

# ABB motion control products

## Wall chart

### NextMove ESB-2

**Part numbers**

	Servo axes	Stepper axes	Extra encoder inputs	Serial port	Stepper outputs
NSB202-501W	3	4	2	RS232	Differential
NSB202-502W	3	4	2	RS485	Differential
NSB203-501W	3	4	2	RS232	Open collector
NSB203-502W	3	4	2	RS485	Open collector
NSB204-501W	4	4	1	RS232	Differential
NSB204-502W	4	4	1	RS485	Differential
NSB205-501W	4	4	1	RS232	Open collector
NSB205-502W	4	4	1	RS485	Open collector


**Encoders 3, 4**

**X14 - ENC3**

- CHA+
- CHB+
- CHZ+
- Shield
- DGND
- CHA-
- CHB-
- CHZ-
- +5 V out

**X15 - ENC4**

- CHA+
- CHB+
- CHZ+
- Shield
- DGND
- CHA-
- CHB-
- CHZ-
- +5 V out



**Encoders 0, 1, 2**

**X7 - ENC2**

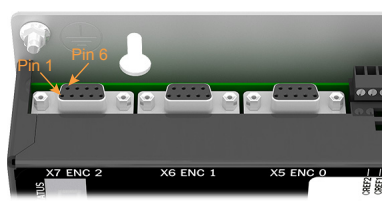
- CHA+
- CHB+
- CHZ+
- Shield
- DGND
- CHA-
- CHB-
- CHZ-
- +5 V out

**X6 - ENC1**

- CHA+
- CHB+
- CHZ+
- Shield
- DGND
- CHA-
- CHB-
- CHZ-
- +5 V out

**X5 - ENC0**

- CHA+
- CHB+
- CHZ+
- Shield
- DGND
- CHA-
- CHB-
- CHZ-
- +5 V out



**Outputs**

**X4 Digital outputs & user power input**

Pin	Signal
10	CREF2
9	CREF1
8	CREF0
7	USR V+
6	USR GND
5	USR V+
4	DOUT11
3	DOUT10
2	DOUT9
1	DOUT8

**X3 Stepper axis outputs**

Pin	Signal
12	Shield
11	DIR3+
10	DIR3-
9	STEP3+
8	STEP3-
7	DGND
6	Shield
5	DIR2+
4	DIR2-
3	STEP2+
2	STEP2-
1	DGND

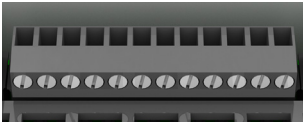
**X2 Stepper axis outputs**

Pin	Signal
12	Shield
11	DIR1+
10	DIR1-
9	STEP1+
8	STEP1-
7	DGND
6	Shield
5	DIR0+
4	DIR0-
3	STEP0+
2	STEP0-
1	DGND

