![ADFweb logo]
Industrial Electronic Devices

User Manual

Revision 1.000
English

Gateway
DeviceNet Slave from/to
PROFIBUS Master

(Order Code: HD67440-Exx-xx)

for Website information:
www.adfweb.com?Product=HD67440

for Price information:
www.adfweb.com?Price=HD67440-E4V
www.adfweb.com?Price=HD67440-E7V
www.adfweb.com?Price=HD67440-E4R
www.adfweb.com?Price=HD67440-E7R

Benefits and Main Features:

▶ Easy to configure

▶ Metal enclosure with fixing lugs

▶ Varnished / Resined (optionally)

▶ Wide supply input range

▶ Triple isolation

▶ Industrial temperature range:
-40°C / 105°C (-22°F / 158°F)

Similiar
Products

For other Gateways / Bridges:
CAN from/to Modbus
See also the following links:

www.adfweb.com?product=HD67012   (Modbus RTU Slave)
www.adfweb.com?product=HD67514   (Modbus TCP Master)
www.adfweb.com?product=HD67515   (Modbus TCP Slave)

CANopen from/to Modbus
See also the following links:

www.adfweb.com?product=HD67001   (Modbus RTU Master)
www.adfweb.com?product=HD67502   (Modbus RTU Slave)
www.adfweb.com?product=HD67504   (Modbus TCP Master)
www.adfweb.com?product=HD67505   (Modbus TCP Slave)

Do you have an your customer protocol?

See the following links:

www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?

Ask it to the following link:

www.adfweb.com?Cmd=helpme

INDEX:

UPDATED DOCUMENTATION:

Dear customer, we thank you for your attention and we remind you that you need to check that the following document is:

> ➢ Updated
> ➢ Related to the product you own

To obtain the most recently updated document, note the "document code" that appears at the top right-hand corner of each page of this document.

With this "Document Code" go to web page www.adfweb.com/download/ and search for the corresponding code on the page. Click on the proper "Document Code" and download the updates.

To obtain the updated documentation for the product that you own, note the "Document Code" (Abbreviated written "Doc. Code" on the label on the product) and download the updated from our web site www.adfweb.com/download/

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	19/09/2011	Fl	All	First release version

WARNING:

ADFweb.com reserves the right to change information in this manual about our product without warning.
ADFweb.com is not responsible for any error this manual may contain.

TRADEMARKS:

