



- All-In-One type DeviceNet
- All-In-One type PROFIBUS
- All-In-One type CC-Link

제품을 사용하기 전에

저희 (주)크래비스 제품을 구입해 주셔서 감사합니다. 제품의 효율적인 사용을 위하여 반드시 본 사용 설명서의 내용을 숙지 하신 후 사용해 주십시오.


안전상의 주의 사항

*경고와 주의로 구분되어 있으니, 필히 숙지 하여 주십시오.

지시사항을 위반하였을 때, 심각한 상황을 초래하여 사망 또는 중상을 입을 가능성이 있는 경우

- 전원이 인가된 상태에서 단자대를 만지지 마십시오.
- 전원이 인가된 상태에서 제품을 조립하지 마십시오.
- 제품내부에 금속성 이물질이 유입되지 않도록 하십시오.
- 전원이 인가된 상태에서 배선 작업을 하지 마십시오.
- 배선 작업은 전기공사 전문가가 해 주십시오.


감전사고 및 오동작의 원인이 됩니다.
화재, 감전사고 및 오동작의 원인이 됩니다.
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 **경고**

지시사항을 위반하였을 때, 경미한 손해나 제품손상 및 대물손해가 발생할 가능성이 있는 경우

- 제품의 정격전압 및 단자배열을 확인 후 배선하여 주십시오.
- 주변 온도가 55℃를 넘는 장소는 피해 주십시오.
- 직사 광선이 직접 노출된 장소는 피해 주십시오.
- 주변 습도가 85%를 넘는 장소는 피해 주십시오.
- 가연성 물질이 있는 주변에 설치하지 마십시오.
- 제품에 직접 진동이 인가되지 않도록 하십시오.
- 전문 A/S요원 외에는 제품을 분해,수리,개조하지 마십시오.
- 사용설명서에 명기된 환경조건에서 사용해 주십시오.
- 확장 연결되는 모듈의 부하는 규정된 정격 이내로 사용해 주십시오.

화재,감전사고, 오동작의 원인이 됩니다.
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화재 및 감전의 원인이 됩니다.
화재 및 감전사고의 원인이 됩니다.
감전, 화재, 오동작 또는 제품 열화의 원인이 됩니다.
화재, 오동작 또는 고장의 원인이 됩니다.

 **주의**

1. FnIO A-Series CC-Link Type 제품 사양

1-1. 일반 사양

구분	일반사양
사용/보존 온도	-20℃~55℃ / -40℃~85℃
사용/보존습도	5% ~ 90% 단, 이슬이 맺히지 않을 것
내진동/내충격	IEC68-2-6(2G) / 10G
EMC/ESD	EN50082 / EN50081
확장 모듈 위치	FnIO-A series의 오른쪽에 장착
사용환경	부식성 가스가 없고, 먼지가 심하지 않을 것
필드 공급전압	Class2, 24VDC 24VDC (11VDC ~ 28.8VDC)
필드 공급전류	최대 6A
FnBus공급전류	최대 0.4A@5Vdc
시스템파워	19.2~28.8Vdc
모듈장착방법	DIN Rail에 의한 장착
외형치수	83mm × 99mm × 70mm
무게	340g

1-2. 상세 사양

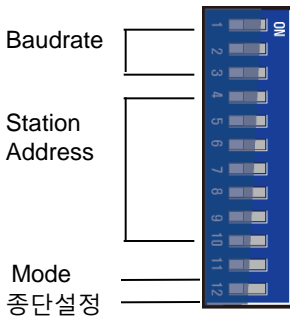
구분	일반사양
Network 방식	CC-Link
Cable	CC-Link 전용 Cable (Ver 1.10)
Cable 길이(m)	1,200 900 400 160 100
통신속도(Kbps)	156 625 2,500 5,000 10,000
확장모듈수	최대 8모듈
최대 Digital IO	Input(RX) : 112point/ Output(RY) : 112point
최대 Analog IO	Input(RWr) : 16Ch/ Output(RWw) : 16Ch
점유국수	최대 4국
Station Type	Remote Device
통신속도설정	Dip Switch
Station 번호설정	Dip Switch

Class 2, adjacent to voltage rating (30Vmax.)

