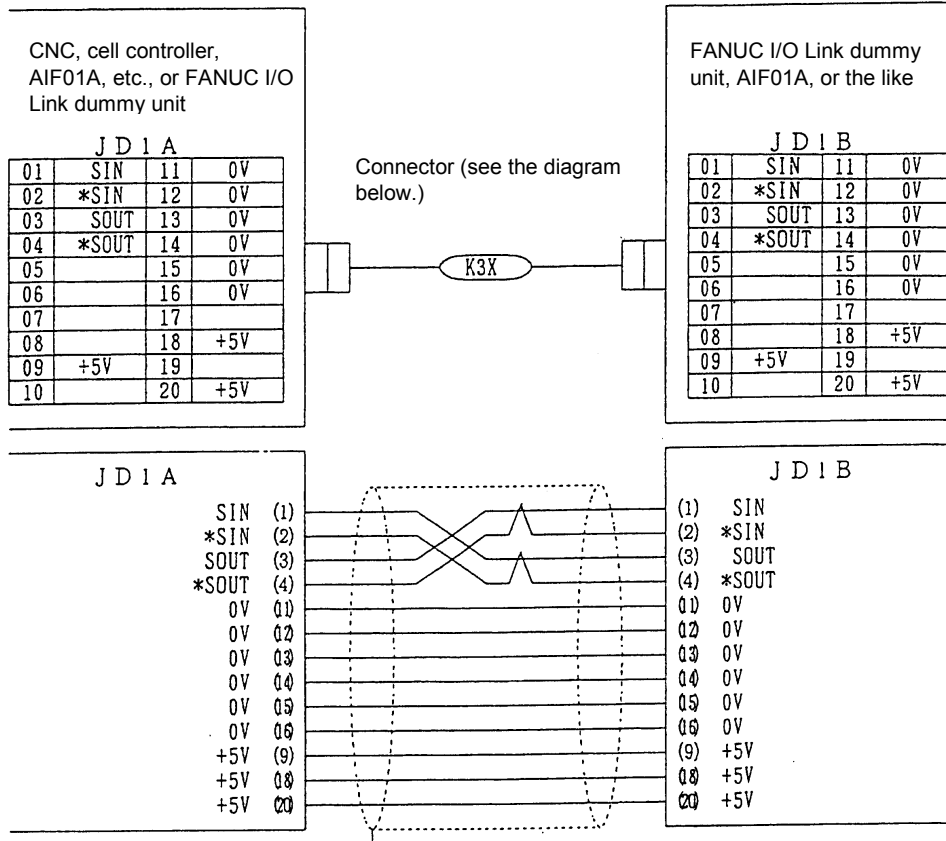


11.7.4 K3X cable



- Cable connector

Manufacturer	Pin		Housing
	Soldering type	Crimping type	
Honda Tsushin	PCR-E20FS	PCR-E20FA	PCR-V20LA
Hirose Electric	FI-40-20S	FI-30-20S	FI-20-CV2
Fujitsu	-	FCN-247J020-G/E	FCN-240C020-Y/S

- Use twisted-pair wires for the SIN, *SIN, SOUT, and *SOUT signals.
- Recommended wires : A66L-0001-0284#10P (twisted-pair wires with common shielding)
- Maximum cable length : 2 m (when recommended wires are used)
- Do not connect a wire to an idle pin.
- Connect the cable shielding to the grounding plate of the cabinet via a metal cable clamp at JD1A. (See the applicable CNC or cell controller connection manual.)

12 SAFETY FOR USING AC

IF AC output module or AC input module is used, 12.1 is recommended for safety. IF 12.1 must be observed for Europe. [conforming to EN50178]

12.1 INSTALLATION ENVIRONMENT

12.1.1 Installation Category (Overvoltage Category)

The available impulse surge level to the ground that appears in the power source is 2.5kV maximum.

(100VAC system power source is needed in AC input module

According to the standard, the available impulse surge level to the ground is 1.5kV for this power source (voltage of which is 150VAC or less) However, for this module, the available impulse surge level to the ground that appears in the power source is 2.5 kV.)