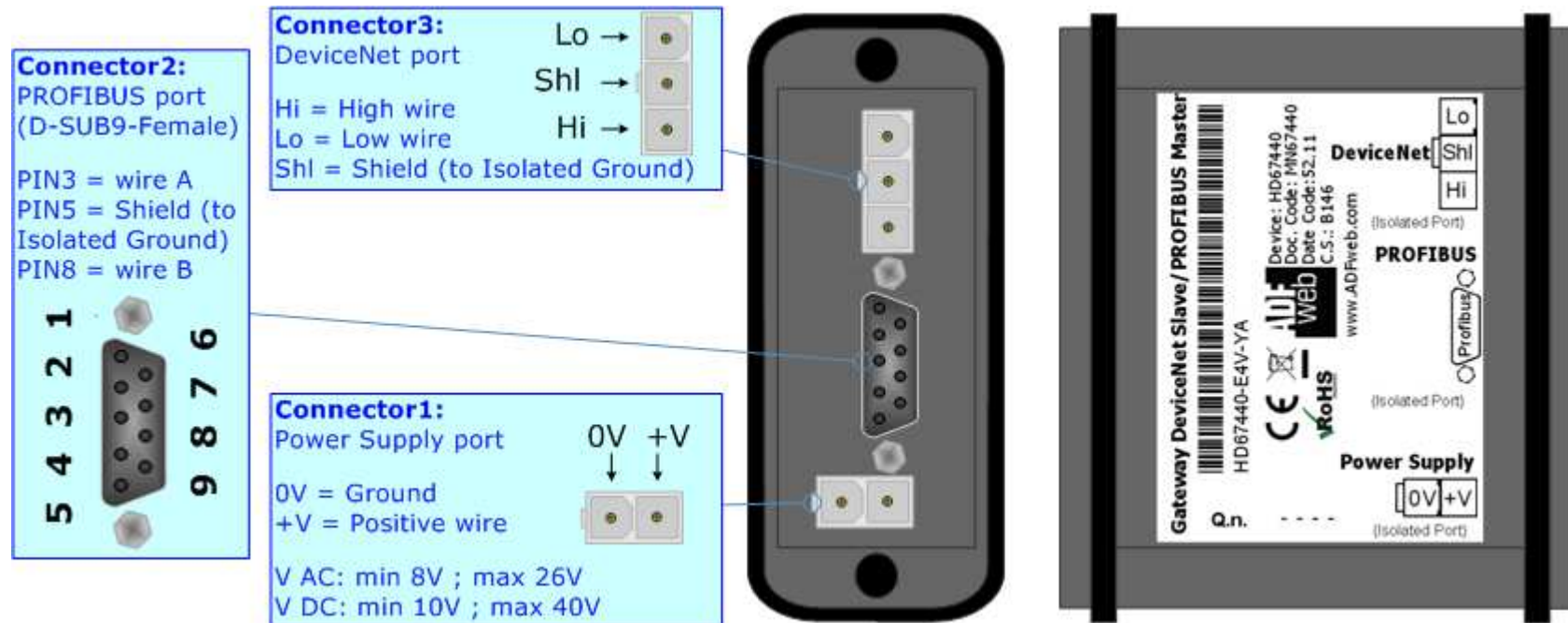All trademarks mentioned in this document belong to their respective owners.

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CONNECTION SCHEME:

Figure 1-1: Connection scheme for HD67440-E4x-xx

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Connector3:
DeviceNet port

Hi = High wire
Lo = Low wire
Shl = Shield (to Isolated Ground)

Lo →
Shl →
Hi →

Connector2:
PROFIBUS port

A = wire A
B = wire B
Shl = Shield (to Isolated Ground)

A →
B →
Shl →

Connector1:
Power Supply port

0V = Ground
+V = Positive wire

V AC: min 8V ; max 26V
V DC: min 10V ; max 40V

0V →
+V →

Figure 1-2: Connection scheme for HD67440-E7x-xx

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POWER SUPPLY:

The devices can be powered between a wide range of tensions. For more details see the two tables below.

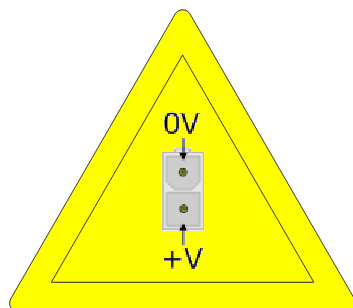|	VAC ∿		VDC ▬▬	
	Vmin	**Vmax**	**Vmin**	**Vmax**
HD67440-Exx-xx	**8V**	**26V**	**10V**	**40V**

Consumption at 24V DC:

Device	W/VA
HD67440-Exx-xx	4

⚠ **Caution: Not reverse the polarity power**

HD67440-E4x-xx   HD67440-E7x-xx
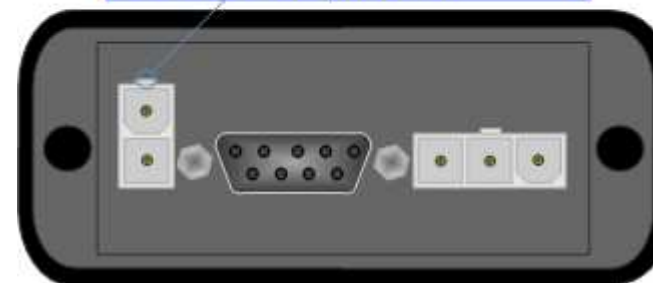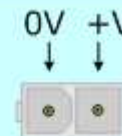
✎ Note: It is possible to use also negative tensions. In this case the polarity must be inverted.

