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분류 번호 /	PJ-240903
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결 재		
작성	검토	승인

☐ Promotion ☐ Test Report ☐ Trouble Shooting ☐ 교육 자료 ☐ TF업무
☐ 통계 분석 ☐ 업무 보고 ☒ 업무(자료) 공유 ☐ 출장 보고 ☐ 기타

ROBOTIQ 핸드그리퍼 설정방법

로봇제어팀 이인재 과장

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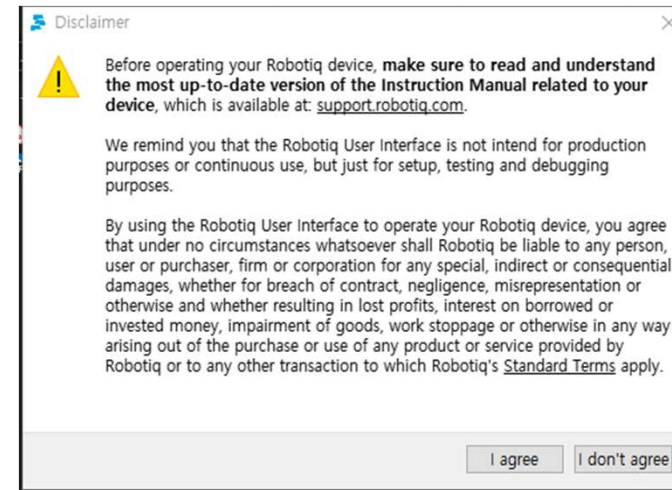
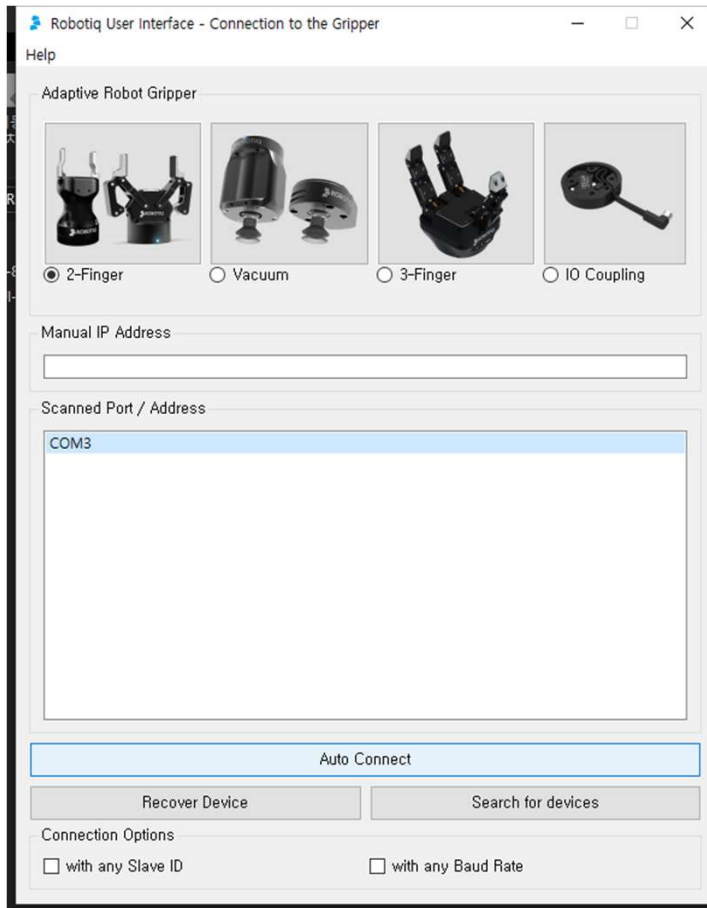
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Project date | 2024.09.11

