

# SIEMENS

## Installation Instructions

Model ALD-2I

Analog Loop Driver

### OPERATION

The Model ALD-2I from Siemens Industry, Inc. is an optional MXL/MXLV/MXL-IQ network module that connects intelligent addressable devices to the MXL/MXLV/MXL-IQ System. The module uses **two consecutive network addresses** on the System. Devices connected to the ALD-2I circuits are supervised by the MXL Control Panel.

Each of the ALD-2I circuits supports up to 60 alarm causing, trouble causing, security, and supervisory type devices, as well as remote CZM-1s and intelligent output devices. Each device has its own address. The sensitivity of any intelligent smoke detector is checked and

adjusted from the Control Panel. Sensitivity, as well as other device information, is displayed at the Control Panel. The ALD-2I also supports the use of relay bases.

Each ALD-2I circuit can be wired in either a Class B or Class A configuration. When using Class B, T-tapping is permitted with no loss of supervision.

The ALD-2I module has an on-board micro-processor which provides it with the ability to function and to initiate alarm conditions even if the MXL main processor fails. The module also has four LEDs, which can indicate alarm, trouble, transmit, or ground fault. (Refer to Figure 1.)

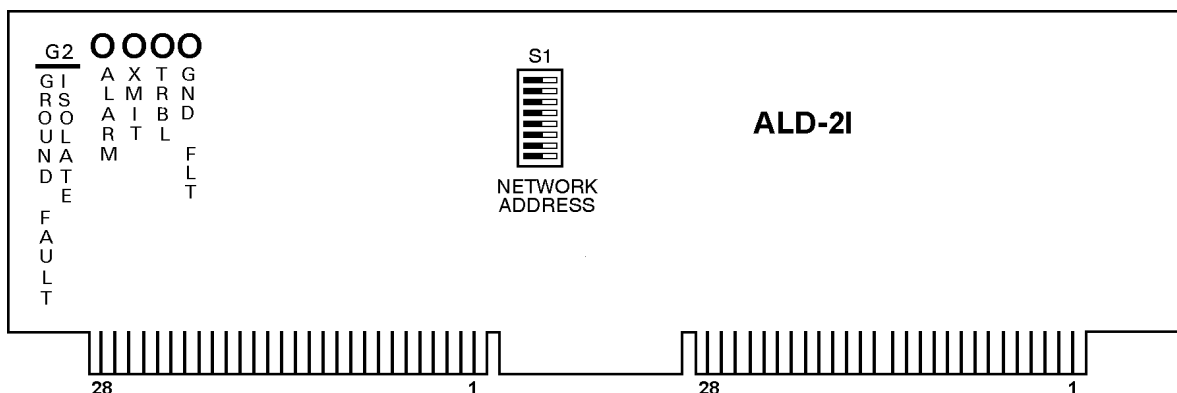


Figure 1  
ALD-2I Board

Siemens Industry, Inc.  
Building Technologies Division  
Florham Park, NJ

P/N 315-091464-13

Siemens Building Technologies, Ltd.  
Fire Safety & Security Products  
2 Kenview Boulevard  
Brampton, Ontario  
L6T 5E4 Canada

# INSTALLATION

**Remove all system power before installation, first battery then AC.** (To power up, connect the AC first, then the battery.)

The ALD-2I installs into the MXL optional module card cage, Model MOM-4. It plugs into one full-width slot in the MOM-4. The ALD-2I can be placed in either the upper or lower slot of the MOM-4 (See Figure 2). The position determines whether the device loops are available on TB1 or TB2 of the MOM-4.

If the MXL software revision level is 3.2 or higher, cut jumper G2. If the level is below 3.2, **do not cut it.**

For all MXL-IQ installations, cut jumper G2.

Before the ALD-2I is installed in the MOM-4, set the network address using switch S1 (See Figure 1). Set it to the lower of the two corresponding addresses selected for it in the CSG-M. (The lower address must be odd.) Follow the appropriate switch positions in Table 1 on the back to set the address.

The table below illustrates sample ALD-2I module addresses:

ALD-2I at Module Addresses 3 and 4	Devices
Loop 1	003-01 to 003-60
Loop 2	004-01 to 004-60
ALD-2I at Module Addresses 15 and 16	Devices
Loop 1	015-01 to 015-60
Loop 2	016-01 to 016-60

After the address is set, install the ALD-2I in the MOM-4, being sure that the module is riding in the card guides and is firmly seated in the card edge connector. Eliminate all troubles from each ALD-2I before installing the next one.

Electrical connections for the two addressable initiating zones are shown in Figure 3.

