Simple migration from legacy Eaton products

WPON**I**/DSNAP-Assist

OR

C441KS/LS

C441K/L

Wires to C440-XCOM

Direct mounts to C441

C440 overload relay + C440-XCOM

C441 Motor Insight

REPLACES

IT. + DSNAP

Advantage + WPONIDNA
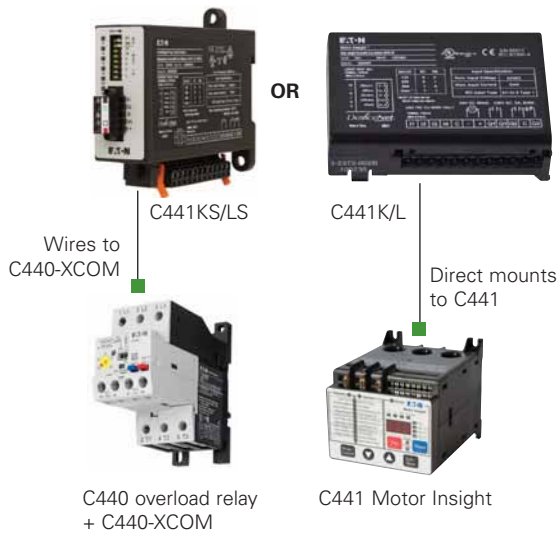
Eaton provides easy DeviceNet™ migration solutions for users to upgrade starter technology without time-consuming programming changes.

Challenge

Existing facilities have invested substantial amounts of engineering hours to set up their network communications for monitoring and control applications. Upgrading to new technology or simply providing retrofits when older technology is no longer available can pose a significant engineering effort.

Solution

Eaton's DeviceNet communication modules for C441 Motor Insight® and C440 electronic overload relays contain I/O assemblies with the same size and layout as Advantage (WPONIDNA) and *IT.* (DSNAP) starters, allowing users to seamlessly integrate without the need to reprogram existing systems.

- **Provides cost savings**
  Users save money with reduced integration costs and the ability to specify Eaton products that often have reduced service, support and maintenance costs.

- **Seamless product replacement**
  With pre-loaded I/O assemblies for legacy DeviceNet systems, users avoid timely reprogramming when replacing aging Advantage and *IT.* starters with new and improved technology.

- **On-board I/O**
  DeviceNet communication modules come standard with 4 inputs (120 Vac or 24 Vdc) and 2 relay outputs, providing greater functionality when migrating to new components.

DeviceNet communications module offering

Module	I/O	Used with ...	Mounting
C441K	120 Vac	C441 Motor Insight	Direct mount
C441L	24 Vdc	C441 Motor Insight	Direct mount
C441KS	120 Vac	C440 overload relay ①	DIN rail or panel mount
C441LS	24 Vdc	C440 overload relay ①	DIN rail or panel mount

① Users must also order C440-XCOM.

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How to use WPONI/DSNAP Assist

Initial EDS setup
- Download latest EDS file from Eaton website (Motor Insight: C441K/L, C440: C441KS/LS)
- Register appropriate EDS file into RSNetWorx™ for DeviceNet software

Determine address and baud
- Disconnect Advantage starter or *IT.* starter from network. Note the MAC ID of the device
  — WPONIDNA indicated with "NA" LED: each red flash represents 10 and each green flash represents 1
  — DSNAP MAC ID is set with its DIP switches (see Table 2)
- Verify the baud rate of the network, typically 125 k
- Set MAC ID and baud rate on the C441K/L/KS/LS DeviceNet interface via the DIP switches

Connect device
- Connect the new device configuration to the network *XT* or Freedom contactor with C441 Motor Insight (with C441K/L) or C440 OL (C441KS/LS)
- Start RSNetWorx for DeviceNet and go online with the network

Parameter selection
- Select the device that was added and open the Property pages for this device, select the Parameters tab, and choose Upload
- Scroll down to "Poll Input Assembly Select" and "Poll Output Assembly Select" parameters and change assembly values to match I/O assembly layouts previously used by the replaced device (see Table 4). Select Apply and Download

Scan and activate
- Open properties for the DeviceNet scanner and select the Scanlist tab and upload the scan list
- An "Electronic Key Mismatch" window will display, indicating a different device type has been substituted at the same MAC ID as the previous device
- Select "Update Key" and the WPONIDNA or DSNAP will be replaced with the name of the new device. The scanner will clear the error and begin polling the new device (correct I/O assemblies must have been selected for this to occur without an error)
- Select "Apply" and then download the new scan list to the scanner. No program changes are needed and the DeviceNet scanner should be successfully polling the new device, with full monitoring and control capabilities

Table 1: WPONIDNA name conversions

Names instead of numbers are used in the EDS file for the WPONIDNA as follows:

50: Basic Overload	100: Advantage Contactor
51: Extended Overload	101: Advantage Overload
52: Basic Motor Control	102: Advantage Motor Starter
53: Extended Motor Control 1	103: Advantage Expanded Motor Starter
54: Extended Motor Control	104: Advantage Overload Phase Currents
01: Basic Contactor Assembly	105: Advantage Starter Phase Currents
02: Basic Overload Assembly	106: Advantage Expanded Starter Phase Currents
03: Basic Motor Starter	107: Advantage Overload with Fault Code
04: Extended Contactor Assembly	108: Advantage Motor Starter with Fault Code
05: Extended Motor Starter Assembly	109: Advantage Expanded Motor Starter with Fault Code

Table 4: Compatible assemblies

Assembly type	DSNAP assemblies	Compatible C440/C441 assemblies	Number of bytes
Input	51, 53, 54, 60, 114	151	1
Input	102, 103	153	5
Input	105, 106	152	4
Input	108, 109	154	6
Output	03, 05	150	1

Assembly type	WPONIDNA assemblies	Compatible C440/C441 assemblies	Number of bytes
Input	50, 51, 52, 53, 54, 100	161	1
Input	101, 102, 103	162	5
Input	104, 105, 106	164	7
Input	107, 108, 109	163	6
Output	01, 02, 03, 04, 05	160	1

Note: I/O layouts for these assemblies can be found in C441 DeviceNet Module User Manual (MN122001EN).

Table 2: MAC ID DIP switch setting

DIP switch	Value
6	32
5	16
4	8
3	4
2	2
1	1

Table 3: Baud rate DIP switch setting

B0 (Sw7)	B0 (Sw7)	Baud
OFF	OFF	125 k (default)
ON	OFF	250 k
OFF	ON	500 k
ON	ON	Software configuration

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