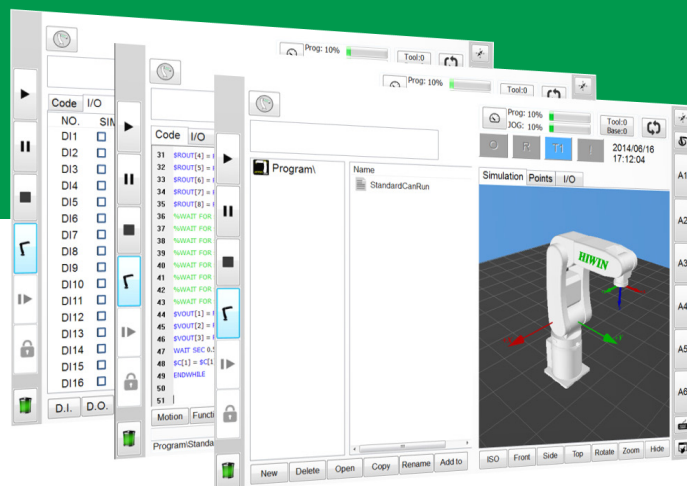


# HRSS-XEG Program Command

User Manual

Original Instruction





## Semiconductor Subsystem

- Semiconductor/LED/Panel
- EFEM (Equipment Front End Module)
  - Wafer Robot
  - Load Port
  - Wafer Aligner



## Multi-Axis Robot

- Pick-and-Place / Assembly / Array and Packaging / Semiconductor / Electro-Optical Industry / Automotive Industry / Food Industry
- Articulated Robot
  - SCARA Robot
  - Electric Gripper
  - Integrated Electric Gripper



## Single-Axis Robot

- Precision / Semiconductor / Medical / FPD
- KK, SK
  - KS, KA
  - KU, KE, KC



## Torque Motor Rotary Table

- Medical / Automotive Industry / Machine Tools / Machinery Industry
- RAB Series
  - RAS Series
  - RCV Series
  - RCH Series



## Ball screw

- Precision Ground / Rolled
- Super S Series
  - Super T Series
  - Mini Roller
  - Ecological & Economical Lubrication Module E2
  - Rotating Nut (R1)
  - Energy-Saving & Thermal-Controlling (Cool Type)
  - Heavy Load Series (RD)
  - Ball Spline



## Linear Guideway

- Automation / Semiconductor / Medical
- Ball Type--HG, EG, WE, MG, CG
  - Quiet Type--QH, QE, QW, QR
  - Other--RG, E2, PG, SE, RC



## Bearing

- Machine Tools / Robot
- Crossed Roller Bearing
  - Ballscrew Bearing
  - Support Unit



## DATORKER® Strain Wave Gear

- Robot / Automation Equipment / Semiconductor Equipment / Machine Tools
- DSC Type
  - DSH Type
  - DGC Type
  - DGH Type
  - DLC Type



## AC Servo Motor & Drive

- Semiconductor / Packaging Machine / SMT / Food Industry / LCD
- Drives--D1, D2T/D2T-LM, E1
  - Motors--FR, E1



## Medical Equipment

- Hospital / Rehabilitation Centers / Nursing Homes
- Robotic Gait Training System
  - Robotic Endoscope Holder



## Linear Motor Stage

- Automated Transport / AOI Application / Precision / Semiconductor
- Iron-core Linear Motor
  - Coreless Linear Motor
  - Linear Turbo Motor LMT
  - Planar Servo Motor
  - Air Bearing Platform
  - X-Y Stage • Gantry Systems
  - Single-Axis Linear Motor Stage



## Torque Motor & Direct Drive Motor

- Machine Tools
- Torque Motor--TM-2/IM-2, TMRW Series
- Inspection / Testing Equipment / Robot
- Direct Drive Motor--DMS, DMY, DMN, DMT Series

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## **1. Foreword**

HIWIN ROBOT SYSTEM SOFTWARE (HRSS) is a human-machine interface developed by HIWIN, including all functions for HIWIN's ROBOT, where the programming parts contain the command sets of XEG Series Electric Gripper. By programming high-resource language (HRL), you can operate XEG Series Electric Gripper, such as move, grip, identify and supervise. Owing to the functions above, HRSS enables you to quickly achieve all task requirements by running HIWIN XEG Series Electric Gripper.

## **2. Safety and Notice**

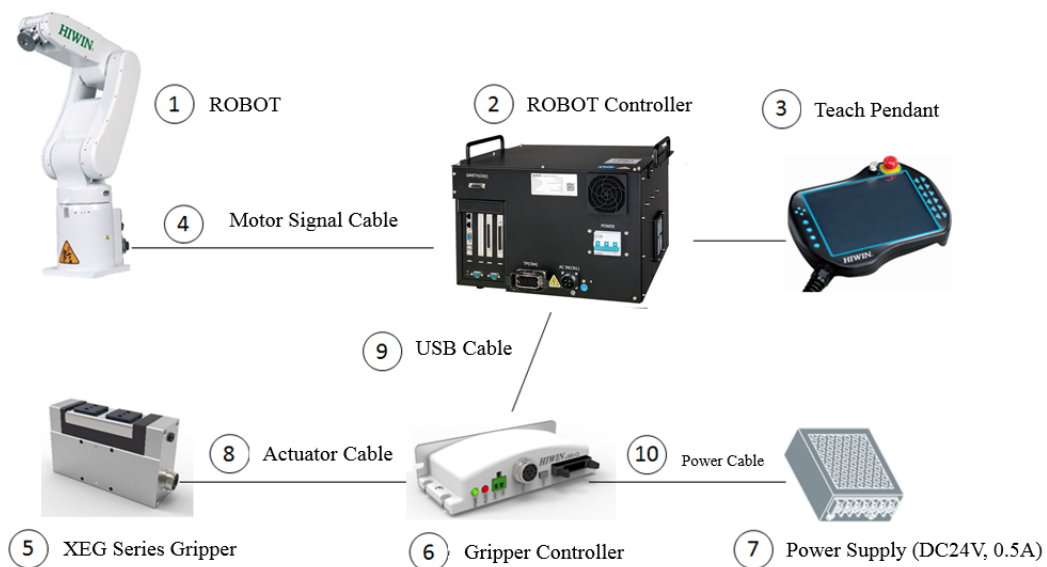
The safety descriptions in the manual will allow the users to correctly update and use auxiliary software, avoiding injury and damage. Please carefully read the manual before operating, and strictly follow the related standards and steps to ensure your safety.