Generally, an isolation transformer used for the main power source is regarded as an effective surge filter.

The class of the 16-point relay output module (AOR16G) is set to installation category (overvoltage category) I.

(Keep any impulse voltage to ground that may appear on the AC power to within 1.5 kV.)

The class for the 8-point relay output module (AOR08G), AC output module, and AC input module is set to installation category (overvoltage category) II.

12.1.2 Pollution Degree

Install the unit in the environment of pollution degree 2 or better.[EN50178]

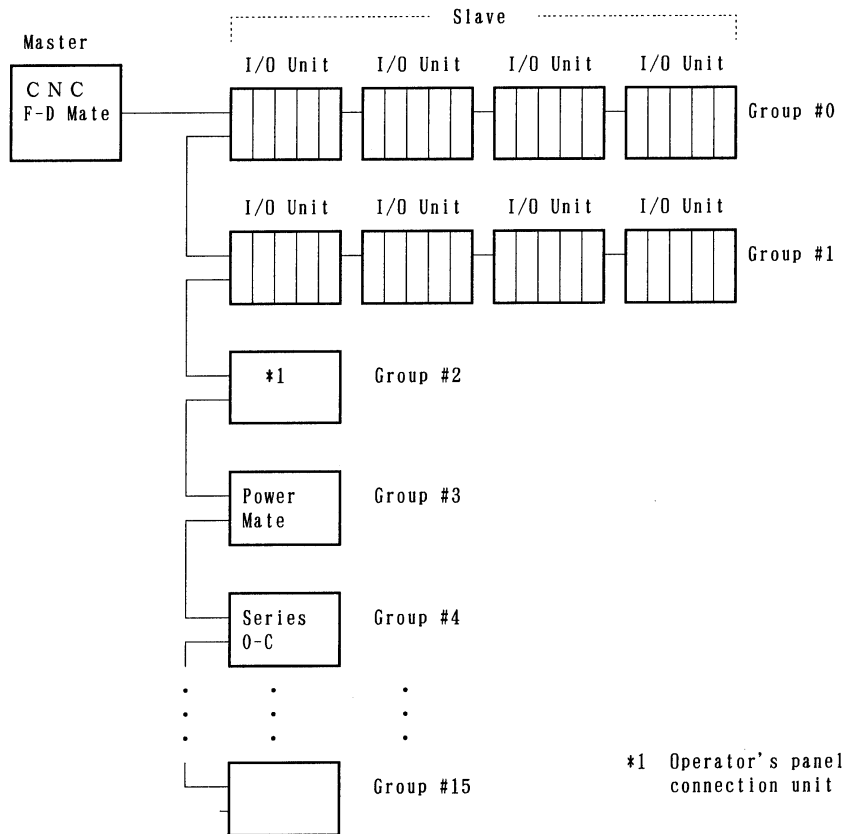
In cabinet of IP-54 or better (described in 3.1), it can be considered as pollution degree 2 or better usually. The IP degree required is dependent on the circumstances of machine tool, so please choose the adequate degree in accordance with such environment.

II. MAINTENANCE

1 OVERVIEW

1.1 SYSTEM CONFIGURATION

I/O Unit-A is connected to a CNC and cell controller through a high-speed serial interface, I/O Link.