Connector1:
Power Supply port   0V +V

0V = Ground
+V = Positive wire

V AC: min 8V ; max 26V
V DC: min 10V ; max 40V

Connector1:
Power Supply port   +V 0V

0V = Ground
+V = Positive wire

V AC: min 8V ; max 26V
V DC: min 10V ; max 40V

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PROFIBUS:

The connection of the PROFIBUS in the HD670440-E4x-xx device must be made with a D-SUB-9 Male connector. The pinout of Female D-SUB-9 connector of the board is at right side of the page.

The connection of the RS485 in the HD670440-E7x-xxx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

Here some codes of cables:

➜ Belden: p/n 3079A - 22AWG Solid Bare Copper Conductors + foil shield + braid shield;

Link for Mini-Fit® connectors:
http://www.molex.com/molex/products/group?key=minifit_products&channel=products
Link for SuperSeal 1.5 connectors: http://www.te.com/catalog/cinf/en/c/10876/956

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DEVICENET:

The connection of the DeviceNet in the HD670440-E4x-xx device must be made with a 3way MiniFit Female connector. The pinout of Male MiniFit connector of the board is at right side of the page.

The connection of the DeviceNet in the HD670440-E7x-xx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

The termination of DeviceNet line, with a 120Ω resistor, in the HD67440-Exx-xx is made internally of the device; when the order is performed. If the device have the DeviceNet terminated the code is the follow: HD67440-Exx-Yx; otherwise is this other: HD67440-Exx-Nx.

Cable characteristics:

DC parameter:		Impedance	70 Ohm/m
AC parameters:		Impedance	120 Ohm/m
		Delay	5 ns/m

Length		Baud Rate [bps]	Length MAX [m]
		125 K	500
		250 K	250
		500 K	100

Connector3:
DeviceNet port
Lo →
Shl →
Hi →
Hi = High wire
Lo = Low wire
Shl = Shield (to Isolated Ground)

Connector3:
DeviceNet port
Hi Shl0 Lo
Hi = High wire
Lo = Low wire
Shl0 = Shield (to Isolated Ground)

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CHARACTERISTICS:

The "DeviceNet Slave from/to PROFIBUS Master" Gateway has the following characteristics:

- Two-directional information between networks DeviceNet and PROFIBUS;
- Metal Enclosure with four fixing lugs;
- Triple isolation between DeviceNet - Power supply and between DeviceNet – PROFIBUS and between PROFIBUS – Power supply;
- Varnished and optionally resined;
- Temperature range -40°C to 105°C.

Note:
The HD67440-E7x-xx is furnished with 10 cm cable length.

CONFIGURATION:

The "DeviceNet Slave from/to PROFIBUS Master" Gateway allows a DeviceNet network to communicate with a PROFIBUS network.

You need Compositor SW67440 software on your PC in order to perform the following:

- Define the parameters of two buses;
- Menage the PROFIBUS network;
- Update the device.

USE OF COMPOSITOR SW67440:

To configure the "DeviceNet Slave from/to PROFIBUS Master" Gateway, use the available software that runs with Windows, called SW67440. It is downloadable on the site www.adfweb.com and its operation is described in this document. *(This manual is referenced to the last version of the software present on our web site)*. The software works with MSWindows (MS 2000, XP, Vista, Seven). When launching the SW67440 the right window appears (Fig. 2).

Figure 2: Main window for SW67440

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NEW PROJECT / OPEN PROJECT:

The "**New Project**" button creates the folder which contains the entire device configuration.
A device configuration can also be imported and exported:

- ➤ To clone the configurations of a Programmable "DeviceNet Slave from/to PROFIBUS Master" Gateway in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- ➤ To clone a project in order to obtain a different version of the project, it is sufficient to duplicate the project folder with another name and open the new folder with the button "**Open Project**".