### 3. Product Description

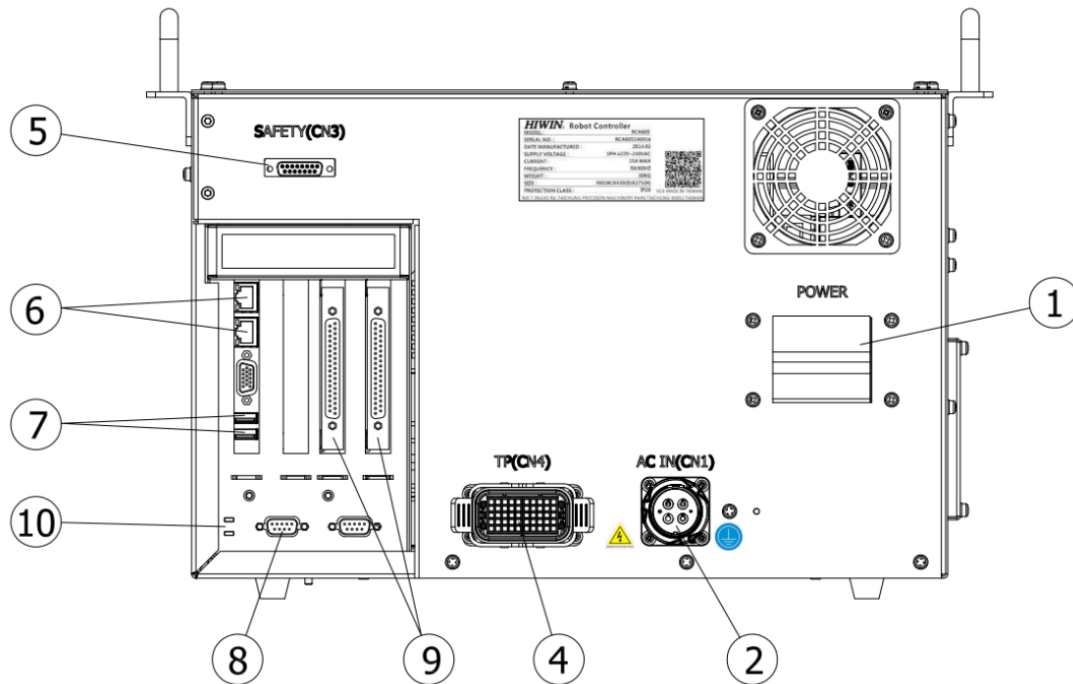
#### 3.1. Overview of Hardware Components

- Hardware comprises the following components:

No.	Item	Description
1	Robot	
2	Robot Controller	
3	Teach Pendant	Connect to ROBOT and Teach Pendant
4	Motor Cable	Cable connecting to ROBOT and ROBOT Controller
5	XEG Series Electric Gripper	
6	Electric Gripper Controller XEG-C1	
7	Power Supply (DC24V, 0.5A)	
8	Actuator Cable	Cable connecting to Electric Gripper and Gripper Controller
9	USB Cable	Cable connecting to Electric Gripper Controller and ROBOT Controller
10	Electric Gripper Power Cable	Power cable connecting to power supply and Electric Gripper Controller

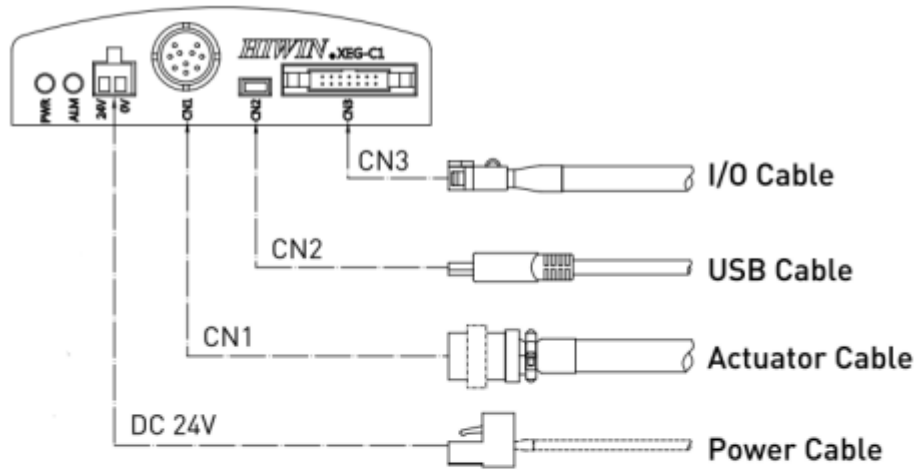


System Hardware Structure



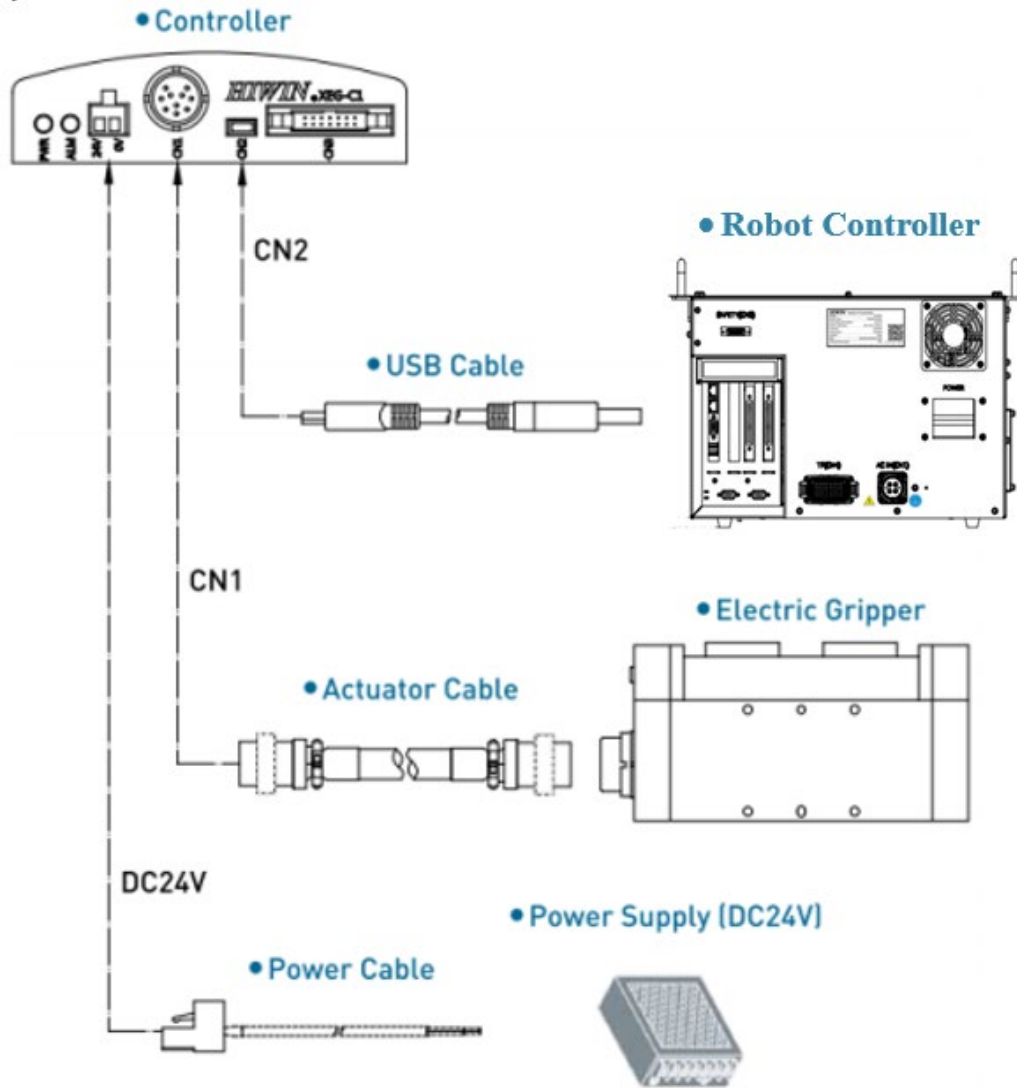
No.	Item	Description
1	Power Switch	Switch power ON/OFF
2	Main Power Source	Inlet single phase AC220V
3	Motor Connector(CN2)	Connect robot controller to the robot manipulator
4	Teach Pendant Connector(CN4)	Connect to teach pendant
5	Emergency Stop Connector(CN3)	Connect to external emergency stop device
6	Network Connector	Connect to Ethernet device
7	USB Connector	Connect to USB device
8	RS232 Connector	Connect to RS232 device
9	I/O Connector	Connect to I/O device
10	Controller Power Indicator Green Light	Display ON/OFF status