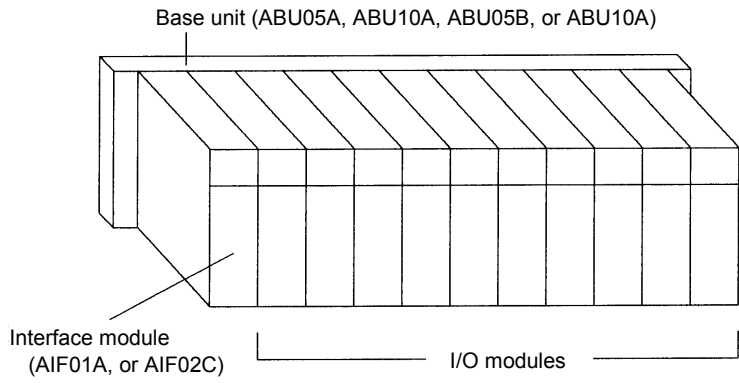


- 1) The I/O Link consists of a master and slaves.
 Master: Series 0-C, Series 15/16/18/20/21, Series 15i/16i/18i/20i/21i, Power Mate-D/H, Power Mate i-D/H and F-D Mate
 Slave: I/O Unit-A, Power Mate, operator's panel connection unit, and Series 0-C

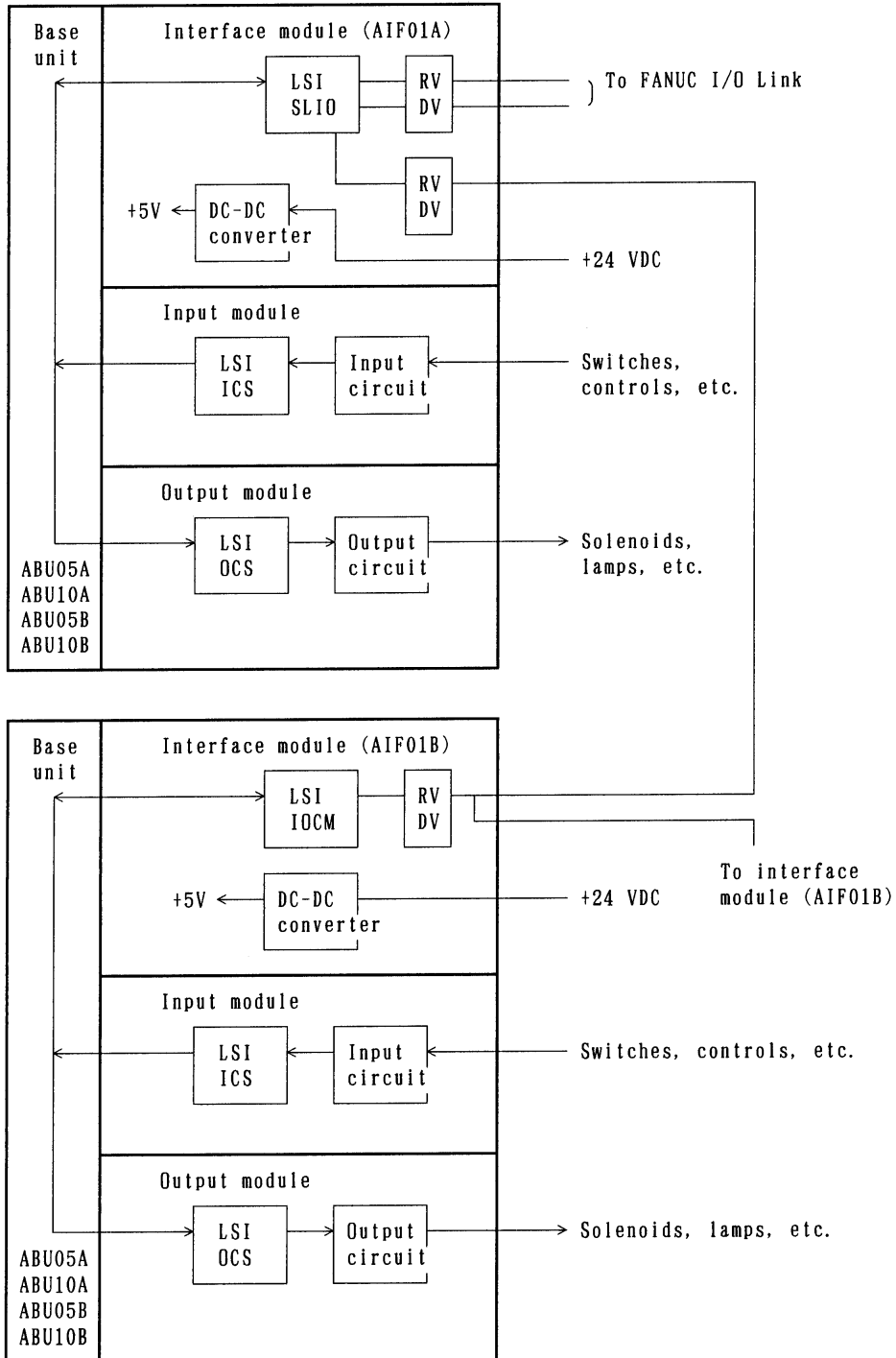
- 2) One I/O Link can connect to up to 16 groups of slaves. If the master is not a CNC, one slave group can contain up to 4 of I/O Unit A (4 base units). If the master is a CNC or Power Mate the number of units per slave group is limited to within 2.

