

YAKOTEC®



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Version No: V1.0

Cost-effective

High Reliability

Fast Response

AS2 Series AC Servo System

Version No: V1.0

Make equipment smarter, more efficient and reliable

YAKO

YAKO has been the main provider of Chinese motion control products and solutions for more than ten years, with our spirit of independent innovation.

We effectively improve the performance of key components of motion control and save design costs for customers:

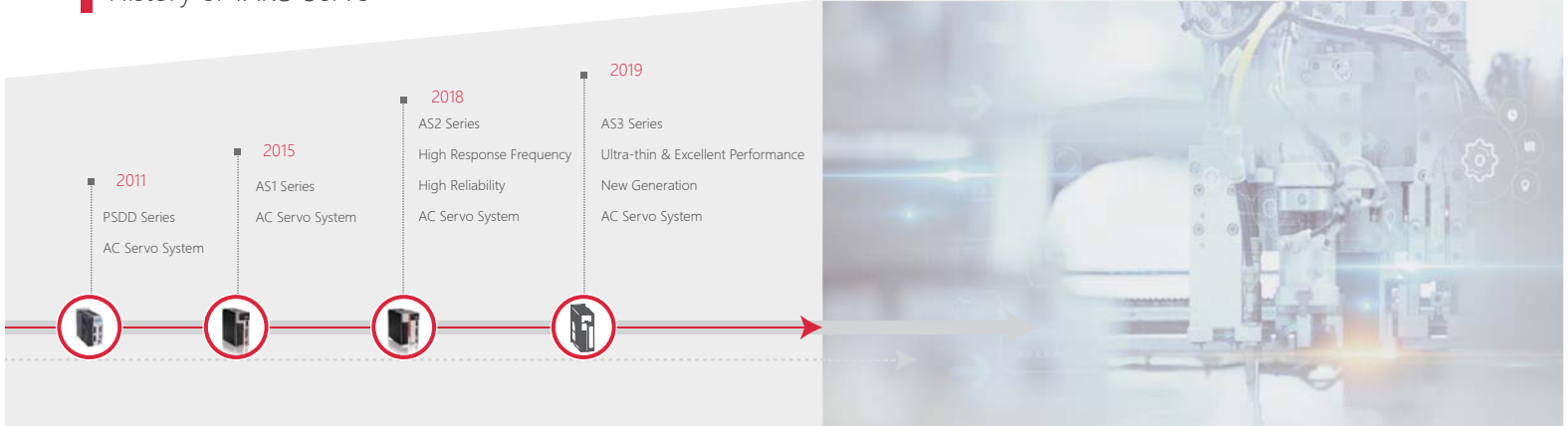
- Established long-term partnership with 3,000+ automation equipment manufacturers and distributors among the world.
- More than 3 million sets of products are stable running in all kinds of high-precision grasping, conveying, feeding and other automation equipment and production lines.

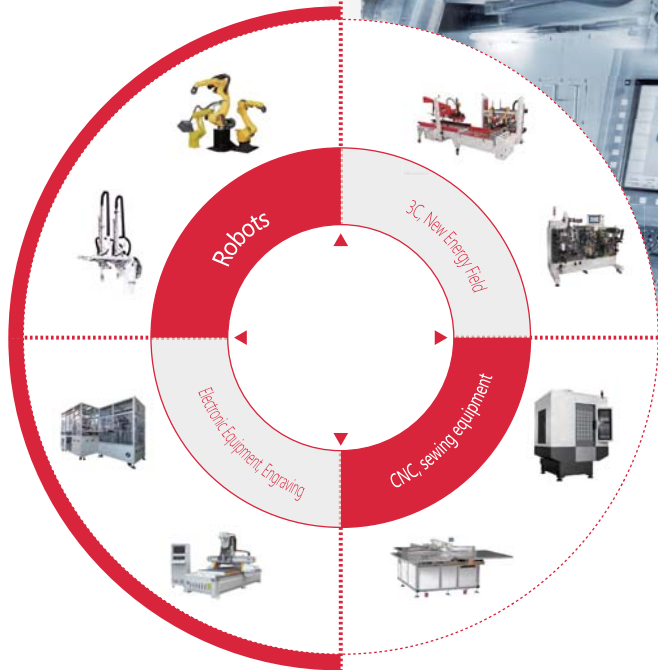
Based on precision-controlled stepping and servo motor drive technology, YAKO integrates the most advanced precision control algorithms, multi-axis cooperative communication technology, pulse signal optimization technology, reliability design method, testing and whole process quality control technology into products and services. We continuously developed a series of motion control solutions and products with various precision and multiple control processes.

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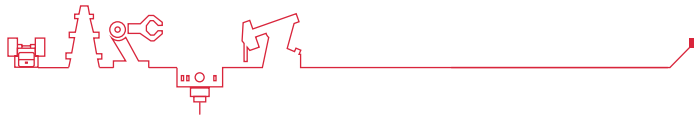
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History of YAKO Servo





Robots, new energy, 3C electronic equipment, advertising spray carving equipment, laser equipment, electronic processing, labeling machines, wire equipment, CNC machines, LED equipment, printing machinery, food production lines, etc.



Features

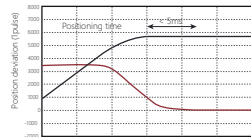
High Precision Positioning

- ASM servo motor can be matched with high-precision 23-bit (8388608p/rev) encoder to improve positioning accuracy and low-speed operation stability.
- Record absolute position of 65535 rounds, support absolute position control and software position limit, save the cost of limit switch and home switch. Easy for wiring and reducing faults.



