

# Installation/Operation Guide: Unity Expansion Relay Option

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## 1. Introduction

The Unity Expansion Relay option card provides a network with 14 Form C relay contacts. Each supplies a common connection and either a normally closed (NC) or normally open (NO) contact so that systems requiring combinations of closing or opening circuits may be operated. Detachable screw-terminal strips may be wired to a customer's equipment and then plugged into on-board headers. The contacts are totally isolated and their ratings are 30 VDC hold-off and 100 mA max contact current.

## 2. Installation

### 2.1. Option Card Install

1. Power-down UTY4000 and remove top cover. Do not lose special screws.
2. Expansion module may be installed into either inboard (Module 1) or outboard (Module 2) position. See Figure 1, page 4.
3. Remove block-out plate for selected position. Save hardware.
4. Install PWB into selected position. Take precautions against Electro-static discharge to avoid damage to module.
5. Connect supplied 10-pin cable from J11 on the motherboard to J15 on the Expansion Relay Option card.
6. Set jumpers on option card: Each Jx corresponds to a Kx where 'x' is the relay number 1-14. Setting the jumper across the middle to the dotted pin sets that particular relay's output contacts to be Normally Closed (Open when activated). Setting the jumper across the middle to the remaining (non-dotted) pin sets that particular relay's output contacts to be Normally Open (Closed when activated).
7. Power-up the unit and verify that the installed option is recognized under Status\_Reports\Parameter\_Status menu.
8. Power-down unit and re-install cover.

### 2.2. Customer Premises Wiring

The relay output contacts are connected to two rows of screw-terminal connections. The pin numbers are configured to be 1-14 in the upper row and 15 to 28 in the lower row. Each relay's output contacts are routed to a pair of adjacent pins, the number for the rightmost of the two is exactly equal to twice the relay number designation (e.g. pins 15 and 16 correspond to Relay #8).

## 3. Control and Status Indications

Note: Expansion Relay option card may be setup by your network and local control may be disabled. If so, only the status monitoring through the front-panel LCD will be possible.

### 3.1. From Terminal

- **Relay expansion card control with local control disabled:**

The relays can not be controlled via the terminal with local control disabled. Local control will have to be authorized by the network.

- **Relay expansion card control with local control enabled:**

The terminal command for controlling the relays is:

ER state number

State: (E) enable, (D) disable

Number: 1 to 14 or leave blank for all

- **Relay expansion card status**

Report parameters command is “r p.” The report will show if the expansion relay card is installed. The line will read as follows:

Expansion Relay Card:                   INSTALLED

The report relay command is “r er”. The report will report the relay status in the following form:

RELAY           STATUS

The relay numbers and how the state of the relays will be listed below the above line.

### 3.2 From Front-panel

- **Relay expansion card with local control disabled or enabled:**

The relays can enabled or disabled via the front panel by using the menu path HARDWARE SETUP / CONTROL EXPANSION RELAYS. Use the up/down arrows to select the desired relay while the relay number flashes. Use the up/down arrows to select enabled or disabled while the relay enabled or disabled flashes. Use the right/left arrows to toggle between the relay number and enabled/disabled. Use the enter button to activate your settings.

- **Relay expansion card status**

To view if the expansion relay card is available via the front panel follow the menu path STATUS REPORTS / PARAMETER STATUS. Use the right/left arrow keys to scroll to EXPANSION RELAY CARD. The display will indicate INSTALLED if it is available.

- To view how the relays are configured via the front panel follow the menu path STATUS REPORTS / EXPANSION RELAY #. The display will indicate by the relay number which relays are activated.

