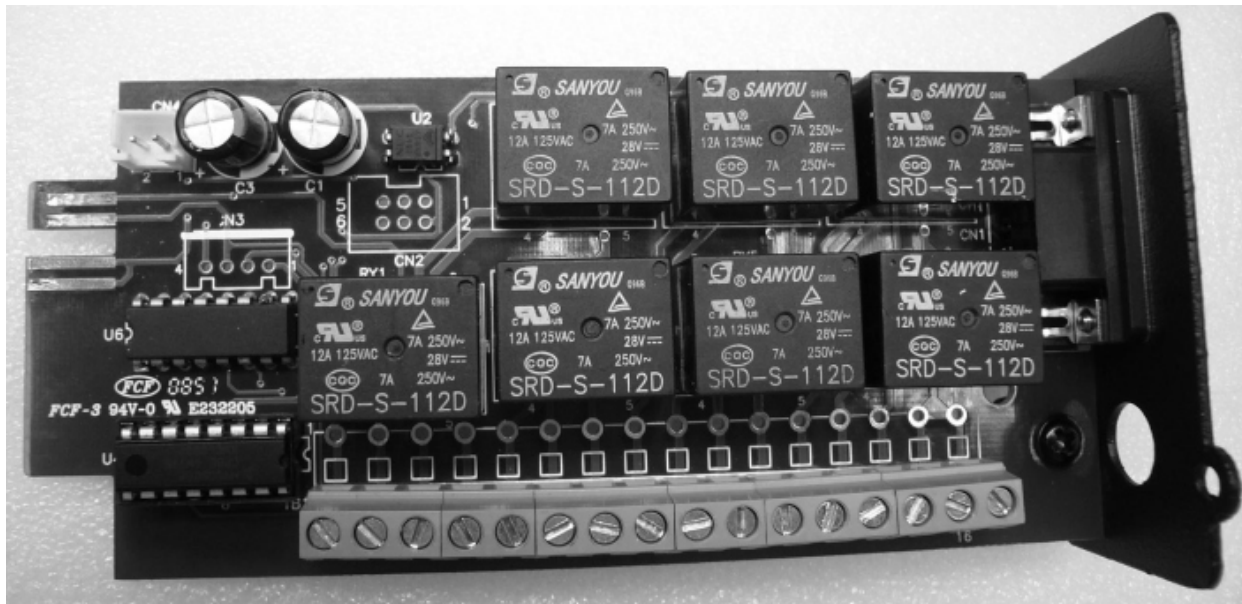


Fig. 8 – Dry Contact Card physical view

Applications

1. IBM server, PC, work station, and other devices
2. Industry device automatic control and communication applications
3. The Dry Contact Card only provides an interface (dry contact), users are responsible for application software

Installation

1. Open the cover plate for the SNMP slot on the rear panel of the NXRTi or NXRTg Series UPS.



Fig. 9 – Dry Contact Card installation - rear view

2. Insert the Dry Contact Card (NXRTi-DRY) directly along the gap of SNMP slot.
3. Insert the Dry Contact Card (NXRTi-DRY) until the metal plate of DB-9 interface is flush with the rear surface of the UPS. Attach the screws to secure the Dry Contact Card in place.

Obtaining Service

If the UPS requires Service:

1. Use the TROUBLESHOOTING section in this manual to eliminate obvious causes.
2. Verify there are no circuit breakers tripped.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the problem, call Xtreme Power Conversion Corp Technical Support at 800.582.4524. Technical support inquiries can also be made at support@xpcc.com. Please have the following information available BEFORE calling the Technical Support Department:
 - Your name and address.
 - The serial number of the unit.
 - Where and when the unit was purchased.
 - All of the model information about your UPS.
 - Any information on the failure, including LED's that may or may not be illuminated.
 - A description of the protected equipment, including model numbers if possible.
 - A technician will ask you for the above information and, if possible, help solve your problem over the phone. In the event that the unit requires factory service, the technician will issue you a Return Material Authorization number (RMA).

If you are returning the UPS to Xtreme Power for service, please follow these procedures:

1. Pack the UPS in its original packaging. If the original packaging is no longer available, ask the Technical Support Technician about obtaining a replacement set of packaging material. It is important to pack the UPS properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material.
2. Include a letter with your name, address, daytime phone number, RMA number, a copy of your original sales receipt, and a brief description of the problem.
3. Mark the RMA number on the outside of all packages. Xtreme Power cannot accept any package without the RMA number marked on the outside of the boxes.
4. Return the UPS by insured, prepaid carrier to the address provided by the Technician.
5. Refer to the Warranty statements in this manual for additional details on what is covered.