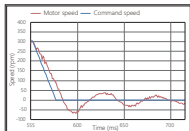
Fast Response Performance

- 1.2K speed loop response bandwidth
- Command positioning time within 5ms
- 0r/min to 3000r/min acceleration time within 7ms

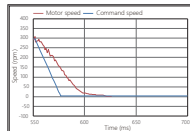


Excellent High and Low Frequency Vibration Suppression

Built-in type-A / type-B of low-frequency vibration suppression algorithms to suppress mechanical low-frequency resonance and peripheral vibration

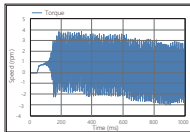


Before suppressing vibration

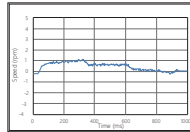


After suppressing vibration

Built-in four sets of notch filters can effectively suppress mechanical high frequency resonance and reduce mechanical noise



Torque command before notch



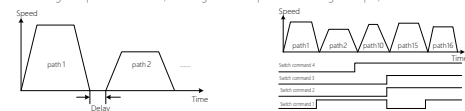
Torque command after notch

Features

Multi-segment Position Control

Up to 16 internal position control can be performed by function code internal setting or external DI terminal switching.

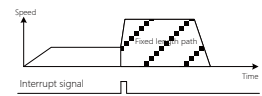
In the multi-segment position execution, each segment has a position arrival signal output, thus to realize multiple servo series motion.



Interrupted Position Fixed Length Control

- Two high-speed DI interrupt fixed length function
- Interruption trigger servo continues to run a set length in previous speed direction. This function has the highest priority, the fastest execution and guaranteed minimum delay. It can make up for PLC processing and response delay.

The interrupt execution does not respond to any other positional instructions, preventing other instructions from affecting it.

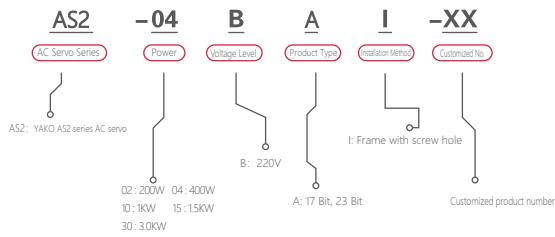


Multiple Internal Homing Mode

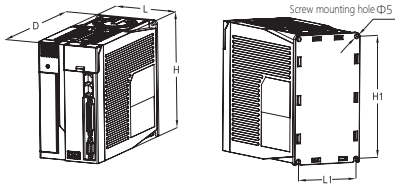
- Simplify the design of host computer, servo can actively find the home point to complete the positioning function through the limit switch or home switch.
- There are 16 kinds of homing modes for users to choose, and the repeating homing precision can reach ± 1 pulse.



Servo Drive Naming Rules



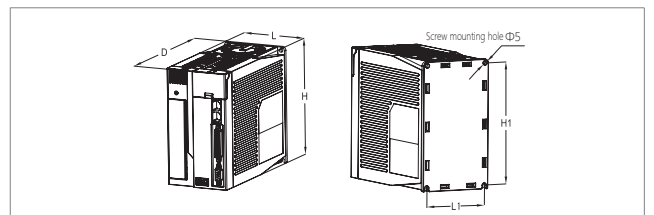
AS2 Series Drive Specs and Dimensions



| Model | L(mm) | H(mm) | D(mm) | L1(mm) | H1(mm) | D1(mm) | Screw Hole |
|-------------|-------|-------|-------|--------|--------|--------|------------|
| AS2 Frame B | 58 | 160 | 177 | 48 | 150 | 75 | 2-M4 |
| AS2 Frame C | 90 | 160 | 188 | 80 | 150 | 75 | 2-M4 |

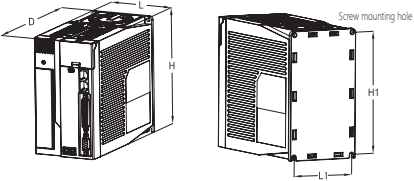
| Structure Size | SIZE B | | | SIZE C | |
|------------------------------|---|---------|--|---------|---------|
| Drive Model | AS2-02B | AS2-04B | AS2-10B | AS2-15B | AS2-30B |
| Output Current Arms | 1.6 | 2.8 | 5.5 | 7.6 | 11.6 |
| Maximum Output Current Arms | 5.8 | 10 | 17 | 17 | 28 |
| Main Circuit Power Supply | Single-phase AC200V-240V | | 3-phase/Single-phase AC200V-240V, +10% ~ -10%, 50/60Hz | | |
| Regenerative Loop Function | External brake resistor | | Built-in braking resistor | | |
| Control Circuit Power Supply | Single-phase AC200V-240V +10% ~ -10%, 50/60Hz | | | | |

Servo Drive Basic Specifications



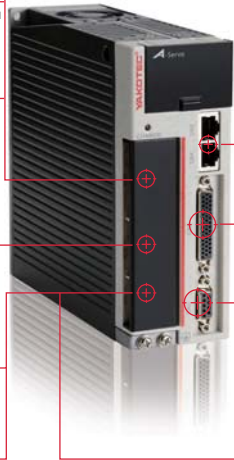
| Basic Specifications | | |
|----------------------------|---|---|
| Working Environment | Temperature | Operating: 0°C ~ 50°C Storage: -20°C ~ 85°C |
| | Humidity | < 0 ~ 90% RH (No dew environment) |
| | Working Altitude | < 1000m above sea level |
| | Vibration/Shock | < 1G |
| | IP Rating/Pollution degree | IP20/ Pollution degree 2 |
| Control Method | | IGBT PWM space vector control |
| Encoder | | 17-bit incremental / 23-bit absolute |
| Input and output port | IO Signal | Input: 8 (General) |
| | | Output: 5 (General) |
| | Analog Signal | Input: 2 (12 bit) |
| | | Output: 2 (Analog monitoring signal output) |
| Pulse Signal | Input: 4 (Low speed pulse, high speed pulse) | |
| | Output: 4 (3 frequency divide outputs, 1 open collector output) | |
| Communication Function | RS232, RS-485 | Multiple sets of parallel, connect to PC |
| Panel Operator | | LED display |
| Regenerative Loop Function | | Built-in braking resistor for ≥800W models |
| Protect Function | | Over current, overload, over voltage, low voltage, over speed, over temperature, encoder abnormality, communication abnormality, excessive position deviation, etc. |
| Control mode | | Position control; speed control; torque control |

