

Cautions

ELECTRICAL HAZARD: Disconnect power from equipment prior to making any internal adjustments. Service should only be performed by qualified personnel.

FRAGILE: Inspect the equipment prior to installation. Do not install the equipment if damage is apparent. Do not attempt to disassemble this equipment. If damaged, return to the supplier.

ELECTROSTATIC HAZARD: This is sensitive electronic equipment. Apply safe ant-static practices when handling this equipment.

CIRCUIT LIMITATIONS: The maximum number of detectors connected to a single detection zone is limited by the control and indicating equipment, and may be limited by local regulations.

Introduction

SNA-360 analogue addressable photoelectric smoke/heat detectors are microprocessor controlled state-of-the-art detectors suitable for connection to Numens 2-wire addressable fire detection control and indicating equipment.

These instructions provide trained installation personnel with details to install and commission SNA-360 smoke/heat detectors for optimum performance.

Preparation

Before commencing installation, ensure all equipment and tools to mount and connect the equipment are available, such as drills, mounting screws, cables and ladders.

SNA-360 smoke/heat detectors can be installed with the following bases and accessories.

Description	Part number	Datasheet
4-terminal 102 mm low profile base	CN302A	31-0036
8-terminal 102 mm low profile base	CN304A	31-0038
Remote indicator ^a	681-001	31-0027

^a Requires 8-terminal base.

Installation

Base

The base can be mounted directly onto an electrical junction box such as an octagonal (75 mm, 90 mm or 100 mm), a round (75 mm), or a square (100 mm) box without using any type of mechanical adapter.

1. Feed the conductors through the middle of the base for termination to the base contacts.
2. Mount the base on the junction box or directly onto a flat surface.
3. Mount the base to the surface using fixing screws that are suitable to securely fix the base to the surface.

Wiring

Base terminals accept (0.4 ~ 2.5) mm² conductors.

1. Strip the conductor insulation to expose 5 mm of the conductor.
2. Connect the conductors to the base terminals as shown in Fig. 1.

WARNING: Take care to ensure the insulation does not get clamped by the terminal contact.

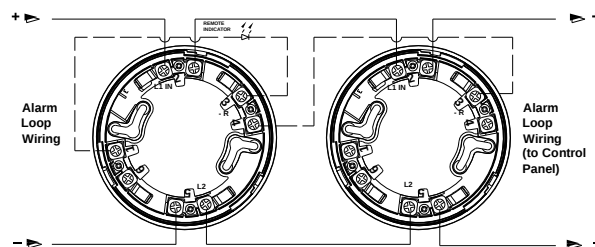


Fig. 1: Base wiring connections

Note 1: 8-terminal base required if a remote indicator is installed.

Note 2: If a remote indicator is not installed, the polarity of the zone circuit wiring may be reversed.

WARNING: Do not short-circuit terminals 2 and 5.

3. Check the wiring for continuity, short circuits and earth faults.

Detector

WARNING: Do not install the detector head until the area is thoroughly cleaned of construction debris, dust, etc.

1. Select the detector address and set the address as shown in Table 1 by adjusting the DIP switch settings located on the underside of the detector body.

Note: For ST protocol addresses 1~125 can be used.

For XP protocol addresses 1~250 can be used.

2. Align the detector alignment mark with the short alignment mark in the base, as shown in Fig. 2.
3. Mate the detector head onto the base and rotate it clockwise to secure it. The long alignment marks should be aligned.