1. RUI Tool 사용

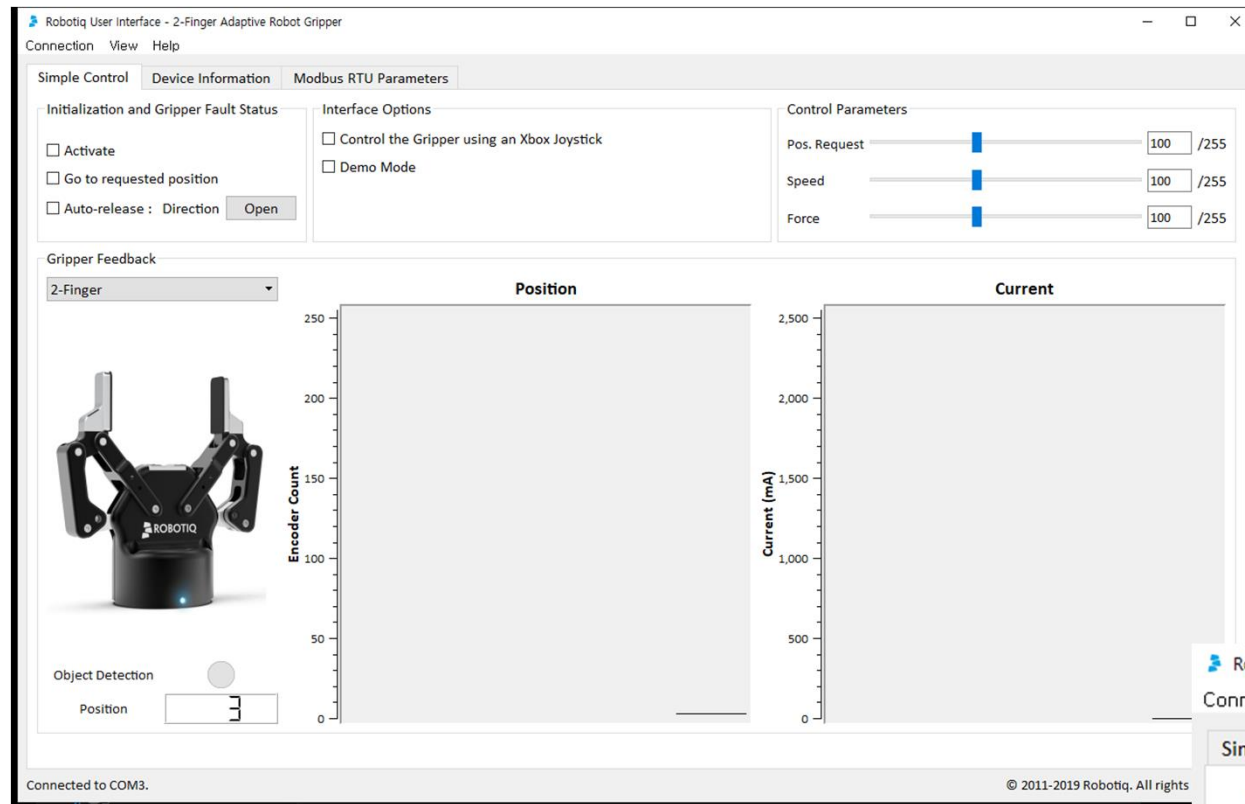
1. rs485 usb convertor 준비.

2. RUI-tool 준비

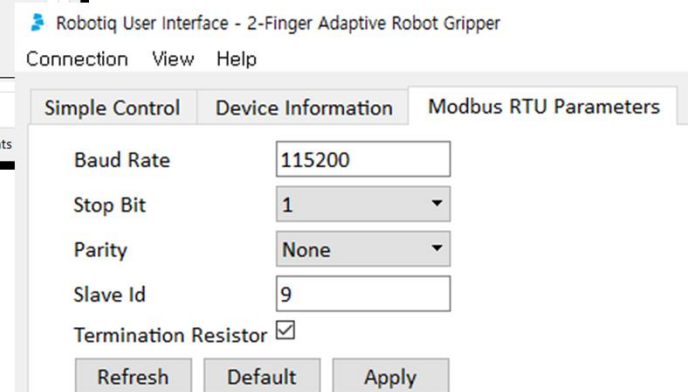


- 케이블 연결후 자동 검색됨
- 자동연결 클릭

1. RUI Tool 사용



- Activate : 그리퍼 활성화
- Go to requested position : 설정한 위치로 이동
- Auto-release : 오른쪽 open close 변경 체크시 자동 열고 닫고
- 중간 Demo Mode 사용시 그냥 다양한 동작 함.
- 파라메타 기본값