Servo Drive Function Specifications



| Functions Specifications | | | |
|------------------------------|--|--|--|
| Position Control Mode | Position Command Format | PULSE/DIR | |
| | | CW/CCW | |
| | Position Input Circuit | A, B phase orthogonal pulse | |
| | | Line drive; open collector | |
| | Maximum Input Frequency | Line drive low speed 1Mpps | |
| | | Line drive high speed 4Mpps | |
| | | Open collector 200kpps | |
| Smoothing Filter | Smoothing the position command to make the motor run smoother and more stable | | |
| Electronic Gear | Provide 2 sets of electronic gear ratio | | |
| Vibration Suppression Filter | It can effectively suppress external signal interference and system resonance frequency, to ensure stable operation of equipment | | |
| Speed Control Mode | Command Form | Analog voltage command input, internal speed command | |
| | Speed Change Rate | Voltage Fluctuation | Rated voltage $\pm 10\%$: 0.5% (Rated speed) |
| | | Load Fluctuation | 0-100% load: $\leq 0.5\%$ (Rated speed) |
| | | Temperature Fluctuation | 25 \pm 25 $^{\circ}$ C: $\leq 0.5\%$ (Rated speed) |
| | Acceleration/Deceleration Setting Range | 0-10s | |
| Analog Speed Command Input | -10V ~ +10V | | |
| Torque Control Mode | Command Form | Analog torque command, internal torque command | |
| | Analog Torque Command Input | -10V ~ +10V | |
| Common | Self-tuning Function | Inertia identification, rigidity tuning | |
| | Notch filter | Resonance suppression | |
| | Encoder Feedback Electronic Gear | Setting freely | |
| | Abnormal Information Record | 8 groups of historical information records | |

Servo Drive Connection to Peripheral Devices



- Wiring Circuit Breaker**
 - Used to protect the power supply, cut off the circuit when an overcurrent occurs.
- EMI Filter**
 - Install a noise filter to prevent external noise from the power cord.
- Electromagnetic Contactor**
 - Turn the servo power on/off. Install a surge suppressor when using it.
- Braking Resistor**
 - When the internal resistor capacity is insufficient, connect the P-C terminal to an external braking resistor.
- Brake Power Supply**
 - 24VDC power supply, use when the servo motor has a brake.
- Electromagnetic Contactor**
 - Break control signal and turn the brake power on/off. Install a surge suppressor when using it.
- Communication Network Interface CN3/CN4**
 - Servo drive multi-machine parallel communication cable (please prepare by yourself)
 - Servo drive PLC communication cable (please prepare by yourself)
 - Servo drive PC communication cable (please prepare by yourself)
- Servo Drive Input/Output Port CN1**
 - input and output cable (please prepare by yourself)
- Servo Motor Encoder Cable CN2**
 - EI-AS1-****
- Servo Motor**

Main Circuit Terminal Definition

| Name | Terminal Mark | Function Specification |
|--|---------------|---|
| Main Circuit Power Input Terminal | R, S | Single-phase AC220V power input |
| | R, S, T | Three-phase AC220V power input |
| Control Power Input Terminal | L1C, L2C | Control circuit power input terminal |
| External Regenerative Resistor Connection Terminal | PiB-, D-, C- | The external regenerative resistor defaults to short wiring between PiB-D. When the braking capacity is insufficient, make an open circuit between PiB-D (remove the short wiring) and connect an external braking resistor between PiB-C. Please purchase an external braking resistor separately. |
| Common DC Bus Terminal | PiB-, ⊕ | Common bus connection when multiple units are connected in parallel |
| Servo Motor Connection Terminal | U-, V-, W | Servo motor connection terminal, connected to U, V, W |
| Ground Terminal | PE | Two grounding terminals are connected to the power grounding terminal and the motor grounding terminal. Be sure to ground the entire system. |

Servo Drive Terminal Definition

• CN1 Control Terminal - Position Command Definition

| Definition | Pin | Function |
|------------|-----|--|
| PULS+ | 41 | Low speed pulse command |
| PULS- | 43 | (< 500kpps) Pulse, CW, A Phase |
| SIGN+ | 37 | Low speed pulse command |
| SIGN- | 39 | (< 500kpps) Dir., CCW, B phase |
| HPULS+ | 42 | High speed pulse direction input, must be division input |
| HPULS- | 36 | High speed pulse direction input, must be division input |
| HSIGN+ | 38 | High speed pulse direction input, must be division input |
| HSIGN- | 40 | High speed pulse direction input, must be division input |
| PULLHI | 35 | COM+, power input port, internal current limiting resistor connected |
| GND | 29 | Differential signal ground |

• CN1 Control Terminal - Encoder Output Signal

| Definition | Pin | Function |
|------------|-----|--|
| DI1 | 9 | P-OT Forward drive forbidden |
| DI2 | 10 | N-OT Backward drive forbidden |
| DI3 | 34 | INHIBIT Pulse inhibit |
| DI4 | 8 | ALM-RST Alarm reset (edge valid function) |
| DI5 | 33 | S-ON Servo enable |
| DI6 | 32 | ZCLAMP Zero fixed |
| DI7 | 31 | GAIN-SEL Gain select |
| DI8 | 30 | Home Switch Home switch |
| +24 | 17 | Internal 24V power supply, voltage range +20~28V, Maximum output current 200mA |
| COM- | 14 | Internal 24V ground, open collector pulse input ground |
| COM+ | 11 | Power input, 12~24V |
| DO1+ | 7 | S-RDY+ Servo ready |
| DO1- | 6 | S-RDY- Servo ready |
| DO2+ | 5 | COIN+ Position reached |
| DO2- | 4 | COIN- Position reached |
| DO3+ | 3 | ZERO+ Zero speed |
| DO3- | 2 | ZERO- Zero speed |
| DO4+ | 1 | ALM+ Error output |
| DO4- | 26 | ALM- Error output |
| DO5+ | 28 | BKOFF+ Brake output |
| DO5- | 27 | BKOFF- Brake output |

