

Anybus[®] CompactCom[™] Starter Kit
REFERENCE GUIDE

HMSI-27-224
Version 2.4
Publication date 2024-11-25

Important User Information

Disclaimer

The information in this document is for informational purposes only. Please inform HMS Networks of any inaccuracies or omissions found in this document. HMS Networks disclaims any responsibility or liability for any errors that may appear in this document.

HMS Networks reserves the right to modify its products in line with its policy of continuous product development. The information in this document shall therefore not be construed as a commitment on the part of HMS Networks and is subject to change without notice. HMS Networks makes no commitment to update or keep current the information in this document.

The data, examples and illustrations found in this document are included for illustrative purposes and are only intended to help improve understanding of the functionality and handling of the product. In view of the wide range of possible applications of the product, and because of the many variables and requirements associated with any particular implementation, HMS Networks cannot assume responsibility or liability for actual use based on the data, examples or illustrations included in this document nor for any damages incurred during installation of the product. Those responsible for the use of the product must acquire sufficient knowledge in order to ensure that the product is used correctly in their specific application and that the application meets all performance and safety requirements including any applicable laws, regulations, codes and standards. Further, HMS Networks will under no circumstances assume liability or responsibility for any problems that may arise as a result from the use of undocumented features or functional side effects found outside the documented scope of the product. The effects caused by any direct or indirect use of such aspects of the product are undefined and may include e.g. compatibility issues and stability issues.

Copyright © 2024 HMS Networks

Contact Information

Postal address:

Box 4126

300 04 Halmstad, Sweden

E-Mail: info@hms.se

Table of Contents

1. Preface	1
1.1. About this Document	1
1.2. Related Documents	1
1.3. Document history	1
1.4. Document Conventions	2
1.5. Document Specific Conventions	2
1.6. Trademark Information	3
2. General Information	4
2.1. Package Contents	4
3. Description	5
3.1. General Information	5
3.2. Option Board Overview (Module)	5
3.2.1. Connectors	6
3.2.2. Control Switches	7
3.3. Expansion Board Overview	8
3.3.1. Host Interface Signals	8
3.4. Option Board Overview (Pluggable Brick)	10
3.4.1. External Power Connector (JP25)	12
3.4.2. Power Source Selection (JP24)	12
3.4.3. Host Interface Signals	13
3.5. Option Board Overview (Soldered-on Brick)	15
4. Software	17
4.1. General	17
4.2. Transport Provider	17
4.3. Host Application Example Code	17
Appendix A. Technical Specification	18
1. Power Supply	18
1.1. USB Development Board	18
2. Environmental Specification	18
3. EMC Compliance	18

This page is intentionally left blank.

1. Preface

1.1. About this Document

This document is intended to provide a good understanding of how to install the Anybus CompactCom Starter Kit. It does not cover any of the network specific features offered by the Anybus CompactCom products; this information is available in the appropriate Network Guide.

The reader of this document is expected to be familiar with hardware design and communication systems in general. For additional information, documentation, support etc., please visit the support website at www.hms-networks.com/technical-support.

1.2. Related Documents

Document	Author	Document ID
Anybus CompactCom 40 Software Design Guide	HMS	HMSI-216-125
Anybus CompactCom 30 Software Design Guide	HMS	HMSI-168-97
Anybus CompactCom 40 Hardware Design Guide	HMS	HMSI-216-126
Anybus CompactCom 30 Hardware Design Guide	HMS	HMSI-168-31
Anybus CompactCom B40-1 Design Guide	HMS	HMSI-27-230
Anybus CompactCom B40-1 Mini Design Guide	HMS	SCM-1202-237
Anybus CompactCom B30 Design Guide	HMS	HMSI-227-242
Anybus CompactCom Host Application Implementation Guide	HMS	HMSI-27-334
Anybus CompactCom Network Guides (separate document for each supported fieldbus or network system)	HMS	

1.3. Document history

Version	Date	Description
1.00	2014-05-26	First revision
1.10	2014-12-12	Misc. corrections
2.0	2018-01-09	Moved to DOX General update
2.1	2018-11-08	Updates to figures of USB card and to description of control switches
2.2	2019-02-25	Rebranded
2.3	2024-09-25	Added information on B40 Mini
2.4	2024-11-25	Updated figures in the Option Board Overview (Soldered-on Brick) section

1.4. Document Conventions

Numbered lists indicate tasks that should be carried out in sequence:

1. First do this
2. Then do this

Bulleted lists are used for:

- Tasks that can be carried out in any order
- Itemized information
- An action
 - and a result

User interaction elements (buttons etc.) are indicated with bold text.

```
Program code and script examples
```

Cross-reference within this document: [Document Conventions \(page 2\)](#)

External link (URL): www.hms-networks.com



WARNING

Instruction that must be followed to avoid a risk of death or serious injury.



CAUTION

Instruction that must be followed to avoid a risk of personal injury.



IMPORTANT

Instruction that must be followed to avoid a risk of reduced functionality and/or damage to the equipment, or to avoid a network security risk.



NOTE

Additional information which may facilitate installation and/or operation.

1.5. Document Specific Conventions

- The terms “Anybus” or “module” refers to the Anybus CompactCom.
- The terms “host” or “host application” refer to the device that hosts the Anybus CompactCom hardware or software.
- Hexadecimal values are written in the format NNNNh or 0xNNNN, where NNNN is the hexadecimal value.
- A byte always consists of 8 bits.
- All dimensions in this document have a tolerance of $\pm 0.10\text{mm}$ unless otherwise stated.
- Outputs are TTL compliant unless otherwise stated.
- Signals which are “pulled to GND” are connected to GND via a resistor.
- Signals which are “pulled to 3V3” are connected to 3V3 via a resistor.
- Signals which are “tied to GND” are directly connect GND,
- Signals which are “tied to 3V3” are directly connected to 3V3.

1.6. Trademark Information

Anybus® is a registered trademark of HMS Industrial Networks.

All other trademarks are the property of their respective holders.

2. General Information

The Anybus CompactCom Starter Kit is a development kit for the Anybus CompactCom platform (module, pluggable brick, and soldered-on brick), which gives designers instant access to the capabilities of the Anybus CompactCom product range.

The kit allows for both quick demonstrations and in-depth evaluations, enabling a potential application to be designed and debugged to an advanced stage.

