

4.4 How to connect communication cable

4.4.1 Electric(twisted pair) cable connection

Cable for electric network connection uses only No.6 and No.7 of the connector pin, No.6 signal of communication module connector A is connected to No.6 of communication connector B, and No.7 of connector A is connected to No.7 of connector B. Body of connector(metal : electrically conductive) is connected with other module by shielding wire, and bypasses external noise, etc., so connector of both side should be connected with shielding wire, and contact with high voltage and high current should not be allowed. For treating shielding wire in connection of G0L-FUEA(PC attached Fnet module) connector, general communication module body must be connected with pin No.5 of G0L-FUEA like Figure 4.4.1.

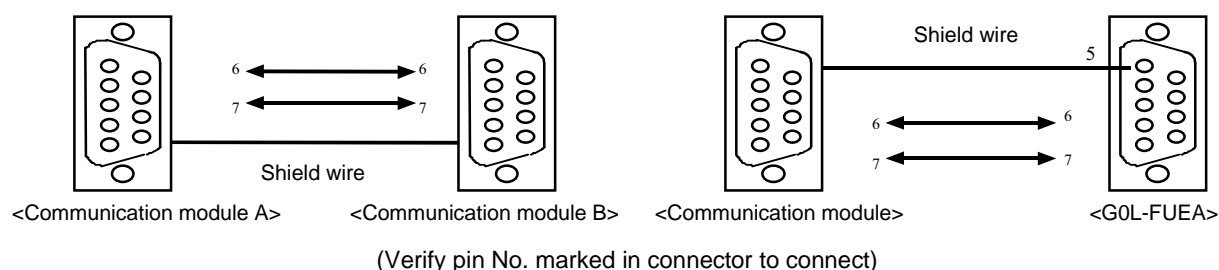


Fig. 4.4.1 Cable connection method of Fnet

4.4.2 Electric(twisted pair) cable connector connection

Connector is accessory parts which connects electric network of fieldbus module, and it should be connected as a method in Figure 4.4.2(A). It should be noted that shielding wire of cable should be connected to metal part of connector by soldering, and the other. Data transmission/receive is impossible if shielding wire is not connected(Shielding wire of G0L-FUEA should be connected to No.5 pin as shown in Fig.4.4.2(B) to prevent contact with computer body. Internally No.5 pin CON1 And CON2 are under short, so shielding wire is separated from computer body, and it is bypassed next connection station or terminal resistance).

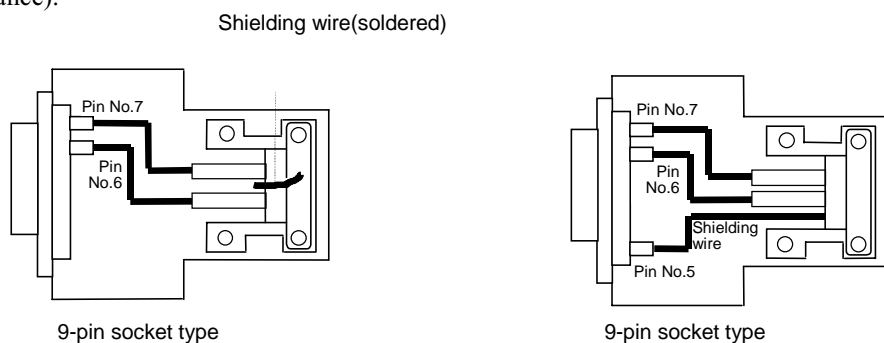
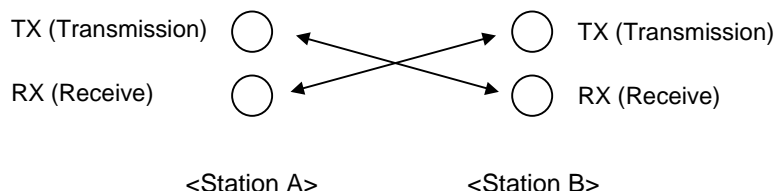


Fig. 4.4.2(A) Connection of Fnet connector

Fig. 4.4.2(B) Connection of G0L-FUEA connector

4.4.3 Optical cable connection

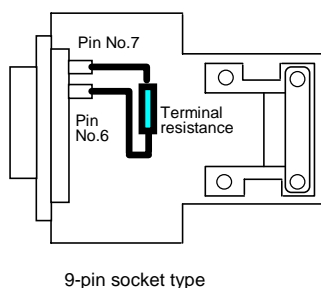
Optical cable is connected by crossing transmission and receive line, i.e., RX of optical communication module A is connected to TX of optical communication module B, and TX of optical communication module A is connected to RX of optical communication module B.