• CN1 Control Terminal - Encoder Output

| Definition | Pin | Function |
|------------|-------|--|
| PAO+ | 21 | Encoder pulse division output |
| PAO- | 22 | |
| PBO+ | 25 | |
| PBO- | 23 | |
| PZO+ | 13 | |
| PZO- | 24 | |
| PZ-OUT | 44 | Home point pulse collector open circuit output |
| GND | 29 | Home point pulse collector open circuit output signal ground, differential signal ground |
| +5V | 15 | Internal 5V power supply, maximum output current 200mA |
| GND | 16 | Internal 5V power supply, maximum output current 200mA |
| PE | Shell | Shield |

• CN1 Control Terminal - Analog Signal Input

| Definition | Pin | Function |
|------------|-----|----------------------------------|
| AI1 | 20 | Speed, torque and analog command |
| AI2 | 18 | input, up to ±12V |
| GND | 19 | Analog signal ground |

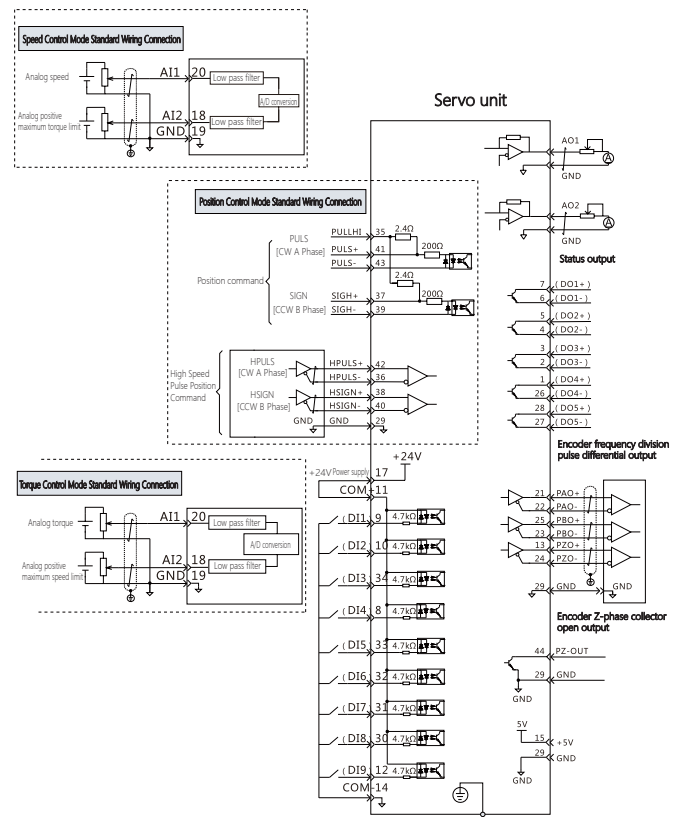
• CN2 Encoder Cable Servo Driver Side Terminal Pin Distribution

| Pin | Encoder Signal | Function |
|-------|----------------|------------------|
| 1 | -- | Encoder signal |
| 2 | -- | |
| 3 | SD+ | |
| 4 | SD- | |
| 5 | -- | |
| 6 | -- | |
| 7 | +5V | +5V power output |
| 8 | GND | Power GND output |
| 9 | -- | |
| Shell | PE | Shield |

• CN3 and CN4 - Industrial Bus and Host Computer Communication Port Uses

| Pin | Definition | Function | Pin Distribution |
|-------|------------|--------------------------|------------------|
| 1 | -- | | |
| 2 | -- | | |
| 3 | GND-ISO | RS485 communication port | |
| 4 | RS485+ | RS485 communication port | |
| 5 | RS485- | RS485 communication port | |
| 6 | RS232-IND | RS232 communication port | |
| 7 | RS232-RXD | RS232 communication port | |
| 8 | GND | communication port | |
| Shell | PE | Shield | |

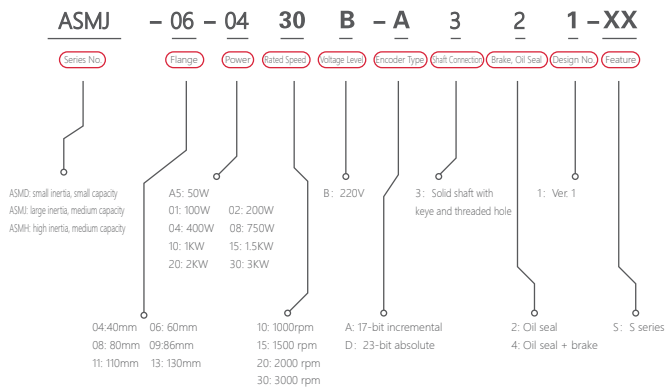
Position Control Mode Wiring



Servo System Configuration Table

| Single-phase 220V | | Three-phase 220V | | Three-phase 220V | |
|---|---|---|---|---|---|
|  | |  | |  | |
| Size B | | Size B | | Size C | |
| AS2-02BAI | AS2-04BAI | AS2-10BAI | AS2-15BAI | | AS2-30BAI |
|  |  |  |  |  | |
| ASMD-04-A530B ASMD-04-0130B | ASMI-06-0430B | ASMI-08-0830B ASMI-08-1030B | ASMI-11-1230B ASMI-11-1530B ASMI-11-1830B | ASMI-13-1525B ASMH-13-0915B ASMI-13-1025B | ASMI-13-2025B ASMI-13-2625B ASMH-13-1315B |

