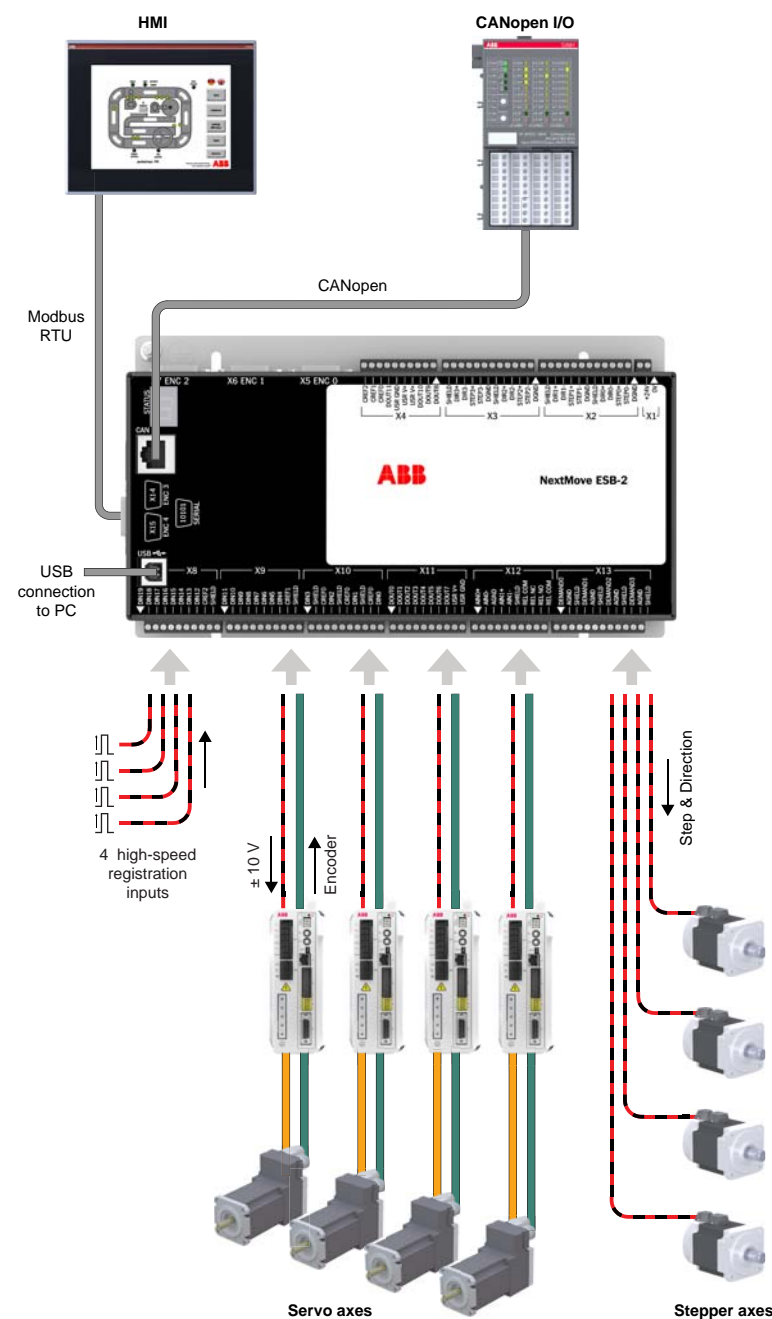


# Wall chart NextMove ESB-2

## 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

## System configuration example



## Encoders 3, 4

### X14 - ENC3

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



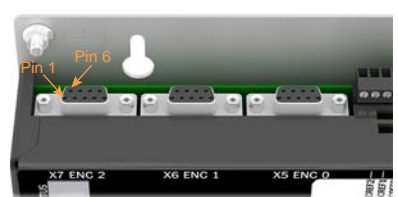
### X15 - ENC4

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

## Encoders 0, 1, 2

### X7 - ENC2 X6 - ENC1 X5 - ENC0

- | X7 - ENC2  | X6 - ENC1  | X5 - ENC0  |
|------------|------------|------------|
| 1 CHA+     | 1 CHA+     | 1 CHA+     |
| 2 CHB+     | 2 CHB+     | 2 CHB+     |
| 3 CHZ+     | 3 CHZ+     | 3 CHZ+     |
| 4 Shield   | 4 Shield   | 4 Shield   |
| 5 DGND     | 5 DGND     | 5 DGND     |
| 6 CHA-     | 6 CHA-     | 6 CHA-     |
| 7 CHB-     | 7 CHB-     | 7 CHB-     |
| 8 CHZ-     | 8 CHZ-     | 8 CHZ-     |
| 9 +5 V out | 9 +5 V out | 9 +5 V out |



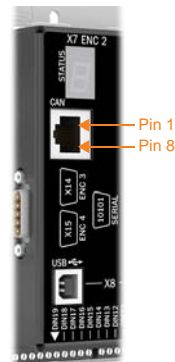
## Outputs

NSB-202 / 204	NSB-203 / 205	X4 Digital outputs & user power input	X3 Stepper axis outputs	X2 Stepper axis outputs	X1 Controller power in
10 CREF2	12 Shield	10 CREF2	12 Shield	12 Shield	2 +24 VDC (2 A)
9 CREF1	11 DIR3+	9 CREF1	11 DIR3+	11 DIR1+	1 0 V
8 CREF0	10 DIR3-	8 CREF0	10 DIR3-	10 DIR1-	
7 USR V+	9 STEP3+	7 USR V+	9 STEP3+	9 STEP1+	
6 USR GND	8 STEP3-	6 USR GND	8 STEP3-	8 STEP1-	
5 USR V+	7 DGN1	5 USR V+	7 DGN1	7 DGN1	
4 DOUT11	6 DGN2	4 DOUT11	6 DGN2	6 DGN2	
3 DOUT10	5 DGN3	3 DOUT10	5 DGN3	5 DGN3	