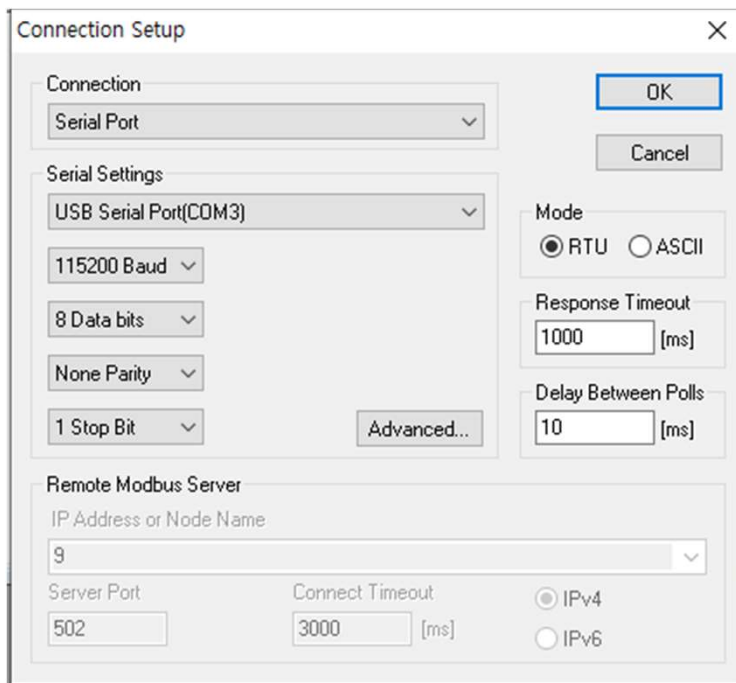


1. RUI Tool 사용

Input Registers					Output Registers				
	Value Dec	Value Hex	Value Bin (LSB to MSB)	Description		Value Dec	Value Hex	Value Bin (LSB to MSB)	Description
Byte 0: GRIPPER STATUS	249	f9	10011111		Byte 0: ACTION REQUEST	9	09	10010000	
Bit 0: Initialization status	1	01	1	Gripper activation	Bit 0: Initialization	1	01	1	Activate Gripper (Must stay on after activation routine is completed)
Bit 1: Reserved	0	00	0		Bit 1: Reserved	0	00	0	
Bit 2: Reserved	0	00	0		Bit 2: Reserved	0	00	0	
Bit 3: Action status	1	01	1	Go to Position Request	Bit 3: Action	1	01	1	Go to Requested Position
Bits 4-5: Gripper status	3	03	11	Activation is completed	Bit 4: Automatic release	0	00	0	Normal
Bits 6-7: Object detection status	3	03	11	Fingers are at requested position	Bit 5: Automatic release direction	0	00	0	Opening
Byte 1: Reserved	0	00	00000000		Bit 6: Reserved	0	00	0	
Byte 2: FAULT STATUS	0	00	00000000		Bit 7: Reserved	0	00	0	
Bits 0-3: Gripper Fault Status	0	00	0000	No Fault	Byte 1: Reserved	0	00	00000000	
Bits 4-7: Controller Fault Status	0	00	0000	No Fault	Byte 2: Reserved	0	00	00000000	
Byte 3: POSITION REQUEST ECHO	0	00	00000000	Echo of the requested position for the Gripper: 0/255	Byte 3: POSITION REQUEST	0	00	00000000	Set Position Request for the Gripper to 0/255
Byte 4: POSITION	3	03	11000000	Position of Fingers: 3/255	Byte 4: SPEED	255	ff	11111111	Set Grasping Speed of the Gripper to 255/255
Byte 5: CURRENT	0	00	00000000	Current of Fingers: 0 mA	Byte 5: FORCE	100	64	00100110	Set Grasping Force of the Gripper to 100/255
Byte 6: Reserved	0	00	00000000		Byte 6: Reserved	0	00	00000000	
Byte 7: Reserved	0	00	00000000		Byte 7: Reserved	0	00	00000000	
Byte 8: Reserved	0	00	00000000		Byte 8: Reserved	0	00	00000000	
Byte 9: Reserved	0	00	00000000		Byte 9: Reserved	0	00	00000000	
Byte 10: Reserved	0	00	00000000		Byte 10: Reserved	0	00	00000000	
Byte 11: Reserved	0	00	00000000		Byte 11: Reserved	0	00	00000000	
Byte 12: Reserved	0	00	00000000		Byte 12: Reserved	0	00	00000000	
Byte 13: Reserved	0	00	00000000		Byte 13: Reserved	0	00	00000000	
Byte 14: Reserved	0	00	00000000		Byte 14: Reserved	0	00	00000000	
Byte 15: Reserved	0	00	00000000		Byte 15: Reserved	0	00	00000000	