* Specifications and designs could be changed without advance Notice

2. DIP Switch 설정방법

▶ Baudrate 설정 스위치 설명



Baud Rate	Dip Switch Value	
	Auto addressing	Fixed addressing
156Kbps	0	5
625Kbps	1	6
2.5Mbps	2	7
5Mbps	3	-
10Mbps	4	-

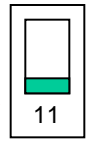
- ▶ Fixed addressing : 4국 점유로 고정
- ▶ Auto addressing : 확정 IO Size에 따라서 1국 ~ 4국 자동 설정

▶ Station No. setting Switch

Relevant Value						
1	2	4	8	10	20	40
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

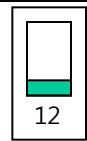
▶ 11번 Station 설정

- Off : System Area 사용
- On : System Area 사용 안 함



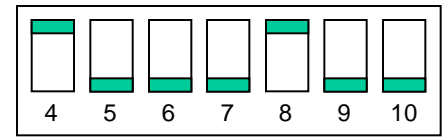
▶ 12번 중단 설정

- Off : 중단으로 설정 안 함
- On : 중단으로 설정 함



▶ Station 번호(자국 번호) 설정 예

Station 번호를 11번으로 설정 할 경우 4번과 8번 Dip S/W On



▶ Station 번호(자국 번호) 설정 시 주의 사항

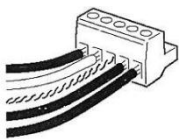
1. 접속가능 Station수의 범위에서 설정합니다.(Station 번호 01 ~ 42)
2. 범위 밖의 Station 번호를 설정하면 통신 Error가 발생합니다.
3. Station 번호를 중복 설정하면 통신 Error가 발생합니다.



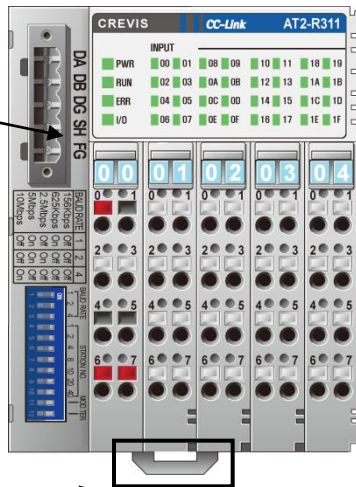
* 중단으로 설정하였을 경우 외부에 별도의 중단저항을 연결하지 마십시오.

3. 통신선과 전원선 배선 방법 및 모듈 장탈착 방법

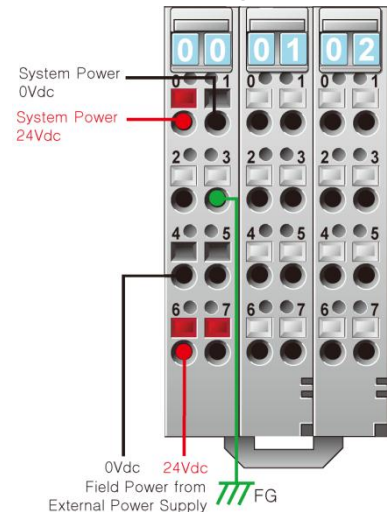
3-1. CC-Link 통신선 배선



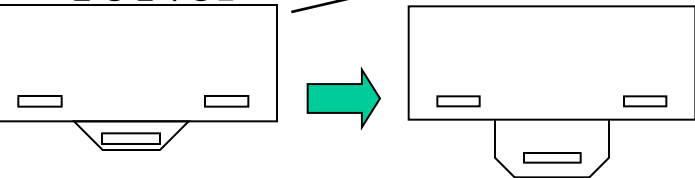
청색	DA
흰색	DB
황색	DG
Shield	Shield
갈색	F.G.



3-2. System & Field 전원선 배선



3-3. 모듈 장.탈착 방법



-자 드라이버를 이용하여 Locker의 위치를 이동시킨 후 DIN Rail에 장착하고, DIN Rail에 밀착시킨 후 Locker를 원위치 합니다. 탈 착의 경우 위와 역순으로 하십시오.

* 장착 시 주의사항

장착 전 반드시 Locker를 그림과 같이 이동 시킨 후 DIN Rail에 장착바랍니다.

CC-Link 통신전원 및 Field 전원 배선 시 주의 사항

1. 안정적인 통신을 위하여 System전원과 Field용 전원으로 구분하여 사용합니다.
 - 1) System 전원 : System 및 CC-Link 통신용
 - 2) Field 전원 : I/O 연결 시 사용하기 위한 전원
2. System 전원용 Power Supply 와 Field용 Power Supply를 반드시 구분하여 사용하여 주십시오.
3. 반드시 CC-Link 전용케이블을 사용하여 주십시오.
4. 통신로에 CC-Link 상품 이 외 의 기기(예:변전기)를 삽입하지 말아 주십시오.