2.1. Package Contents

Depending on configuration, the Anybus CompactCom Starter Kit package consists of the following items:

- Configuration 1 (Anybus CompactCom M40/M30):
 - HMS USB development board
 - Power adapter with cable, 24 V
 - USB cable
 - Option board Module
 - Front cover
 - Torx key T8
 - CompactCom host connector
 - Expansion board
- Configuration 2 (Anybus CompactCom M40/M30 without housing):
 - HMS USB development board
 - Power adapter with cable, 24 V
 - USB cable
 - Option board Module without housing
 - Mounting kit
 - Torx key T9
 - 3M connector
 - Samtec connector
 - Expansion board
- Configuration 3 (Anybus CompactCom B40):
 - HMS USB development board
 - Power adapter with cable, 24 V
 - USB cable
 - Option board Pluggable Brick
 - Mounting screws (3 pcs) for Pluggable Brick and connector board
- Configuration 4 (Anybus CompactCom B40 Mini)
 - HMS USB development board
 - Power adapter cable, 24 V
 - USB cable
 - Option board Soldered-on Brick with B40 Mini Common Ethernet Loaded
 - Ethernet connector board with 2 RJ45 ports
 - Mounting screw (1pcs) for connector board

3. Description

3.1. General Information

The starter kit package includes a development board, which can be used to develop networking applications via the host interface channels of the Anybus CompactCom . Depending on selected starter kit, the kit includes either an option board for Anybus CompactCom M40/M30 (Module), Anybus CompactCom B40 (Pluggable Brick), or Anybus CompactCom B40 Mini (Soldered-on Brick).

The development board connects to a standard USB2 port, and operates at 24 V \pm 20%.

The Anybus CompactCom B40 option board as well as the expansion board, included with the Anybus CompactCom M40/M30 option board, both provide in-circuit access to all signals of the Anybus CompactCom host interface, allowing in-circuit debugging and evaluation capacities. These boards operate at 3.3 VDC.

The Anybus CompactCom B40 Mini option board includes a pre-soldered Anybus B40 Mini Common Ethernet, which can have any compatible network protocol firmware installed for evaluation. For more information, refer to the Anybus CompactCom B40 Mini section in the Anybus® CompactCom™ 40 Common Ethernet Design Guide.

3.2. Option Board Overview (Module)

The starter kit holds two PCBs joined as shown in the picture. An optional module, with or without housing, or an expansion board (see [Expansion Board Overview \(page 8\)](#)), can be connected to the top board (1).



NOTE
All three contacts have to be joined as shown for correct functionality. Any other position of the upper PCB will result in the starter kit not working.

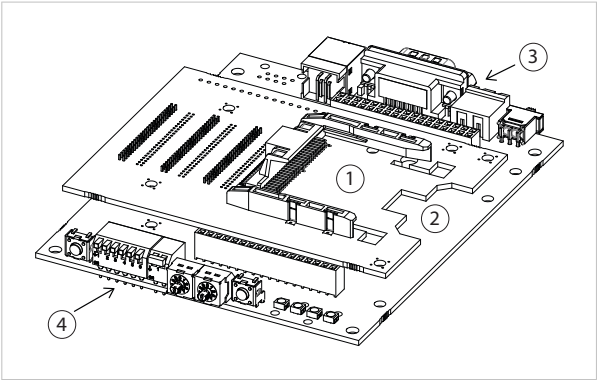


Figure 1.

No	Description
1	Module option board
2	HMS USB development board
3	See Connectors (page 6) .
4	See Control Switches (page 7) .

3.2.1. Connectors

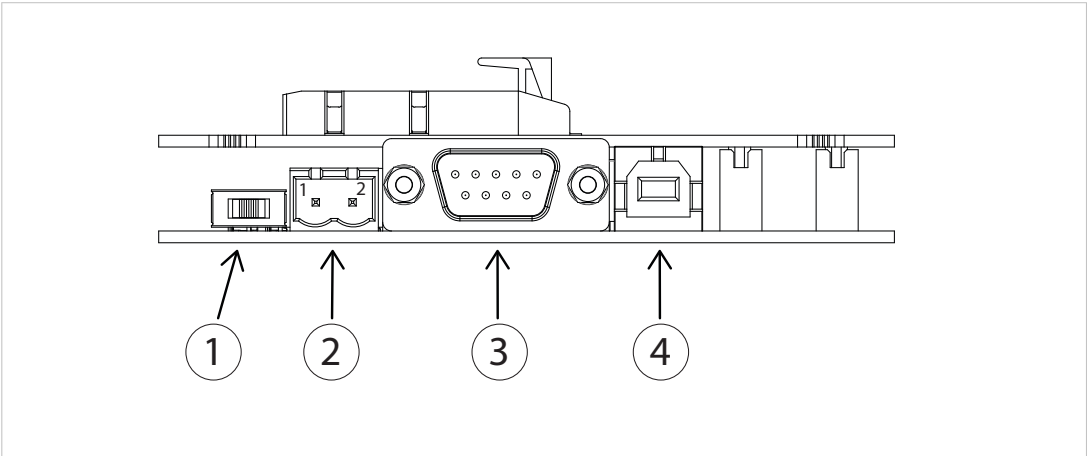


Figure 2.

No.	Description
1	Power switch
2	Power connector (24 V) 1: 24 V 2: GND
3	RS-232 connector
4	USB2 connector

3.2.2. Control Switches

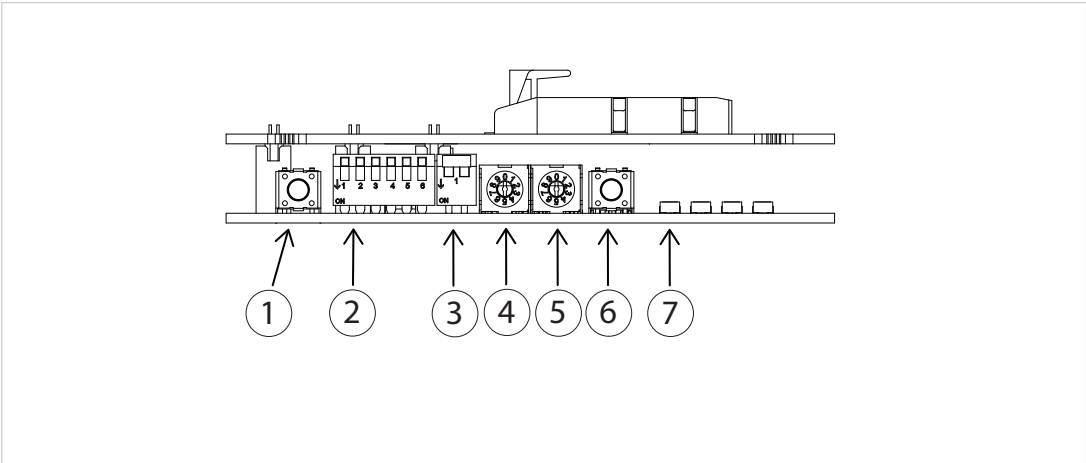


Figure 3.