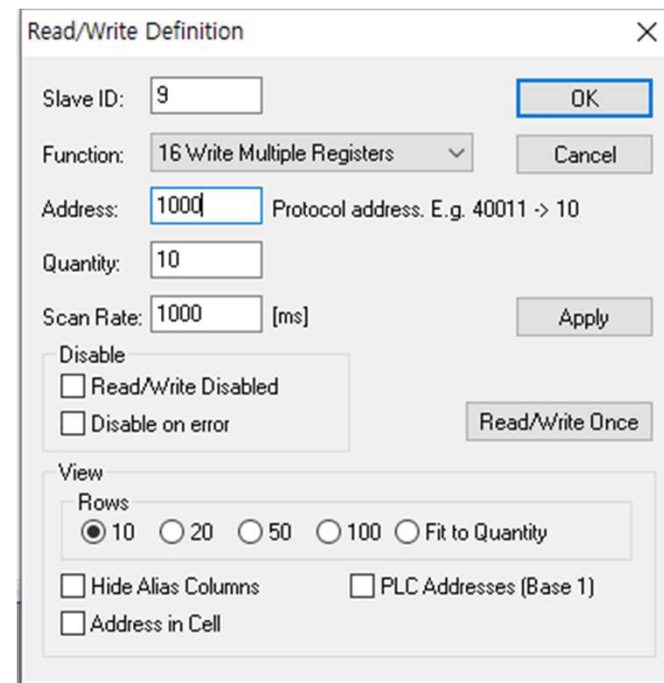
- View 들어가면 입력 출력 모니터링 값 검색가능.

2. Modbus Poll 사용



The 'Connection Setup' dialog box is used to configure the Modbus connection. It includes the following fields and options:

- Connection:** A dropdown menu set to 'Serial Port'. Buttons 'OK' and 'Cancel' are present.
- Serial Settings:**
 - Serial Port:** A dropdown menu set to 'USB Serial Port(COM3)'.
 - Baud:** A dropdown menu set to '115200 Baud'.
 - Data bits:** A dropdown menu set to '8 Data bits'.
 - Parity:** A dropdown menu set to 'None Parity'.
 - Stop Bit:** A dropdown menu set to '1 Stop Bit'.
 - Mode:** Radio buttons for 'RTU' (selected) and 'ASCII'.
 - Response Timeout:** A text box set to '1000' [ms].
 - Delay Between Polls:** A text box set to '10' [ms].
 - An 'Advanced...' button is located at the bottom right of the Serial Settings section.
- Remote Modbus Server:**
 - IP Address or Node Name:** A dropdown menu set to '9'.
 - Server Port:** A text box set to '502'.
 - Connect Timeout:** A text box set to '3000' [ms].
 - Protocol:** Radio buttons for 'IPv4' (selected) and 'IPv6'.

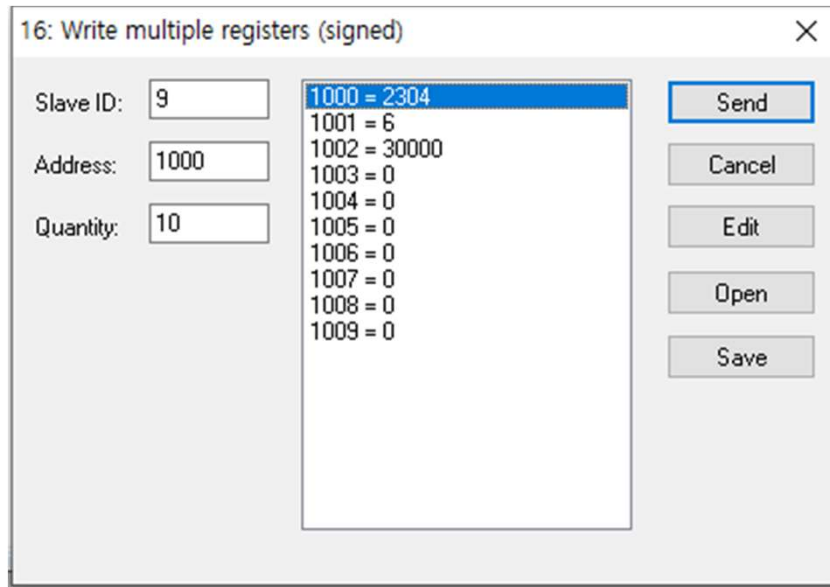


The 'Read/Write Definition' dialog box is used to define the data points to be read or written. It includes the following fields and options:

- Slave ID:** A text box set to '9'. Buttons 'OK' and 'Cancel' are present.
- Function:** A dropdown menu set to '16 Write Multiple Registers'.
- Address:** A text box set to '1000'. A note indicates 'Protocol address. E.g. 40011 -> 10'.
- Quantity:** A text box set to '10'.
- Scan Rate:** A text box set to '1000' [ms]. An 'Apply' button is present.
- Disable:**
 - ☐ Read/Write Disabled
 - ☐ Disable on error
 - A 'Read/Write Once' button is located to the right.
- View:**
 - Rows:** Radio buttons for '10' (selected), '20', '50', '100', and 'Fit to Quantity'.
 - ☐ Hide Alias Columns
 - ☐ PLC Addresses (Base 1)
 - ☐ Address in Cell