Component Names and Functions of ROBOT Controller



Name	Illustration
PWR	Power supply lamp (Green)
ALM	Error status lamp (Red)
24V/0V	Power supply terminal
CN1	Actuator terminal
CN2	Communication terminal
CN3	I/O connector

Component Names and Functions of Electric Gripper Controller



Circuit Diagram for Electric Gripper Controller



## 3.2. Overview of Software Components

- Overview

The software components below are applied to:

- ◆ HRSS (EtherCAT) 3.2.5 or above
- ◆ Windows 7 Embedded
- ◆ Firmware version of Electric Gripper Controller 2.0.13 or above

## 3.3. HRSS Overview

- Description

The HIWIN Robot System Software (HRSS) controls all basic functions for the robot.

- ◆ Path planning
- ◆ I/O management
- ◆ Data and file management...
- ◆ HRSS

The interface is called HIWIN ROBOT SYSTEM SOFTWARE (HRSS).

Features:

- ◆ User management
- ◆ Program editor
- ◆ Robot language
- ◆ Inline forms for programming
- ◆ Message display
- ◆ Configuration windows
- ◆ etc.

- Offline version recommended environment

- ◆ Window 7
- ◆ Resolution 1360x768 above
- ◆ Console ->all console project ->Display: Small (100%)



### **CAUTION**

User settings could modify interface operation from the standard configuration.

## 4. Programming Commands

### 4.1. Command Description

In HRSS, there are eight commands related to XEG Series Electric Gripper. All commands will be continuously executed after they are executed or completed. The commands contain as follows:

**Communication commands:**

- EG\_OPEN(str Type)
- EG\_CLOSE

**Get information:**

- EG\_GET\_STATUS
- EG\_GET\_POS

**Motion commands:**

- EG\_RESET
- EG\_RUN\_MOVE(double MovPos, int MovSpeed)
- EG\_RUN\_GRIP(str Dir, int Str, str GriSpeed, str GriForce)
- EG\_RUN\_EXPERT(str Dir, double MovStr, int MovSpeed, double GriStr, int GriSpeed, int GriForce)

#### 4.1.1 EG\_OPEN(str Type)

- **Description:**  
When connecting to XEG Series Electric Gripper, this command must be entered to open the connection of Electric Gripper before other commands are run.
- **Format:**  
EG\_OPEN(Type)
- **Description:**  
The Type shows the model number connected to XEG Series Electric Gripper. All model Types are as follows:

Type	Model Number
X16	XEG-16

X32	XEG-32
X64	XEG-64

#### 4.1.2 EG\_CLOSE

- **Description:**  
Close the current connection of XEG Series Electric Gripper. It can be used to close the current connection of XEG Series Electric Gripper and open the connection with other XEG Series Electric Grippers.
- **Format:**  
EG\_CLOSE
- **Additional Description:**  
No other parameters

#### 4.1.3 EG\_GET\_STATUS

- **Description:**  
Get the status of XEG Series Electric Gripper, where all types are as follows:

Type	Status	
0	Idle	Ready
1	Running	Busy
2	Gripping	Hold
-1	Position Error	Alarm 1
-2	Over Travel	Alarm 2
-3	Reset Error	Alarm 3

Used to determine the Electric Gripper is holding an object or running as one of object identifications.

- **Format:**  
IF EG\_GET\_STATUS == 2 THEN  
...  
ENDIF

- **Format Description:**  
Use IF Statement to program and determine the status of XEG Series Electric Gripper.

#### 4.1.4 EG\_GET\_POS

- **Description:**  
Get the position of XEG Series Electric Gripper, where a minimum unit of 0.01mm is set and used to ensure the Gripper moves to the appointed position or within the range as one of object identifications.
- **Format:**  
IF EG\_GET\_POS > 5.00 AND EG\_GET\_POS < 7.00 THEN  
...  
ENDIF
- **Format Description:**  
Use IF Statement to program and determine the position of XEG Series Electric Gripper.

#### 4.1.5 EG\_RESET

- **Description:**  
Reset XEG Series Electric Gripper. After connecting to the Gripper, you must reset to ensure all parameter read/write are correct; if the error alarm is triggered to automatically exit program in RESET, please refer to 6. Error Message and Troubleshooting.
- **Format:**  
EG\_RESET
- **Format Description:**  
No other parameters.

#### 4.1.6 EG\_RUN\_MOVE(double MovPos, int MovSpeed)

- **Description:**

Move XEG Series Electric Gripper. According to the speed set by a user, the Gripper will be moved to the appointed position (absolute coordinates); if the error alarm is triggered to automatically exit program after MOVE is ended, please refer to 6. Error Message and Troubleshooting.