## Electrical Ratings (Refer to Figure 3)

Module Ratings:

Active 5VDC Module Current	0mA
Active 24VDC Module Current	120mA + 1.5mA per device, 1.6mA per TRI
Standby 24VDC Module Current	120mA + 1.5mA per device, 1.6mA per TRI

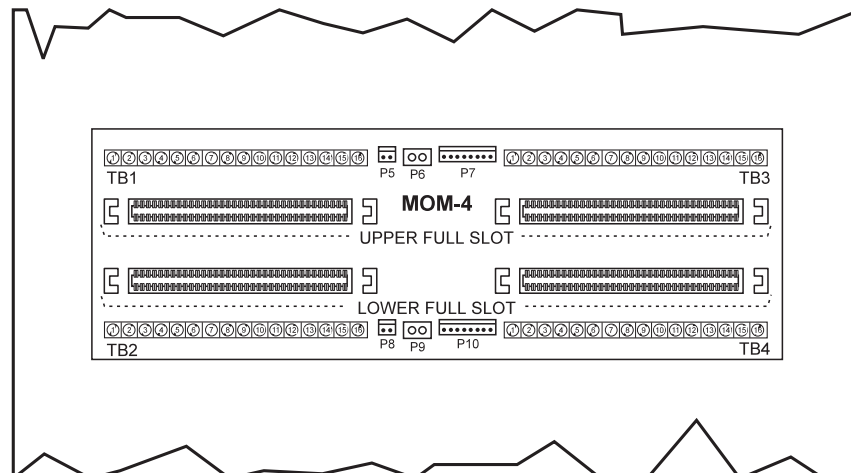
Initiating circuits are rated:

Supervisory: 30 VDC unfiltered full wave (peak)  
90mA max

Alarm: 30 VDC unfiltered full wave (peak)  
90mA max (60 devices in alarm)

## Compatible Devices

- All circuits are power limited to NFPA 70 per NEC 760. Each detector or group of detectors must use a 2-wire circuit of at least 18 AWG thermoplastic fixture wire enclosed in conduit, or 18 AWG limited energy shielded cable without conduit, if permitted by local building codes.



**Figure 2**  
**Slots for ALD-2I**

**ANALOG DEVICE LOOPS  
COMPATIBLE DEVICES**

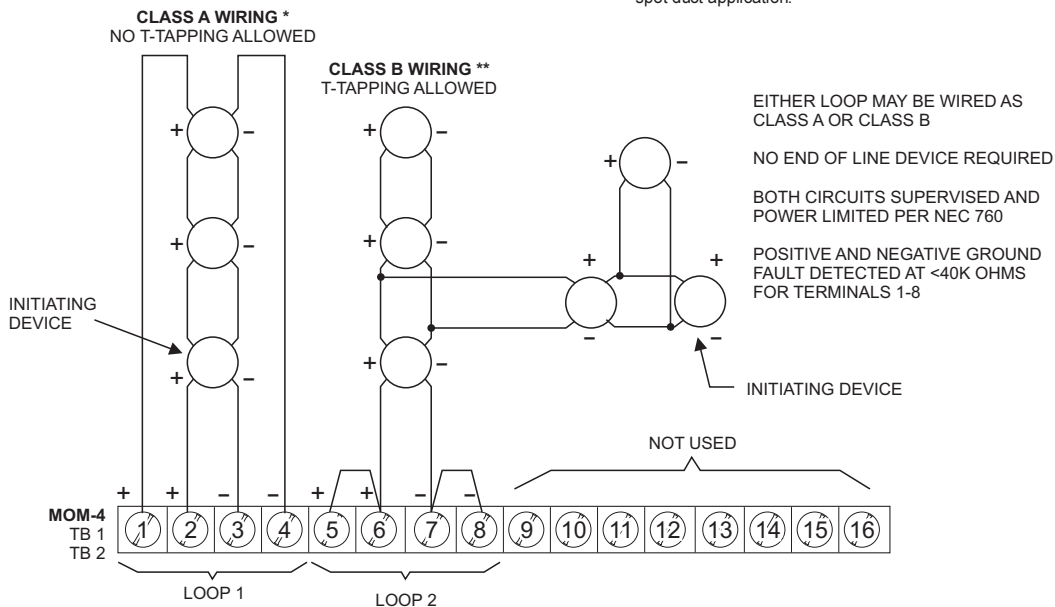
Compatible Devices	Base	Installation Instructions
CZM-1	—	P/N 315-090725
CZM-1B6	—	P/N 315-095355
FP-11/FPT-11*	DB-3S with DB-ADPT DB-11	P/N 315-095921 P/N 315-095921
ID-60I/60IH	DB-3S, DB-X3RS	P/N 315-090287
ID-60IA/60IAH	DB-3S, DB-X3RS	P/N 315-090287
ID-60IB/60IBH	AD-3I AD-3XRI	P/N 315-093234 P/N 315-093235
ILI-1/1H	DB-3S, DB-X3RS	P/N 315-095387
ILI-1A/1AH	DB-3S, DB-X3RS	P/N 315-095387
ILI-1B/1BH	AD-3I AD-3XRI	P/N 315-093234 P/N 315-093235
ILP-1/ILPT-1	DB-3S, DB-X3RS	P/N 315-092594
ILP-1(d)	AD-3ILP AD-3XRILP	P/N 315-093234 P/N 315-093235
ILP-2**	DB-3S, DB-X3RS	P/N 315-095028
ILP-2**(d)†	AD-3ILP AD-3XRILP	P/N 315-093234 P/N 315-093235
ILT-1	DB-3S	P/N 315-093336
MSI-10/20	—	P/N 315-090903
MSI-10B/20B	—	P/N 315-093329
MSI-B6F	—	P/N 315-095302
MSI-MB6	—	P/N 315-093613
TRI-B6/B6D/B6R	—	P/N 315-093315
TRI-B6M	—	P/N 315-049485
TRI-MMS	—	P/N 315-699547
TRI-MTD	—	P/N 315-699548
TRI-S/D/R	—	P/N 315-049481