2 DOUT8	4 DGN4	2 DOUT8	4 DGN4	4 DGN4	
1 DOUT9	3 DGN5	1 DOUT9	3 DGN5	3 DGN5	

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)

## CAN

- CAN +
- CAN -
- (NC)
- CAN 0V (GND)
- CAN V+ (12-24V)
- (NC)
- (NC)
- (NC)



120 ohm termination resistor must be fitted at both ends of the network between CAN+ and CAN-.

Jumper JP1 fitted internally to the controller by default inserts this resistor, remove the lid and remove the jumper if the controller is not at the end of the network.

## X6 - RS232/RS485

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



## USB port

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



## Inputs

X8 Digital inputs	X9 Digital inputs	X10 Digital inputs (fast inputs)	X11 Digital inputs	X12 Analog inputs & relay	X13 Analog outputs (demands)
1 DIN19	1 DIN11	1 DIN3	1 DOUT0	1 AIN0+	1 Demand0
2 DIN18	2 DIN10	2 Shield	2 DOUT1	2 AIN0-	2 AGND
3 DIN17	3 DIN9	3 CREF2	3 DOUT2	3 AIN1+	3 Demand1
4 DIN16	4 DIN8	4 DIN2	4 DOUT3	4 AIN1-	4 AGND
5 DIN15	5 DIN7	5 Shield	5 DOUT4	5 Shield	5 Demand2
6 DIN14	6 DIN6	6 CREF0	6 DOUT5	6 REL NC	6 Demand3
7 DIN13	7 DIN5	7 CREF1	7 DOUT6	7 REL COM	7 AGND
8 DIN12	8 DIN4	8 Shield	8 DOUT7	8 USR V+	8 Demand4
9 CREF2	9 CREF1	9 DIN0	9 USR GND	9 USR GND	9 AGND
10 Shield	10 Shield			10 REL COM	10 Demand5

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)

## 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.

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