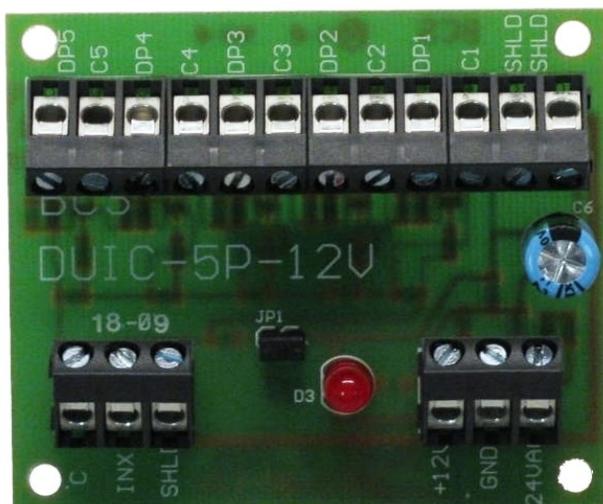


BCS-DUIC-5P-12V


DESIGNED FOR:

- IA-LON Product Line
- IA-BACnet Product Line

BENEFITS & FEATURES:

- Allows one analog input to function as five digital inputs
- Unaffected by long lead lengths
- Can use controllers 5 VDC or 24 VAC

DUIC-5P SERIES:

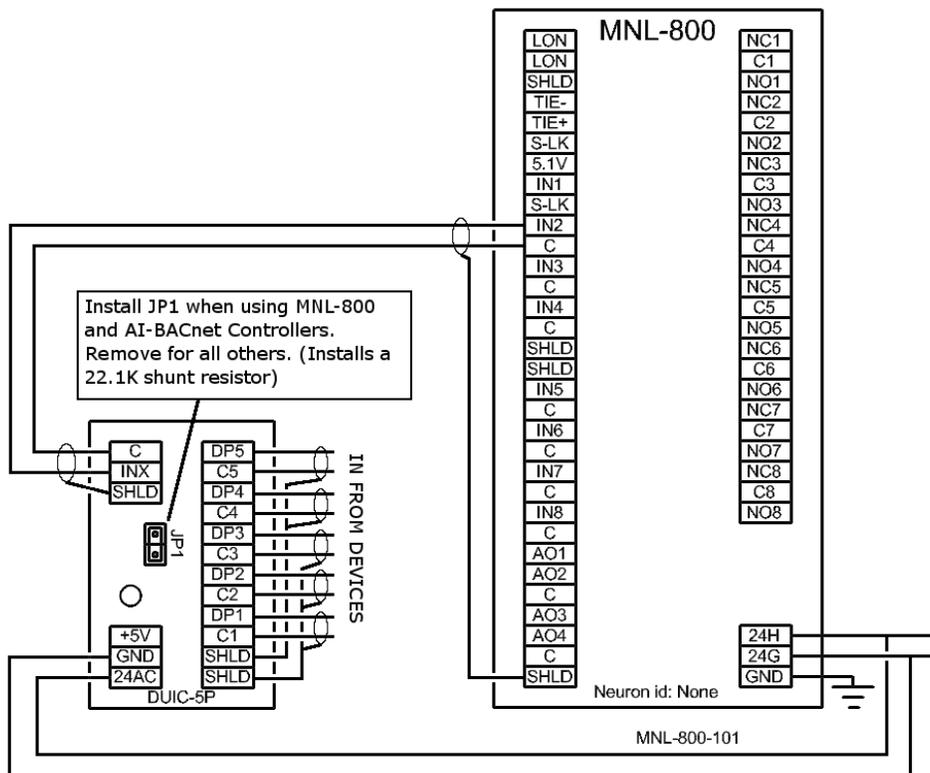
The DUIC-5P Card allows for conversion of a single universal input channel to accept up to five voltage free contacts of any mixture such as mercury wetted, Triac, etc., which may have inherently large and varying resistances. The DPC 5-2 Cards on-board circuitry allows the controller inputs to have a consistent input reading, unaffected by long lead lengths, varying resistances, etc.