Motor Naming Rules



Motor Parameters

17-bit Encoder Motor Parameters

| Parameters Model | Rated Output (KW) | Rated Torque (Nm) | Maximum Torque (Nm) | Rated Current (Arms) | Maximum Current (Arms) | Rated Speed (min ⁻¹) | Maximum Speed (min ⁻¹) | Rotor Inertia (10 ⁻⁴ kgm ²) | Voltage (V) | Matched Drive Model |
|----------------------|-------------------|-------------------|---------------------|----------------------|------------------------|----------------------------------|------------------------------------|--|-------------|---------------------|
| 40 Flange | | | | | | | | | | |
| ASMD-04-A530B-A321 | 0.05 | 0.159 | 0.477 | 0.69 | 2.07 | 3000 | 5000 | 0.025 | 220 | AS2-02BAI |
| ASMD-04-0130B-A321 | 0.1 | 0.318 | 0.954 | 1.27 | 3.81 | 3000 | 5000 | 0.046 | 220 | AS2-02BAI |
| ASMD-04-0130B-A341 | 0.1 | 0.318 | 0.954 | 1.27 | 3.81 | 3000 | 5000 | 0.048 | 220 | AS2-02BAI |
| 60 Flange | | | | | | | | | | |
| ASMI-06-0230B-A321 | 0.2 | 0.64 | 1.92 | 1.7 | 5.1 | 3000 | 5000 | 0.42 | 220 | AS2-02BAI |
| ASMI-06-0230B-A341 | 0.2 | 0.64 | 1.92 | 1.7 | 5.1 | 3000 | 5000 | 0.44 | 220 | AS2-02BAI |
| ASMI-06-0430B-A321 | 0.4 | 1.27 | 3.81 | 2.8 | 8.4 | 3000 | 5000 | 0.68 | 220 | AS2-04BAI |
| ASMI-06-0430B-A341 | 0.4 | 1.27 | 3.81 | 2.8 | 8.4 | 3000 | 5000 | 0.7 | 220 | AS2-04BAI |
| 80 Flange | | | | | | | | | | |
| ASMI-08-0830B-A321 | 0.75 | 2.39 | 7.17 | 4.5 | 13.5 | 3000 | 4500 | 1.53 | 220 | AS2-10BAI |
| ASMI-08-1030B-A321-B | 1.0 | 3.50 | 10.5 | 5.7 | 17.1 | 3000 | 4500 | 1.77 | 220 | AS2-10BAI |

Motor Parameters

23-bit Encoder Motor Parameters

| Parameters Model | Rated Output (KW) | Rated Torque (Nm) | Maximum Torque (Nm) | Rated Current (Arms) | Maximum Current (Arms) | Rated Speed (min ⁻¹) | Maximum Speed (min ⁻¹) | Rotor Inertia (10 ⁻⁴ kgm ²) | Voltage (V) | Matched Drive Model |
|----------------------|-------------------|-------------------|---------------------|----------------------|------------------------|----------------------------------|------------------------------------|--|-------------|---------------------|
| 40 Flange | | | | | | | | | | |
| ASMD-04-0130B-D321 | 0.1 | 0.318 | 0.954 | 1.27 | 3.81 | 3000 | 5000 | 0.046 | 220 | AS2-02BAI |
| 60 Flange | | | | | | | | | | |
| ASMJ-06-0430B-D321 | 0.4 | 1.27 | 3.81 | 2.8 | 8.4 | 3000 | 5000 | 0.68 | 220 | AS2-04BAI |
| 80 Flange | | | | | | | | | | |
| ASMJ-08-0830B-D321 | 0.75 | 2.39 | 7.17 | 4.5 | 13.5 | 3000 | 4500 | 1.53 | 220 | AS2-10BAI |
| ASMJ-08-1030B-D321-B | 1.0 | 3.5 | 10.5 | 5.7 | 17.1 | 3000 | 4500 | 1.77 | 220 | AS2-10BAI |
| 110 Flange | | | | | | | | | | |
| ASMJ-11-1230B-D321 | 1.2 | 4.0 | 12.0 | 5.0 | 15.0 | 3000 | 3500 | 5.4 | 220 | AS2-15BAI |
| ASMJ-11-1530B-D321 | 1.5 | 5.0 | 15.0 | 6.0 | 18.0 | 3000 | 3100 | 6.3 | 220 | AS2-15BAI |
| ASMJ-11-1830B-D321 | 1.8 | 6.0 | 18.0 | 6.0 | 18.0 | 3000 | 3200 | 7.6 | 220 | AS2-15BAI |
| 130 Flange | | | | | | | | | | |
| ASMJ-13-1325B-D321 | 1.3 | 5.0 | 15.0 | 5.0 | 15.0 | 2500 | 2700 | 10.6 | 220 | AS2-15BAI |
| ASMJ-13-1525B-D321 | 1.5 | 6.0 | 18.0 | 6.0 | 18.0 | 2500 | 2900 | 12.6 | 220 | AS2-15BAI |
| ASMJ-13-2025B-D321 | 2.0 | 7.7 | 22.0 | 7.5 | 22.5 | 2500 | 2700 | 15.3 | 220 | AS2-30BAI |
| ASMJ-13-2625B-D321 | 2.6 | 10.0 | 25.0 | 10.0 | 25.0 | 2500 | 2700 | 19.4 | 220 | AS2-30BAI |
| ASMH-13-0915B-D321-N | 0.85 | 5.4 | 16.2 | 6.5 | 20.5 | 1500 | 3000 | 13.8 | 220 | AS2-15BAI |
| ASMH-13-0915B-D341-N | 0.85 | 5.4 | 16.2 | 6.5 | 20.5 | 1500 | 3000 | 13.9 | 220 | AS2-15BAI |
| ASMH-13-1020B-D321-N | 1.0 | 4.8 | 14.4 | 6.9 | 20.7 | 2000 | 4000 | 13.88 | 220 | AS2-30BAI |
| ASMH-13-1020B-D341-N | 1.0 | 4.8 | 14.4 | 6.9 | 20.7 | 2000 | 4000 | 13.88 | 220 | AS2-30BAI |
| ASMH-13-1315B-D321-N | 1.3 | 8.4 | 25.2 | 9.5 | 30.0 | 1500 | 3000 | 20.6 | 220 | AS2-30BAI |
| ASMH-13-1315B-D341-N | 1.3 | 8.4 | 25.2 | 9.5 | 30.0 | 1500 | 3000 | 20.6 | 220 | AS2-30BAI |

