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### IMPORTANT

Before operating or maintaining this unit, please read this manual carefully, paying attention to the safety warnings and precautions.

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Autel

# 1 Safety Precautions

The MaxiProgrammer XP400 Pro has been specially designed to work with Autel's IM tablets to aid automotive technicians to program vehicle keys.

To avoid personal injury or damage to the vehicles, please read this manual first and observe the following safety precautions whenever working on a vehicle.

Make sure:

- The diagnosis or service is performed in a safe environment.
- The vehicle is operated in a well-ventilated work area.
- The vehicle parts and the XP400 Pro components are welded at a constant temperature.
- When welding vehicle parts with the XP400 Pro components, the unit is powered off and is grounded.
- The XP400 Pro is dry, clean and free from oil, water, grease and dust.
- Electrostatic interference is avoided during operation. If a failure occurs due to electrostatic interference, eliminate the interference and perform the operation again.

# 2 Introduction

The XP400 Pro has the following functions:

- (1) Read transponder data (including infrared smart key), and generate exclusive keys.
- (2) Read/write on-board EEPROM chip data, and read/write MCU/ECU chip data.
- (3) Read/write remote control transponder data and detect key frequency.

Compatible with the key programming diagnostic tablet or a computer with installed key programming software, the XP400 Pro can read/write transponder data quickly and accurately.

## 2.1 Specifications

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**Table 2-1 Specifications**

Item	Description
Operating Temperature	-10°C ~ 70°C (14°F ~ 158°F)
Storage Temperature	-20°C ~ 85°C (-4°F ~ 185°F)
Port	Type B-USB, DB26, DC12
Input Voltage	5 VDC, 12VDC
Operating Current	< 500 mA

Item	Description
Maximum Consumption	2.5 W
Device Dimensions (L*W*H)	168 mm * 98 mm * 30 mm
Net Weight	520 g

## 2.2 Accessories Included

Table 2-2 Accessories






Image	Description
	APB129 – EEPROM Adapter
	APA002 – EEPROM Socket
	APB125 – Infrared Collector
	APB103 – MCU_PLCC52 Adapter
	APB104 – MCU_FQFP64 Adapter









Image	Description
	APB105 – MCU_FQFP80 Adapter
	APB106 – MCU_FQFP112 Adapter
	APB107 – MCU_FQFP144 Adapter
	APB108 – MCU_FQFP176 Adapter
	APB109 – MCU_FQFP32 Adapter
	APB110 – MCU_FQFP48 Adapter
	APB111 – MCU_SO28 Adapter
	APB113 – PCF79XX Adapter (Optional)

Image	Description
	APB114 – EWS3 Adapter (Optional)
	APB115 – NEC Adapter Plate (Optional)
	APB118 – NEC Steering Lock Adapter (Optional)
	APB119 – TB28FXXX Adapter (Optional)
	APB120 – TMS370 Adapter (Optional)
	APB121 – AM29FXXX Adapter Plate (Optional)















Image	Description
	APB122 – AM29FXXX Adapter 1 (Optional)
	APB123 – AM29FXXX Adapter 2 (Optional)
	APB126 – M35080&D80 Adapter (Optional)
	APB127 – MC68HC(7)05BXX Adapter (Optional)
	APB128 – MC68HC05X32 Adapter (Optional)
	APA101 – Spare Signal Cable
	APC101 – USB Cable (Standard USB – Type B USB)