This card also utilizes an on-board power supply that allows 5V-12V DC supply or twenty four volt (24V) AC supply for maximum compatibility. An LED indicating power is included on the card, as well as a jumper (JP1) that, when shorted, inserts the 22.1k Ohm resistor required for UI Contacts on an MNL-800 card. The DUIC-5P Card has been specifically designed for the TAC I/A Series controllers. These new cards are designed and compatible with the DUI expander object available in I/A Series Controllers (Rev 3.0 or greater firmware required). Note: VAV box controllers do not have DUI expander objects available.

SPECIFICATIONS:

Operating Temperature:	+32 to +122 Degrees F
Wire Length	Length for each input must not exceed 1,000 ft (304 meters) of 18 gauge wire.
Power Supply:	5-12VDC or 24 VAC
Mounting:	Track Mount, 2 5/8" H x 2 7/16" W x 1"D
Max Contact Resistance	Each contact closure resistance cannot exceed 10Ω
Min Contact Rating	Contact must handle a 3.1 mA current source

- * Pulse-rate and count functions are not available in the DUI expander object. A contact switching at a rate that exceeds 0.2Hz (50% duty cycle) may not be conveyed to the associated DUI output. These functions require a Binary Input Object.

WIRING:


SOFTWARE:

IA-LON: This card uses the standard DUI object in Workplace Tech for determining the proper outputs.

DUI Expander	
Addr	Output[1]
	Output[2]
	Output[3]
	Output[4]
	Output[5]
	Status

DUI

IA-BACnet: This card uses a custom DUI object in Workplace Tech for determining the status of the proper outputs. See the following instructions for object use and installation.

Custom	
DUI_Input	DI1_Out
DbTime	DI2_Out
	DI3_Out
	DI4_Out
	DI5_Out

DUI_App

CUSTOM DUI OBJECT:

Background

The IA Series BACnet controllers do not currently support the DUI object. Until support is added, an application performing the same basic function was created and tested. This application was created as a custom object named “DUI_App”. It was tested for use with the DUIC-5P-12V interface module and all IA Series BACnet controllers. This custom object must be used with an “Analog Input” object whose “Type” property is set to “6 – Resistance 1K” and is connected to a physical UI point.

Distribution Form

Since the application is a custom object, we are able to distribute it in a more efficient manner, where it is part of a custom stencil. This custom stencil is named “Application Objects”. By doing it in this manner, it will have a similar look and feel to it as the other standard controller objects do. Additionally, this approach can be the starting point of offering other custom objects performing specific functions requested by our field offices.

Installation

With Visio\WP-Tech closed, place the custom “Application Objects” stencil in the “C:\Program Files\WorkPlaceTech\Solutions” directory so that all users on that PC can have access to it. Once the custom stencil is in this location, it can be opened from within WP-Tech by selecting “File – Shapes – Application Objects” from the menu on Visio 2003 or “File – Stencils – C:\...Solutions – Application Objects” from the menu on Visio 2002. The stencil will be docked along with the default controller stencils on the left side of the page. Once opened, it can be treated like any other stencil used by WP-Tech. The **DUI_App** object can be dragged from the stencil onto a drawing as many times as is required. Since the object is based on a custom object, its use must abide by all the same rules and requirements. Therefore, each time the object is placed on a drawing, WP-Tech will create another drawing page containing its the application logic. Typically, no user calibration should be required since the application follows the same resistance table used for the IA Series LonMark controllers.

CUSTOM DUI OBJECT:

Messages Displayed When Using Custom Stencils

Depending upon which version of Visio is being used (Visio 2002 or Visio 2003), the user may see warning messages when opening or closing the custom stencil and/or a drawing that was saved with the stencil open. These messages and their responses are documented below in an effort to eliminate the confusion they may cause.

WP-Tech using Visio 2002

When the stencil is opened from within a drawing, the system will display the following warning window. Simple respond to it by clicking “OK”. This warning message will be displayed anytime the stencil is opened or a drawing containing this stencil is opened.



No other messages should be displayed as a result of using the custom stencil.