1.2 I/O UNIT-A CONFIGURATION

An I/O unit-A consists of a base unit, interface module, and I/O modules.



1.3 BLOCK DIAGRAM



1.4 LIST OF UNITS

Name			Arrangement drawing No.	Unit drawing No.	PCB drawing No.		
Base unit. 10 slots	Horizontal type	ABU10A	A03B-0807-J001	A03B-0807-C001	A20B-9001-0040		
	Vertical type	ABU10B	A03B-0807-J004	A03B-0807-C004	A20B-2000-0550 or -2003-0100		
Base unit 5 slots	Horizontal type	ABU05A	A03B-0807-J002	A03B-0807-C002	A20B-2000-0020		
	Vertical type	ABU05B	A03B-0807-J003	A03B-0807-C003	A20B-9001-0510		
Interface module			AIF01A	A03B-0807-C011	A20B-8000-0410		
Interface module			AIF01B	A03B-0807-C012	A20B-8000-0420		
Interface module			AIF02C	A03B-0807-C013	A20B-8000-0710		
DC input module	Non-insulations	32 points. 20ms	AID32A1	A03B-0807-J101	A03B-0807-C101	A20B-9000-0970	
		32 points. 2ms	AID32B1	A03B-0807-J102	A03B-0807-C102	A20B-9000-0971	
		8 points. 2ms 24 points. 20ms	AID32H1	A03B-0807-J111	A03B-0807-C111	A20B-9000-0972	
	Insulations	16 points. NEG, 20ms	AID16C	A03B-0807-J103	A03B-0807-C103	A20B-9000-0931	
		16 points. POS, 20ms	AID16D	A03B-0807-J104	A03B-0807-C104	A20B-9000-0901	
		16 points. NEG, 2ms	AID16K	A03B-0807-J113	A03B-0807-C113	A20B-9000-0932	
		16 points. POS, 2ms	AID16L	A03B-0807-J114	A03B-0807-C114	A20B-9000-0902	
		32 points. 20ms	AID32E1	A03B-0807-J105	A03B-0807-C105	A20B-9001-0010	
		32 points. 20ms	AID32E2	A03B-0807-J110	A03B-0807-C110	A20B-9001-0280	
		32 points. 2ms	AID32F1	A03B-0807-J106	A03B-0807-C106	A20B-9001-0011	
		32 points. 2ms	AID32F2	A03B-0807-J109	A03B-0807-C109	A20B-9001-0281	
	AC input module. 16 points			AIA16G	A03B-0807-J107	A03B-0807-C107	A20B-8000-0341
	DC output module	Non insulations	32 points. NEG	AOD32A1	A03B-0807-J162	A03B-0807-C162	A20B-9001-0110
		Insulations	8 points. NEG	AOD08C	A03B-0807-J151	A03B-0807-C151	A20B-9001-0210 or -9000-0951
8 points. POS			AOD08D	A03B-0807-J152	A03B-0807-C152	A20B-9001-0220 or -9000-0911	

