

Innovair™

4-Wire Low-Profile



A Division of Pittway
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<http://www.systemsensor.com>



Models Available

DH100ACDCI 4-wire Ionization Detector
DH100ACDCP 4-wire Photoelectric Detector

Tube Installation Chart:

Supplemental Tube Holes	Duct Width
5	12" - 14"
6	14" - 16"
7	16" - 18"

Electrical Ratings – DH100ACDC (Includes Detector)

Power supply voltage:	20-29 VDC	24 VAC 50-60-Hz	120 VAC 50-60 Hz	220/240 VAC 50-60 Hz
Input capacitance:	270nF max.	270 nF max.	N/A	N/A
Reset voltage:	3.0 VDC min.	2.0 VAC min.	10 VAC min.	20 VAC min.
Reset time (with RTS451):	.03 to 0.3 sec.	.03 to 0.3 sec.	.03 to 0.3 sec.	.03 to 0.3 sec.
Reset time (by power down):	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.
Power up time:	34 sec. max.	34 sec. max.	34 sec. max.	34 sec. max.
Alarm response time:	2 to 17 sec.	2 to 17 sec.	2 to 17 sec.	2 to 17 sec.
Sensitivity Test:	See detector label	See detector label	See detector label	See detector label

Power Supply Voltage	20 - 29 VDC	24 VAC 50 - 60 Hz	120 VAC 50 - 60 Hz	220/240 VAC 50 - 60 Hz
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CURRENT REQUIREMENTS (USING NO ACCESSORIES)

Max. standby current	15 mA	35 mA RMS	25 mA RMS*	15 mA RMS*
Max. alarm current	70 mA	125 mA RMS	35 mA RMS*	25 mA RMS*

CONTACT RATINGS

Alarm initiation contacts (SPST)	2.0A @ 30 VAC/DC (0.6 power factor)
Alarm auxiliary contacts (DPDT)	10A @ 30 VDC 10A @ 250 VAC
Note: Alarm auxiliary contacts must switch 100mA minimum at 5VDC. Alarm auxiliary contacts shall not be connected to initiating circuits of control panels. Use the alarm initiation contact for this purpose.	
Trouble contacts (SPDT)	2.0A @ 30 VDC (resistive)

ACCESSORY CURRENT LOADS AT 24 VDC			
DEVICE	STANDBY	TROUBLE	ALARM
APA451	12.5mA Max.	n/a	30mA Max.
PA400	0mA	n/a	15mA Max.
RA400Z	0mA	n/a	10mA Max.
RTS451/RTS451KEY	12mA*	n/a	7.5mA Max.
SSK451	5mA Max.	9mA Max.	30mA Max.

*NOTE: When a unit is powered at the 120VAC or 220/240VAC input, any combination of accessories may be used such that the given accessory loads are:

Specifications

Length:	14 ³ / ₈ inches (37 cm.)	Operating	
Width:	5 1 ¹ / ₂ inches (14 cm.)	Humidity Range:	10% to 93% relative humidity
Depth:	2 ³ / ₄ inches (7 cm.)		noncondensing
Shipping Weight:	3.75 lbs. (1.7 kg.)	Air Duct Velocity:	500 to 4000 ft./min.
Operating Temperature Range:			
Photoelectric:	32° to 131° F (0° to 55° C)		
Ionization:	32° to 120° F (0° to 49° C)		