- Format:  
EG\_RUN\_MOVE(MovPos, MovSpeed)
- Format Description:
  - MovPos shows the absolute position where the Electric Gripper is moved, where a minimum unit of 0.01mm is set;
  - MovSpeed shows the speed that the Electric Gripper is moved, where a minimum unit of 1mm/s is set;
 The ranges of all Electric Grippers are set as follows:

Model Number	MovPos	MovSpeed
XEG-16	0~16 (mm)	0~60 (mm/s)
XEG-32	0~32 (mm)	0~80 (mm/s)
XEG-64	0~64 (mm)	0~100 (mm/s)

#### 4.1.7 EG\_RUN\_GRIP(str Dir, int Str, str GriSpeed, str GriForce)

- Description:  
Run the gripping mode of XEG Series Electric Gripper. Based on the parameters of direction, stroke, speed and force set by a user, the Gripper will be able to easily execute gripping action (relative coordinates); if the error alarm is triggered to automatically exit program after GRIP is ended, please refer to 6. Error Message and Troubleshooting; GRIP will be provided to detect the status (Gripping Status Detection), used to automatically trigger or ignore the option when no object is held. Please refer to 5.9 Operation Flow.
- Format:  
EG\_RUN\_GRIP(Dir, Str, GriSpeed ,GriForce)
- Format Description:
  - Dir shows the moving direction, where C and O represent inward and outward

respectively;

- Str shows the holding stroke, where a minimum unit of 1mm is set;  
(XEG-16, XEG-32 and XEG-64 are set as 0~16mm, 0~32mm and 0~64mm, respectively)
- GriSpeed shows the gripping speed, where L, M and H represent low, middle and high, respectively;
- GriForce shows the gripping force, where L, M and H represent low, middle and high, respectively.

#### 4.1.8 EG\_RUN\_EXPERT(str Dir, double MovStr, int MovSpeed, double GriStr, int GriSpeed, int GriForce)

- **Description:**  
Run the expert mode of XEG Series Electric Gripper. According to the moving and gripping direction, moving stroke and speed, gripping stroke, speed and force set by a user, the Gripper will be quickly moved and slowly gripped (relative coordinates); if the error alarm is triggered to automatically exit program after EXPERT is ended, please refer to 6. Error Message and Troubleshooting; EXPERT will be provided to detect the status (Gripping Status Detection), used to automatically trigger or ignore the option when no object is held. Please refer to 5.9 Operation Flow.
- **Format:**  
EG\_RUN\_EXPERT(Dir, MovStr ,MovSpeed,GriStr,GriSpeed,GriForce)
- **Format Description:**
  - Dir shows the moving and gripping direction, where C and O represent inward and outward respectively;
  - MovStr shows the moving stroke, where a minimum unit of 0.01mm is set;
  - MovSpeed shows the moving speed, where a minimum unit of 1mm/s is set;
  - GriStr shows the gripping stroke, where a minimum unit of 0.01mm is set;
  - GriSpeed shows the gripping speed, where a minimum unit of 1mm/s is set;
  - GriForce shows the gripping force, where a minimum unit of 1% is set.

The ranges of all Electric Grippers are set as follows:

Model Number	MovStr	MovSpeed	GriStr	GriSpeed	GriForce
XEG-16	0~16 (mm)	0~60 (mm/s)	0~16 (mm)	0~10 (mm/s)	50~100%

XEG-32	0~32 (mm)	0~80 (mm/s)	0~32 (mm)	0~20 (mm/s)	40~100%
XEG-64	0~64 (mm)	0~100 (mm/s)	0~64 (mm)	0~20 (mm/s)	40~100%

## 4.2. Example Commands

Because the End Effector is applied to the ROBOT, some examples of basic language for ROBOT are provided for your reference here.

Model Number for ROBOT: HIWIN RT605-710-GB

Model Number for Electric Gripper: XEG-32

Note that the Gripping Status Detection is not selected.

(Please refer to 5.9.)

If you want to run the Electric Gripper, please Execute the following procedures in order:

- Reset (Must be reset once when the power is connected).
- Release (This step can be ignored for the Gripper Controller V.2.0.16 or above).
- ROBOT will be moved to P1.
- Grip.
- ROBOT will be moved to P2 or P3 according to the gripping status.

See the programming language for ROBOT below:

1. **Connect to Electric Gripper;**
2. **EG\_OPEN(X32);**
3. **Execute reset;**
4. **EG\_RESET;**
5. **Outwardly open the Gripper to the limit (This step can be ignored for the Gripper Controller V.2.0.16.);**
6. **EG\_RUN\_MOVE(32,80);**
7. **ROBOT will be moved to P1;**
8. **PTP P1 FINE Vel=100% Acc=100% TOOL[0] BASE[0]**
9. **Execute Grip;**
10. **EG\_RUN\_GRIP(C,32,H,M)**
11. **Confirm the object has been gripped and moved to P2 or P3 according to the gripping status;**
12. **IF EG\_GET\_STATUS==2 AND EG\_GET\_POS>=18.5 AND EG\_GET\_POS <=20.5 THEN;**
13. **PTP P2 FINE Vel=100% Acc=100% TOOL[0] BASE[0];**

14. ELSE;
15. IF EG\_GET\_STATUS==2 AND EG\_GET\_POS>=20.5 AND EG\_GET\_POS  
    <=22.5 THEN;
16. PTP P3 FINE Vel=100% Acc=100% TOOL[0] BASE[0];
17. ENDIF;



## 5. Operation Flow

This chapter will describe how the XEG Series Electric Gripper is run in HRSS, where the methods and steps are the same with those in HRL. The detailed flows and procedures are described as follows.

### 5.1. Open HRSS

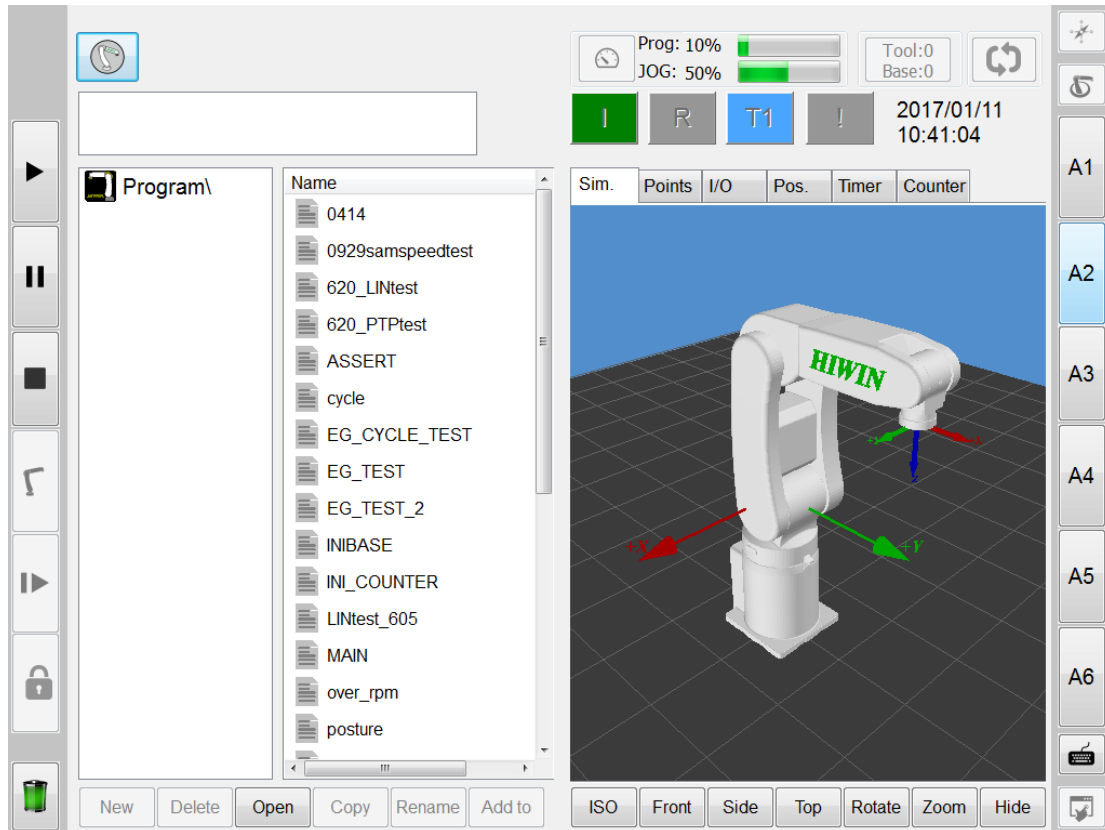
The commands and functions of XEG Series Electric Gripper are saved in HRSS. A user must open HRSS.