Name			Arrangement drawing No.	Unit drawing No.	PCB drawing No.	
DC output module	Insulations	16 points. NEG	AOD16C	A03B-0807-J153	A03B-0807-C153	A20B-9000-0941
		16 points. POS	AOD16D	A03B-0807-J154	A03B-0807-C154	A20B-9000-0921
		32 points. NEG	AOD32C1	A03B-0807-J155	A03B-0807-C155	A20B-9001-0070
		32 points. NEG	AOD32C2	A03B-0807-J172	A03B-0807-C172	A20B-9001-0530
		32 points. POS	AOD32D1	A03B-0807-J156	A03B-0807-C156	A20B-8000-0440
		32 points. POS	AOD32D2	A03B-0807-J167	A03B-0807-C167	A20B-8000-0510
AC output module		5 points. 2A	AOA05E	A03B-0807-J157	A03B-0807-C157	A20B-8000-0470 or -8000-0251
		8 points. 1A	AOA08E	A03B-0807-J158	A03B-0807-C158	A20B-8000-0480 or -8000-0381
		12 points. 0.5A	AOA12F	A03B-0807-J159	A03B-0807-C159	A20B-8000-0321
Relay output module		8 points. 4A	AOR08G	A03B-0807-J160	A03B-0807-C160	A20B-9001-0200 or -9000-0961
		16 points. 2A	AOR16G	A03B-0807-J161	A03B-0807-C161	A20B-8000-0101
		16 points. 2A	AOR16H2	A03B-0807-J165	A03B-0807-C165	A20B-8000-0500
Analog input module			AAD04A	A03B-0807-J051	A03B-0807-C051	A20B-8000-0450
Analog output module (12-bit)			ADA02A	A03B-0807-J052	A03B-0807-C052	A20B-8000-0460
Analog output module (14-bit)			ADA02B	A03B-0807-J060	A03B-0807-C060	A20B-8001-0980
High speed counter module			ACT01A	A03B-0807-J053	A03B-0807-C053	A20B-8000-0540
Temperature input module		Pt/Pt	AT104A	A03B-0807-J056	A03B-0807-C056	A74L-0001-0083#Pt
		J/K	AT104B	A03B-0807-J057	A03B-0807-C057	A74L-0001-0083#JK
Relay terminal unit		Pt/Pt	ATB01A	A03B-0807-J350	A03B-0807-C350	A20B-1005-0920
		J/K	ATB01B	A03B-0807-J351	A03B-0807-C351	A20B-1005-0930
Optical adapter				A13B-0154-B0001	-	A20B-1004-0240
Dummy unit				A13B-0167-B0001	-	A20B-8000-0940

2 INDICATION

The interface modules and the I/O modules with up to 16 input/output points have LEDs to indicate their states.

2.1 INTERFACE MODULE (AIF01A) LEDS



Marking	Name	Description															
PWR	Power-on	On: The interface module is supplied with power of 24 VDC.															
LINK	Link	On: The I/O Link is operating properly. Normally, this LED lights several to ten-odd seconds after the master is turned on.															
BA1 BA0	Base address	<p>These LEDs indicate which base unit the interface module is transferring data with. If a failure occurs (the LINK LED is turned on, then off), BA0 or BA1, whichever is operating, is turned on.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>BA1</th> <th>BA0</th> <th>Base number</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td>Base #0</td> </tr> <tr> <td style="text-align: center;">○</td> <td style="text-align: center;">●</td> <td>Base #1</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">○</td> <td>Base #2</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td>Base #3</td> </tr> </tbody> </table> <p style="text-align: right;">○ : Off ● : On</p>	BA1	BA0	Base number	○	○	Base #0	○	●	Base #1	●	○	Base #2	●	●	Base #3
BA1	BA0	Base number															
○	○	Base #0															
○	●	Base #1															
●	○	Base #2															
●	●	Base #3															

Failures, their causes, and required actions

- 1) PWR is off.
 - ① Power (24 VDC) is not supplied or the supply voltage is abnormal.
 - ⇒ Supply power of 24 VDC ± 10%.
 - ② A The fuse in the interface module has blown.