● Base plate for barrier (A2BN4D)

This base plate communicates with the node interface unit via an F-SB bus by connecting a field signal to a terminal on the intrinsic safety (hereinafter I.S.) barrier mounted on.

The Base plate for barrier, one of the components of the N-IO I/O unit (for Barrier) which is defined as A2ZN4DC for the system model, enables to mount I/O modules and various I.S. barriers from MTL Instruments Group Limited (MTL). The I.S. barrier has a field connection terminal (pressure clamp terminal) for connecting the field signals.

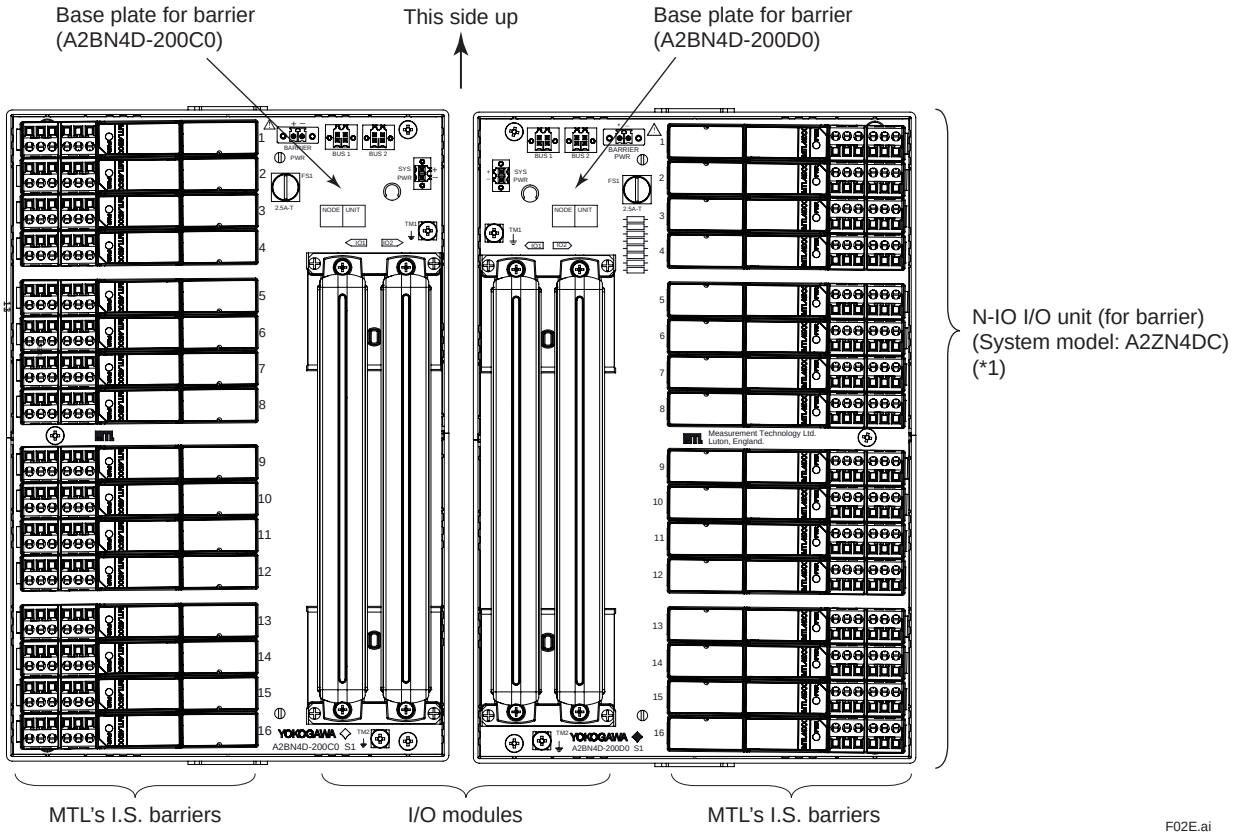
The I/O modules can be mounted in a single or dual-redundant configuration. Channels on the base plate are available to connect up to 16 I.S. barriers. The base plate has a system power supply and a field power supply interface and has a function to supply power to the I/O modules from the node interface unit via the power supply cable for base plate (A2KPB00) as well as to supply field power to the I.S. barriers by connecting the specified power line. The tables below show the I/O modules and I.S. barriers that can be mounted on the base plate.

Table I/O modules (for N-IO)

Signal type	Description	Model
Universal input/output	Analog digital I/O module (16-channel, isolated)	A2MMM843
Universal input/output	Digital I/O module (16-channel, isolated)	A2MDV843

Table MTL's I.S. barriers

Signal type	Description	Model
Analog input	4 to 20 mA, 2/3 wire, HART	MTL4541Y
	4 to 20 mA, 4 wire, HART	MTL4541YA
Analog output	4 to 20 mA, HART	MTL4545Y
Digital input	Dry contact or NAMUR, LFD	MTL4514N
Digital output	Voltage output	MTL4521Y
	Voltage output, LFD	MTL4523Y
Temp. input	TC/RTD	MTL4573Y



*1: MTL's I.S. barriers are not included in A2ZN4DC.

Figure Hardware configuration (Base plate for barrier: A2BN4D)

Basic specifications

Item		Specification
Input power supply	**System power supply [SYS PWR] (*1)**	24 V DC +10%/-14 %
	Field power supply [BARRIER PWR] (*2)	24 V DC +10%/-14 %, up to 1.6 A
Mounting		DIN rail mount/Wall mount (M4 screws)
Number of components that can be mounted	**I/O module**	2 modules
	I.S. barrier	16 barriers
Number of channels		16 channels
Connection	**Power supply**	System power supply: Connected by the power supply cable for base plate (A2KPB00) Field power supply: Connected the cable (*3) to the field power supply terminal
	Grounding	M4 screw terminal (*4)
	Field signal (*5)	Pressure clamp terminal
	F-SB bus	Connected the F-SB bus cable (A2KLF00)
Weight		Approx. 0.85 kg
Withstanding voltage		Between field and system: 1500 V AC for 1 minute 42 V DC, continuous
Insulation resistance		Between field and system: 100 M Ω or higher (500 V DC)
Mounting conditions		A dummy cover (A2DCV01) must be attached to any unused slot of the I/O module.

Note: Response time of the I.S. barriers varies by the specifications of the I.S. barriers and the response time of their control-loops. The response time of some of the I.S. barriers are more than several tens of milliseconds. Refer to the specifications of the I.S. barriers provided by the vendor for more details.

*1: Power supply from the node interface unit using the power supply cable for base plate (A2KPB00).
*2: Field power supply shall not be provided directly from a DC distribution network.
*3: A cable must be prepared separately: Cable size (0.5 to 1.5 mm^2).
*4: The screw terminal is on the MTL's I.S. barrier.
*5: Cable specification of field signal depends on the requirements specification of the MTL's I.S. barriers. Refer to the instruction manuals of the I.S. barriers provided by the vendor.