Open HRSS

## 5.2. Switch to T1 Mode

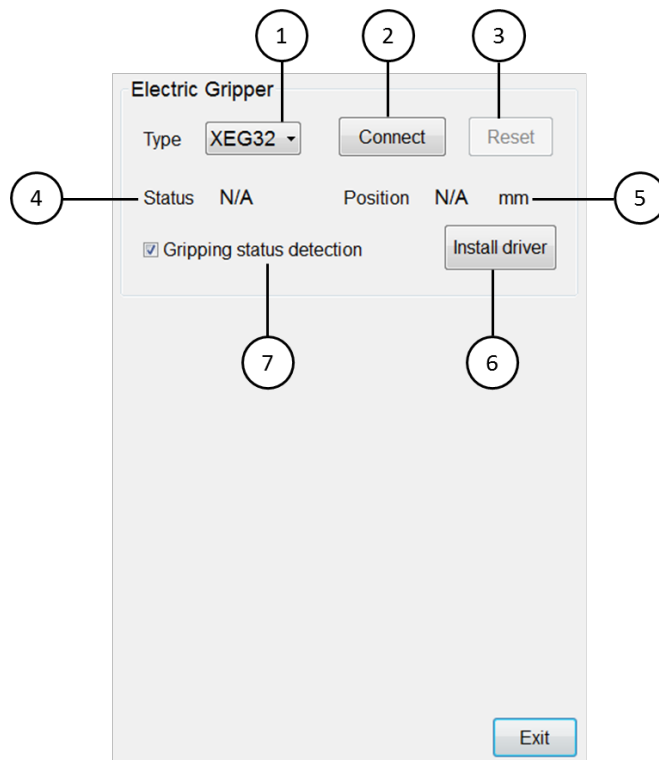
Switch the key on the Teach Pendant to the Manual Mode, and enter T1 Mode.



Switch to T1 Mode

### 5.3. Install Electric Gripper Driver

A user can connect and reset the Electric Gripper in HRSS, moving the Gripper in the T1 Mode. The parts that a user doesn't install the Electric Gripper Driver will be described as follows.

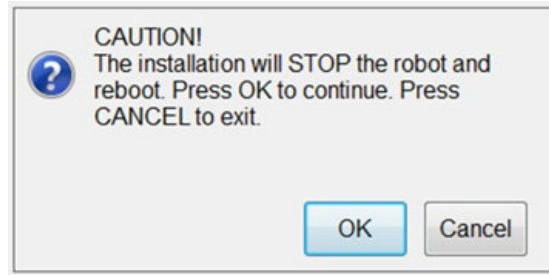


No.	Description
1	Set the model number of Gripper
2	Connect/disconnect to Gripper
3	Reset Gripper
4	Display the current state of Gripper
5	Display the current position of Gripper
6	Install Gripper Driver
7	Gripping state detection

Setting Interface

Installation procedures:

- The software version of HRSS is updated to 3.2.5 or above;
- You can plug USB device into the Controller after downloading Electric Gripper Driver.exe from our website and saving it in a HIWIN folder of USB device;
- In Main Function > Start-up > Electric Gripper, click the Install Driver button when you enter the Setting Interface;
- If HRSS has detected the driver file in USB device, a CAUTION window will show up that “The installation will STOP the robot and reboot”. After you press OK, the installation will Execute; if you press CANCEL, the installation will be cancelled;