**X1 Controller power in**

Pin	Signal
2	+24 VDC (2 A)
1	0 V

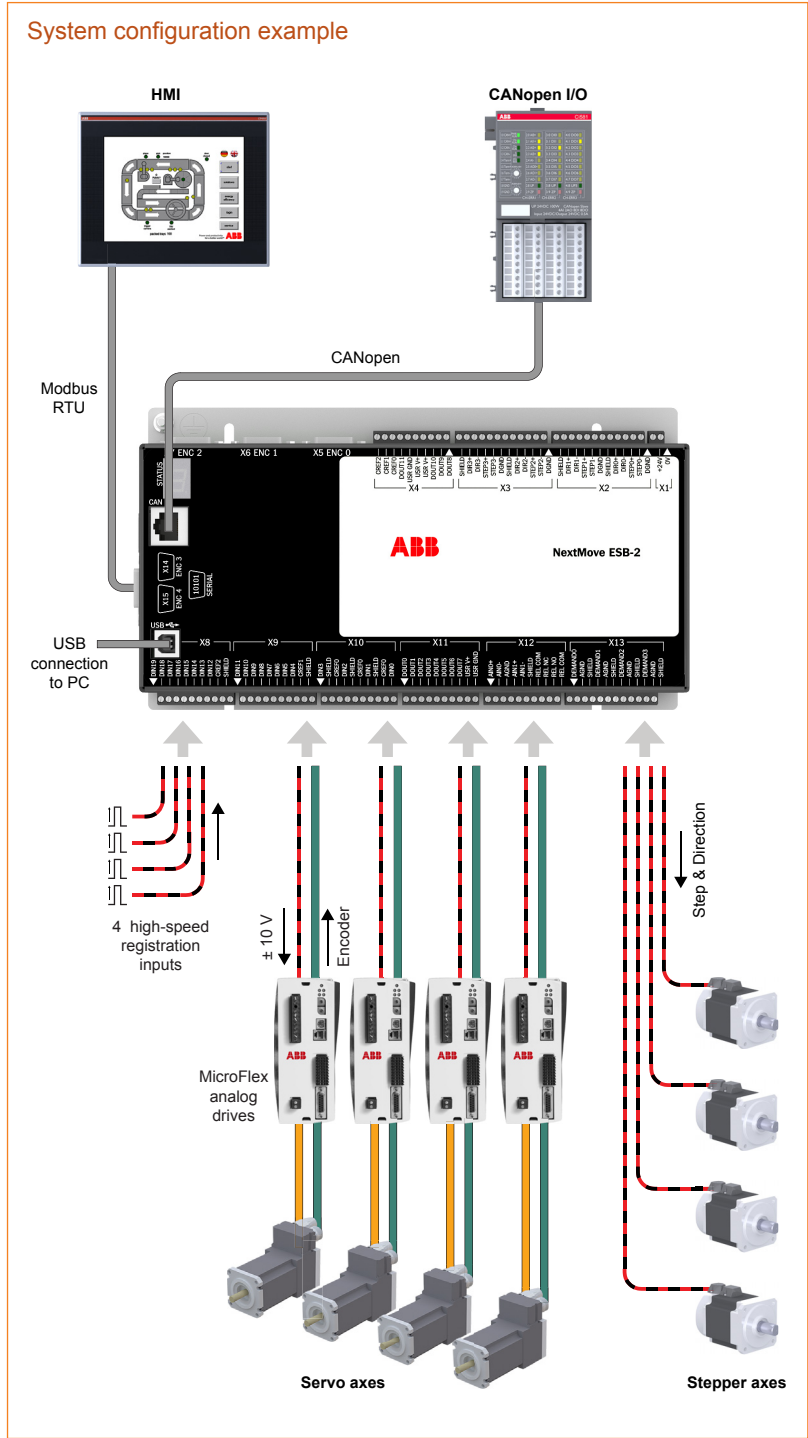
Mating connector parts:  
 Sauro CTF02008 (2-way)  
 Sauro CTF10008 (10-way)  
 Sauro CTF12008 (12-way)  
 Maximum ferrule size: 0.75 mm<sup>2</sup> (18 AWG)  
 Maximum bare wire size: 2 mm<sup>2</sup> (14 AWG)



**STATUS**

The decimal point to the right of a symbol indicates an error. For a complete list of error codes open Mint WorkBench, press F1, and locate the error handling topics.

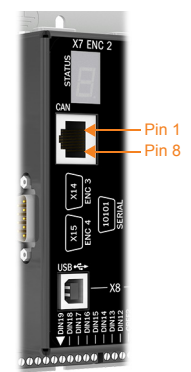
8.	Axis disabled
1.	Suspend active
1.	Firmware loading
1.	Reverse software or hardware limit
1.	Forward software or hardware limit
1.	Initialization error
9.	Hold To Analog (HTA) mode
0.	Follow and offset
0.	Axis enabled
7.	Circle move
7.	Cam move
7.	General error
7.	Error input activated
7.	Flying shear
7.	Position following error
3.	Follow move
3.	Homing
1.	Incremental move
0.	Jog move
0.	Offset move
7.	Position move
9.	Torque move
5.	Stop issued / stop input active
2.	Spline move



**CAN**


- (NC)
- CAN\_L
- CAN\_GND
- (NC)
- Shield
- CAN\_GND
- CAN\_H
- (NC)
- CAN V+ (12-24V)