No.	Description															
1	Reset button. Triggers a hardware reset of the board.															
2	<p>Control Switch</p> <p>Note: Switch 1 and 2 should be OFF when the Anybus CompactCom is controlled via a Transport Provider path.</p> <table><tr><td>1:</td><td>OFF</td><td>Power to the Anybus CompactCom is controlled by the presence of a Transport Provider path from the PC side.</td></tr><tr><td></td><td>ON</td><td>Power to the Anybus CompactCom is always on.</td></tr><tr><td>2:</td><td>OFF</td><td>The Anybus CompactCom operation mode and the reset signals are controlled via the Transport Provider path from the PC side.</td></tr><tr><td></td><td>ON</td><td>The operating mode is set to [0,0,0,0] (OM[0.. 3]), and the reset signal is deactivated.</td></tr><tr><td>3 - 6:</td><td colspan="2">(not used)</td></tr></table>	1:	OFF	Power to the Anybus CompactCom is controlled by the presence of a Transport Provider path from the PC side.		ON	Power to the Anybus CompactCom is always on.	2:	OFF	The Anybus CompactCom operation mode and the reset signals are controlled via the Transport Provider path from the PC side.		ON	The operating mode is set to [0,0,0,0] (OM[0.. 3]), and the reset signal is deactivated.	3 - 6:	(not used)	
1:	OFF	Power to the Anybus CompactCom is controlled by the presence of a Transport Provider path from the PC side.														
	ON	Power to the Anybus CompactCom is always on.														
2:	OFF	The Anybus CompactCom operation mode and the reset signals are controlled via the Transport Provider path from the PC side.														
	ON	The operating mode is set to [0,0,0,0] (OM[0.. 3]), and the reset signal is deactivated.														
3 - 6:	(not used)															
3	Reserved. Shall always be ON.															
4	<p>This switch controls linking of the serial RX/TX signals between the three serial interfaces on the board: the USB Transport Provider serial channel, the serial application interface of the Anybus CompactCom, and the RS-232 connector, see Connectors (page 6).</p> <p>Note: Set the switch to position 2 when the Anybus CompactCom is controlled via a Transport Provider path.</p> <table><tr><td>0</td><td>No interfaces are linked</td></tr><tr><td>1</td><td>The USB Transport Provider serial channel and the serial application interface of the Anybus CompactCom are linked. The RS-232 connector is unconnected.</td></tr><tr><td>2</td><td>The RS-232 connector and the serial application interface of the Anybus CompactCom are linked. The USB Transport Provider serial channel is unconnected.</td></tr><tr><td>3</td><td>The USB Transport Provider serial channel and the RS-232 connector are linked. The serial application interface of the Anybus CompactCom is unconnected.</td></tr><tr><td>4 - 9</td><td>Reserved.</td></tr></table>	0	No interfaces are linked	1	The USB Transport Provider serial channel and the serial application interface of the Anybus CompactCom are linked. The RS-232 connector is unconnected.	2	The RS-232 connector and the serial application interface of the Anybus CompactCom are linked. The USB Transport Provider serial channel is unconnected.	3	The USB Transport Provider serial channel and the RS-232 connector are linked. The serial application interface of the Anybus CompactCom is unconnected.	4 - 9	Reserved.					
0	No interfaces are linked															
1	The USB Transport Provider serial channel and the serial application interface of the Anybus CompactCom are linked. The RS-232 connector is unconnected.															
2	The RS-232 connector and the serial application interface of the Anybus CompactCom are linked. The USB Transport Provider serial channel is unconnected.															
3	The USB Transport Provider serial channel and the RS-232 connector are linked. The serial application interface of the Anybus CompactCom is unconnected.															
4 - 9	Reserved.															
5	Board ID switch. If several USB development boards are connected to the same PC, each board must have a unique ID. Note that the ID is stored with the other Transport Path-related settings on the PC side when a Transport Provider path is created. If the ID is changed, any corresponding Transport Provider paths must be reconfigured to match the new ID.															
6	(not used)															
7	<p>Dual color LEDs. Only the LED to the left is used.</p> <table><tr><td>Off</td><td>No power to the Anybus CompactCom</td></tr><tr><td>Green</td><td>Power on or Control Switch 1 is on (see no. 2 above)</td></tr><tr><td>Red</td><td>Power off, path closed correctly</td></tr></table>	Off	No power to the Anybus CompactCom	Green	Power on or Control Switch 1 is on (see no. 2 above)	Red	Power off, path closed correctly									
Off	No power to the Anybus CompactCom															
Green	Power on or Control Switch 1 is on (see no. 2 above)															
Red	Power off, path closed correctly															

3.3. Expansion Board Overview

The Anybus CompactCom Expansion Board is plugged into the host application connector of the development board and provides in-circuit access to all signals of the Anybus CompactCom host interface, allowing in-circuit debugging and evaluation capacities. Any Anybus CompactCom, with or without housing, can be connected to this board.

The expansion board operates at 3.3 VDC, supplied from the development board connector.

