AMT SyncSys IO - Connection Diagram

Controller connections, IO (GPIO) firmware.

Devices on J5
DO5 (fast channel F1), DO8, DO11

Devices on J9
DO6 (fast channel F2), DO9, DO12

Devices on J12
DO7 (fast channel F3), DO10, DO13

J5 Outputs DO5, DO8, DO11

1	DO5 / F1 High Speed
2	VCC2
3	DO8
4	VCC2
5	DO11
6	VCC2

J9 Outputs DO6, DO9, DO12

1	DO6 / F2 High Speed
2	VCC2
3	DO9
4	VCC2
5	DO12
6	VCC2

J12 Outputs DO7, DO10, DO13

1	DO7 / F3 High Speed
2	VCC2
3	DO10
4	VCC2
5	DO13
6	VCC2

AMT SyncSys IO

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 DO5-DO13 (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 inputs DI5-DI10
(J7 J8 J10 J11 J13 J14)

J6 VCC3 supply in

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

Inputs and outputs

13 outputs: DO1-DO4 on J15,
DO5-DO13 on J5, J9, J12.

10 inputs: DI1-DI4 on J3,
DI5-DI10 on J7, J8, J10, J11, J13, J14.

2 analog inputs: AI1, AI2 on J4.

Fast channels F1-F3 on DO5-DO7:
16 to 500000 Hz, a clock or an exact
burst of pulses.

E-Stop stops the fast channels;
the other outputs are held.

Output polarity DOP and input
polarity DIP are set per channel.

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 (stops F1-F3)

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 Input DI5

1	VCC3
2	DI5
3	COM3

J8 Input DI6

1	VCC3
2	DI6
3	COM3

J10 Input DI7

1	VCC3
2	DI7
3	COM3

J11 Input DI8

1	VCC3
2	DI8
3	COM3

J13 Input DI9

1	VCC3
2	DI9
3	COM3

J14 Input DI10

1	VCC3
2	DI10
3	COM3

Switches or sensors on DI5-DI10 (6)
By default each reads 1 when the input is OPEN (not connected to COM3); set DIP to invert it

Supply domains (user supplied unless stated)

J1: main power 15-30 Vdc, COM. J2: VCC2 5 Vdc / COM2 for outputs DO5-DO13 (J5, J9, J12). J6: VCC3 5-24 Vdc / COM3 for inputs DI5-DI10.
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 DO5-DO7 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.

Controller Connection Table 110826. AMT (Advanced Mechatronic Technology).