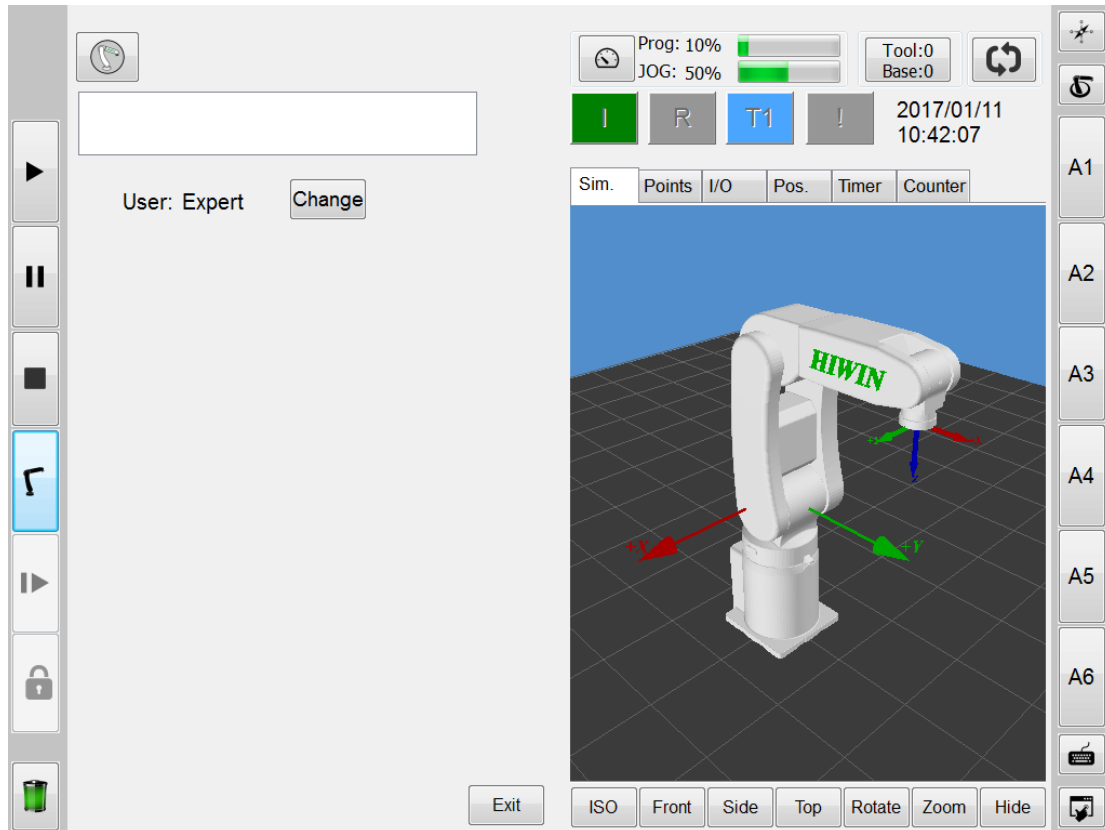


Caution when installing Electric Gripper

- After you press OK, it will end HRSS and reboot. Automatically install the Driver after rebooting, and click Extract;
  - Continuously click Next for the next step;
  - Automatically enter HRSS when the installation is completed;
  - After the installation is completed, you can test according to the Setting Interface.
- 
- ✓ Select the model number you want to connect;
  - ✓ Press the Connect button to connect;
  - ✓ Press the RESET button to reset the Gripper. A user must stay in T1 mode, and hold the ENABLE SWITCH on the Teach Pendant. Please note that the Gripper status will switch from Busy to Idle, indicating reset has been completed.

## 5.4. Expert Login

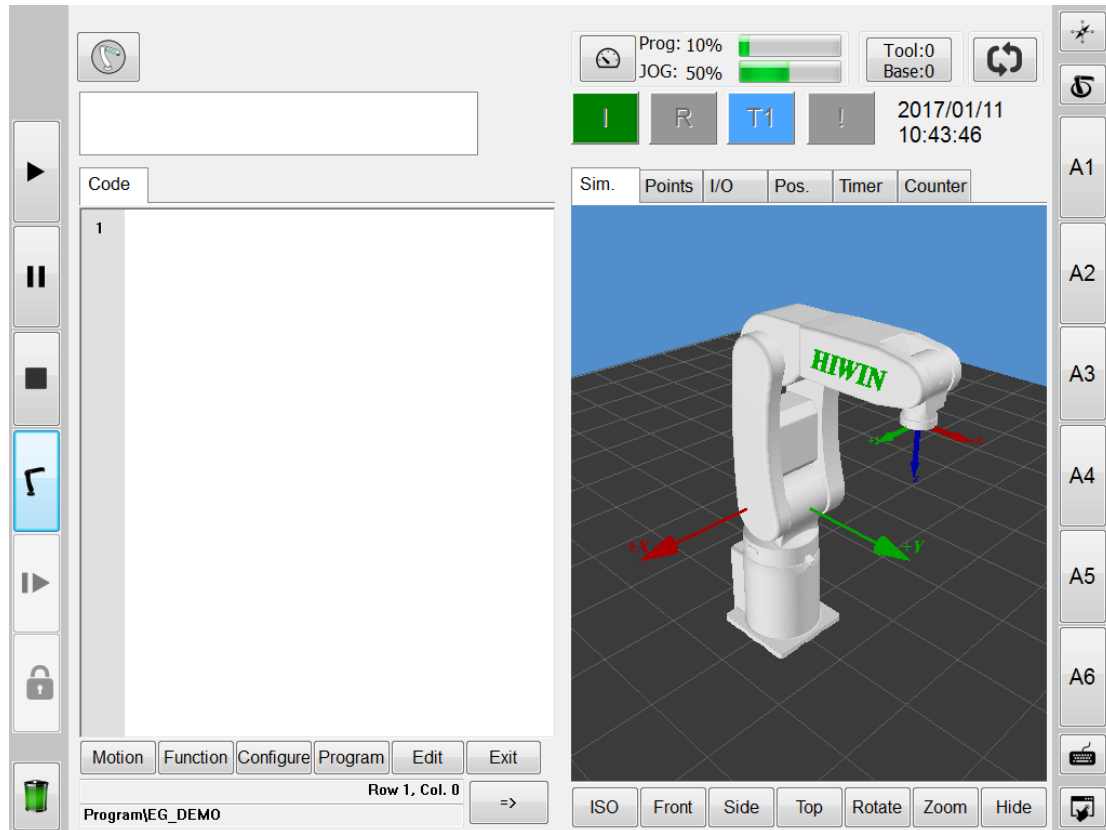
Click Expert Login on the Users Page, and enter password as hiwin.



Switch to Expert User

## 5.5. New File

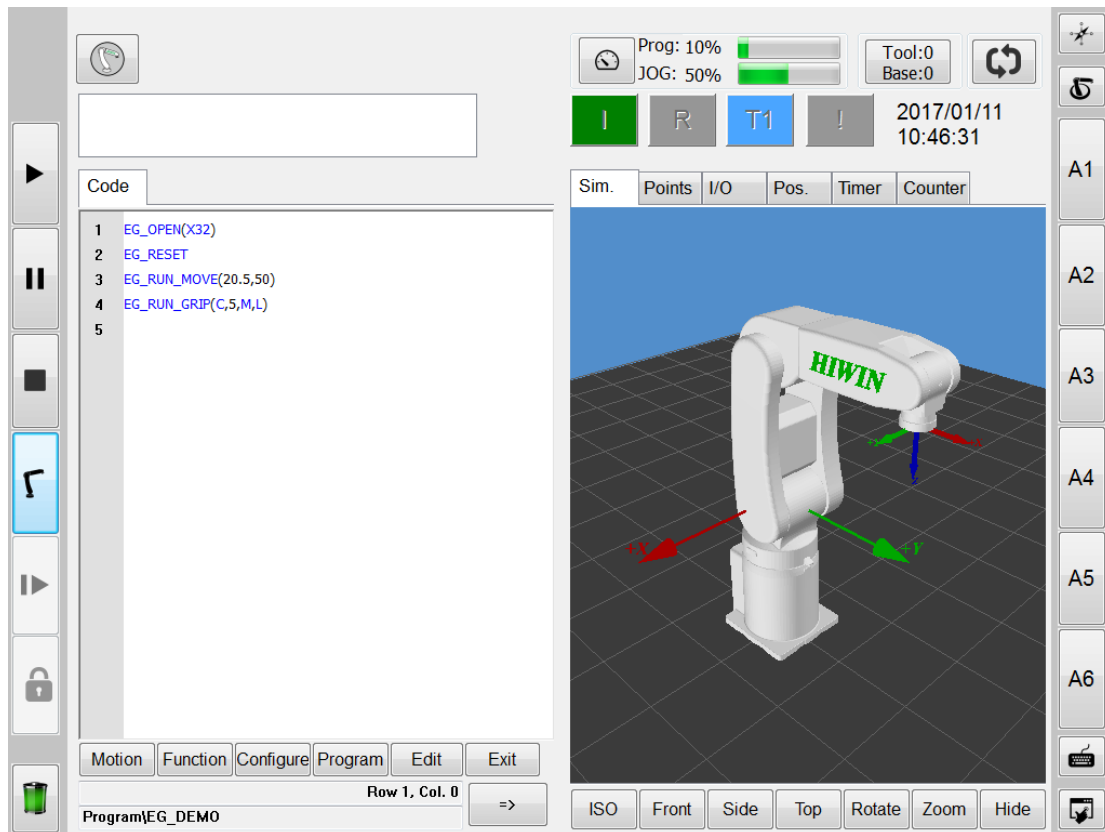
Create and name a new file in Program Menu.



