

Technote

DSDDE with Wonderware InTouch Writing to discrete bits using DirectNet Protocol

The DirectNet protocol does not have the ability to write to a discrete bit and this can cause some difficulties when using a visual interface program like InTouch with the DSDDE server to write to Control Relays and Discrete Output points. DirectNet requires all writes to occur in 16-bit words. This technote will demonstrate how to use the *tagname.field* bit reference syntax in InTouch to write to discrete bits without any additional scripting needed.

The example below uses a DL305 discrete output module with addresses IO050 - IO057 as the discrete output points that InTouch will trigger. A **single** tagname **io50_57** is the only tag created. By specifying the bit number desired using the *tagname.field* syntax in the expression field we can trigger an individual discrete output. The usable range for bit referencing is **.00**(least significant) through **.31**(most significant).

Step 1

Use the Wizard tool to select a pushbutton or switch and place it on a blank space of a window.

Step 2

Create a **DDE Integer** Tag named **io50_57** with **R5** as the item name and attach it to the DSDDE Server Access Name. Register **R5** is the 8-bit register within the 305 memory map where outputs IO050 thru IO057 reside. Configure the DSDDE Access Name at this point if you have not previously done so.

Dictionary - Tagname Definition	⊙ Details ⊂ Alarms ⊂ Both ⊂ None
New Restore Delete Save	<u>≤<</u> <u>S</u> elect ≥> Cancel Done
Tagname: io50_57	<u>Type:</u> DDE Integer
<u>G</u> roup: ^{\$System}	◯ Read <u>o</u> nly .
Comment:	
Log Data Log Events	🔲 Retentive Value 🗖 Retentive Parameters
Initial <u>V</u> alue: 0 Mi <u>n</u> EU:	0 Ma <u>x</u> EU: 9999
Deadband: 0 Min Ra <u>w</u> :	0 Max R <u>a</u> w: 9999
Eng Units:	Conversion © Linear
DDE Access Name: DSDDE	O <u>S</u> quare Root
Item: r5	
Use Tagname as Item Name	Log Dead <u>b</u> and: 0



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Step 3

Double click on your switch or pushbutton object and enter **io50_57.01** as the tagname as shown below.

Discrete Switch Wizard	
Tagname: io50_57.01	OK
🗖 Key equivalent 🗖 Ctrl 🗖 Shift 🛛 Key None	Cancel

Step 4

Click OK and put InTouch into Runtime and start the DSDDE. Click on your switch or pushbutton and you will see Output 51 activate on your PLC.

Note: Writing to the same register (R5 in this example) somewhere else in a PLC program or within InTouch as a full byte, word or double word will change the status of the discrete bits within that register. When using a read/write DDE Integer tag to access discrete, bits verify that its associated register is **NOT** overwritten by other logic.

Summary

The *tagname.field* bit reference syntax can be used to write to a discrete bit within any field that a discrete tagname would normally be used; expression, scripts, etc. This feature can prove to be useful when adding an InTouch HMI to an existing control system that DirectNet protocol is a requirement, or when interfacing to any 305 family PLCs which coincidentally can only use DirectNet.