- No end of line device is required for these initiating loops.
  - Up to 60 detectors can be used per loop. See the table at the right for a list of compatible detectors. Use any combination of those listed.
  - The compatibility identifiers for the compatible devices are the model numbers listed at the right.
  - Total circuit resistance must not exceed 100 ohms.
- Maximum capacitance:  
 0.4µF, between loop+ and loop-  
 0.8µF, between loop+ and chassis  
 0.8µF, between loop- and chassis
- T-tapping is **not** allowed on Class A loops.

For additional information on the MXL/MXLV System, refer to the *MXL/MXLV Manual, P/N 315-092036*.

For additional wiring information, refer to *Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-091772 revision 6 or higher*.

\* The FP/FPT-11 is only compatible with MXL/MXLV Rev. 10.0 or greater firmware.  
 \*\*The ILP-2 is only compatible with MXL/MXLV Rev. 8.0 or greater firmware.  
 † When the CSG-M is configured, the DUCT application must be selected when the device is used in an air duct housing or in a spot duct application.



**Figure 3  
ALD-21 Wiring Diagram**

\* OPERATES IN FULL CONFORMANCE WITH STYLE 6  
 \*\* OPERATES IN FULL CONFORMANCE WITH STYLE 4

**TABLE 1  
NETWORK ADDRESS PROGRAMMING**

ADDR	8 7 6 5 4 3 2 1	ADDR	8 7 6 5 4 3 2 1	ADDR	8 7 6 5 4 3 2 1	ADDR	8 7 6 5 4 3 2 1
000	ILLEGAL	064	OX000000	128	X0000000	192	XX000000
001	ILLEGAL	065	OX00000X	129	X000000X	193	XX00000X
002	ILLEGAL	066	OX00000X	130	X000000X	194	XX00000X
003	000000XX	067	OX00000X	131	X000000X	195	XX00000X
004	00000X00	068	OX000X00	132	X0000X00	196	XX000X00
005	00000X0X	069	OX000X0X	133	X0000X0X	197	XX000X0X
006	00000X0X	070	OX000X0X	134	X0000X0X	198	XX000X0X
007	00000XXX	071	OX000XXX	135	X0000XXX	199	XX000XXX
008	0000X000	072	OX00X000	136	X000X000	200	XX00X000
009	0000X00X	073	OX00X00X	137	X000X00X	201	XX00X00X
010	0000X0X0	074	OX00X0X0	138	X000X0X0	202	XX00X0X0
011	0000X0XX	075	OX00X0XX	139	X000X0XX	203	XX00X0XX
012	0000X000	076	OX00X000	140	X000X000	204	XX00X000
013	0000X00X	077	OX00X00X	141	X000X00X	205	XX00X00X
014	0000X0XX	078	OX00X0XX	142	X000X0XX	206	XX00X0XX
015	0000XXXX	079	OX00XXXX	143	X000XXXX	207	XX00XXXX
016	000X0000	080	OX0X0000	144	X00X0000	208	XX0X0000
017	000X000X	081	OX0X000X	145	X00X000X	209	XX0X000X
018	000X00X0	082	OX0X00X0	146	X00X00X0	210	XX0X00X0