Create a new file

## 5.6. Programming

You can directly use the keyboard to program the commands for XEG Series Electric Gripper, and change the line after you press Enter. If the color on the command is changed, it will indicate correct programming.



Programming XEG Series Electric Gripper

## 5.7. Running

Run programs. If correctly run, the XEG Series Electric Gripper will execute the programming commands.

The screenshot displays the HIWIN control software interface during a program run. The main window is divided into several sections:

- Top Status Bar:** Shows 'Prog: 10%' and 'JOG: 10%' with green progress bars. It also displays 'Tool:0' and 'Base:0'. The date and time are '2017/01/11 10:50:37'. There are buttons for 'I' (Interlock), 'R' (Reset), 'AUT' (Auto Run), and 'J' (JOG).
- Code Editor:** Contains a list of program commands:
 

```

      1 EG_OPEN(X32)
      2 EG_RESET
      3 EG_RUN_MOVE(20.5,50)
      4 EG_RUN_GRIP(C,5,M,L)
      5
      
```
- Position Table:** A table showing the current positions of various axes.
 

Parameter	Value	Unit
A5	-90.00	degree
A6	0.00	degree
X	0.00	mm
Y	368.00	mm
Z	293.50	mm
A	-180.00	degree
B	0.00	degree
C	90.00	degree
X0	0.00	mm
Y0	368.00	mm
Z0	293.50	mm
A	180.00	degree
B	0.00	degree
C	90.00	degree
EG	15.49	mm
- Right Side:** A vertical column of buttons labeled A1 through A6, used for selecting different axes.
- Bottom:** A menu bar with 'Motion', 'Function', 'Configure', 'Program', 'Edit', and 'Exit'. Below it, the current program name 'Program\EG\_DEMO' and the cursor position 'Row 1, Col. 0' are shown.

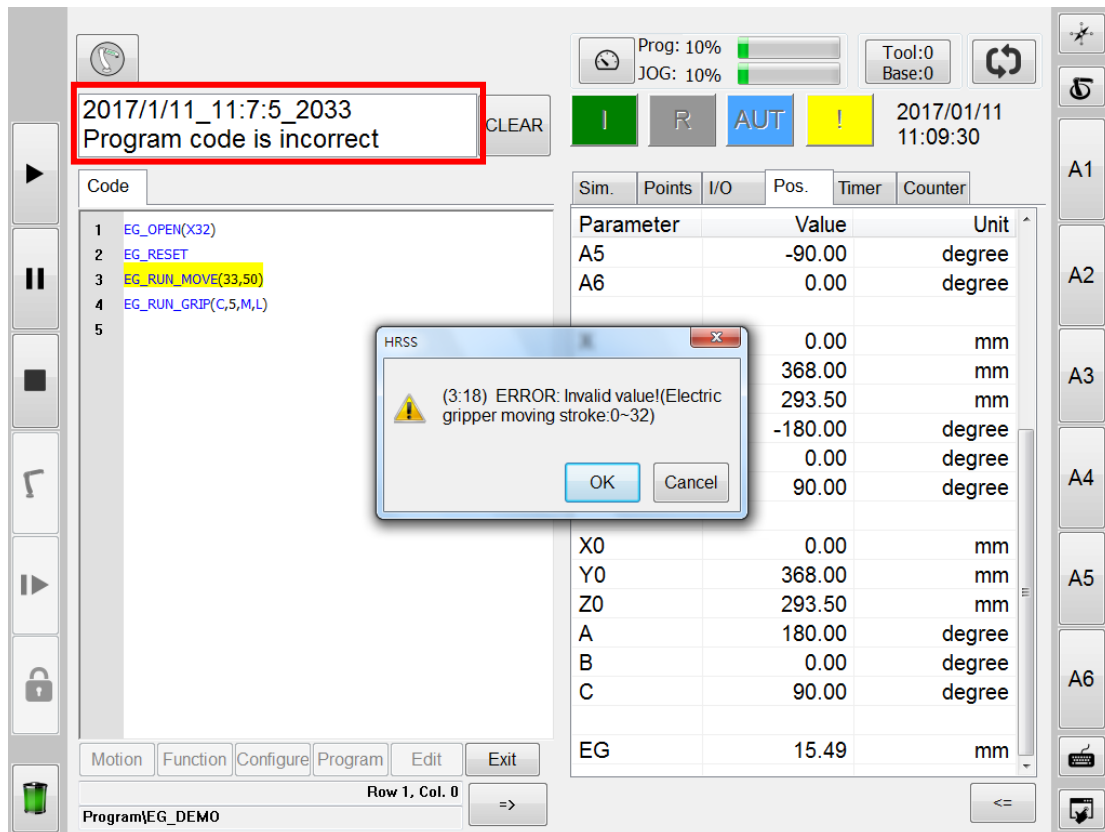
Running



## 5.8. Run Error

If the command format or parameter is incorrectly set to alarm by the Gripper or the gripping failure occurs, HRSS will show up a warning message window to explain the wrong line, content and correct value. A user can modify the program code according to the messages.

- Incorrect command format or parameter;
- Alarm in running;
- Gripping failure in running.



Incorrect command format or parameter

2018/03/21\_21:19:15\_Err04-02-12  
EG pos set error

Prog: 10%  
JOG: 10%

Tool:0  
Base:0

2018/03/21  
21:19:20

NO.	Value	Name
3	0	OUT ERROR
4	0	SEG24_Count
5	0	SEG24_Count2
6	0	XEG16_ERROR
7	0	XEG64_ERROR
8	0	
9	0	
10	0	Bell_Count
11	0	Close_Stall
12	0	Open_Stall
13	5089	SEG24_Count
14	0	SEG24_Alarm
15	0	SEG24_Empty
16	0	SEG24_Stall
17	0	
18	0	

```

17 .....
18 ;EG_RUN_EXPERT(O/C, MOVE_STR, MOVE_SPEED,
19           ;GRIP_STR, GRIP_SPEED, GRIP_FORCE)
20 .....
21 .....
22 .....
23 .....
24 EG_OPEN(X32)
25 EG_RESET
26 ;EG_RUN_MOVE(32, 80)
27 ;EG_RUN_MOVE(20, 80)
28 ;EG_RUN_GRIP(C, 10, L, H)
29 ;EG_RUN_MOVE(0, 80)
30 ;$C[1] = EG_GET_POS
31 ;EG_RUN_MOVE(20, 80)
32 ;$C[2] = EG_GET_POS
33 ;WHILE 1
34 ;EG_RUN_EXPERT(C, 20, 80, 10, 10, 100)
35 .....
36 ;ENDWHILE
37 EG_CLOSE
    
```

