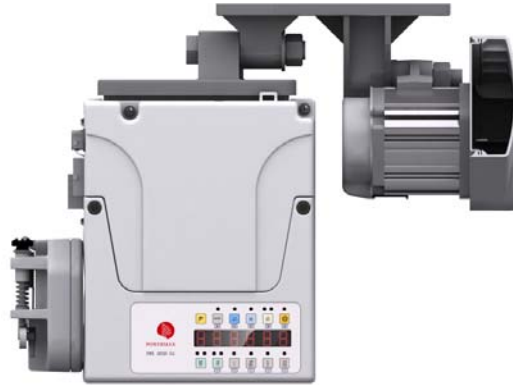


## AT (R) 50- 65 Digital AC servo control system

**AT50-65**——Driver for Duel needles or heavy duty lockstitch sewing machine

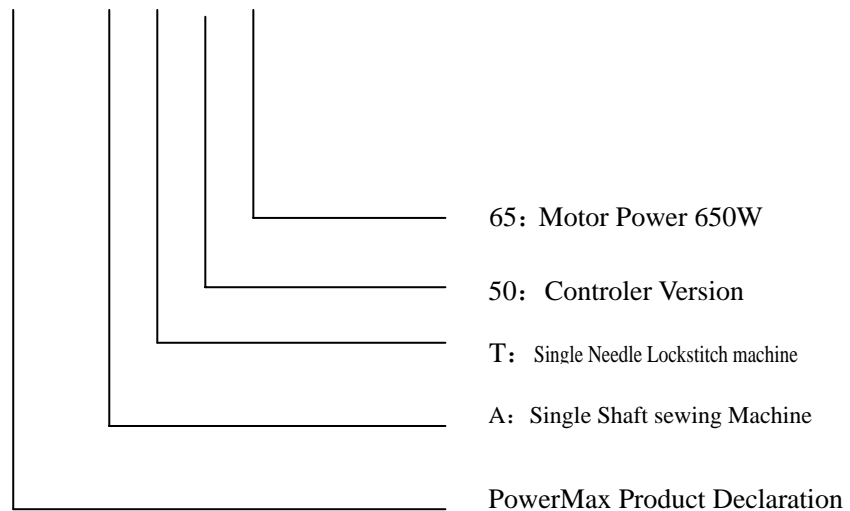
**AR50-65**——Driver for roller foot lockstitch sewing machine