40mm Flange Motors Specifications and Installation Dimensions

| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|--------------------|------------------|-------------|---------------------------------|---|--|
| ASMD-04-A530B-A321 | 17 bit | AS2-02BAI | P1-AS1-03P08M | E1-AS2-03AM | / |
| ASMD-04-0130B-A321 | | AS2-02BAI | P1-AS1-03P08M | E1-AS2-03AM | |
| ASMD-04-0130B-A341 | | AS2-02BAI | P5-AS1-03P08M | E1-AS2-03AM | |
| ASMD-04-0130B-D321 | 23 bit | AS2-02BAI | P1-AS1-03P08M | E1-AS2-03AM | E1-AS1-03BM |

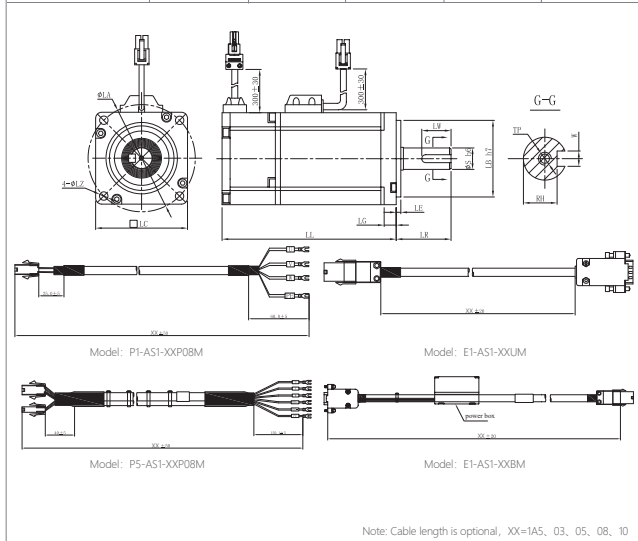
Note: Cable length is optional, XX=1A5, 03, 05, 08, 10

| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|--------------------|----|-----|----|---|----|-------------|----|-----|----|------|-----|---|---|------|
| ASMD-04-A530B-A3*1 | 40 | 4.5 | 46 | 8 | 30 | 77.5(110.5) | 25 | 2.5 | 5 | 15.5 | 6.2 | 3 | 3 | M3*6 |
| ASMD-04-0130B-A3*1 | 40 | 4.5 | 46 | 8 | 30 | 95.5(128.0) | 25 | 2.5 | 5 | 15.5 | 6.2 | 3 | 3 | M3*6 |
| ASMD-04-0130B-D3*1 | 40 | 4.5 | 46 | 8 | 30 | 102.5 | 25 | 2.5 | 5 | 15.5 | 6.2 | 3 | 3 | M3*6 |

Note: * is for 2 (full width), * is for 4 (full width + bracket), motor with brake should be matched with power cable P5-AS1-XXP08M

60mm Flange Motors Specifications and Installation Dimensions

| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|----------------------|------------------|-------------|---------------------------------|---|--|
| ASMJ-08-0830B-A321 | 17 bit | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | |
| ASMJ-08-1030B-A321-B | | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | |
| ASMJ-08-0830B-D321 | 23 bit | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | E1-AS1-03BM |
| ASMJ-08-1030B-D321-B | | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | E1-AS1-03BM |

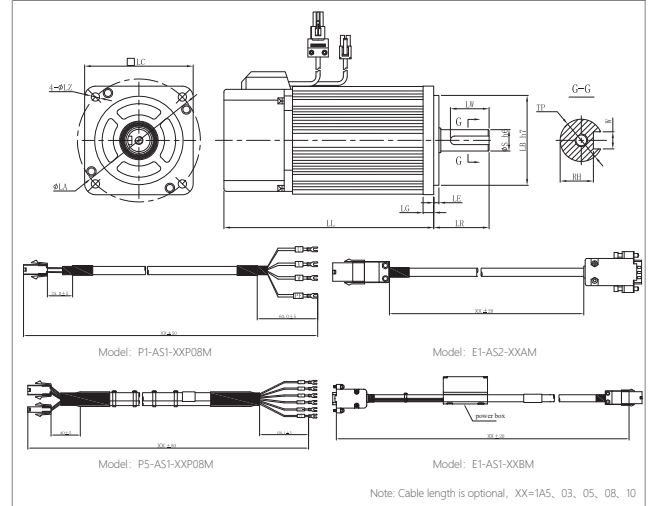


| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|----------------------|----|-----|----|----|----|------------|----|----|----|----|------|---|---|-------|
| ASMJ-08-0830B-A3*1 | 80 | 6.5 | 90 | 19 | 70 | 129.2(162) | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-1030B-A321-B | 80 | 6.5 | 90 | 19 | 70 | 144.2 | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-0830B-D3*1 | 80 | 6.5 | 90 | 19 | 70 | 142.2(175) | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-1030B-D321-B | 80 | 6.5 | 90 | 19 | 70 | 157.2 | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |

Note: * is for 2 (oil seal), ** is for 4 (oil seal + braker), motor with brake should be matched with power cable P5S-AS1-XXP08M

80mm Flange Motors Specifications and Installation Dimensions

| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|----------------------|------------------|-------------|---------------------------------|---|--|
| ASMJ-08-0830B-A321 | 17 bit | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | |
| ASMJ-08-0830B-A321-B | | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | |
| ASMJ-08-0830B-D321 | 23 bit | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | E1-AS1-03BM |
| ASMJ-08-0830B-D321-B | | AS2-10BAI | P1-AS1-03P08M | E1-AS2-03AM | E1-AS1-03BM |



| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|----------------------|----|-----|----|----|----|------------|----|----|----|----|------|---|---|-------|
| ASMJ-08-0830B-A3*1 | 80 | 6.5 | 90 | 19 | 70 | 129.2(162) | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-1030B-A321-B | 80 | 6.5 | 90 | 19 | 70 | 144.2 | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-0830B-D3*1 | 80 | 6.5 | 90 | 19 | 70 | 142.2(175) | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |
| ASMJ-08-1030B-D321-B | 80 | 6.5 | 90 | 19 | 70 | 157.2 | 35 | 3 | 8 | 25 | 15.5 | 6 | 6 | M6×10 |