- All-In-One type DeviceNet
- All-In-One type PROFIBUS
- All-In-One type CC-Link

Before using the unit

*We appreciate you for purchasing CREVIS Products. To use the units more effectively, please read this quick guide and refer to the respective user manual for further details.

Cautions for your Safety

If you don't follow the directions, it could cause a personal injury, damage to the equipment or explosion

Warning!

- Do not assemble the products and wire with power applied to the system. Else it may cause an electric arc, which can result into unexpected and potentially dangerous action by field devices. Arching is explosion risk in hazardous locations. Be sure that the area is non-hazardous or remove system power appropriately before assembling or wiring the modules.
- Do not touch any terminal blocks or IO modules when system is running. Else it may cause the unit to an electric shock or malfunction.
- Keep away from the strange metallic materials not related to the unit and wiring works should be controlled by the electric expert engineer. Else it may cause the unit to a fire, electric shock or malfunction.

If you disobey the instructions, there may be possibility of personal injury, damage to equipment or explosion. Please follow below Instructions.

Caution!

- Check the rated voltage and terminal array before wiring. Avoid the circumstances over 55℃ of temperature. Avoid placing it directly in the sunlight.
- Avoid the place under circumstances over 85% of humidity.
- Do not place Modules near by the inflammable material. Else it may cause a fire.
- Do not permit any vibration approaching it directly.
- Go through module specification carefully, ensure inputs, output connections are made with the specifications. Use standard cables for wiring.
- Use Product under pollution degree 2 environment.

1. Specification of FnIO A-Series CC-Link Type

1-1. General

Item	Specification
Surrounding Air Temp./ Ambient Temp.	-20℃~55℃ / -40℃~85℃
Relative Humidity	5% ~ 90% , without condensation
Durable-vib./impact	IEC68-2-6(2G) / 10G
EMC/ESD	EN50082 / EN50081
Mount Position	On the right of FnIO-A series
Atmosphere	Not so dusty without corrosive gas
Field Supp.Volt	Class 2, 24VDC 24VDC (11VDC ~ 28.8VDC)
Field Supp. Cur.	Max 6A
FnBus Sup. Cur.	Max 0.4A@5Vdc
System Power Range	19.2~28.8Vdc
Mount	DIN Rail
Size	83mm × 99mm × 70mm
Weight	340g

1-2. Specification

Item	Specification				
Network Type	CC-Link				
Cable	Cable for CC-Link only (Ver 1.10)				
Cable Length(m)	1,200	900	400	160	100
Comm. Sp (kbps)	156	625	2,500	5,000	10,000
Expansion No.	Max 8 module				
Max. Digital IO	Input(RX) : 112point/ Output(RY) : 112point				
Max. Analog IO	Input(RWr) : 16Ch/ Output(RWw) : 16Ch				
Available Station	Max 4 station				
Station Type	Remote Device				
Baud rate Setting	Dip Switch				
Station No. Sett	Dip Switch				

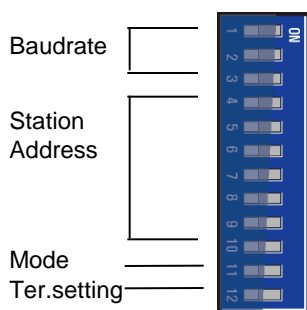
Class 2, adjacent to voltage rating (30Vmax.)

* Specifications and designs could be changed without advance Notice

* Power Isolators must be used according to the usage of 5VDC/24VDC/48VDC or AC Voltage modules

2. DIP Switch Setting

► Baudrate Setting Switch



Baud Rate	Dip Switch Value	
	Auto addressing	Fixed addressing
156Kbps	0	5
625Kbps	1	6
2.5Mbps	2	7
5Mbps	3	-
10Mbps	4	-

- Fixed addressing :
4 Stations fixed
- Auto addressing :
1 Station ~ 4station
auto setting
according to
expansion IO Size

