

OFFICIAL MODEL-SPECIFIC GUIDE

# Installation Instructions

## IC694MDL645E

GE · PACSystems RX3i discrete I/O · 16-point 24 V DC positive/negative logic input module

### 01 VERIFIED INSTALLATION DATA

|                |                                          |
|----------------|------------------------------------------|
| Rated input    | 24 V DC; 0 to 30 V DC range              |
| Input points   | 16 in one common group                   |
| Input logic    | Positive or negative logic               |
| On-state       | 11.5 to 30 V DC; 3.2 mA minimum          |
| Response time  | 7 ms typical on and off                  |
| Terminal block | 20 terminals; input common at terminal 1 |

### 02 INSTALLATION AND CONNECTION SEQUENCE

- Isolate field power and follow the controlled hot-swap procedure if the backplane remains powered; remove the field terminal block before module extraction.
- Install the module in an approved RX3i I/O slot and verify the exact IC694MDL645E revision against the slot assignment.
- Connect the common for inputs 1 to 16 at terminal 1 and connect inputs 1 to 16 at terminals 2 through 17.
- If module field-device power is used, connect terminal 18 to +24 V OUT and terminal 19 to 0 V OUT; terminal 20 is not connected.
- After wiring checks, restore power and verify each input with the corresponding green point-status LED.

#### CONTROLLED INSTALLATION CHECK

Confirm the complete article number, revision, field wiring and approved site procedure before energizing.

## 6.10 Input Module, 24Vdc Pos/Neg, 16-Point IC694MDL645

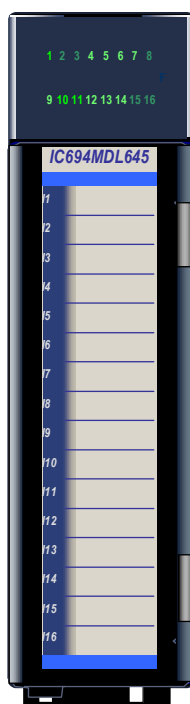


Figure 148: IC694MDL645

The 24Vdc *Positive/Negative Logic Input* module, IC694MDL645, provides sixteen input points in one group with a common power input terminal. This input module can be wired for either positive logic or negative logic. Input characteristics are compatible with a wide range of input devices, such as pushbuttons, limit switches, and electronic proximity switches. Current passing into an input point results in a logic 1 in the input status table (%I).

Field devices can be powered from an external supply. Depending on their requirements, some input devices can be powered from the +24 V OUT and 0 V OUT terminals of the module.

Sixteen green LEDs indicate the ON/OFF status of points 1 through 16. The blue bands on the label show that MDL645 is a low-voltage module.

This module can be installed in any I/O slot in an RX3i system.

Module supports insertion into and removal from an RX3i Universal Backplane which is under power. Refer to *Hot Insertion and Removal*, Section 2.6.4.1. Note that field side terminal block must be removed from the module during such a procedure.

## 6.10.1 Specifications: MDL645

|                                                             |                                                                          |
|-------------------------------------------------------------|--------------------------------------------------------------------------|
| Rated Voltage                                               | 24 Vdc                                                                   |
| Input Voltage Range                                         | 0 to +30 Vdc                                                             |
| Inputs per Module                                           | 16 (one group with a single common)                                      |
| Isolation: Field to Backplane (optical) and to frame ground | 250 Vac continuous;<br>1500 Vac for one minute                           |
| Input Current                                               | 7 mA (typical) at rated voltage                                          |
| Input Characteristics                                       |                                                                          |
| On-state Voltage                                            | 11.5 to 30 Vdc                                                           |
| Off-state Voltage                                           | 0 to +5 Vdc                                                              |
| On-state Current                                            | 3.2 mA minimum                                                           |
| Off-state Current                                           | 1.1 mA maximum                                                           |
| On response Time                                            | 7 ms typical                                                             |
| Off response Time                                           | 7 ms typical                                                             |
| Power Consumption: 5Vdc                                     | 80 mA (all inputs on) from 5Vdc bus on backplane                         |
| Power Consumption: 24Vdc <sup>19</sup>                      | 125 mA from the Isolated 24Vdc backplane bus or from user supplied power |

For product standards and general specifications, refer to *Appendix A*.

<sup>19</sup> If terminals 18 & 19 are employed, the following applies:

If the module is located in an RX3i Universal Backplane, an external source of Isolated +24 Vdc is required. The external source must be connected via the TB1 connector located on the left side of the backplane.

If this module is located in an RX3i Expansion Backplane or Series 90-30 backplane, the backplane power supply provides the isolated +24 Vdc for the module.

# OFFICIAL FIELD WIRING AND OPERATING REFERENCE

PACSystems® RX3i System Manual  
GFK-2314T

Section 9  
Sept. 2019

## 6.10.2 Field Wiring: MDL645

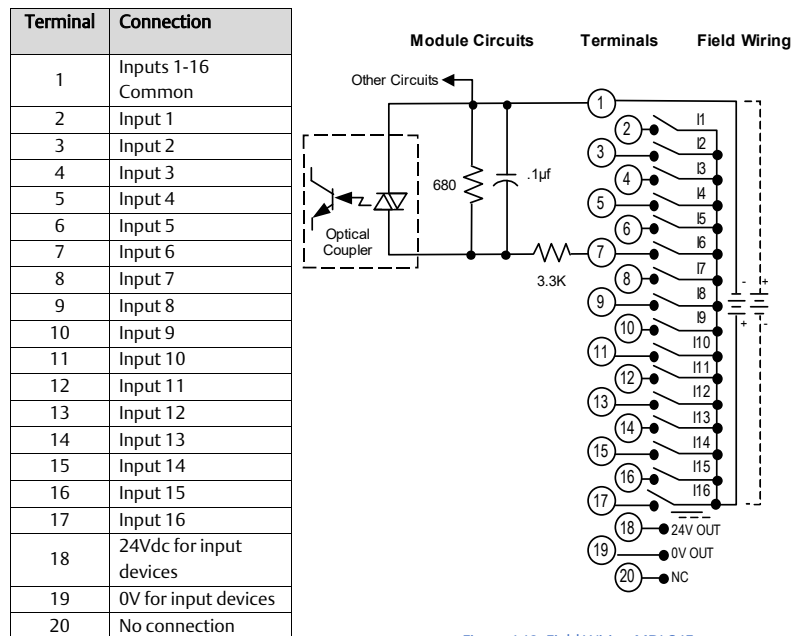


Figure 149: Field Wiring MDL645

Note: If the 24V OUT pin is used to connect to input devices in the field, the isolation specification for this module changes to:

Field to Backplane (optical) and to frame ground: 50 Vac continuous; 500 Vac for 1 minute