Note: * is for 2 (oil seal), ** is for 4 (oil seal + braker), motor with brake should be matched with power cable P5S-AS1-XXP08M

110mm Flange Motors Specifications and Installation Dimensions

| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|--------------------|------------------|-------------|---------------------------------|---|--|
| ASMJ-11-1230B-D321 | 23 bit | AS2-15BAI | P2-AS1-03P15F | E2-AS2-03AM | E2-AS1-03BM |
| ASMJ-11-1530B-D321 | | AS2-15BAI | P2-AS1-03P15F | E2-AS2-03AM | E2-AS1-03BM |
| ASMJ-11-1830B-D321 | | AS2-15BAI | P2-AS1-03P15F | E2-AS2-03AM | E2-AS1-03BM |

| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|--------------------|-------|----|-----|----|----|----------|----|----|----|----|------|---|---|-------|
| ASMJ-11-1230B-D3*1 | 111.2 | 9 | 130 | 19 | 95 | 189(263) | 55 | 5 | 12 | 40 | 15.5 | 6 | 6 | M6x25 |
| ASMJ-11-1530B-D3*1 | 111.2 | 9 | 130 | 19 | 95 | 204(278) | 55 | 5 | 12 | 40 | 15.5 | 6 | 6 | M6x25 |
| ASMJ-11-1830B-D3*1 | 111.2 | 9 | 130 | 19 | 95 | 219(293) | 55 | 5 | 12 | 40 | 15.5 | 6 | 6 | M6x25 |

Note: * is for 2 (oil seal), * is for 4 (oil seal + braker), the accessories of motor (with brake) have been packed with motor

130mm Flange Motors Specifications and Installation Dimensions

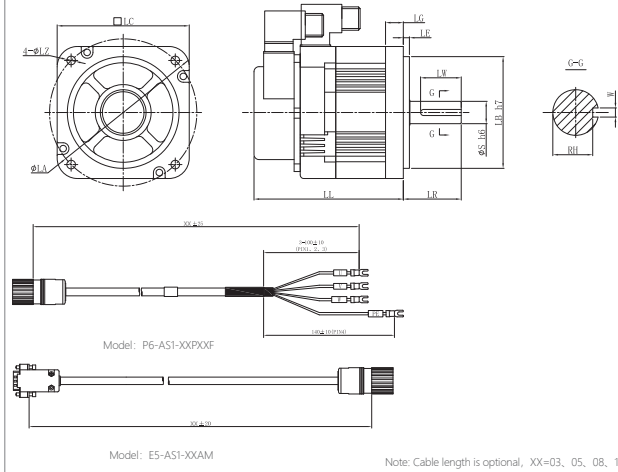
| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|--------------------|------------------|-------------|---------------------------------|---|--|
| ASMJ-13-1025B-D321 | 23 bit | AS2-15BAI | P2-AS1-03P15F | E2-AS2-03AM | E2-AS1-03BM |
| ASMJ-13-1525B-D321 | | AS2-15BAI | P2-AS1-03P15F | E2-AS2-03AM | E2-AS1-03BM |
| ASMJ-13-2025B-D321 | | AS2-30BAI | P2-AS1-03P30F | E2-AS2-03AM | E2-AS1-03BM |
| ASMJ-13-2625B-D321 | | AS2-30BAI | P2-AS1-03P30F | E2-AS2-03AM | E2-AS1-03BM |

| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|--------------------|-----|----|-----|----|-----|-----|----|----|----|----|------|---|---|-------|
| ASMJ-13-1025B-D3*1 | 131 | 9 | 145 | 22 | 171 | 166 | 57 | 5 | 14 | 40 | 18.5 | 6 | 6 | M6x22 |
| ASMJ-13-1525B-D3*1 | 131 | 9 | 145 | 22 | 110 | 179 | 57 | 5 | 14 | 40 | 18.5 | 6 | 6 | M6x22 |
| ASMJ-13-2025B-D3*1 | 131 | 9 | 145 | 22 | 110 | 192 | 57 | 5 | 14 | 40 | 18.5 | 6 | 6 | M6x22 |
| ASMJ-13-2625B-D3*1 | 131 | 9 | 145 | 22 | 110 | 209 | 57 | 5 | 14 | 40 | 18.5 | 6 | 6 | M6x22 |

Note: * is for 2 (oil seal), * is for 4 (oil seal + braker), the accessories of motor (with brake) have been packed with motor

130mm Flange Motors Specifications and Installation Dimensions

| Parameter Model | Encoder Accuracy | Drive Model | Power Cable Model (Standard 3m) | Batteryless Encoder Cable Model (Standard 3m) | With Battery Encoder Cable Model (Standard 3m) |
|----------------------|------------------|-------------|---------------------------------|---|--|
| ASMH-13-0915B-D321-N | 23 bit | AS2-15BAI | P6-AS1-03P15F | E5-AS1-03AM | / |
| ASMH-13-0915B-D341-N | | AS2-15BAI | P6-AS1-03P15F | E5-AS1-03AM | |
| ASMH-13-1020B-D321-N | | AS2-15BAI | P6-AS1-03P15F | E5-AS1-03AM | |
| ASMH-13-1020B-D341-N | | AS2-15BAI | P6-AS1-03P15F | E5-AS1-03AM | |
| ASMH-13-1315B-D321-N | | AS2-30BAI | P6-AS1-03P30F | E5-AS1-03AM | |
| ASMH-13-1315B-D341-N | | AS2-30BAI | P6-AS1-03P30F | E5-AS1-03AM | |