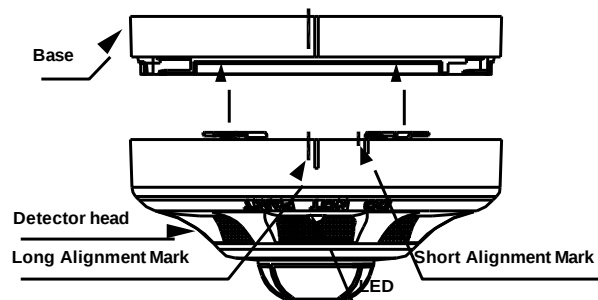


Fig. 2: Fitting the detector to the base

Commissioning

Smoke Detector

1. Ensure all the alarm signal services, releasing devices and extinguisher systems are disabled during the commissioning period.
2. Connect power to the detector for approximately 1 min. Check that the detector is recognized and in the quiescent condition at the control and indicating equipment. If the detector is not shown or shows in fault, check the wiring for the correct voltage and earth leakage. Replace the detector if necessary.
3. Allow smoke from a cotton wick or a test smoke aerosol to enter the detector-sensing chamber for at least 10 s. When sufficient smoke has entered the chamber, the detector will signal an alarm, by continuous illumination of the LEDs.
4. Upon alarm, immediately remove the smoke source.
5. Reset the detector from the control and indicating equipment.
6. Check that the detector LEDs are off and the control and indicating returns to the quiescent condition.

Heat Detector

1. Subject the detector to a flow of warm air at a temperature of between 65 °C and 80 °C as follows (this requirement can be met by some domestic hair dryers).
 - a. Start the warm airflow and check that temperature is correct and stable.
 - b. From a distance of approximately 5 cm, direct the airflow at the guard protecting the thermistor for up to

30 s. The detector will signal an alarm by continuous illumination of the LED.

- Upon alarm, immediately remove the heat source.
- Reset the detector from the control and indicating equipment.
 - Check that the detector LEDs are off and the control and indicating returns to the quiescent condition.

Remote Indicator (where fitted)

Check that the indicator illuminates at the same time as the detector LED.

Final Conditions

Ensure all the alarm signal services, releasing devices and extinguisher systems disabled for the commissioning are returned to their previous condition.

References

Document	Description
31-0042	SNA-360 analogue addressable smoke/heat detector datasheet

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Table 1 – DIP switch address settings



Addresses 1-125

ON → 1	2	1 2	3	1 3	2 3	1 2 3	4
01	02	03	04	05	06	07	08
ON → 1 4	2 4	1 2 4	3 4	1 3 4	2 3 4	1 2 3 4	5
09	10	11	12	13	14	15	16
ON → 1 5	2 5	1 2 5	3 5	1 3 5	2 3 5	1 2 3 5	4 5
17	18	19	20	21	22	23	24
ON → 1 4 5	2 4 5	1 2 4 5	3 4 5	1 3 4 5	2 3 4 5	1 2 3 4 5	6
25	26	27	28	29	30	31	32
ON → 1 6	2 6	1 2 6	3 6	1 3 6	2 3 6	1 2 3 6	4 6
33	34	35	36	37	38	39	40
ON → 1 4 6	2 4 6	1 2 4 6	3 4 6	1 3 4 6	2 3 4 6	1 2 3 4 6	5 6
41	42	43	44	45	46	47	48
ON → 1 5 6	2 5 6	1 2 5 6	3 5 6	1 3 5 6	2 3 5 6	1 2 3 5 6	4 5 6
49	50	51	52	53	54	55	56
ON → 1 4 5 6	2 4 5 6	1 2 4 5 6	3 4 5 6	1 3 4 5 6	2 3 4 5 6	1 2 3 4 5 6	7
57	58	59	60	61	62	63	64
ON → 1 7	2 7	1 2 7	3 7	1 3 7	2 3 7	1 2 3 7	4 7
65	66	67	68	69	70	71	72
ON → 1 4 7	2 4 7	1 2 4 7	3 4 7	1 3 4 7	2 3 4 7	1 2 3 4 7	5 7
73	74	75	76	77	78	79	80
ON → 1 5 7	2 5 7	1 2 5 7	3 5 7	1 3 5 7	2 3 5 7	1 2 3 5 7	4 5 7
81	82	83	84	85	86	87	88
ON → 1 4 5 7	2 4 5 7	1 2 4 5 7	3 4 5 7	1 3 4 5 7	2 3 4 5 7	1 2 3 4 5 7	6 7
89	90	91	92	93	94	95	96
ON → 1 6 7	2 6 7	1 2 6 7	3 6 7	1 3 6 7	2 3 6 7	1 2 3 6 7	4 6 7
97	98	99	100	101	102	103	104
ON → 1 4 6 7	2 4 6 7	1 2 4 6 7	3 4 6 7	1 3 4 6 7	2 3 4 6 7	1 2 3 4 6 7	5 6 7
105	106	107	108	109	110	111	112
ON → 1 5 6 7	2 5 6 7	1 2 5 6 7	3 5 6 7	1 3 5 6 7	2 3 5 6 7	1 2 3 5 6 7	4 5 6 7
113	114	115	116	117	118	119	120
ON → 1 4 5 6 7	2 4 5 6 7	1 2 4 5 6 7	3 4 5 6 7	1 3 4 5 6 7			
121	122	123	124	125			