4.5 Terminal resistance

4.5.1 Electric network terminal resistance of Fnet

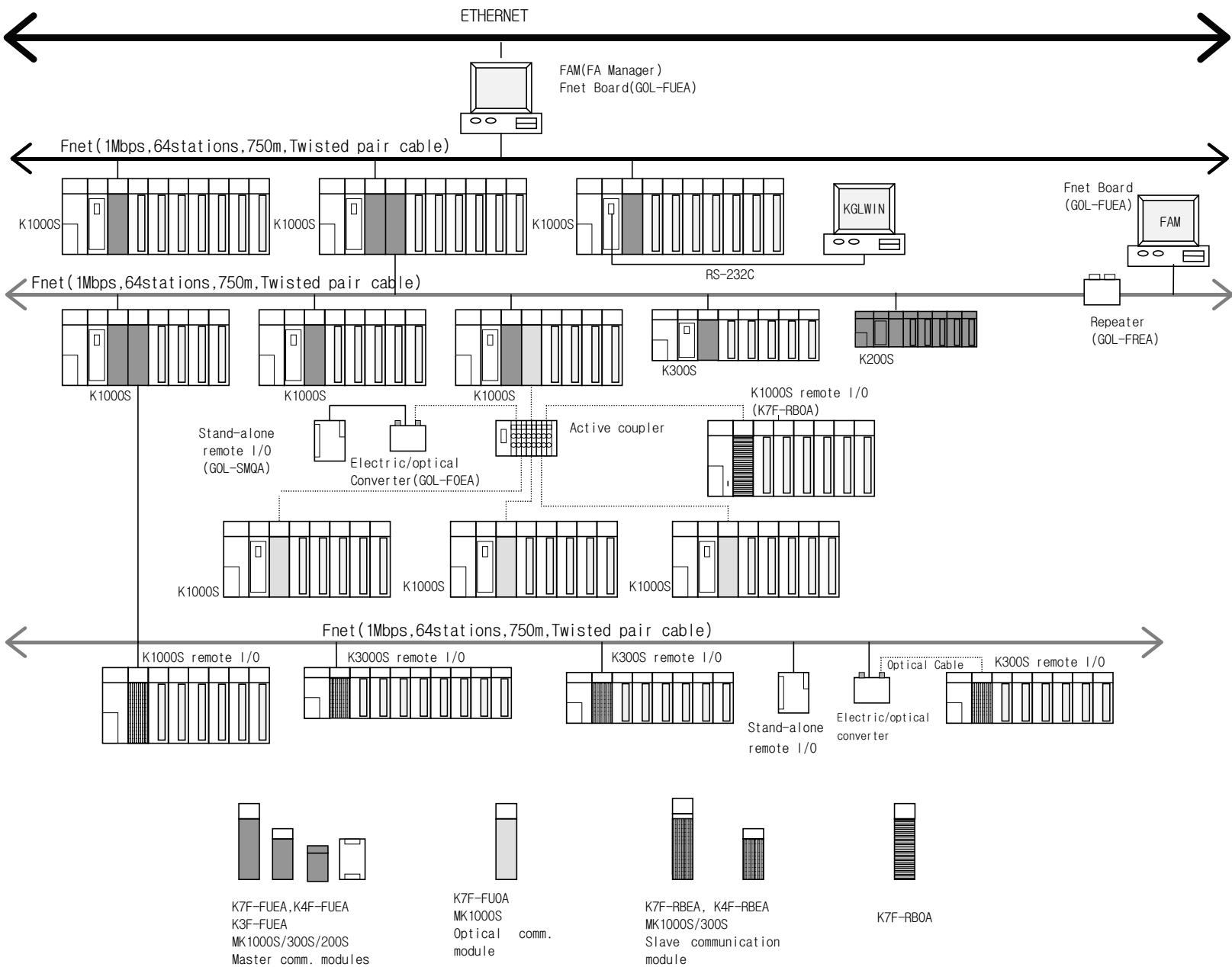
- **Resistance : 110Ω, 1/2 W**
- **Connector case : Metal conductor plating type**



- ➔ Terminal resistance(110Ω, 1/2W) of accessory parts(electric module only) should be attached at the start and end of network.
- ➔ Terminal resistance is attached inside of electric/optical converter(G0L-FOEA) and repeater(G0L-FREA) which are installed at terminal of electric network. Therefore, do not connect terminal resistance separately from external.
- ➔ Connector case should not be connected with terminal resistance.