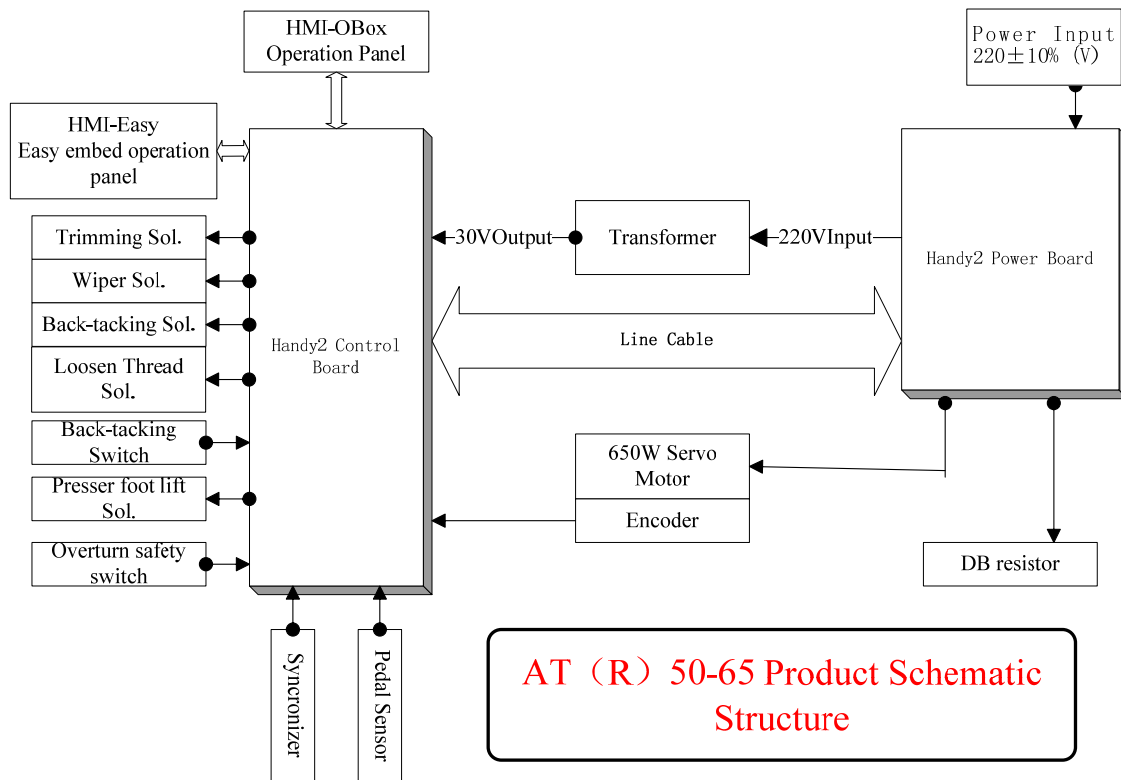
AT (R) 50- 65 digital AC servo control system is used for driving control for medium and thick material processing equipment in industrial lockstitch sewing machine, it can have stepless control for sewing speed, to complete all types of automatic sewing tasks in cooperation with the sewing machine. Sewing equipments with servo controller can be time-saving, labor-saving, highly efficient and energy conserving.

### 1. Model declaration——AH50-65 Model:

## PMX AT50-65



### 2. System schematic diagram:



### 3. Functions and Features table:

Controlor Type	AT50-65	AR50-65
Motor Type	AC Servo Motor	AC Servo Motor
Voltage Range	AC 220±20% V 50/60Hz	AC 220±20% V 50/60Hz
Output Power	650W	650W
Max. Sewing Speed	3000rpm	3000rpm
Max. Back tacking Speed	1200rpm	1200rpm
Max. Torque	6Nm	6Nm
One Needle Positioning	★	★
Needle up/ Correction	★	★
Soft Start	★	★
Presser Foot Lift	★	★
Thread Trimming, Thread Wiping, Back tacking	★	★Plus loosen thread Sol.
Overload Protection	★	★
Control Panel	Optional, Backlight LCD	Optional, Backlight LCD
Gross Weight	11 Kg	11 Kg
Dimension	485X280X395mm	485X280X395mm

#### ◆ 控制器特性: Controller's features:

- One Needle Positioning: for both needle up and down, the system will locate it at the exact position;
- Needle Position Accuracy: ±3°
- Can set multi-sewing modes: free sewing, one section of fixed length sewing, several sections of fixed length sewing, W sewing (continuous forward and back sewing);

