AMT SyncSys Ax - Connection Diagram

Board ETH_Stepper_Controlboard 110826. Pin labels from the Controller Connection Table.

Stepper driver X
STEP, DIR, ENABLE inputs

Stepper driver Y
STEP, DIR, ENABLE inputs

Stepper driver Z
STEP, DIR, ENABLE inputs

ETH_Stepper_Controlboard 110826

J5 Axis X driver outputs

1	STEP_X - Output (High Speed)
2	VCC2
3	DIR_X - Output
4	VCC2
5	ENABLE_X - Output
6	VCC2

J9 Axis Y driver outputs

1	STEP_Y - Output (High Speed)
2	VCC2
3	DIR_Y - Output
4	VCC2
5	ENABLE_Y - Output
6	VCC2

J12 Axis Z driver outputs

1	STEP_Z - Output (High Speed)
2	VCC2
3	DIR_Z - Output
4	VCC2
5	ENABLE_Z - Output
6	VCC2

DC power supply
15-30 Vdc (24 Vdc nominal)
+12 Vdc optional output on pin 3

J1 Main power (keyed)

1	DC PWR - Input 15-30vdc
2	DC PWR - Input 15-30vdc
3	+12vdc optional - Output
4	KEYPIN - Removed
5	DC PWR - Input COM
6	DC PWR - Input COM

User supply VCC2: 5 Vdc
powers STEP, DIR, ENABLE (J5 J9 J12)
over-voltage protected

J2 VCC2 supply in

1	DC PWR - Input VCC2
2	DC PWR - COM2

User supply VCC3: 5-24 Vdc
powers the limit inputs
(J7 J8 J10 J11 J13 J14)

J6 VCC3 supply in

1	DC PWR - Input VCC3
2	DC PWR - Input COM3

AMT SyncSys Ax - 3 axes X, Y, Z

Each axis drives an external stepper driver: STEP, DIR, ENABLE (J5, J9, J12).

Limit inputs per axis: LIM+ and LIM-. LIM+ is also the HOME input on a Positioning axis.

DO1, DO2, DO3 double as the X, Y, Z sync outputs.

E-Stop gates every STEP output in hardware. ENABLE outputs are OFF at power-up.

Step rate up to 500000 steps/s per axis.

J3 User inputs and E-Stop

1	USER Input - 1 (DI1)
2	USER Input - 2 (DI2)
3	USER Input - 3 (DI3)
4	USER Input - 4 (DI4)
5	E-Stop Input
6	USER Input - COM5

Switches / sensors
DI1-DI4: active when connected to COM5. E-Stop: N.C., 5-24 Vdc; open = E-STOP active

J15 User outputs

1	USER Output - 1 (DO1)
2	USER Output - 2 (DO2)
3	USER Output - 3 (DO3)
4	USER Output - 4 (DO4)
5	COM4
6	COM4

User loads
DO1-DO4, open collector to COM4
48 V / 150 mA max

J4 Analog inputs

1	ANALOG Input - 1
2	COM6
3	ANALOG Input - 2
4	COM6
5	(not used)
6	DC PWR - Input VCC4

Analog sensors
AI1, AI2 (12-bit), return COM6
VCC4 supply in on pin 6

Ethernet

Ethernet port
ports 5000, 5001, 5002

Host PC
AMT Script Engine
factory IP 192.168.1.222

J7 X limit +

1	VCC3
2	LIM+_X
3	COM3

J8 X limit -

1	VCC3
2	LIM-_X
3	COM3

J10 Y limit +

1	VCC3
2	LIM+_Y
3	COM3

J11 Y limit -

1	VCC3
2	LIM-_Y
3	COM3

J13 Z limit +

1	VCC3
2	LIM+_Z
3	COM3

J14 Z limit -

1	VCC3
2	LIM-_Z
3	COM3

Limit switches or prox sensors, normally closed (6)
Normal: the input is connected to COM3. Switch activated, prox triggered or wire broken: input open = limit tripped (fail-safe)

Supply domains (user supplied unless stated)

J1: main power 15-30 Vdc, COM. J2: VCC2 5 Vdc / COM2 for the STEP, DIR and ENABLE outputs (J5, J9, J12). J6: VCC3 5-24 Vdc / COM3 for the limit inputs.
J3: user inputs and E-Stop return to COM5. J15: user outputs return to COM4. J4: analog inputs return to COM6; VCC4 supply in on pin 6.
High-speed outputs (STEP) 5 V / 40 mA. User outputs DO1-DO4 48 V / 150 mA max. Digital inputs and outputs opto-isolated.

Connectors: J1 PTSM 6 position, keyed (pin 4 removed); J3, J4, J5, J9, J12, J15 PTSM 6 position; J2, J6 2 position; J7, J8, J10, J11, J13, J14 3 position.