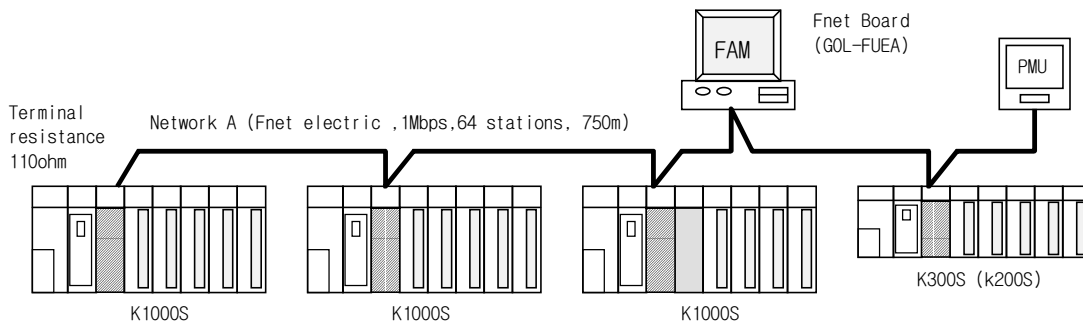
Chapter 5 Configuration

5.1 MASTER-K PLC network system(entire system)



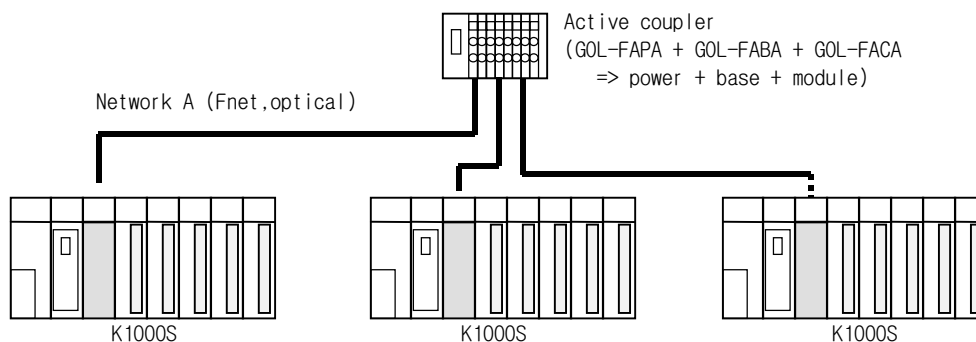
5.2 Fnet network system

5.2.1 Configuration of Fnet master system (electric network)



Devices for network A (Fnet electric)		
Type	Module name	Ex. of station number setting
FAM4.0	G0L-FUEA	0
K1000S	K7F-FUEA	1
K1000S	K7F-FUEA	2
K1000S	K7F-FUEA	3
K300S (K200S)	K4F-FUEA (K3F-FUEA)	4
PMU-500	PM0-500F	5