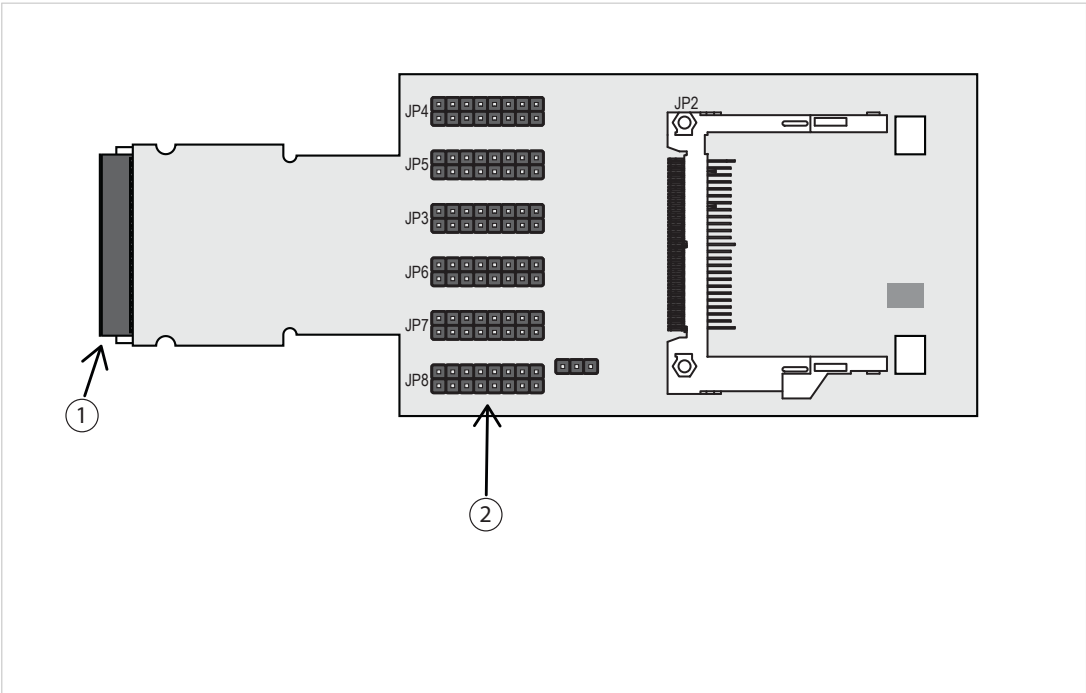


Figure 4.

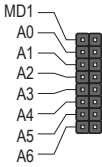
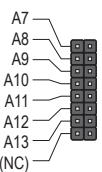
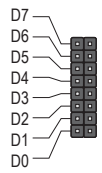
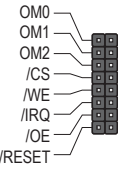
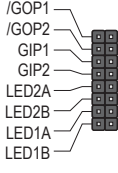
No	Description
1	Connector to development board (host application interface)
2	See Host Interface Signals (page 8)

3.3.1. Host Interface Signals

The Anybus CompactCom host interface signals are available through six 16-pin headers (2.54 mm).

- The upper row of each header is connected to signal ground.
- The lower row of each header holds the host interface signals.

Depending on operating mode, the pins have different names and different functionality. Presented below is an overview of all pins.

Header	Signal Name Printed on Board	Signal Name				
		Serial Mode	Shift Register	SPI Mode	8-bit Mode	16-bit Mode
JP4 	MD1	MD1	MD1	MD1	MD1	MD1
	A0	DIP1_0	DIP1_0	DIP1_0	A0	WEH
	A1	DIP1_1	DIP1_1	DIP1_1	A1	A1
	A2	DIP1_2	DIP1_2	DIP1_2	A2	A2
	A3	DIP1_3	DIP1_3	DIP1_3	A3	A3
	A4	DIP1_4	DIP1_4	DIP1_4	A4	A4
	A5	DIP1_5	DIP1_5	DIP1_5	A5	A5
	A6	DIP1_6	DIP1_6	DIP1_6	A6	A6
JP5 	A7	DIP1_7	DIP1_7	DIP1_7	A7	A7
	A8		\overline{LD}	\overline{SS}	A8	A8
	A9		SCLK	SCLK	A9	A9
	A10		DO	MISO	A10	A10
	A11		DI	MOSI	A11	A11
	A12	ASM RX			A12	A12
	A13	ASM TX			A13	A13
	(NC)					
JP3 	D7	DIP2_7	DIP2_7	DIP2_7	D7	D7
	D6	DIP2_6	DIP2_6	DIP2_6	D6	D6
	D5	DIP2_5	DIP2_5	DIP2_5	D5	D5
	D4	DIP2_4	DIP2_4	DIP2_4	D4	D4
	D3	DIP2_3	DIP2_3	DIP2_3	D3	D3
	D2	DIP2_2	DIP2_2	DIP2_2	D2	D2
	D1	DIP2_1	DIP2_1	DIP2_1	D1	D1
	D0	DIP2_0	DIP2_0	DIP2_0	D0	D0
JP6 	OM0	OM0	OM0	OM0	OM0	OM0
	OM1	OM1	OM1	OM1	OM1	OM1
	OM2	OM2	OM2	OM2	OM2	OM2
	\overline{CS}				\overline{CS}	\overline{CS}
	\overline{WE}		CT		\overline{WE}	\overline{WE}
	\overline{IRQ}		PA	\overline{IRQ}	\overline{IRQ}	\overline{IRQ}
	\overline{OE}				\overline{OE}	\overline{OE}
	\overline{RESET}	\overline{RESET}	\overline{RESET}	\overline{RESET}	\overline{RESET}	\overline{RESET}
JP7 	$\overline{GOP1}$	$\overline{LED4A}$	$\overline{LED4A}$	$\overline{LED4A}$	$\overline{LED4A}$	D15
	$\overline{GOP0}$	$\overline{LED4B}$	$\overline{LED4B}$	$\overline{LED4B}$	$\overline{LED4B}$	D14
	GIP1	$\overline{LED3A}$	$\overline{LED3A}$	$\overline{LED3A}$	$\overline{LED3A}$	D13
	GIP0	$\overline{LED3B}$	$\overline{LED3B}$	$\overline{LED3B}$	$\overline{LED3B}$	D12
	LED2A	LED2A	LED2A	LED2A	LED2A	D11
	LED2B	LED2B	LED2B	LED2B	LED2B	D10
	LED1A	LED1A	LED1A	LED1A	LED1A	D9
	LED1B	LED1B	LED1B	LED1B	LED1B	D8

Header	Signal Name Printed on Board	Signal Name				
		Serial Mode	Shift Register	SPI Mode	8-bit Mode	16-bit Mode
<div></div>	RX	RX	ASM RX	ASM RX	ASM RX	ASM RX
	TX	TX / OM3	ASM TX / OM3	ASM TX / OM3	ASM TX / OM3	ASM TX / OM3
	MI0	MI0	MI0	MI0/SYNC	MI0/SYNC	MI0/SYNC
	MI1	MI1	MI1	MI1	MI1	MI1
	MD0	MD0	MD0	MD0	MD0	MD0
	(NC)					
	(NC)					
	(NC)					
	(NC)					

Please refer to the Anybus CompactCom M40/M30 Hardware Design Guides for more information.