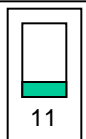
► Station No. setting Switch

Relevant Value						
1	2	4	8	10	20	40

4	5	6	7	8	9	10

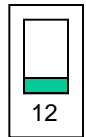
► No.11 Mode Setting

- Off : Use System Area
- On : Not use System Area



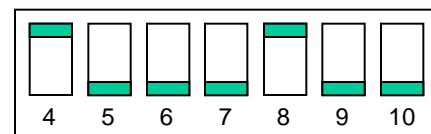
► No. 12 : Terminal Setting

- Off : no setting
- On : Setting to terminal



► Example for Station No. setting

When setting Node No. to no.11,
No.4 & 8 Dip S/W On



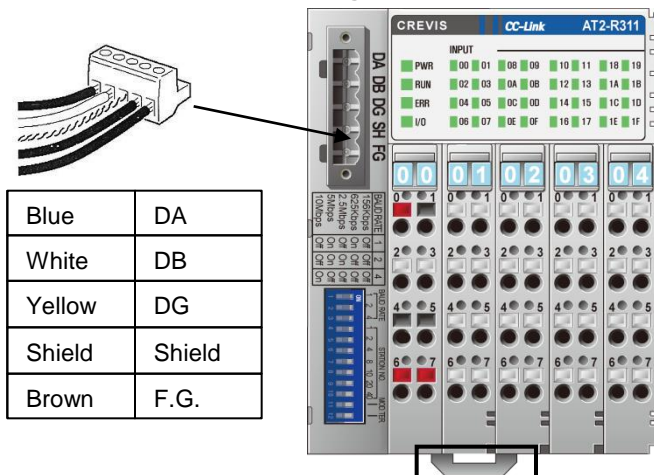
► Directions for setting Station No

1. Please set it within the range of contactable station number.(station No.01~42)
2. station number setting out of the range will cause Communication Error .
3. When double setting station No., communication error occurred

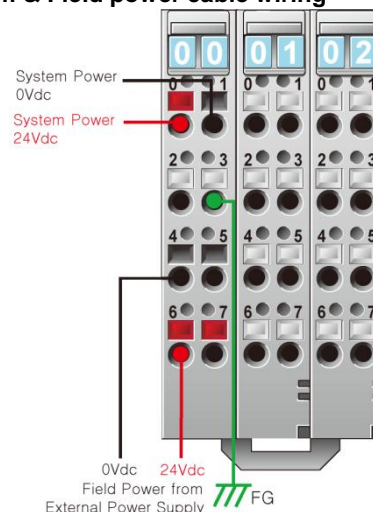
When setting to terminal,
do not connect terminal
register external .

3. Wiring of Communication & power cable and Install of the modules

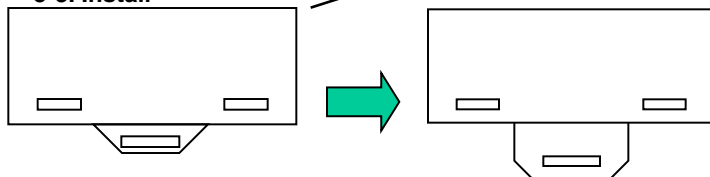
3-1. CC-Link connection cable wiring



3-2. System & Field power cable wiring



3-3. Install



Use a small-bladed screwdriver to lift up Locker.
Install the Module on Din rail firmly . Lift down locker to lock .
To remove the module please repeat it in opposite sequence

* Notice

Make sure pull up the locker first as the picture above and then pull down after install the module on DIN rail.

Directions for CC-Link connection power & Field power wiring

1. For safety connection, supply system power and filed power separately.
 - 1) System Power : for System & CC-Link communication
 - 2) Field Power : for I/O Connection
2. Make sure Power supply for System power and power for field should be divided and supplied separately .
3. use cable only for CC-Link absolutely
4. Do not insert any other equipments (such as into transistor) communication line besides CC-Link products.