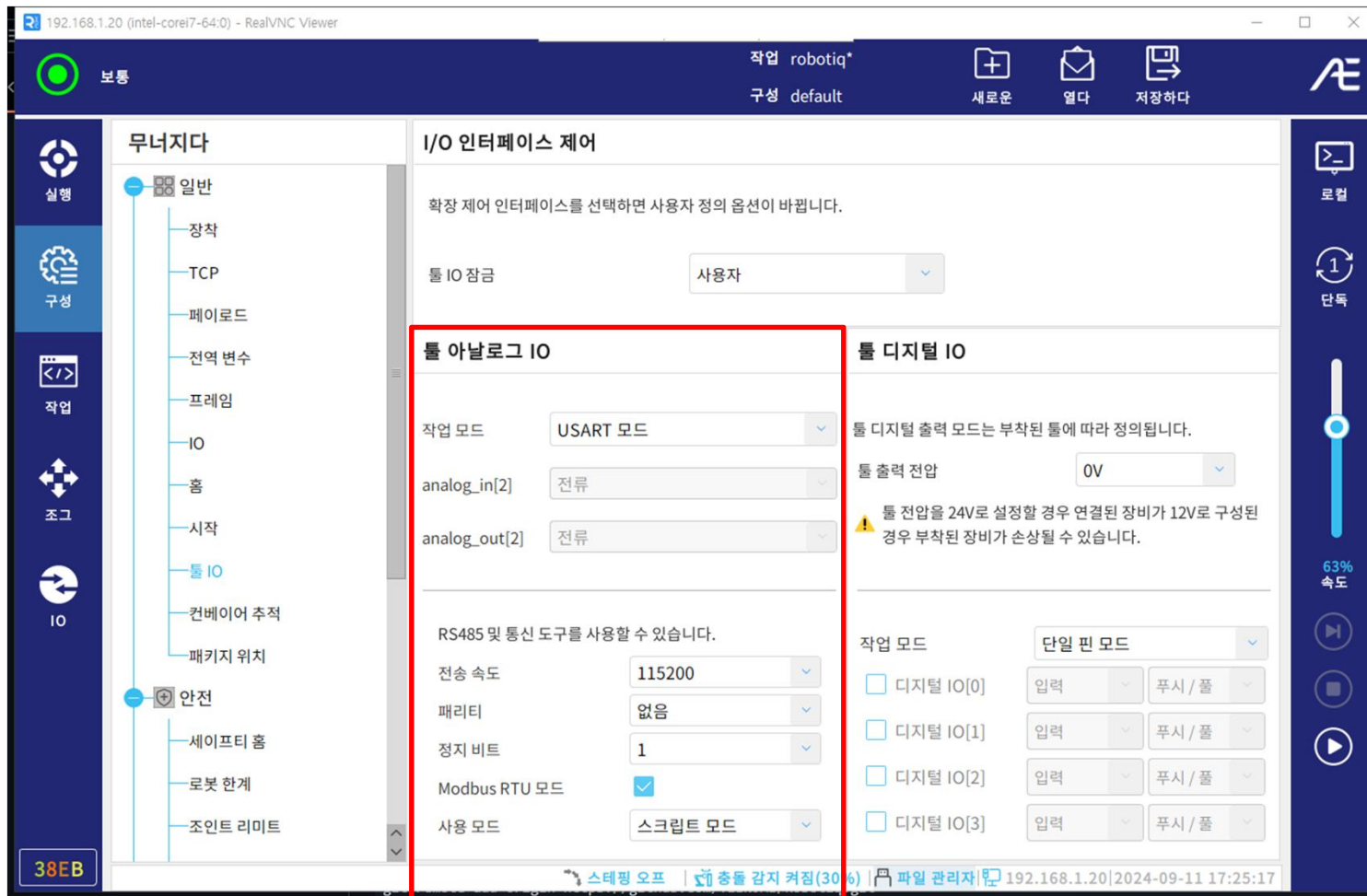
- 설정값 사진 참고
- 9 슬레이브 필수
- 1000 그리퍼 입력 (움직임명령 여기전달)
- 2000 그리퍼 출력

2. Modbus Poll 사용



- 1000 : 활성화
- 1001 : 그리퍼 포인트값
- 1002 : 그리퍼 속도
- 1000 : 2304(포지션 활성화값), 256 초기 원점동작진행
- 1001 : 0~255 값
- 1002 : 0~65535 값

3. ARC script 사용



4. Python 사용

<https://github.com/YIINJAE/Robotiq.git>

모든 자료는 해당 링크에 있음.