Addresses 126-250 only
for XP protocol products

Addresses 126~250

					2 3 4 5 6 7	1 2 3 4 5 6 7	8
ON → 1	2	1 2	3	1 3	2 3	1 2 3	4
129	130	131	132	133	134	135	136
ON → 1 4	2 4	1 2 4	3 4	1 3 4	2 3 4	1 2 3 4	5
137	138	139	140	141	142	143	144
ON → 1 5	2 5	1 2 5	3 5	1 3 5	2 3 5	1 2 3 5	4 5
145	146	147	148	149	150	151	152
ON → 1 4 5	2 4 5	1 2 4 5	3 4 5	1 3 4 5	2 3 4 5	1 2 3 4 5	6
153	154	155	156	157	158	159	160
ON → 1 6	2 6	1 2 6	3 6	1 3 6	2 3 6	1 2 3 6	4 6
161	162	163	164	165	166	167	168
ON → 1 4 6	2 4 6	1 2 4 6	3 4 6	1 3 4 6	2 3 4 6	1 2 3 4 6	5 6
169	170	171	172	173	174	175	176
ON → 1 5 6	2 5 6	1 2 5 6	3 5 6	1 3 5 6	2 3 5 6	1 2 3 5 6	4 5 6
177	178	179	180	181	182	183	184
ON → 1 4 5 6	2 4 5 6	1 2 4 5 6	3 4 5 6	1 3 4 5 6	2 3 4 5 6	1 2 3 4 5 6	7
185	186	187	188	189	190	191	192
ON → 1 7	2 7	1 2 7	3 7	1 3 7	2 3 7	1 2 3 7	4 7
193	194	195	196	197	198	199	200
ON → 1 4 7	2 4 7	1 2 4 7	3 4 7	1 3 4 7	2 3 4 7	1 2 3 4 7	5 7
201	202	203	204	205	206	207	208
ON → 1 5 7	2 5 7	1 2 5 7	3 5 7	1 3 5 7	2 3 5 7	1 2 3 5 7	4 5 7
209	210	211	212	213	214	215	216
ON → 1 4 5 7	2 4 5 7	1 2 4 5 7	3 4 5 7	1 3 4 5 7	2 3 4 5 7	1 2 3 4 5 7	6 7
217	218	219	220	221	222	223	224
ON → 1 6 7	2 6 7	1 2 6 7	3 6 7	1 3 6 7	2 3 6 7	1 2 3 6 7	4 6 7
225	226	227	228	229	230	231	232
ON → 1 4 6 7	2 4 6 7	1 2 4 6 7	3 4 6 7	1 3 4 6 7	2 3 4 6 7	1 2 3 4 6 7	5 6 7
233	234	235	236	237	238	239	240
ON → 1 5 6 7	2 5 6 7	1 2 5 6 7	3 5 6 7	1 3 5 6 7	2 3 5 6 7	1 2 3 5 6 7	4 5 6 7
241	242	243	244	245	246	247	248
ON → 1 4 5 6 7	2 4 5 6 7						
249	250						



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