3.4. Option Board Overview (Pluggable Brick)

The option board for the Pluggable Brick provides in-circuit access to all signals of the Anybus CompactCom host interface, allowing in-circuit debugging and evaluation capacities.

The option board operates at 3.3 VDC.

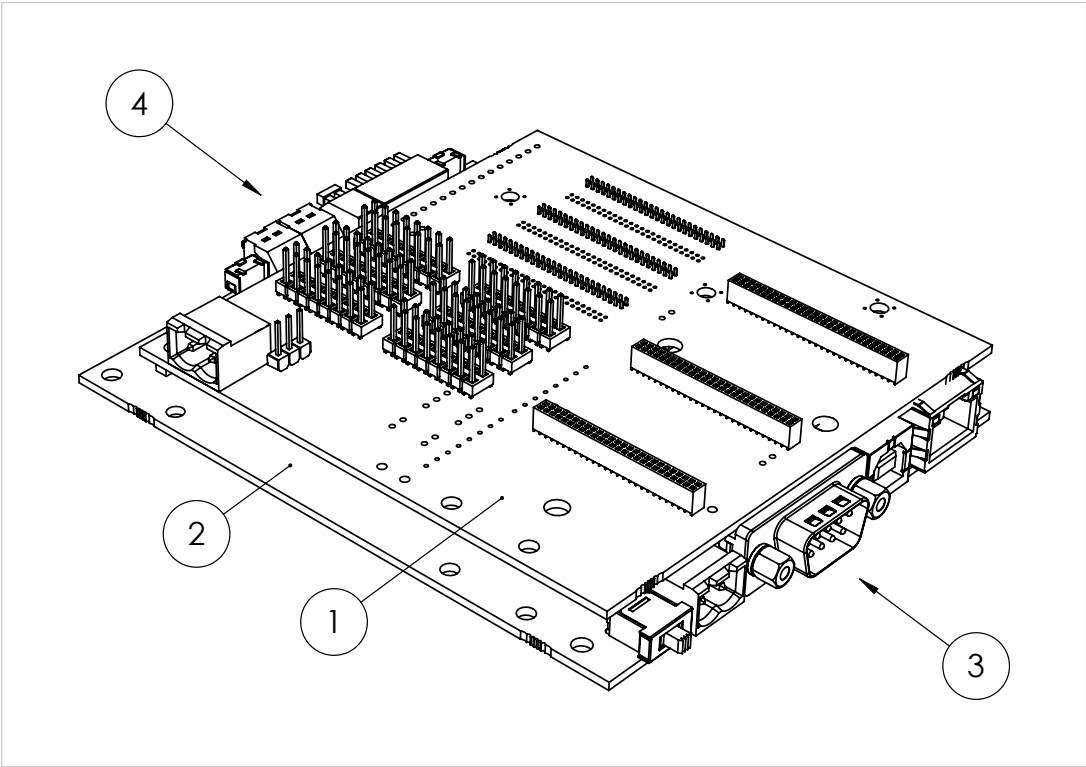


Figure 5.

No.	Description
1	Pluggable Brick option board
2	HMS USB development board
3	See Connectors (page 6) .
4	See Control Switches (page 7) .

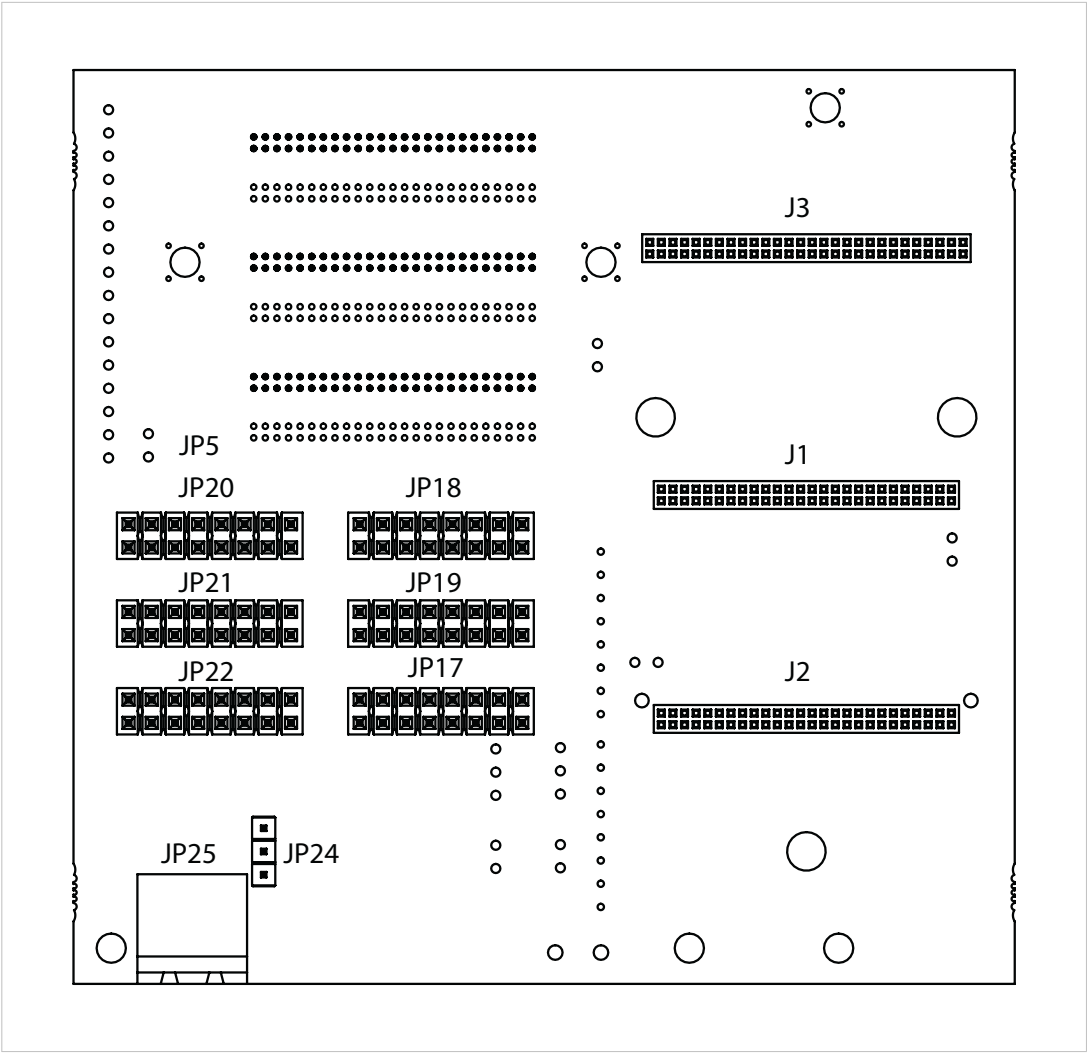
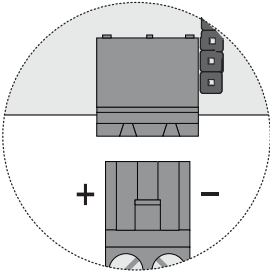


Figure 6.