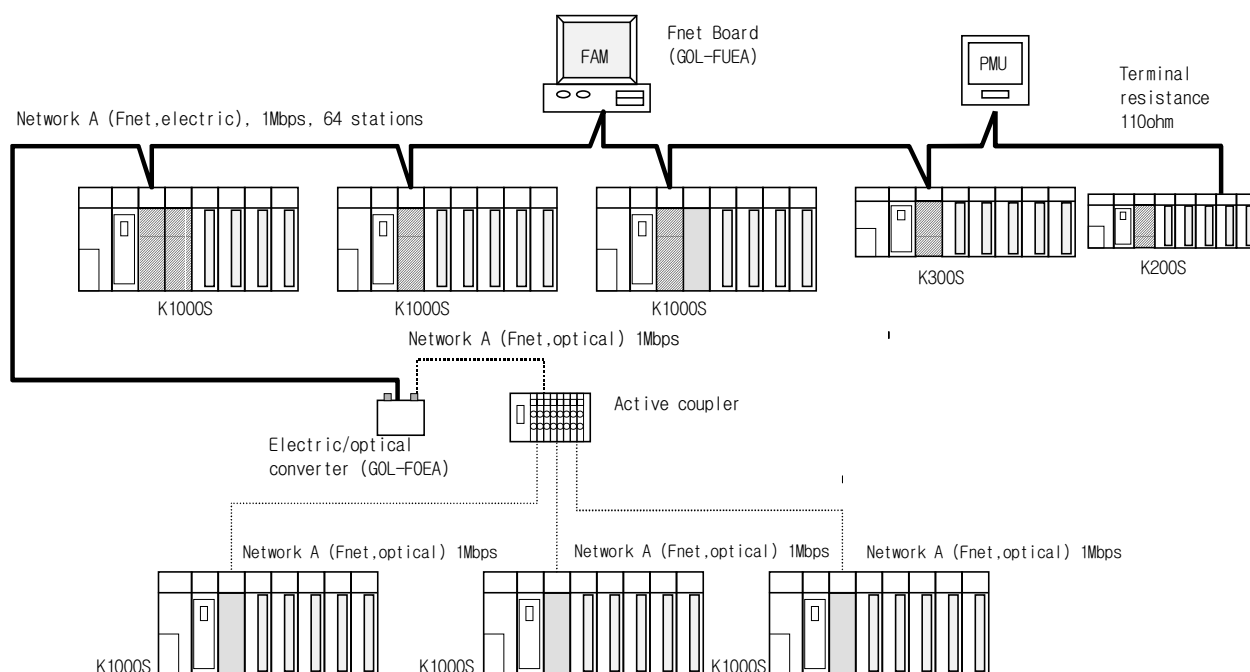
5.2.2 Configuration of Fnet master system (optical network)



※ For unused slot, dummy module(G0L-FADA) is attached.

Devices for network A (Fnet optical)			
Type	Module name	Ex. of station number setting	Cable connection
GM1	K7F-FUOA	0	Transmission→Receive (Active coupler)
GM2	K7F-FUOA	1	
GM3	K7F-FUOA	2	
Active coupler	G0L-FACA/FABA/FAPA	Not available	Receive→Transmission (Active coupler)

5.2.3 Configuration of Fnet master system (network combined with electric/optical module)



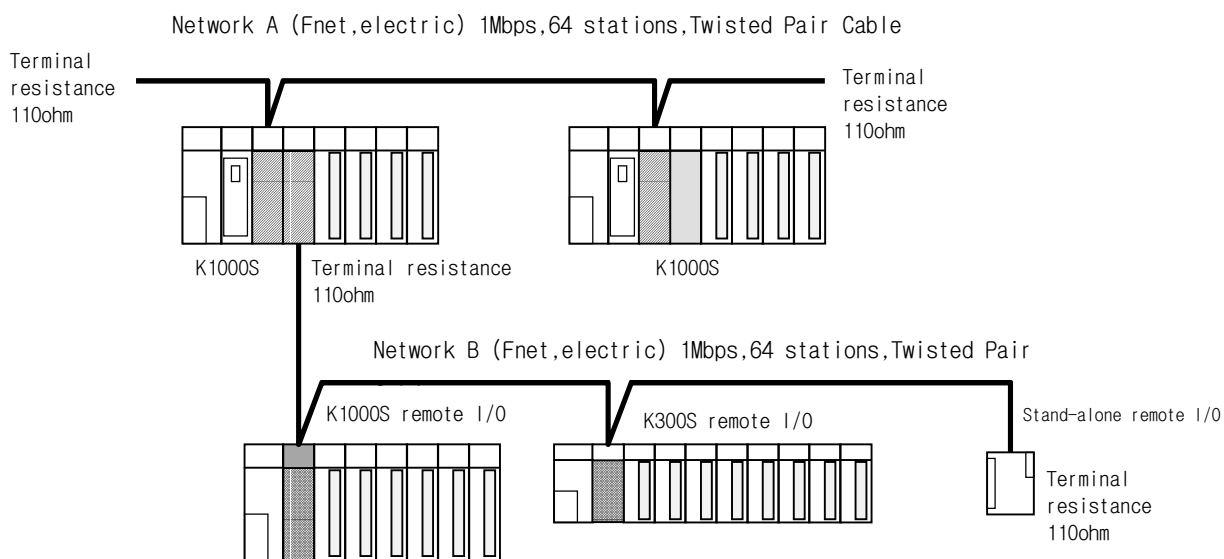
Devices for network A (Fnet)					
Electric			Optical		
Type	Module name	Ex. of station number setting	Type	Module name	Ex. of station number setting
FAM	G0L-FUEA	0	K1000S	K7F-FUOA	7
K1000S	K7F-FUEA	1(slot 0)	K1000S	K7F-FUOA	8
K1000S	K7F-FUEA	2	K1000S	K7F-FUOA	9
K1000S	K7F-FUEA	3	Optical/electric converter	G0L-FOEA	Not available
K300S	K4F-FUEA	4	Active coupler	G0L-FACA (Remark)	Not available
K200S	K3F-FUEA	5			
PMU-500	PM0-500F	6			