Standard CANopen pinout. 120 ohm termination must be fitted at both ends




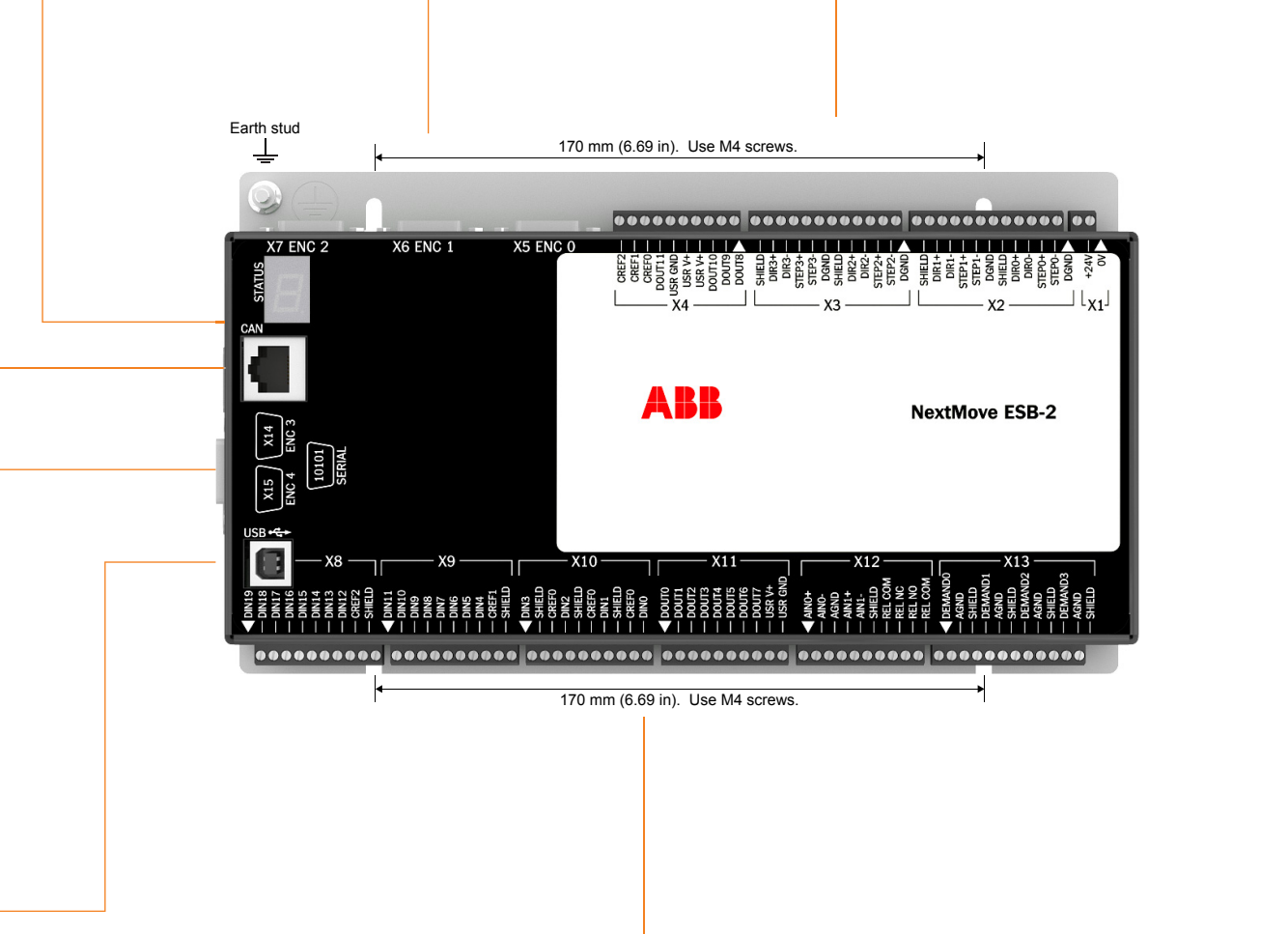
**X6 - RS232/RS485**

Pin	RS232	RS485/RS422
1	Shield (NC)	
2	RXD	RXB (input)
3	TXD	TXB (output)
4	(NC)	(NC)
5	DGND	0V DGND
6	(NC)	(NC)
7	RTS	TXA (output)
8	CTS	RXA (input)
9	DGND	(NC)



**USB port**

- (NC)
- Data-
- Data+
- GND

**Inputs**

**X8 Digital inputs**

Pin	Signal
1	DIN19
2	DIN18
3	DIN17
4	DIN16
5	DIN15
6	DIN14
7	DIN13
8	DIN12
9	CREF2
10	Shield

**X9 Digital inputs**

Pin	Signal
1	DIN11
2	DIN10
3	DIN9
4	DIN8
5	DIN7
6	DIN6
7	DIN5
8	DIN4
9	CREF1
10	Shield

**X10 Digital inputs (fast inputs)**

Pin	Signal
1	DIN3
2	Shield
3	CREF1
4	DIN2
5	Shield
6	CREF0
7	DIN1
8	Shield
9	CREF0
10	DIN0

**X11 Digital inputs**

Pin	Signal
1	DOUT0
2	DOUT1
3	DOUT2
4	DOUT3
5	DOUT4
6	DOUT5
7	DOUT6
8	DOUT7
9	USR V+
10	USR GND

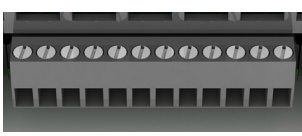
**X12 Analog inputs & relay**

Pin	Signal
1	AIN0+
2	AIN0-
3	AGND
4	AIN1+
5	AIN1-
6	Shield
7	REL COM1
8	REL NO
9	REL NC
10	REL COM1

**X13 Analog outputs (demands)**

Pin	Signal
1	Demand0
2	AGND
3	Shield
4	Demand1
5	AGND
6	Demand2
7	Shield
8	Demand3
9	AGND
10	Demand4
11	AGND
12	Shield

Mating connector parts:  
 Sauro CTF10008 (10-way)  
 Sauro CTF12008 (12-way)  
 Maximum ferrule size: 0.75 mm<sup>2</sup> (18 AWG)  
 Maximum bare wire size: 2 mm<sup>2</sup> (14 AWG)



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