When a new project is created or an existent project is open, it will be possible to access the various configuration sections of the software:

- ➤ "Set Communication";
- ➤ "PROFIBUS Network".

SET COMMUNICATION:

This section defines the fundamental communication parameters of two buses, DeviceNet and PROFIBUS.

By pressing the "**Set Communication**" button from the main window for SW67440 (Fig. 2) the window "SET COMMUNICATION" appears (Fig. 3).
The window is divided in two sections, one for the PROFIBUS and the other for the DeviceNet line.

The means of the fields for "PROFIBUS" are:

- ➤ In the field "**ID Dev.**" the address of the PROFIBUS side is defined;
- ➤ In the field "**Baud rate**" the baud rate for the PROFIBUS side is defined.

The means of the fields for "DeviceNet" are:

- ➤ In the field "**ID Dev.**" the address of the DeviceNet side is defined;
- ➤ In the field "**Baud rate**" the baud rate for the DeviceNet side is defined;
- ➤ In the field "**N Byte IN**" the number of byte from the DeviceNet to the gateway is defined (at maximum it is possible to use 455 byte);
- ➤ In the field "**N Byte OUT**" the number of byte from the gateway to the DeviceNet is defined (at maximum it is possible to use 455 byte).

Figure 3: "Set Communication" window

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PROFIBUS NETWORK:

By pressing the "**PROFIBUS network**" button from the main window for SW67440 (Fig. 2) the window "PROFIBUS Network" (Fig. 4) appears.

In this section you can add/modify/remove the GSD file of the PROFIBUS slave.

When you select the slave, the window "PROFIBUS Device" (Fig. 5) appears:

- In the section "**ID Slave PROFIBUS**" you must write the PROFIBUS address of your slave.
- In the section "Available modules" there are all the modules you can select for this slave, to add a modules you can select it and click on the "**hands**" or with a double click on the module.

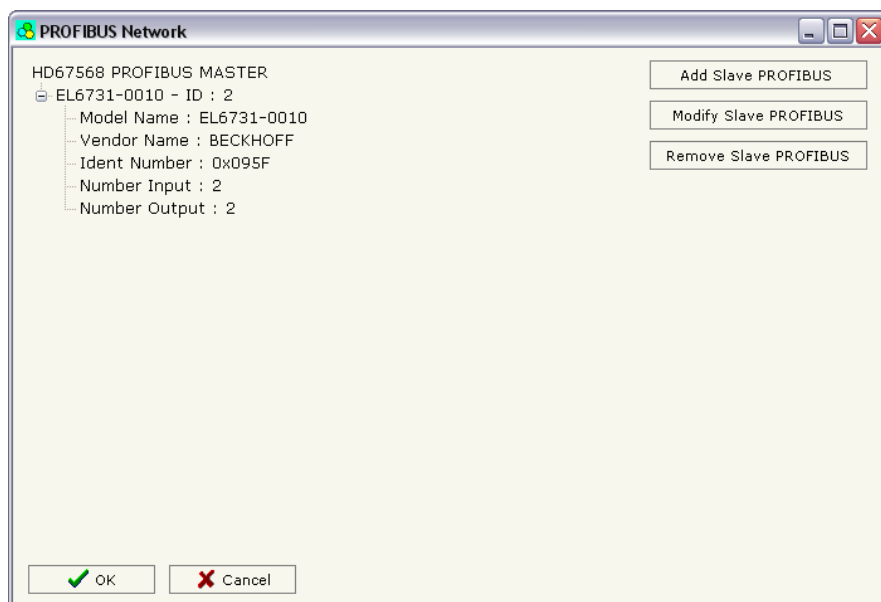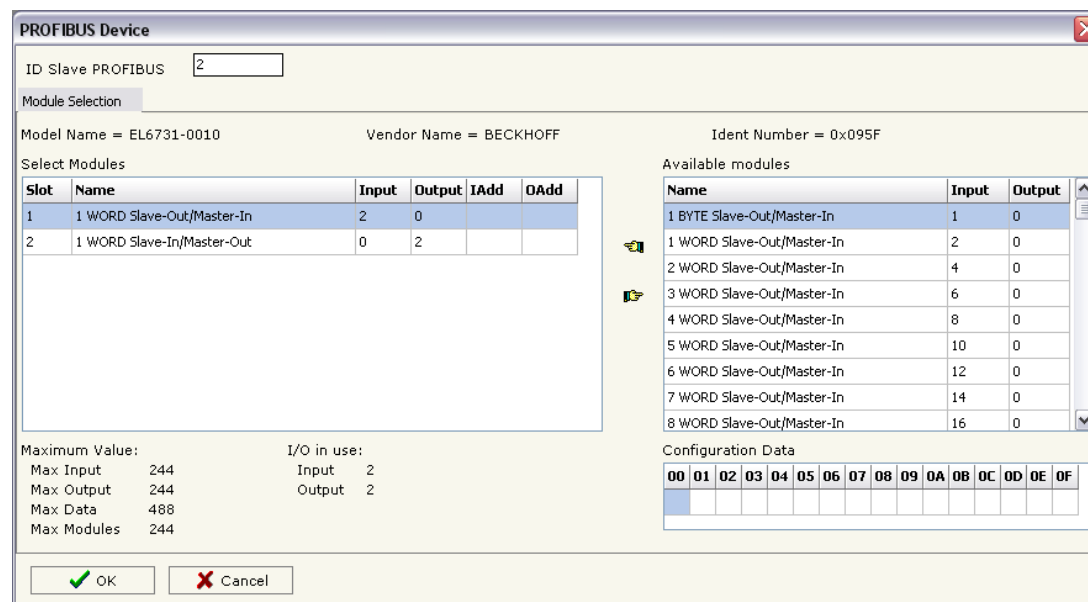Figure 4: "PROFIBUS Network" window