Header/Connector	Description
JP5	Reserved, do not use
J3	Host application interface of Pluggable Brick
J1	Network interface of Pluggable Brick
J2	Network interface of Anybus connector board
JP17 - JP22	Headers providing access to Anybus CompactCom host interface signals, see Host Interface Signals (page 13)
JP24	See Power Source Selection (JP24) (page 12)
JP25	See External Power Connector (JP25) (page 12)

3.4.1. External Power Connector (JP25)

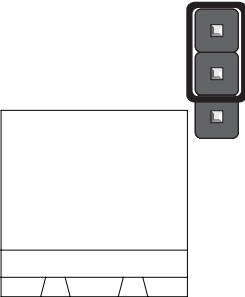
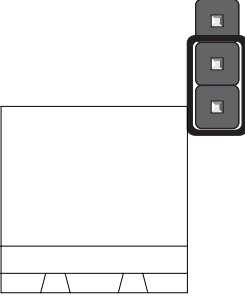
Details	Connector (Male)
The connector can be used to power the Anybus CompactCom from an external power source. The board has no on-board power regulation, i.e., it is required to use a regulated 3.3 VDC power source, as specified by the Anybus CompactCom M40, M30, B40 and B40 Mini Hardware Design Guides.	



IMPORTANT
Exceeding the specified voltage WILL cause irreparable damage to the Anybus CompactCom and/or the HMS development board.

3.4.2. Power Source Selection (JP24)

The power for the expansion board can be supplied either from the development board connector (1) or from an external power source (4).

Power Source	Jumper Location
Internal (via development board connector)	1-2 
External (via external power connector, JP25)	2-3 

3.4.3. Host Interface Signals

The Anybus CompactCom host interface signals are available through six 16-pin headers (2.54 mm).

- The lower row of each header is connected to signal ground.
- The upper row of each header holds the host interface signals.

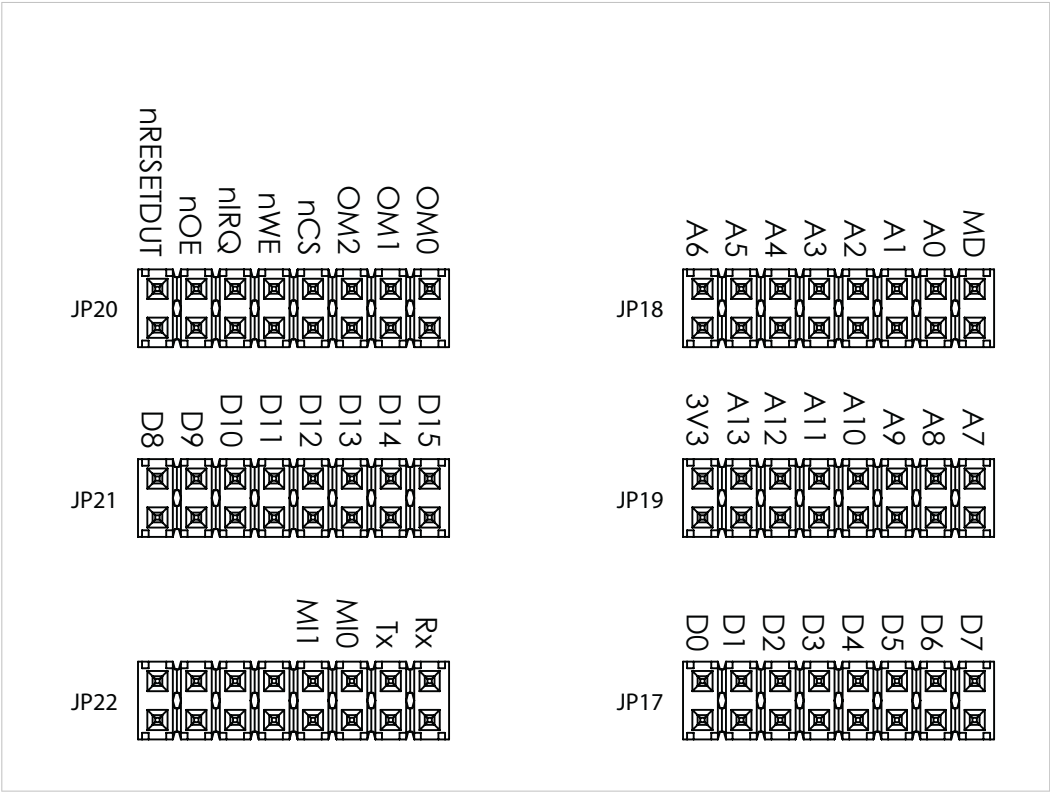


Figure 7.

Depending on operating mode, the pins have different names and different functionality. Presented below is an overview of all pins.