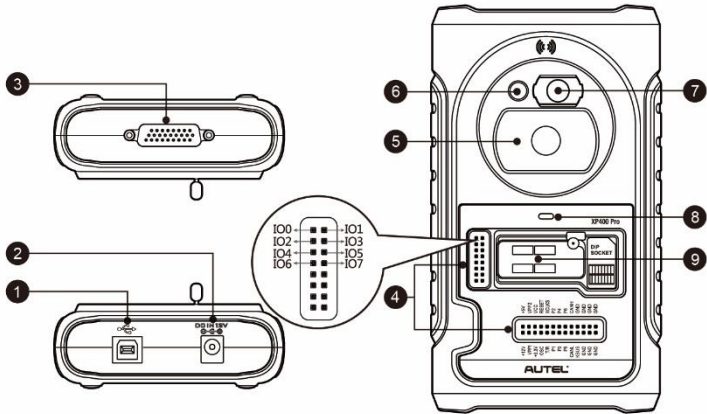
Image	Description
	APA103 – EEPROM Clamp
	Dupont Line
	APA107 – ECU Cable
	APA108 – MCU Cable
	APA109 – MC9S12 Cable



**NOTE**

Optional Accessories can be purchased separately.

## 2.3 Components and Ports



**Figure 2-1 XP400 Pro Views**

1. USB Port – Provides data communication and 5V DC power supply.
2. DC Port – Provides 12V DC power supply.
3. DB 26-Pin Port – connects with the infrared collector, ECU cable, MCU cable and MC9S12 cable.
4. Cross Signal Pins – holds the MCU spare cable or DIY signal interface.
5. Vehicle Key Slot – holds the vehicle key.
6. Transponder Slot – holds the transponder.
7. Infrared Key Slot – holds the infrared key.
8. Status LED – indicates the current operating status.
9. EEPROM Component Transponder Slot – holds the EEPROM plug-in transponder or EEPROM socket.

## 2.3.1 USB Port

The Type B USB port provides data communication and power.

## 2.3.2 DC Port

DC Port is used to provide 12V power to the XP400 Pro.

## 2.3.3 DB 26-Pin Port

Four components can be connected to this port: Infrared Collector, ECU Cable, MCU Cable and MC9S12 Cable.

**Table 2-3 Definitions of ECU Cable**

No.	Color	Definition	Note
1	Red	+12V	
2	Black	GND	
3	Green	IGN	
4	Orange	CANL	
5	Blue	CANH	
6	Brown	BOOTM	
7	Yellow	K	
8	White	LIN	

**Table 2-4 Definitions of MCU Cable**

No.	Color	Definition	Note
1	Red and White	VPP1	
2	Red and Black	VPP2	

No.	Color	Definition	Note
3	Red and Yellow	+12V	
4	Red and Blue	VPPR	
5	Black	GND	
6	Green and White	S0	
7	White	S1	
8	Brown	S2	
9	Gray	S3	
10	Blue	S4	
11	Red	S5	
12	Orange	S6	
13	Purple	S7	
14	Yellow	S8	
15	Green	S9	
16	Black	GND	Shielded Twisted
17	White	OSC	Shielded Twisted

**Table 2-5 Definitions of MC9S12 Cable**

No.	Color	Definition	Note
1	Red	+5V	
2	Black	GND	

No.	Color	Definition	Note
3	Green	XCLKS	
4	Blue	T/R	
5	Yellow	RESET	
6	Black	GND	Shielded Twisted
7	White	OSC	Shielded Twisted

### 2.3.4 Cross-shaped Signal Pin

The Cross-shaped signal pin is used to place MCU spare cable or DIY signal cable to read or write MCU and ECU chips.

### 2.3.5 Vehicle Key Slot

Holds the vehicle key to read or write vehicle key information.

### 2.3.6 Transponder Slot

Holds the transponder to read or write transponder information.

### 2.3.7 Infrared Slot

Holds vehicle key to read or write vehicle key information.

### 2.3.8 Status Indicator

The Status Indicator shows the current operating status of the XP400 Pro.

**Table 2-6 Description of the Status Indicator**

<b>Indicator</b>	<b>Status</b>	<b>Description</b>
On	Light Green	Powered on and default
	Flash Green	Communication
	Light Red	Error

### **2.3.9 EEPROM Component Transponder Slot**

Holds the EEPROM plug-in transponder or EEPROM socket to read or write EEPROM information.

# 3 Product Troubleshooting

This section discusses errors that might occur when using the XP400 Pro and the steps to take to resolve these issues.