4. Specification of Input / Output Module

Model	AT2-R 311	AT2-R 312	AT2-R 321	AT2-R 322	AT2-R 333	AT2-R 334	AT2-R 338	AT2-R 339	AT2-R 325	AT2-R 355	AT2-R 336	AT2-R 337	AT2-R 356	AT2-R 357
Input Specification														
Number of Input	32 Points				16 Points						16 Points			
Type	Sink	Source			Sink	Source	Sink	Source			Sink	Source		
Input Voltage	24Vdc	0Vdc			24Vdc	0Vdc	24Vdc	0Vdc			24Vdc	0Vdc		
Max. Off-State Voltage	5Vdc				5Vdc						5Vdc			
Min. On-State Voltage	9Vdc				9Vdc						9Vdc			
Input Signal Delay	< 0.5msec				< 0.5msec						< 0.5msec			
Input Impedance	About 5.4KΩ				About 5.4KΩ						About 5.4KΩ			
Output Specification														
Number of Output			32 Points		16 Points									
Type			Sink	Source		Sink		Source						
Output Load Current			Max. 0.5A/1pt, 8A/All											
Output Voltage			0Vdc	24Vdc		0Vdc		24Vdc						
Drop Voltage (ON-state)			Max. 0.3Vdc											
Leakage Current (OFF-state)			Max. 50uA											
Output Signal Delay			< 0.3msec											
Protection			Short protection											
Relay Output Specification														
Number of Output									16 Points		8 Points			
Relay Type									Normally Open, Single Pole Single Throw					
Output Rating									2A@5~28.8Vdc, 0.8A@48Vdc, 0.5A@110Vdc, 2A@250Vac					
Min. Load									100uA, 100mVdc/Point					
Max. On-State Voltage Drop									0.5V@2.0A, Resistive Load, 24Vdc					
Output Delay Time									Max. 10ms					
Initial Contact Resistance									30mΩ					
Expected Contact Life									300K Cycle Resistive, 100K Cycle Inductive					
Common Type									4Point/1COM	1Point/1COM	4 Point /1COM		1 Point /1COM	
Isolation									Relay Coil/Contact Isolation					
IO Common Specification														
Power Dissipation	Max. 145mA@5Vdc													
Isolation	Non-isolation													
Field Power Current	Max. 6A@24Vdc													

Crevis Co.,Ltd.

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Homepage : www.crevis.co.kr E-Mail : crevis@crevis.co.kr



CC-Link

Specifications and designs could be changed without advance Notice

5. Remote input/Output area

5-1. Remote input area

Address	Configuration	Size	Signal name
RXm0~RXmF	1 Station	2 Bytes	Discrete Input
RX(m+1)0~RX(m+1)F	2 Station	6 Bytes	
RX(m+2)0~RX(m+2)F	2 Station		
RX(m+3)0~RX(m+3)F	3 Station	10 Bytes	
RX(m+4)0~RX(m+4)F	3 Station		
RX(m+5)0~RX(m+5)F	4 Station	14 Bytes	
RX(m+6)0~RX(m+6)F	4 Station		
RX(m+n)0~RX(m+n)F	n=1,3,5,7 (1 Station, 2 Station, 3 Station, 4 Station)	2 Bytes	System Area

m : Register number that was introduced by head station number

n : Final register number for occupied number

1 station : 16 point (n=1) / 2 station : 48 point (n=3) / 3 station : 80 point (n=5) / 4 station : 112 point (n=7)

5-2. Remote Output area

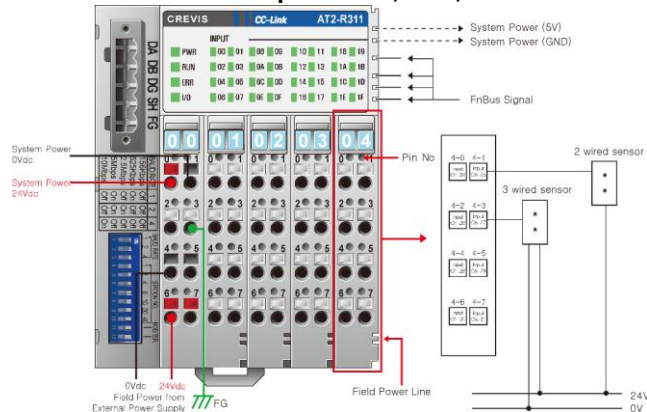
Address	Configuration	Size	Signal name
RYm0~RYmF	1 Station	2 Bytes	Discrete Output
RY(m+1)0~RY(m+1)F	2 Station	6 Bytes	
RY(m+2)0~RY(m+2)F	2 Station		
RY(m+3)0~RY(m+3)F	3 Station	10 Bytes	
RY(m+4)0~RY(m+4)F	3 Station		
RY(m+5)0~RY(m+5)F	4 Station	14 Bytes	
RY(m+6)0~RY(m+6)F	4 Station		
RY(m+n)0~RY(m+n)F	n=1,3,5,7 (1 Station, 2 Station, 3 Station, 4 Station)	2 Bytes	System Area