019	000X00XX	083	OX0X00XX	147	X00X00XX	211	XX0X00XX
020	000X0X00	084	OX0X0X00	148	X00X0X00	212	XX0X0X00
021	000X0X0X	085	OX0X0X0X	149	X00X0X0X	213	XX0X0X0X
022	000X0XX0	086	OX0X0XX0	150	X00X0XX0	214	XX0X0XX0
023	000X0XXX	087	OX0X0XXX	151	X00X0XXX	215	XX0X0XXX
024	000X0000	088	OX0XX000	152	X00XX000	216	XX0XX000
025	000X000X	089	OX0XX00X	153	X00XX00X	217	XX0XX00X
026	000X0X00	090	OX0XX0X0	154	X00XX0X0	218	XX0XX0X0
027	000X0XX0	091	OX0XX0X0	155	X00XX0X0	219	XX0XX0X0
028	000XX000	092	OX0XX000	156	X00XX000	220	XX0XX000
029	000XX00X	093	OX0XX00X	157	X00XX00X	221	XX0XX00X
030	000XXXX0	094	OX0XXXX0	158	X00XXXX0	222	XX0XXXX0
031	000XXXXX	095	OX0XXXXX	159	X00XXXXX	223	XX0XXXXX
032	00X00000	096	OX000000	160	X0X00000	224	XX000000
033	00X0000X	097	OX00000X	161	X0X0000X	225	XX00000X
034	00X000X0	098	OX0000X0	162	X0X000X0	226	XX0000X0
035	00X000XX	099	OX0000XX	163	X0X000XX	227	XX0000XX
036	00X00X00	100	OX000X00	164	X0X00X00	228	XX000X00
037	00X00X0X	101	OX000X0X	165	X0X00X0X	229	XX000X0X
038	00X00XX0	102	OX000XX0	166	X0X00XX0	230	XX000XX0
039	00X00XXX	103	OX000XXX	167	X0X00XXX	231	XX000XXX
040	00X0X000	104	OX00X000	168	X0X0X000	232	XX00X000
041	00X0X00X	105	OX00X00X	169	X0X0X00X	233	XX00X00X
042	00X0X0X0	106	OX00X0X0	170	X0X0X0X0	234	XX00X0X0
043	00X0X0XX	107	OX00X0XX	171	X0X0X0XX	235	XX00X0XX
044	00X0XX00	108	OX00XX00	172	X0X0XX00	236	XX00XX00
045	00X0XX0X	109	OX00XX0X	173	X0X0XX0X	237	XX00XX0X
046	00X0XXX0	110	OX00XXX0	174	X0X0XXX0	238	XX00XXX0
047	00X0XXXX	111	OX00XXXX	175	X0X0XXXX	239	XX00XXXX
048	00XX0000	112	OX0X0000	176	X0XX0000	240	XX0X0000
049	00XX000X	113	OX0X000X	177	X0XX000X	241	XX0X000X
050	00XX00X0	114	OX0X00X0	178	X0XX00X0	242	XX0X00X0
051	00XX00XX	115	OX0X00XX	179	X0XX00XX	243	XX0X00XX
052	00XX0X00	116	OX0X0X00	180	X0XX0X00	244	XX0X0X00
053	00XX0X0X	117	OX0X0X0X	181	X0XX0X0X	245	XX0X0X0X
054	00XX0XX0	118	OX0X0XX0	182	X0XX0XX0	246	XX0X0XX0
055	00XX0XXX	119	OX0X0XXX	183	X0XX0XXX	247	XX0X0XXX
056	00XXX000	120	OX0XX000	184	X0XXX000	248	ILLEGAL
057	00XXX00X	121	OX0XX00X	185	X0XXX00X	249	ILLEGAL
058	00XXX0X0	122	OX0XX0X0	186	X0XXX0X0	250	ILLEGAL
059	00XXX0XX	123	OX0XX0XX	187	X0XXX0XX	251	ILLEGAL
060	00XXXX00	124	OX0XXX00	188	X0XXX000	252	ILLEGAL
061	00XXXX0X	125	OX0XXX0X	189	X0XXX00X	253	ILLEGAL
062	00XXXXX0	126	OX0XXXX0	190	X0XXXX00	254	ILLEGAL
063	00XXXXXX	127	OX0XXXXX	191	X0XXXX0X	255	ILLEGAL

O = OPEN (or OFF) X = CLOSED (or ON)