Remark

1. Separate terminal resistance is unnecessary due to terminal resistance built-in inside optical/electric converter.
2. Active coupler used in system configuration is consist of G0L-FAPA(Power), G0L-FABA(Base) and G0L-FACA(Module). Module can be mounted up to 8 in the base, and dummy module(G0L-FADA) should be attached for unused base to protect from foreign matter, dust, and the others.

5. System configuration

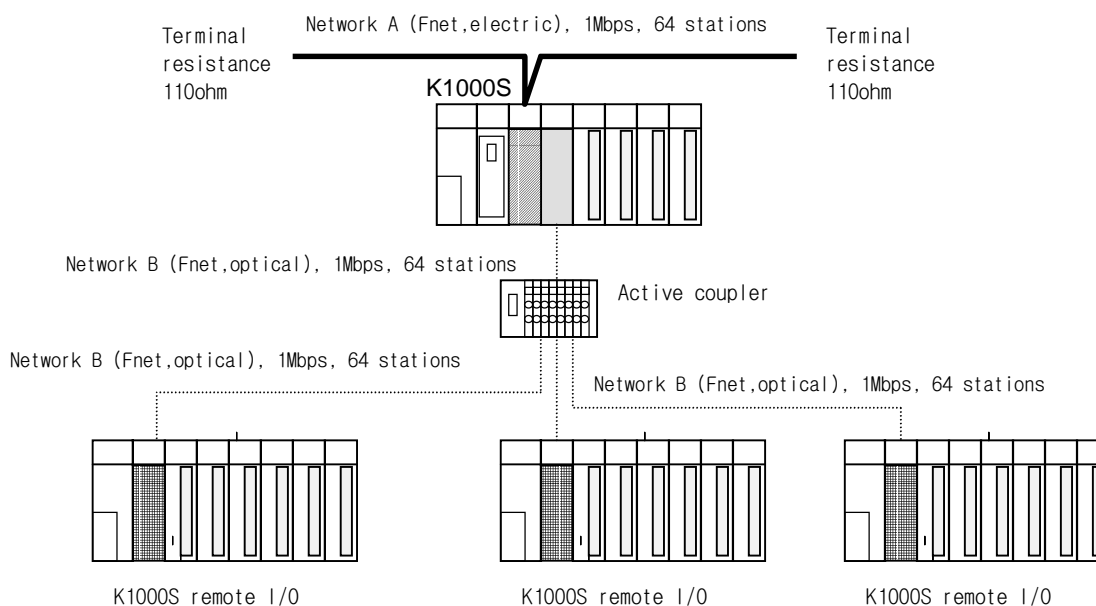
5.2.4 Configuration of Fnet slave system (electric network)



Devices for network A (Fnet electric)		
Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	0(slot 0)
K1000S	K7F-FUEA	2(slot 0)

Devices for network B (Fnet electric)		
Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	1(slot 1)
K1000S remote I/O	K7F-RBEA	3
K300S remote I/O	K4F-RBEA	4
Stand-alone remote output	G0L-SMQA	5