Row 1, Col. 0  
HRSS\_XEG\_TEST.hrb

Alarm in running

2018/03/21\_21:06:52\_Err04-02-1C  
Gripping failure

Prog: 10%  
JOG: 10%

Tool:0  
Base:0

2018/03/21  
21:07:03

NO.	Value	Name
3	0	OUT ERROR
4	0	SEG24_Count
5	0	SEG24_Count2
6	0	XEG16_ERROR
7	0	XEG64_ERROR
8	0	
9	0	
10	0	Bell_Count
11	0	Close_Stall
12	0	Open_Stall
13	5089	SEG24_Count
14	0	SEG24_Alarm
15	0	SEG24_Empty
16	0	SEG24_Stall
17	0	
18	0	

```

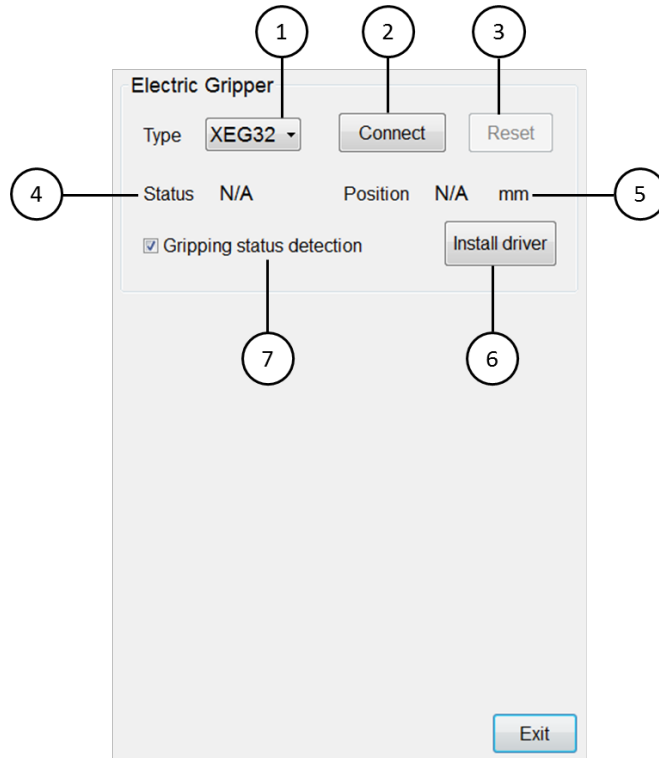
8 .....
9 ;EG_RUN_MOVE(MOVE_POS, MOVE_SPEED)
10 ;EG_RUN_GRIP(O/C, GRIP_STR, GRIP_SPEED, GRIP_FORCE)
11 ;EG_RUN_EXPERT(O/C, MOVE_STR, MOVE_SPEED,
12           ;GRIP_STR, GRIP_SPEED, GRIP_FORCE)
13 .....
14 .....
15 .....
16 EG_OPEN(X32)
17 EG_RUN_MOVE(32, 80)
18 EG_RUN_MOVE(20, 80)
19 EG_RUN_GRIP(C, 10, L, H)
20 ;EG_RUN_MOVE(0, 80)
21 ;$C[1] = EG_GET_POS
22 ;EG_RUN_MOVE(20, 80)
23 ;$C[2] = EG_GET_POS
24 ;WHILE 1
25 ;EG_RUN_EXPERT(C, 20, 80, 10, 10, 100)
26 .....
27 ;ENDWHILE
28 EG_CLOSE
    
```

Row 1, Col. 0  
HRSS\_XEG\_TEST.hrb

Gripping failure in running

## 5.9. Status Detection

A user can open Gripping Status Detection on HRSS according to the conditions, and use EG\_GET\_STATUS in program to determine if the object is gripped.



No.	Description
1	Set the model number of Gripper
2	Connect/disconnect to Gripper
3	Reset Gripper
4	Display the current state of Gripper
5	Display the current position of Gripper
6	Install Gripper Driver
7	Gripping state detection

### Setting Interface

The detection is set as follows:

- Main Function > Start-up > Electric Gripper;
- The Gripping Status Detection is checked on default. The purpose is to notify a user by alarm when the Gripper doesn't grip the object. You can uncheck it if no gripping status detection is needed.

## 6. Error Message and Troubleshooting

### 6.1. Hardware Error

Alarm No.	Indication	Reason	Solution
04-01-10	Connection failure	Connection failure and no data sent back.	Check the power is normally supplied or serial port is correctly set.
04-01-11	Electric Gripper data return error	EG data return error	Check the USB port.
04-01-12	Bad connection of actuator cable	Power from the actuator cable is incorrectly supplied.	Check the actuator cable is normally connected.
04-01-13	Electric Gripper connection error	EG connection error and no data send back.	Check connection state.
04-01-14	Initialization failure	Circuit error	Reconnect or check USB is correctly connected.
04-01-15	Serial port close	Serial port connected to the Gripper is closed.	Reconnect.
04-01-16	Incorrect serial port close	Don't close serial port connected to the Gripper.	Close the serial port.

### 6.2. Operation Error

Alarm No.	Indication	Reason	Solution
04-02-10	Incorrect Gripper setting	The Gripper status is incorrectly set.	Check the Gripper status is correctly set.
04-02-11	Incorrect position setting	The position setting is larger than the total stroke.	Check the position to move the Gripper is correctly entered.

Alarm No.	Indication	Reason	Solution
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04-02-12	Incorrect position setting	The position is set less than 0.	Check the position to move the Gripper is correctly entered.
04-02-13	Incorrect speed setting	The moving speed is set larger than the default range.	Check the speed to move the Gripper is correctly entered.
04-02-14		The moving speed is set less than the default range.	
04-02-15	Incorrect direction setting	The direction to move the Gripper is incorrectly set.	Check the direction to move the Gripper is correctly entered.
04-02-16	Incorrect gripping stroke	The gripping stroke is set larger than the motion range.	Check the gripping stroke is correctly entered.
04-02-17		The gripping stroke is set less than the motion range.	
04-02-18	Incorrect gripping speed	The gripping speed is set larger than the default range.	Check the gripping speed is correctly entered.
04-02-19		The gripping speed is set less than the default range.	
04-02-1A	Incorrect gripping force	The gripping force is set larger than the default range.	Check the gripping force is correctly entered.
04-02-1B		The gripping force is set less than the default range.	
04-02-1C	Gripping failure	No object is detected by gripping after a user open the Gripping Status Detection.	This alarm is used to detect the object is gripped by the Gripper. If the alarm isn't needed, you can cancel it on the Setting Interface.

## **HRSS-XEG Program Command (Original Instruction) User Manual**

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