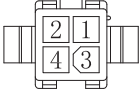

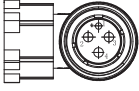

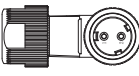
| Model | LC | LZ | LA | S | LB | LL | LR | LE | LG | LW | RH | W | T | TP |
|----------------------|-----|-----|-----|----|-----|-------|----|----|------|----|------|---|---|-------|
| ASMH-13-0915B-D321-N | 130 | 8.5 | 145 | 22 | 110 | 147 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | - |
| ASMH-13-0915B-D341-N | 130 | 8.5 | 145 | 22 | 110 | 170 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | - |
| ASMH-13-1020B-D321-N | 130 | 8.5 | 145 | 22 | 110 | 147.5 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | M6×20 |
| ASMH-13-1020B-D341-N | 130 | 8.5 | 145 | 22 | 110 | 170 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | M6×20 |
| ASMH-13-1315B-D321-N | 130 | 8.5 | 145 | 22 | 110 | 167 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | - |
| ASMH-13-1315B-D341-N | 130 | 8.5 | 145 | 22 | 110 | 190 | 55 | 6 | 17.5 | 40 | 18.5 | 6 | 6 | - |

Accessory Kit

| Kit Name | Included Accessory Model | Quantity | Accessories Photo | Accessory Name | Corresponding Cable Model | Matched Motor Series |
|----------|----------------------------|----------|-------------------|--|--------------------------------|--|
| SA-C1 | DB head plug plastic shell | 1 | | Adapter between encoder cable and driver | E1-AS1-03UM | 40, 60, 80, 90 |
| | DB head-9P | 1 | | | | |
| | AMP-172161-1 | 1 | | 9P connector plastic shell | | |
| | AMP-170361-1 | 10 | | Metal connector | | |
| | AMP-316454-1 | 2 | | 9P connector tail clip kit | P5-AS1-03P08M P1-AS1-03P08M | |
| | AMP-172159-1 | 1 | | 4P connector plastic shell | | |
| | AMP-170362-1 | 8 | | Metal connector | | |
| | AMP-172157-1 | 1 | | 2P connector plastic shell | | |
| SA-C2 | DB head plug plastic shell | 1 | | Adapter between encoder cable and driver | E2-AS2-03AM | 110, 130 (23 bit) Note: 1. The brake fittings are already installed on the motor. 2. Please prepare the brake cable by yourself. |
| | DB head-9P | 1 | | | | |
| | Servo Motor Aviation Plug | 1 | | Encoder cable aviation plug | P2-AS1-03P15F | |
| | Servo Motor Aviation Plug | 1 | | Power cable aviation plug | | |
| SA-C3 | DB head plug plastic shell | 1 | | Adapter between encoder cable and driver | E5-AS1-03AM | ASMH-13-0915B-D341-N ASMH-13-1315B-D341-N Note: 1. The brake fittings are already installed on the motor. 2. Please prepare the brake cable by yourself. |
| | DB head-9P | 1 | | | | |
| | HM23-7-P | 1 | | Encoder cable aviation plug | P6-AS1-03P15F | |
| | HM23-4-P | 1 | | Power cable aviation plug | | |

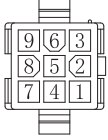
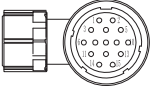

Accessory Cables

Encoder Cable and Brake Accessories

| Connector Pin Distribution | | Matched Motor Series | Connector Outline Drawing |
|----------------------------|-------------|--|---|
| 4 Pin Connector | | 40, 60, 80, 90 |  |
| Pin No. | Signal Name | Plastic shell: AMP-172159-1 Connector: AMP-170362-1 | |
| 1 | U | | |
| 2 | V | | |
| 3 | W | | |
| 4 | PE | | |
| 2 Pin Connector | | 40, 60, 80, 90 |  |
| Pin No. | Signal Name | Plastic shell: AMP-172157-1 Connector: AMP-170362-1 | |
| 1 | BK+ | | |
| 2 | BK- | | |
| 4 Pin Aviation Plug | | 110, 130 |  |
| Pin No. | Signal Name | Aviation Plug: YD28K4TS-E | |
| 1 | PE | | |
| 2 | U | | |
| 3 | V | | |
| 4 | W | | |
| 4 Pin Aviation Plug | | 130 -N series |  |
| Pin No. | Signal Name | Aviation Plug: HM23-4-P | |
| 1 | PE | | |
| 2 | U | | |
| 3 | V | | |
| 4 | W | | |
| 2 Pin Connector | | 130 -N series |  |
| Pin No. | Signal Name | HM23-2-P | |
| 1 | BK+ | | |
| 2 | BK- | | |

Accessory Cables

Encoder Cable Accessories

| Connector Pin Distribution | | | Matched Motor Series | Connector Outline Drawing |
|----------------------------|-------------------|-------------------|--|---|
| 9 Pin Connector | | | 40, 60, 80, 90 |  |
| Pin No. | 2500 Lines Signal | 17, 23 Bit Signal | Plastic shell: AMP-172161-1 Connector: AMP-170361-1 | |
| 3 | A+ | -- | | |
| 6 | A- | -- | | |
| 2 | B+ | SD+ | | |
| 5 | B- | SD- | | |
| 1 | Z+ | BAT+ | | |
| 4 | Z- | BAT- | | |
| 9 | +5V | +5V | | |
| 8 | GND | GND | | |
| 7 | PE | PE | | |
| 15 Pin Aviation Plug | | | 110, 130 |  |
| Pin No. | 2500 Lines Signal | 17, 23 Bit Signal | Aviation Plug: YD28K15TS-E | |
| 2 | +5V | +5V | | |
| 3 | GND | GND | | |
| 4 | A+ | -- | | |
| 7 | A- | -- | | |
| 5 | B+ | SD+ | | |
| 8 | B- | SD- | | |
| 6 | Z+ | BAT+ | | |
| 9 | Z- | BAT- | | |
| 1 | PE | PE | | |
| 4 Pin Aviation Plug | | | 130 -N series |  |
| Pin No. | Signal Name | | Aviation Plug: HM23-7-P | |
| 4 | SD- | | | |
| 6 | SD+ | | | |
| 5 | 0V | | | |
| 7 | +5V | | | |