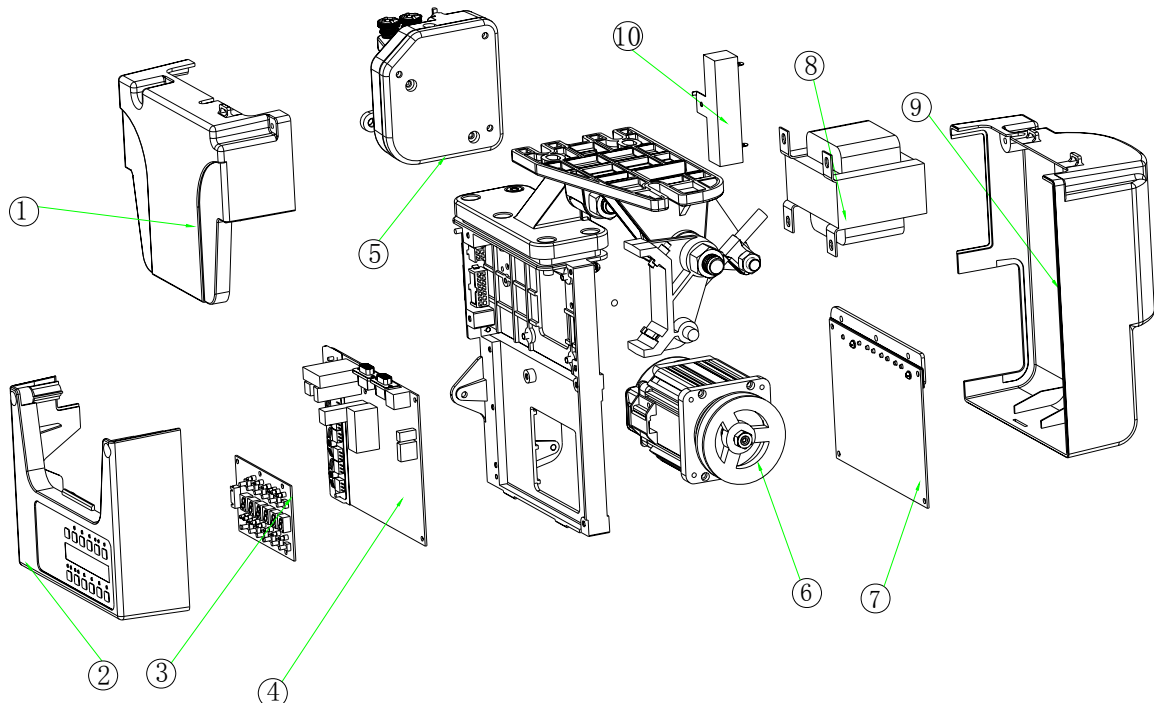
- Solenoid short-circuit protection
- Low noise, low vibration and little power consumption;
- Hardware and software over current protection, hardware and software over-voltage / under-voltage protection;
- Fool-proof design of controller exterior interface to make the connection safe, reliable, and unmistakable.

◆ **The sub-system features:**

◆ **Foot Pedal**

- Easy installation and adjustment; unique digital analog signal logic, timely and reliable pedal action judgment;
- Forward treading --- stepless speed adjustment, back treading --- twin position sensors for presser foot lift / thread trimming, which make the feet comfortable;
- Synchronizer
  - Easy installation and adjustment; unique magnetic induction sensor, dust-proof;
  - It is equipped with needle position indicators that light up Red (needle down) or Green (needle up).
- Operation panel (needle selection box)
  - Two operation panels for the customers to choose from, according to their specific settings and needs;
  - Easy and reliable operation, with automatic parameter saving and memory;
  - No need to restart after saving new parameter;