## 3.1.1 Vehicle Linking Error

A communication error occurs if the diagnostic tablet fails to communicate with the XP400 Pro. Please do the following to correct the error:

- ✓ Verify that the XP400 Pro has been authorized by the diagnostic tablet.
- ✓ Verify the Internet connection is strong and stable.
- ✓ Verify that the power LED on the XP400 Pro is lit solid green.

## 3.1.2 PC Communication Error

A communication error occurs if the XP400 Pro fails to communicate with PC. Please do the following to correct the error:

- ✓ Verify that the power LED on the XP400 Pro is lit solid green.
- ✓ Ensure no firewall software on the PC is preventing communication and that the USB port is functioning properly.
- ✓ Ensure the USB communication status LED is blinking green.

Contact technical support if the above steps fail to resolve the communication error.



# 4 Update

## 4.1 Software Update

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The XP400 Pro software can be updated via the key programming tablet and a windows-based computer. This section describes two ways to update the software of the XP400 Pro.

### 4.1.1 Update via Autel's Tablet

This function allows you to update the XP400 Pro software via Autel's IMMO & Key Programming tablet.

1. Connect the XP400 Pro to Autel's IMMO & Key Programming tablet via the supplied USB cable.
2. Verify the power LED light on the front panel is lit solid green.
3. Tap the "Programmer" application on the tablet's main screen.
4. The tablet will automatically detect the software version information and download the software update if available.

### 4.1.2 Update via a Windows PC

This function allows you to update the XP400 Pro software via a Windows PC. The computer must be connected to the Internet to update the software on the XP400 Pro.

1. Connect the XP400 Pro to a PC with the supplied USB cable.
2. Verify the power LED on the front panel is lit solid green.
3. Open the PC software. If a firmware update is available for the XP400 Pro, a message will display to prompt you to update the software. Otherwise, no message displays.
4. After the update is complete, click the "About" button in the lower left corner of the PC software to view the current XP400 Pro firmware, hardware and PC software versions.

# 5 Compliance Information

## FCC COMPLIANCE

FCC ID: WQ8PRGXP400

This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme aux CNR exempts de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences; et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

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### **WARNING**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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### **NOTE**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **RF WARNING STATEMENT**

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

The term "IC" before the radio certification number only signifies that IC technical specifications were met.

### **RoHS COMPLIANCE**

This device is declared to be in compliance with the European RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863.

### **CE COMPLIANCE**

This Product is declared to conform to the essential requirements of the following Directives and carries the CE mark accordingly:

- EMC Directive 2014/30/EU
- R&TTE Directive 1999/5/EC
- Low Voltage Directive 2014/35/EU

# 6 Warranty and Service

## 6.1 Limited One Year Warranty

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Autel Intelligent Technology Corp., Ltd. (the Company) warrants to the original retail purchaser of this Autel device that should this product or any part thereof during normal usage and under normal conditions be proven defective in material or workmanship that results in product failure within 1 year period from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with proof of Purchase, at the Company's option, without charge for parts or labor directly related to the defect(s).

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**NOTE**

IF THE WARRANTY PERIOD IS INCONSISTENT WITH LOCAL LAWS AND REGULATIONS, PLEASE COMPLY WITH THE RELEVANT LOCAL LAWS AND REGULATIONS.

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device. Some states do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.

**This warranty does not apply to:**

- 1) Products subjected to abnormal use or conditions, accident, mishandling, neglect, unauthorized alteration, misuse, improper installation or repair or improper storage;
- 2) Products whose mechanical serial number or electronic serial number has been removed, altered or defaced;
- 3) Damage from exposure to excessive temperatures or extreme environmental conditions;
- 4) Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;

- 5) Defects in appearance, cosmetic, decorative or structural items such as framing and non-operative parts.
- 6) Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft or improper usage of any electrical source.

## 6.2 Service and Support

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If you have any questions regarding the product, please contact one of our offices in your region.

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