Header	Signal Name Printed on Board	Signal Name				
		Serial Mode	Shift Register	SPI Mode	8-bit Mode	16-bit Mode
JP18	MD	MD0	MD0	MD0	MD0	MD0
	A0	DIP1_0	DIP1_0	DIP1_0	A0	WEH
	A1	DIP1_1	DIP1_1	DIP1_1	A1	A1
	A2	DIP1_2	DIP1_2	DIP1_2	A2	A2
	A3	DIP1_3	DIP1_3	DIP1_3	A3	A3
	A4	DIP1_4	DIP1_4	DIP1_4	A4	A4
	A5	DIP1_5	DIP1_5	DIP1_5	A5	A5
	A6	DIP1_6	DIP1_6	DIP1_6	A6	A6
JP19	A7	DIP1_7	DIP1_7	DIP1_7	A7	A7
	A8		$\overline{\text{LD}}$	$\overline{\text{SS}}$	A8	A8
	A9		SCLK	SCLK	A9	A9
	A10		DO	MISO	A10	A10
	A11		DI	MOSI	A11	A11
	A12	ASM RX			A12	A12
	A13	ASM TX			A13	A13
	3V3	3V3	3V3	3V3	3V3	3V3
JP17	D7	DIP2_7	DIP2_7	DIP2_7	D7	D7
	D6	DIP2_6	DIP2_6	DIP2_6	D6	D6
	D5	DIP2_5	DIP2_5	DIP2_5	D5	D5
	D4	DIP2_4	DIP2_4	DIP2_4	D4	D4
	D3	DIP2_3	DIP2_3	DIP2_3	D3	D3
	D2	DIP2_2	DIP2_2	DIP2_2	D2	D2
	D1	DIP2_1	DIP2_1	DIP2_1	D1	D1
	D0	DIP2_0	DIP2_0	DIP2_0	D0	D0
JP20	OM0	OM0	OM0	OM0	OM0	OM0
	OM1	OM1	OM1	OM1	OM1	OM1
	OM2	OM2	OM2	OM2	OM2	OM2
	$\overline{\text{CS}}$				$\overline{\text{CS}}$	$\overline{\text{CS}}$
	$\overline{\text{WE}}$		CT		$\overline{\text{WE}}$	$\overline{\text{WE}}$
	$\overline{\text{IRQ}}$		PA	$\overline{\text{IRQ}}$	$\overline{\text{IRQ}}$	$\overline{\text{IRQ}}$
	$\overline{\text{OE}}$				$\overline{\text{OE}}$	$\overline{\text{OE}}$
	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$
JP21	D15	$\overline{\text{LED4A}}$	$\overline{\text{LED4A}}$	$\overline{\text{LED4A}}$	$\overline{\text{LED4A}}$	D15
	D14	$\overline{\text{LED4B}}$	$\overline{\text{LED4B}}$	$\overline{\text{LED4B}}$	$\overline{\text{LED4B}}$	D14
	D13	$\overline{\text{LED3A}}$	$\overline{\text{LED3A}}$	$\overline{\text{LED3A}}$	$\overline{\text{LED3A}}$	D13
	D12	$\overline{\text{LED3B}}$	$\overline{\text{LED3B}}$	$\overline{\text{LED3B}}$	$\overline{\text{LED3B}}$	D12
	D11	LED2A	LED2A	LED2A	LED2A	D11
	D10	LED2B	LED2B	LED2B	LED2B	D10
	D9	LED1A	LED1A	LED1A	LED1A	D9
	D8	LED1B	LED1B	LED1B	LED1B	D8
JP22	Rx (TxD, see note below)	RX	ASM RX	ASM RX	ASM RX	ASM RX
	Tx (RxD, see note below)	TX / OM3	ASM TX / OM3	ASM TX / OM3	ASM TX / OM3	ASM TX / OM3
	MI0	MI0	MI0	MI0/SYNC	MI0/SYNC	MI0/SYNC
	MI1	MI1	MI1	MI1	MI1	MI1
	(NC)					
	(NC)					
	(NC)					



NOTE
Signals Tx and Rx (JP22) are printed on the board as seen from the Anybus CompactCom. Please note that on the first version (0327 - 1.0.1) of the option board, these signals are printed as TxD and RxD and as seen from the application, not from the Anybus CompactCom.

The signal names for the different modes are given as seen from the Anybus CompactCom.

Please refer to the Anybus CompactCom B40 Hardware Design Guide for more information.

3.5. Option Board Overview (Soldered-on Brick)

The option board for the Soldered-on Brick includes a pre-soldered Anybus B40 Mini Common Ethernet, which can have any compatible network protocol firmware installed for evaluation. It also incorporates a 52-pin socket header for the RJ45 connector board (included in this starter kit version).

For more information, refer to the Anybus CompactCom B40 Mini section in the Anybus® CompactCom™ 40 Common Ethernet Design Guide.

The board operates at 3.3 VDC.



NOTICE
The parallel 8-bit and 16-bit operating modes are not available for the B40 Mini.

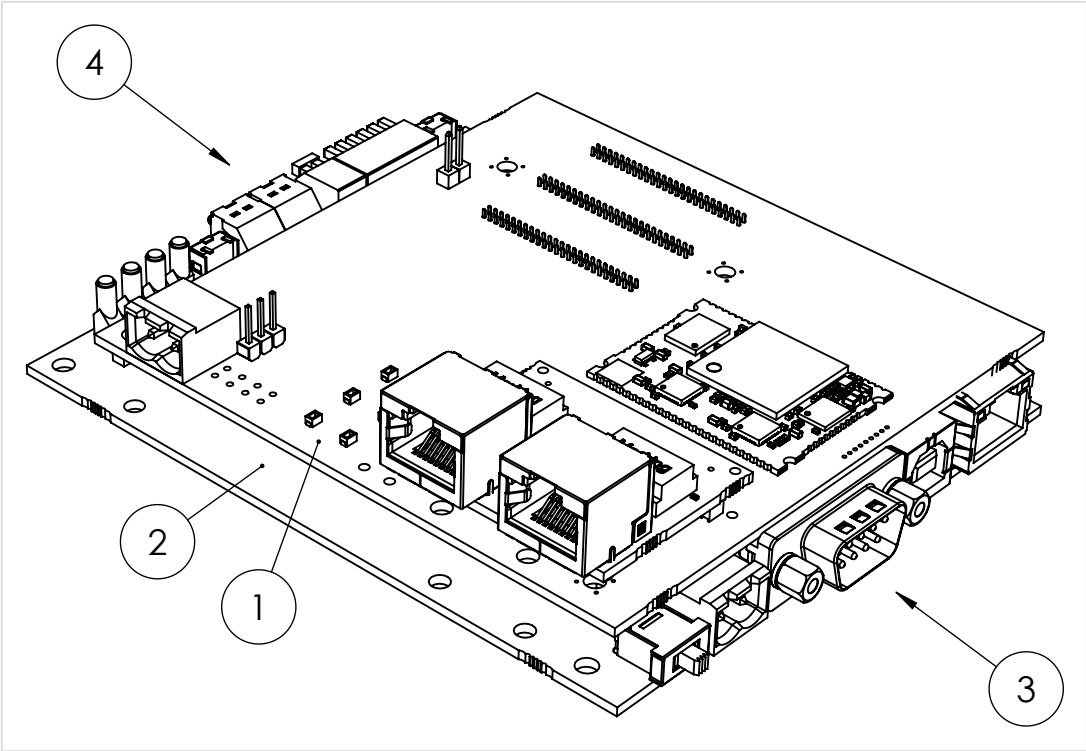


Figure 8.