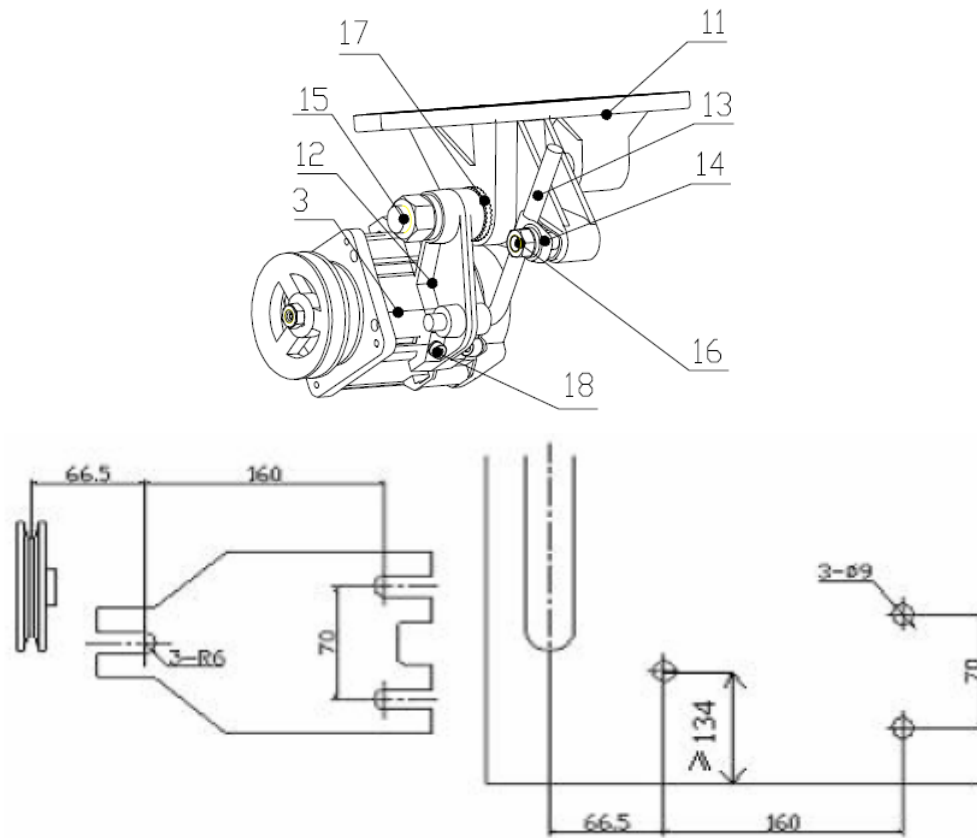
4. Figure of system parts:



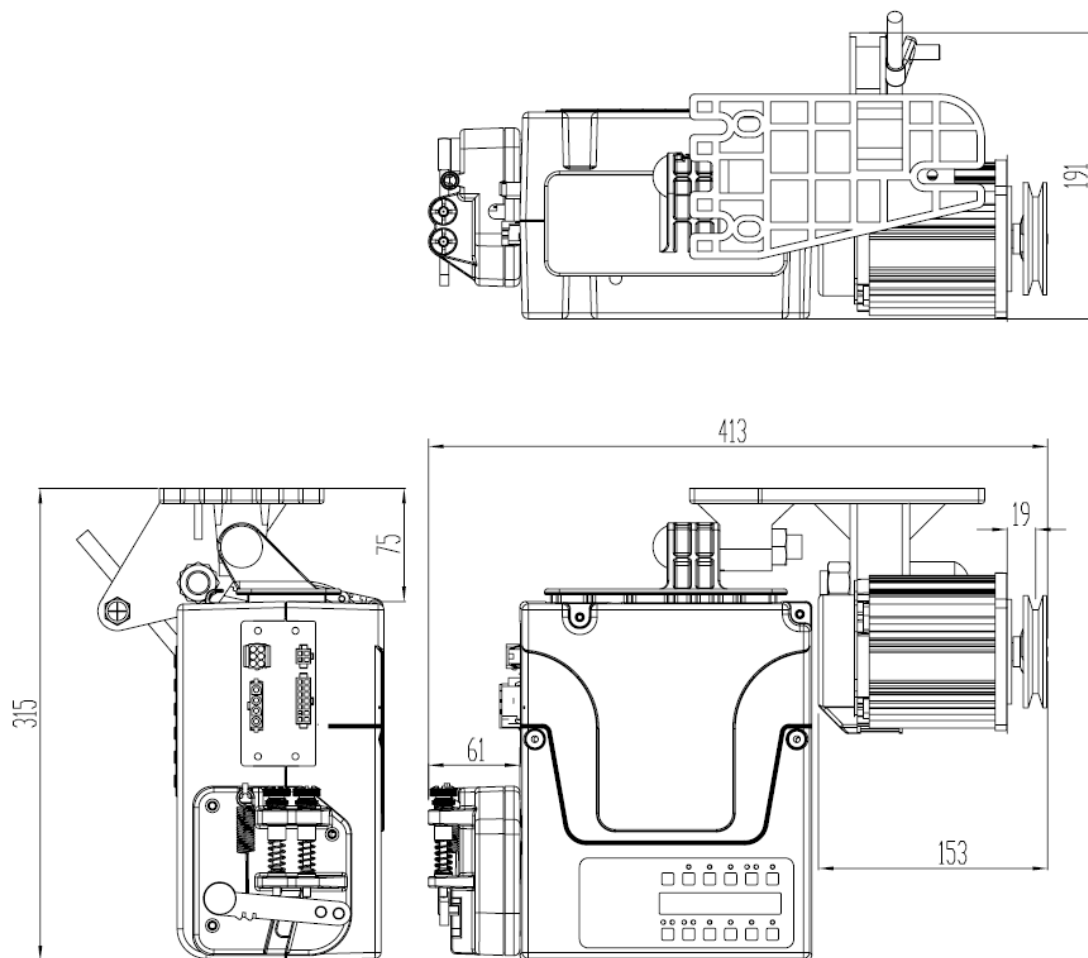
- (1) ——front-upper cover of the controller
- (2) ——front-lower cover of the controller (with built-in HMI press film)
- (3) ——controller built-in HMI circuit board PCBA
- (4) ——control board PCBA of the controller