5.2.5 Configuration of Fnet slave system (optical network)

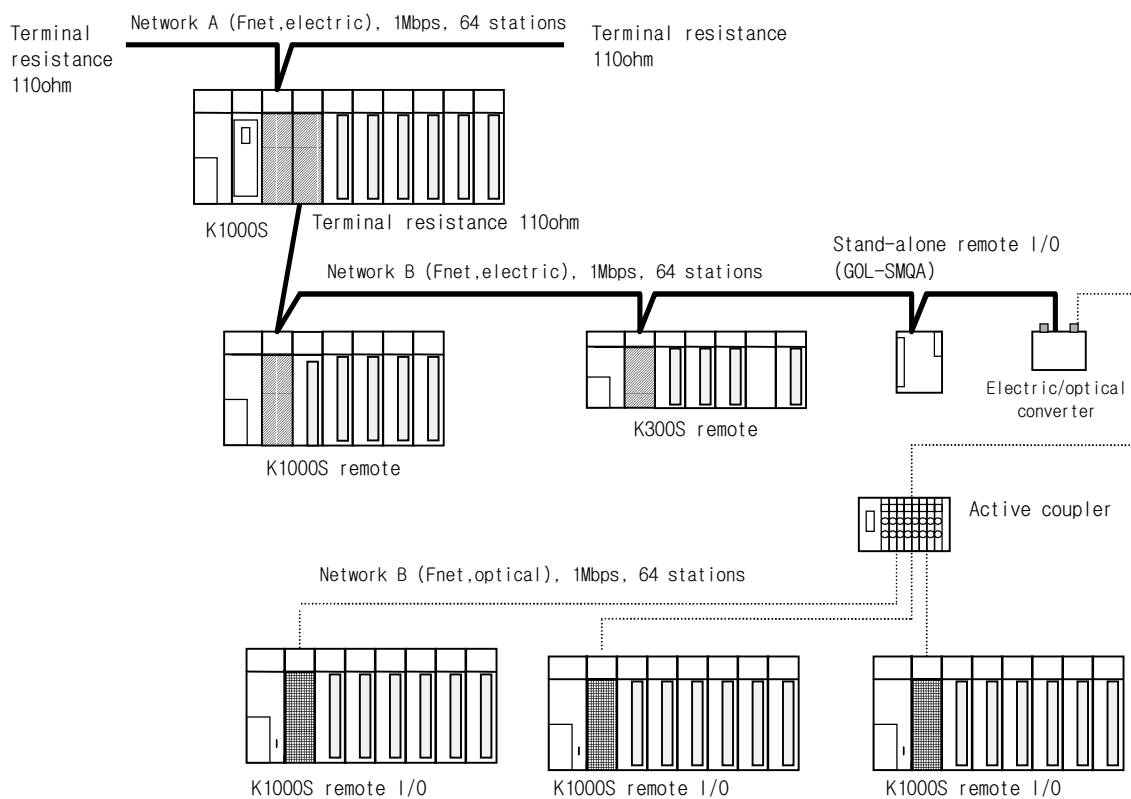


Devices for network A (Fnet ,electric)		
Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	0(slot 0)

Devices for network B (Fnet ,optical)		
Type	Module name	Ex. Of station number setting
K1000S	K7F-FUOA	1(slot 1)
K1000S remote I/O	K7F-RBOA	2
K1000S remote I/O	K7F-RBOA	3
K1000S remote I/O	K7F-RBOA	4
Active coupler	G0L-FACA/FABA/FAPA	Not available