Figure 5: "PROFIBUS Device" window

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UPDATE DEVICE:

By pressing the "**Update by CAN**" button from the main window for SW67440 (Fig. 2) the right window appears (Fig. 6).

Note:
 For updating the device you need the programmer "AC67400 - CAN Interface to configure devices".

In order to load the parameters or update the firmware in the gateway, follow these instructions:

- Connect the "AC67400" programmer to the PC through the USB port and connect the CAN port of the "AC67400" to the DeviceNet port of HD67440-Exx-xx;
- Select the "**COM port**" where the "AC67400" is connected (the USB port of the device is see like a COM port);
- If the BaudRate of CAN is known select it in the field "Select the BaudRate of CAN" otherwise you have to select "**Search Baudrate**";
- Press the "**Next**" button;
- Select which operations you want to do. You can select only "**Firmware**", only "**Project**" or both of them;
- Press the "**Execute update firmware**" button to start the upload;
- When all the operations are "OK" the configuration/firmware on the device is correctly updated and it is possible to disconnect the "AC67400" programmer.

Note:
 When you install a new version of the software it is better if the first time you do the update of the Firmware in the HD67440-Exx-xx device.

Figure 6: "Update Device" windows

Warning:
 If the Fig. 7 appears when you try to do the Update before require assistance try these points:
- Check if the serial COM port selected is the correct one;
- Check if the CAN cable is connected between the "AC67400" and the device;
- Try to repeat the operations for the updating;
- Try with another PC;
- Try to restart the PC.