WP-Tech using Visio 2003

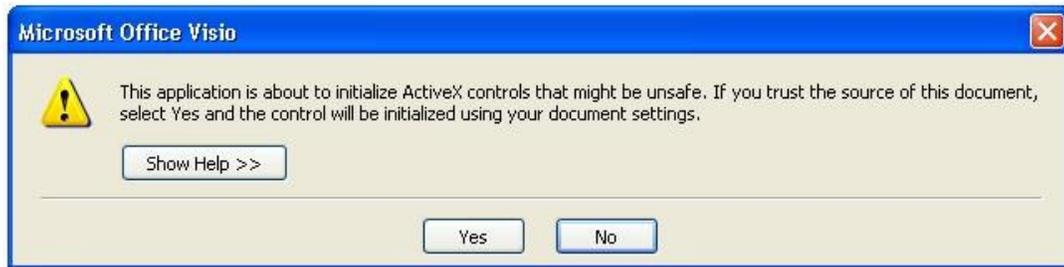
When the stencil is used within the Visio 2003 environment, 3 different windows will be displayed. Two will appear any time the stencil is opened or a drawing with the stencil saved within it is opened. One will appear any time the stencil is closed or a drawing containing the stencil is closed.

When the stencil is opened from within a drawing, the system will first display the following warning window. Simply respond to it by clicking “Enable Macros”.



CUSTOM DUI OBJECT:

Then, the following warning window will be displayed. Respond to it by clicking “Yes”.



After the second window disappears, the stencil will be opened and docked to the left side of the drawing. At this point, it can be used like any other stencil. The DUI_App object can be placed on the drawing as many times as is required.

The last message will be displayed anytime the stencil is closed or a drawing containing the stencil is closed.



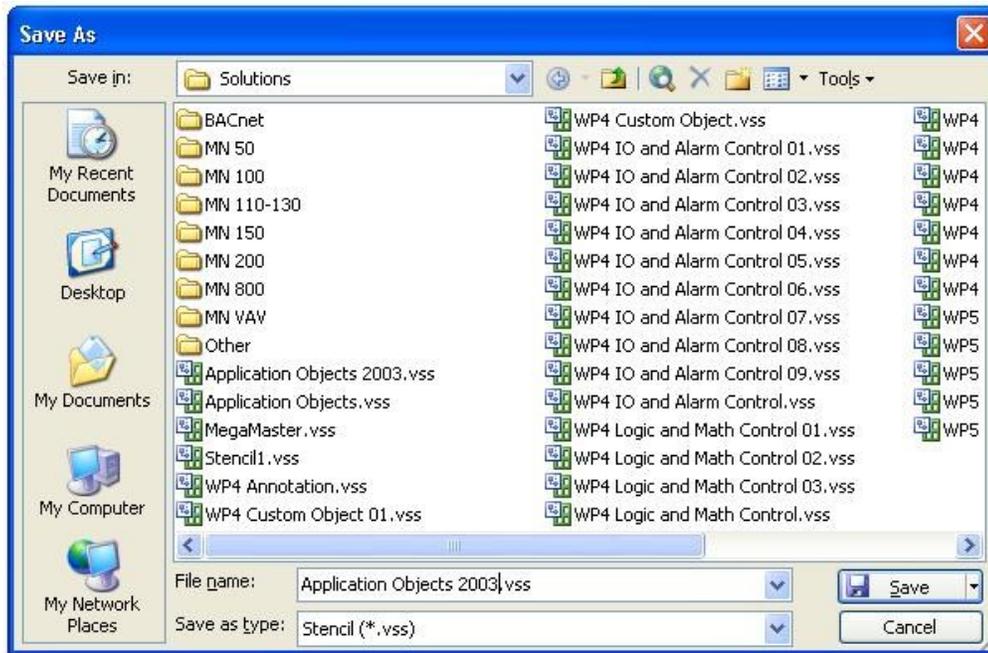
Always respond to it by clicking “No”. To make the custom stencil compatible with both Visio 2002 and Visio 2003, it was created using WP-Tech with Visio 2002. This message detects that fact and prompts the user to save it since the system converted it for use in Visio 2003. By not saving the stencil in Visio 2003 format, it can remain compatible with both versions of Visio.

If the dual version compatibility of the custom stencil is not required, you can respond to the prompt by clicking “Yes” and assigning the stencil a new name. If “Yes” is selected, the following window will be displayed. Click “OK”



CUSTOM DUI OBJECT:

Then the following window is displayed. Enter a new name such as “Application Objects 2003” and click “Save”. This saves the updated copy into the correct directory using the new name.



Once this has been done, the new copy of the stencil can be used and you will no longer get the prompt to save when closing the stencil.