Table 1.

No	Description
1	Soldered-on Brick option board with pre-soldered Anybus CompactCom B40 Mini and mounted RJ45 connector board.

No	Description
2	HMS USB development board
3	See Connectors, see Connectors (page 6) .
4	See Control Switches, see Control Switches (page 7) .

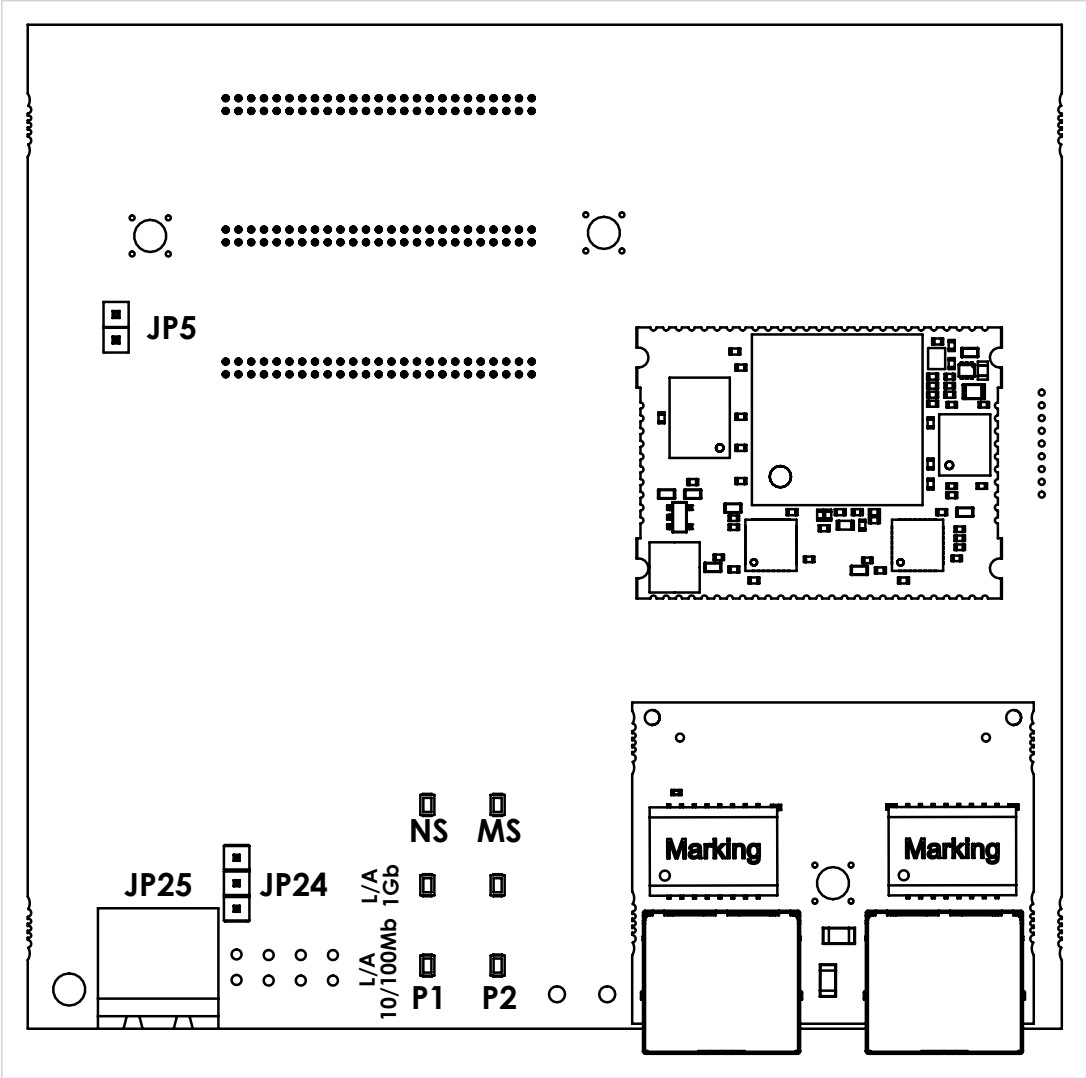


Figure 9.

Header/Connector	Description
JP5	Reserved, do not use
JP24	See Power Source Selection (JP24), see Power Source Selection (JP24) (page 12) .
JP25	See External Power Connector (JP25), see External Power Connector (JP25) (page 12) .
NS	Network status LED. Refer to the respective network guide for more information.
MS	Module status LED. Refer to the respective network guide for more information.
P1	Port 1 Link/Activity Ethernet LEDs.
P2	Port 1 Link/Activity Ethernet LEDs.

4. Software

4.1. General

The software described below is part of the Anybus CompactCom Starter Kit and is available at www.hms-networks.com/network-interfaces-integration.

4.2. Transport Provider

The Transport Provider is a set of drivers that allows a PC with Microsoft Windows™ installed to communicate with HMS products via so called Transport Paths.

A Transport Path is set up once and can then be reused by all PC applications from HMS that need a Transport Path.

You can select between the Anybus CompactCom operating modes when accessing a Transport Path.



NOTICE

The parallel 8-bit and 16-bit operating modes are not available for the B40 Mini.

4.3. Host Application Example Code

When starting an implementation of the Anybus CompactCom 40 or the Anybus CompactCom 30, the example code and the guide describing it will help to speed up the development process. The host application example code includes a driver, which acts as glue between the Anybus CompactCom and the host application. The driver has an API (Application Programming Interface), which defines a common interface to the driver. Also included in the example code is an example application which makes use of the API to form an application that can be used as a base for the final product.

The host application example code is available from www.hms-networks.com/network-interfaces-integration, along with the Host Application Implementation Guide. This document describes the code, and also provides a guide for making a simple implementation and tips for further development.

Appendix A. Technical Specification

1. Power Supply

1.1. USB Development Board

Supply Voltage	24 V DC (±20%)
Power Consumption	Maximum power consumption is 300 mA @ 24 V DC Typical power consumption: 150 mA @ 24 V DC

2. Environmental Specification

Consult the Anybus CompactCom Hardware Design Guides for further information.

3. EMC Compliance

Consult the Anybus CompactCom Hardware Design Guides for further information.