Figure 7: "Protection" window

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MECHANICAL DIMENSIONS:

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Type A

ADFweb.com S.r.l	SCALE 1:1			NUMBER 00
E-type enclosure measures with fixing lugs Type A				DATE 17-IV-2010
				ADF0252 Protective Structure

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Type B

| ADFweb.com S.r.l | SCALE 1:1 | | ISSUE 00 |
| Via Strada Nuova, 17 IT-31010 Mareno di Piave Treviso (ITALY) TEL. 0438/30.91.31 FAX 0438/49.20.99 | E-type enclosure measures with fixing lugs Type B | | DATE 17-06-2010 ACTOR Federico Giraldeoo |

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Type C

ADFweb.com S.r.l

E-type enclosure measures
with fixing lugs Type C

40
112,5
97,5
92
105

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ORDERING INFORMATIONS:

The ordering part number is formed by a valid combination of the following:

HD67440 – E y z – s f

Fixing lugs
A: Type 1
B: Type 2
C: Type 3

DeviceNet Termination
Y = Terminated with 120Ω
N = Not terminated

Varnished/Resinated
V = Varnished
R = Resined

Connectors Type
4 = MiniFit
7 = SuperSeal 1.5

Enclosure Type
E: Metal enclosure

Device Family
HD67440 = DeviceNet Slave from/to PROFIBUS Master

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Order Code: **HD67440-E4V-NA**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type A"

Order Code: **HD67440-E4V-NB**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type B"

Order Code: **HD67440-E4V-NC**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type C"

Order Code: **HD67440-E4V-YA**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type A"

Order Code: **HD67440-E4V-YB**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type B"

Order Code: **HD67440-E4V-YC**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type C"

Order Code: **HD67440-E4R-NA**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type A"

Order Code: **HD67440-E4R-NB**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type B"

Order Code: **HD67440-E4R-NC**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type C"

Order Code: **HD67440-E4R-YA**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type A"

Order Code: **HD67440-E4R-YB**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type B"

Order Code: **HD67440-E4R-YC**   **-**   DeviceNet Slave from/to PROFIBUS Master with MiniFit connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type C"

Order Code: **HD67440-E7V-NA**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type A"

Order Code: **HD67440-E7V-NB**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type B"

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Order Code: **HD67440-E7V-NC**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet not terminated and fixing lugs "Type C"

Order Code: **HD67440-E7V-YA**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type A"

Order Code: **HD67440-E7V-YB**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type B"

Order Code: **HD67440-E7V-YC**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board varnished, DeviceNet terminated and fixing lugs "Type C"

Order Code: **HD67440-E7R-NA**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type A"

Order Code: **HD67440-E7R-NB**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type B"

Order Code: **HD67440-E7R-NC**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet not terminated and fixing lugs "Type C"

Order Code: **HD67440-E7R-YA**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type A"

Order Code: **HD67440-E7R-YB**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type B"

Order Code: **HD67440-E7R-YC**   **-**   DeviceNet Slave from/to PROFIBUS Master with SuperSeal 1.5 connectors, electronic board resined, DeviceNet terminated and fixing lugs "Type C"

ACCESSORIES:

Order Code: **AC67400**   -   CAN interface to configure devices

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WARRANTIES AND TECHNICAL SUPPORT:

For fast and easy technical support for your ADFweb.com SRL products, consult our internet support at www.adfweb.com.
Otherwise contact us at the address support@adfweb.com

RETURN POLICY:

If while using your product you have any problem and you wish to exchange or repair it, please do the following:
1) Obtain a Product Return Number (PRN) from our internet support at www.adfweb.com. Together with the request, you need to provide detailed information about the problem.
2) Send the product to the address provided with the PRN, having prepaid the shipping costs (shipment costs billed to us will not be accepted).

If the product is within the warranty of twelve months, it will be repaired or exchanged and returned within three weeks. If the product is no longer under warranty, you will receive a repair estimate.

PRODUCTS AND RELATED DOCUMENTS:

Part	Description	URL
HD67031	Analyzer / Scanner / Sniffer M-Bus	www.adfweb.com?product=HD67031
HD67117	CAN bus Repeater	www.adfweb.com?product=HD67117
HD67119	Converter USB 2.0 to RS485 Isolated	www.adfweb.com?product=HD67119
HD67302	GSM I/O and Alarms Modem	www.adfweb.com?Product=HD67302
HD67316	CAN, CANopen, J1939, DeviceNet, NMEA2000 Analyzer	www.adfweb.com?Product=HD67316