5-3. Rwr / Rww area

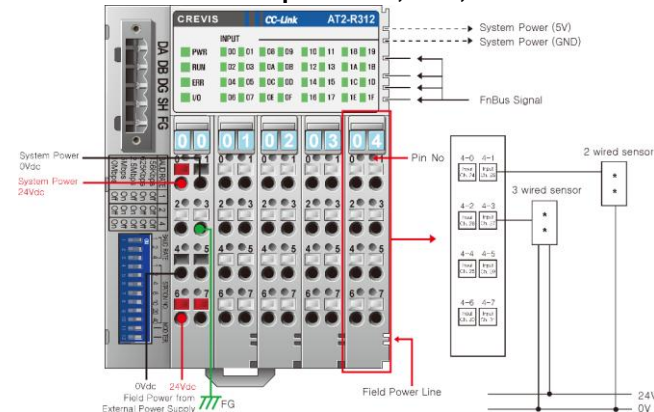
Address	Configuration	Size	Signal name	Address	Configuration	Size	Signal name
RWrm0 ... RWrm3	1 Station	4 Word	Analog Input	RWwm0 ... RWwm3	1 Station	4 Word	Analog Output
RWrm4 ... RWrm7	2 Station	8 Word		RWwm4 ... RWwm7	2 Station	8 Word	
RWrm8 ... RWrm11	3 Station	12 Word		RWwm8 ... RWwm11	3 Station	12 Word	
RWrm12 ... RWrm15 ... RWrm127	4 Station	16 Word		RWwm12 ... RWwm15 ... RWwm127	4 Station	16 Word	

6. Input / Output wiring Diagram

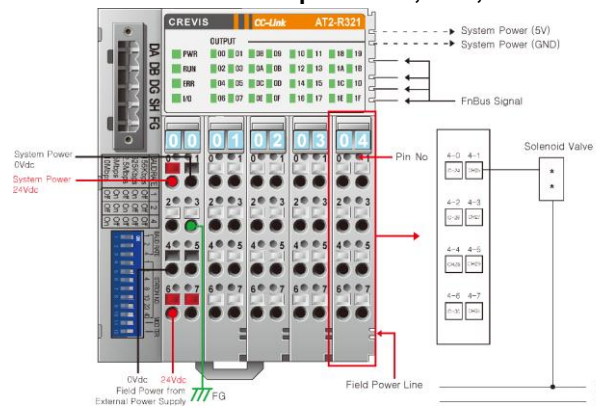
AT2-R311 : 32Point Input 24Vdc, RTB, Sink



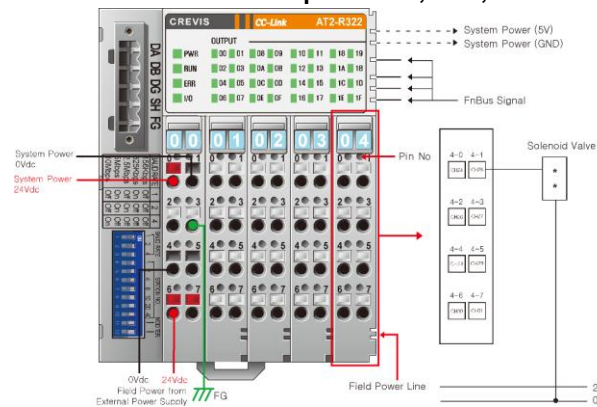
AT2-R312 : 32Point Input 24Vdc, RTB, Source



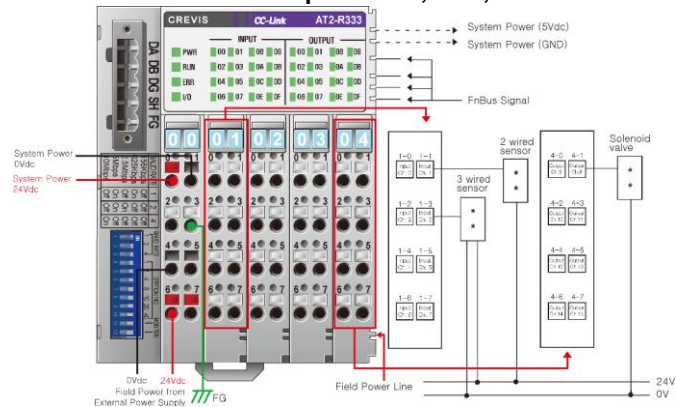
AT2-R321 : 32Point Output 24Vdc, RTB, Sink