- (5) ——controller pedal sensor
- (6) ——The 650W motor
- (7) ——controller power driven board PCBA
- (8) ——controller 32V power transformer or 32V switching power supply board
- (9) ——controller back cover
- (10) ——controller power brake(DB) resistance

5. AT (R) 50-65 hoisting size



6. AT (R) 50-65 controller dimensions



## 7. Optional parts for the machine head

- The control panel mounted on the machine head



**2MUC04C0206 (RoHS)**

- Unique blue backlit LCD display;
- Sewing patterns graphics display.
- Operation panel installation bracket:
  - Back fitting bracket 333P00105:





■ Applied to the Typical type sewing machine's synchronizer:  
**2MU04C6508**—Internal synchronizer of HANDY2 for Xian Typical type.



■ Applied to Mitsubishi type sewing machine's synchronizer  
**2MU04C6512**—Internal synchronizer of HANDY2 for Mitsubishi type.



■ Applied to duel needles or heavy duty Brother type synchronizer.  
**2MUC04C6507**—Internal synchronizer of HANDY2 for duel needles or heavy duty Brother type.



■ The external synchronizer  
**2MU04C6509**—The external synchronizer



**2MU04C7600**—— The external synchronizer (Without Internal connector)

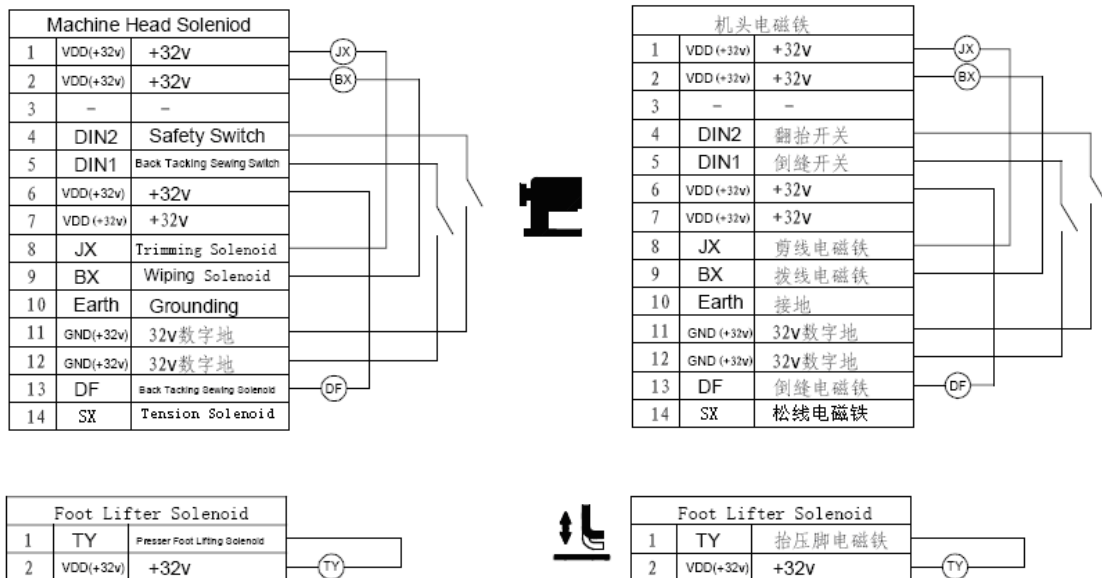


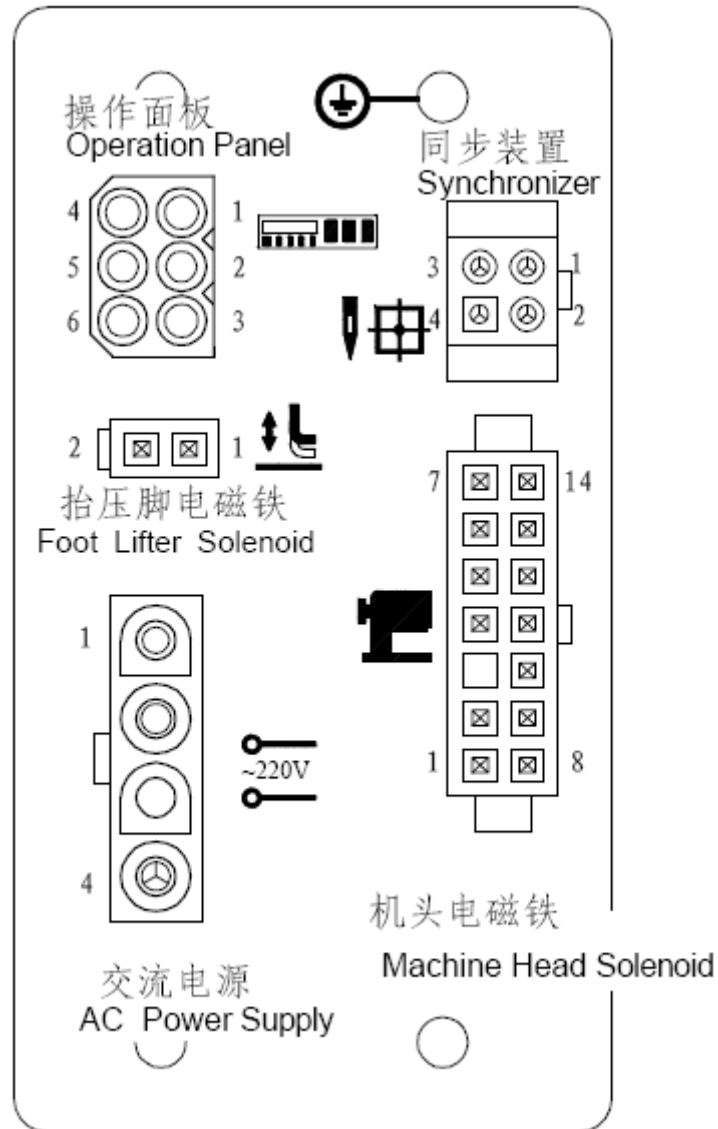
■ Mini sensor (applied to match installation board):

**2MU04C6510**——Mini internal synchronizer sensor



**AT50 (R) -65 Solenoid Wire Connection Definition 1:**





Updating record:

1. V2.0 issuing version;
2. Adjusted display percentage for some of the figures and part of the written instructions.
3. Modified product modal, changed some words, added a new synchronizer. - 4<sup>th</sup>, Jan, 2009.