5. System configuration

5.2.6 Configuration of Fnet slave system (electric/optical network)



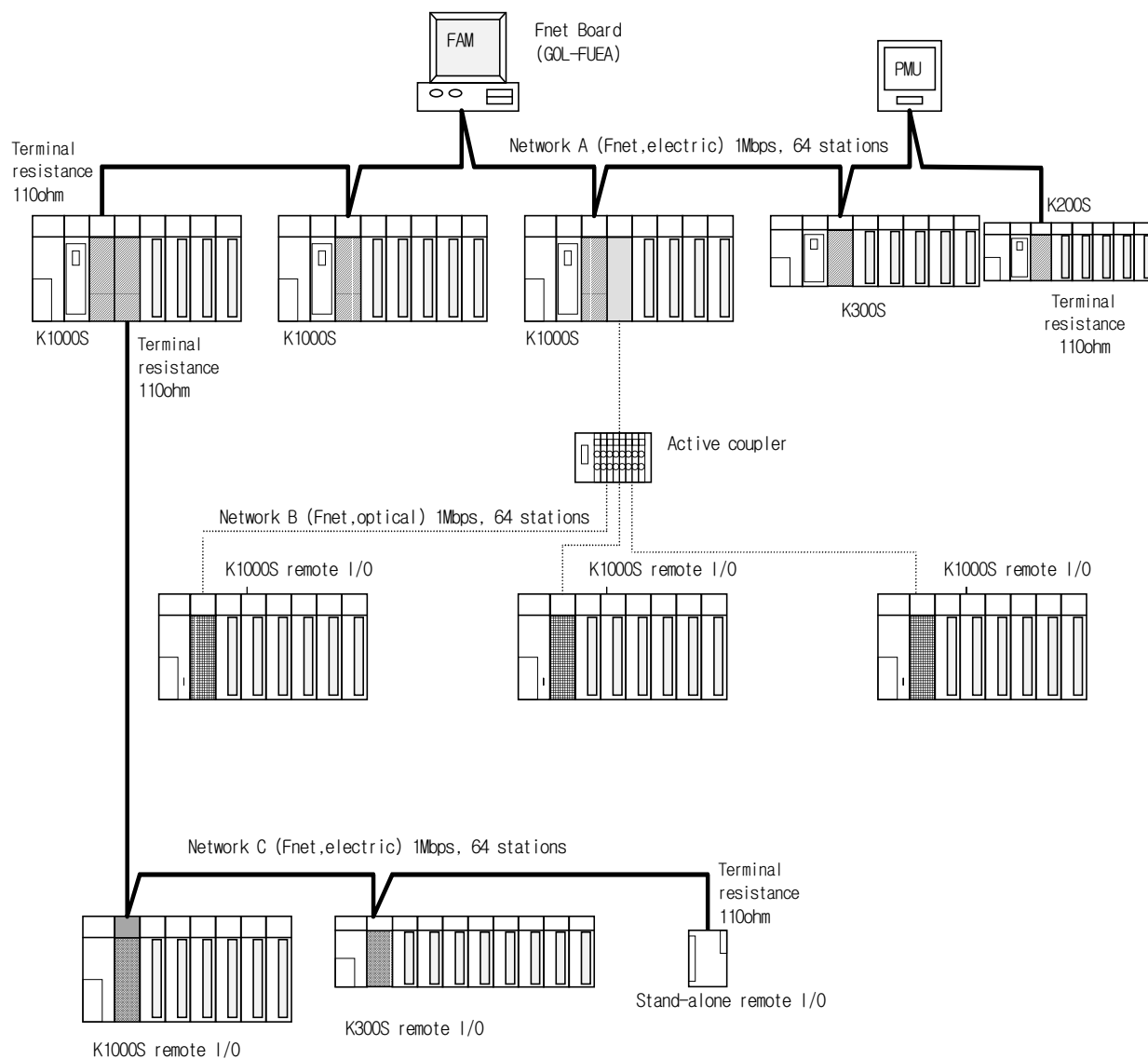
Devices for network A (Fnet electric)

Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	0(slot 0)

Devices for network B (Fnet)

Electric			Optical		
Type	Module name	Ex. of station number setting	Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	1(slot 0)	K1000S remote I/O	K7F-RBOA	5
K1000S remote I/O	K7F-RBEA	2	K1000S remote I/O	K7F-RBOA	6
K300S remote I/O	K4F-RBEA	3	K1000S remote I/O	K7F-RBOA	7
Stand-alone remote output	GOL-SMQA	4	Electric/optical converter	GOL-FOEA	Not available
			Active coupler	GOL-FACA/FABA/FAPA	Not available

5.2.7 Configuration of Fnet combined system (electric/optical network)



5. System configuration

Devices for network A (Fnet, electric)		
Type	Module name	Ex. of station number setting
FAM	G0L-FUEA	0
K1000S	K7F-FUEA	1(slot 0)
K1000S	K7F-FUEA	3
K1000S	K7F-FUEA	4
K300S	K4F-FUEA	6
K200S	K3F-FUEA	7
PMU-500	PM0-500F	8

Devices for network B (Fnet ,optical)		
Type	Module name	Ex. of station number setting
K1000S	G0L-FUOA	5(slot 1)
K1000S remote I/O	K7F-RBOA	12
K1000S remote I/O	K7F-RBOA	13
K1000S remote I/O	K7F-RBOA	14
Active coupler	G0L-FACA/FABA/FAPA	Not available

Devices for network C (Fnet ,electric)		
Type	Module name	Ex. of station number setting
K1000S	K7F-FUEA	2(slot 1)
K1000S remote I/O	K7F-RBEA	9
K300S remote I/O	K4F-RBEA	10
Stand-alone remote output	G0L-SMQA	11