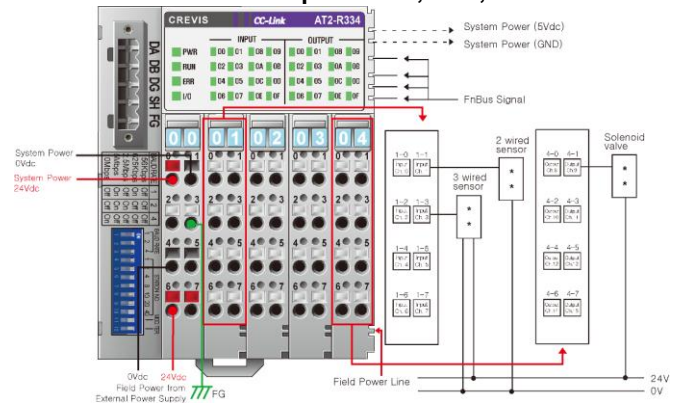
AT2-R322 : 32Point Output 24Vdc, RTB, Source



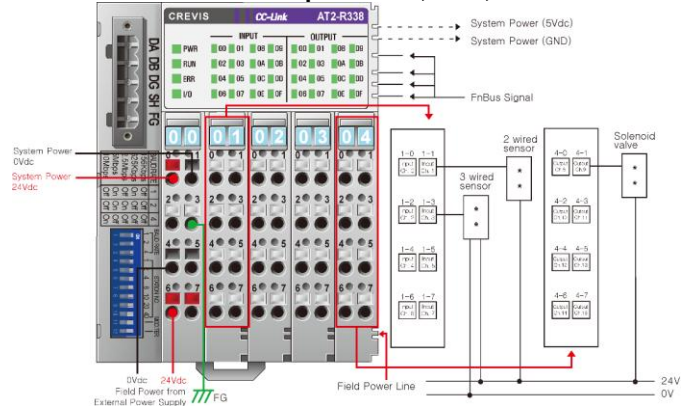
**AT2-R333 : 16Point Input 24Vdc, Sink
16Point Output 24Vdc, RTB, Source**



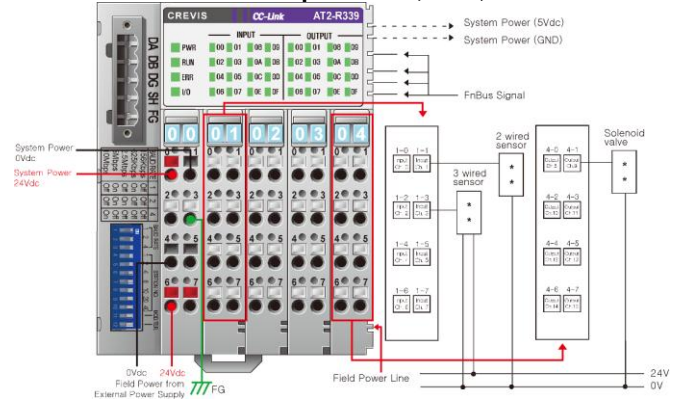
**AT2-R334 : 16Point Input 24Vdc, Source
16Point Output 24Vdc, RTB, Sink**



**AT2-R338 : 16Point Input 24Vdc, Sink
16Point Output 24Vdc, Sink, RTB**

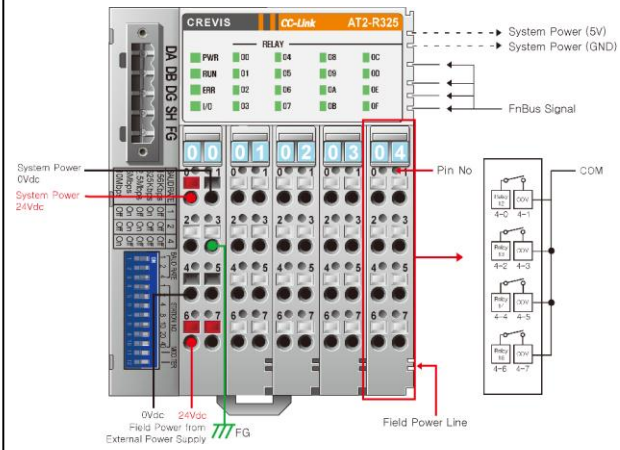


**AT2-R339 : 16Point Input 24Vdc, Source
16Point Output 24Vdc, RTB, Source**

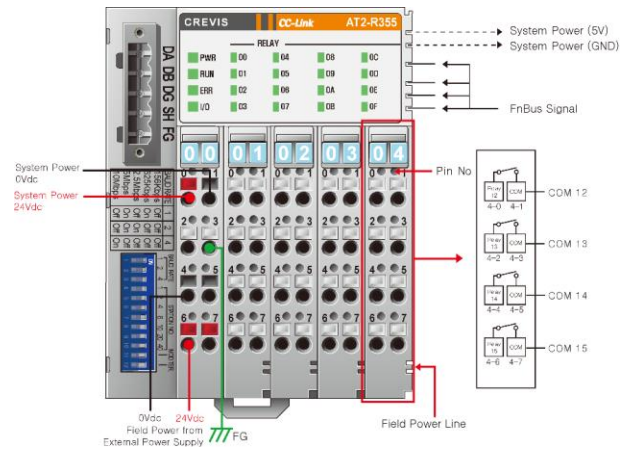


6. Input / Output wiring Diagram

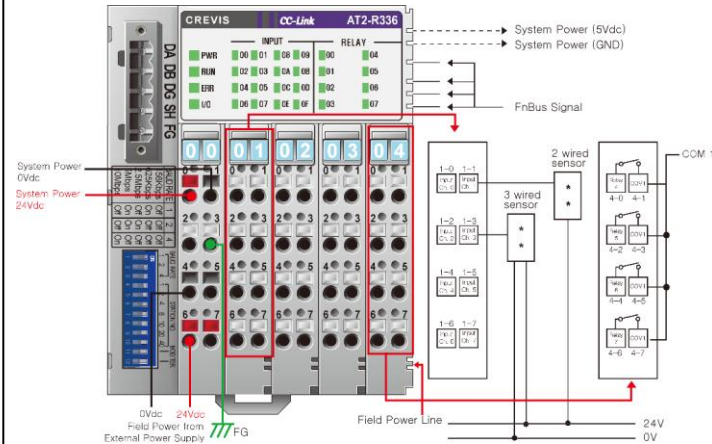
AT2-R325 : 16Point Output 24Vdc/250Vac, RTB, Relay



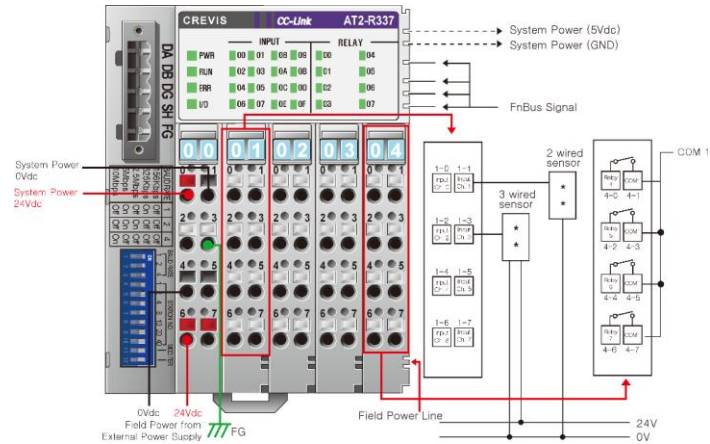
AT2-R355 : 16Point Output 24Vdc/250Vac, RTB, Relay



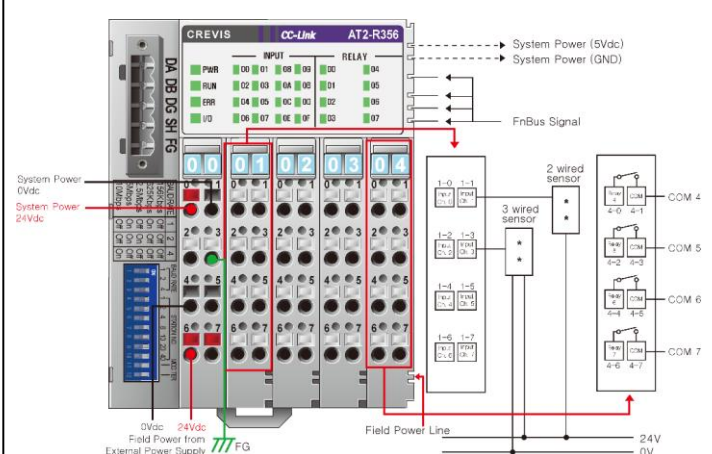
**AT2-R336: 16Point Input 24Vdc, Sink
8Point Output 24Vdc/250Vac, RTB, Relay**



**AT2-R337: 16Point Input 24Vdc, Source
8Point Output 24Vdc/250Vac, RTB, Relay**



**AT2-R356: 16Point Input 24Vdc, Sink
8Point Output 24Vdc/250Vac, RTB, Relay**



**AT2-R357: 16Point Input 24Vdc, Source
8Point Output 24Vdc/250Vac, RTB, Relay**