* Patent pending



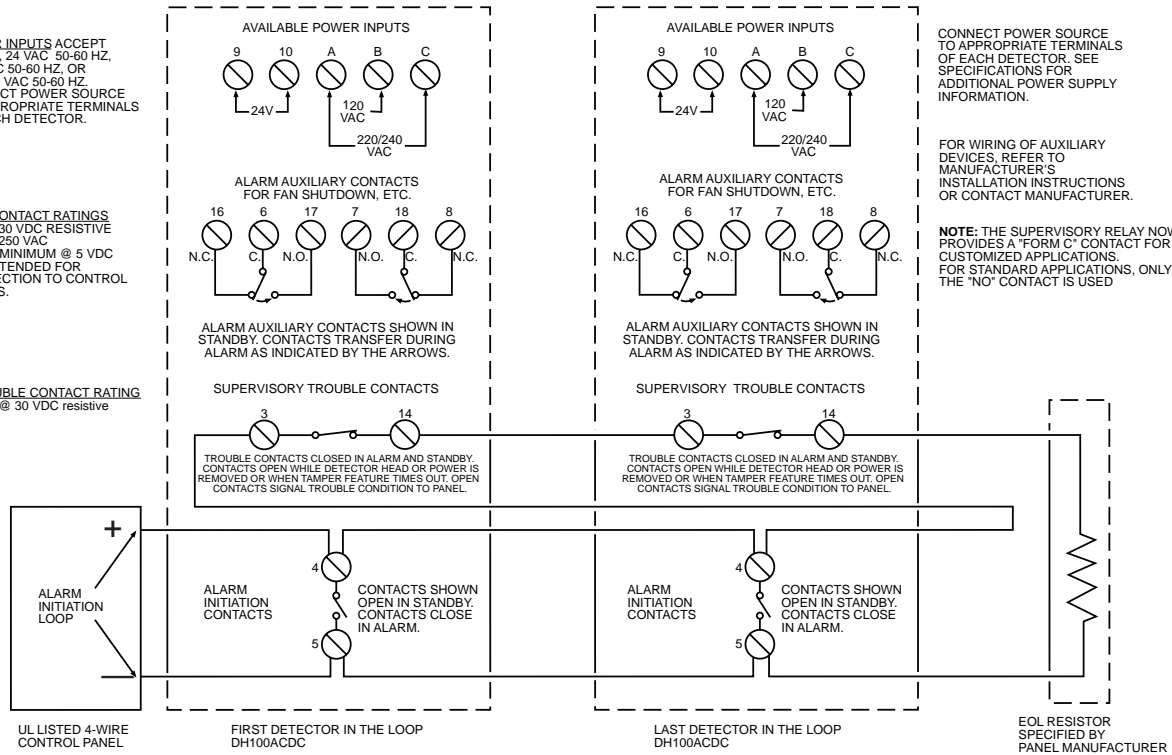
Wiring Guide

System wiring diagram for 4-wire duct smoke detectors

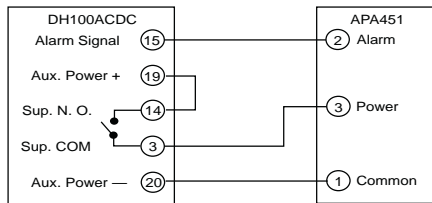
POWER INPUTS ACCEPT
24 VDC, 24 VAC 50-60 HZ,
120 VAC 50-60 HZ, OR
220/240 VAC 50-60 HZ.
CONNECT POWER SOURCE
TO APPROPRIATE TERMINALS
OF EACH DETECTOR.

AUX. CONTACT RATINGS
10A @ 30 VDC RESISTIVE
10A @ 250 VAC
100mA MINIMUM @ 5 VDC
NOT INTENDED FOR
CONNECTION TO CONTROL
PANELS.

TROUBLE CONTACT RATING
2.0 A @ 30 VDC resistive



Wiring diagram for DH100ACDC to APA451



NOTE: Wiring diagram shown is for DH100ACDC 4-wire duct smoke detector system equipped without a control panel.

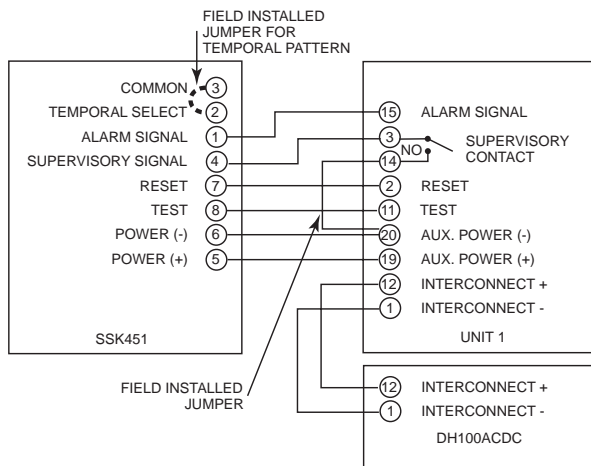
NOTE: A trouble condition is indicated when the green LED

Important Interconnect Notes

- When using the interconnect feature, all interconnected units must be powered with the same, independent supply.
- Polarity must be maintained throughout the interconnect wiring. Connect terminal 12 on unit 1 to terminal 12 on unit 2 and so on. Similarly, connect terminal 1 on unit 1 to terminal 1 on unit 2 and so on.

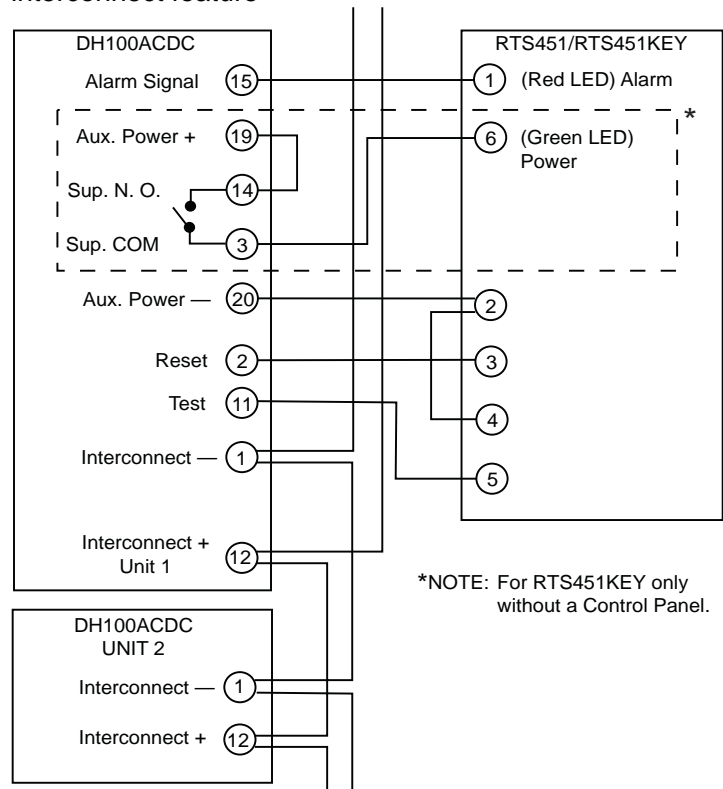
Wiring diagram for the RTS451/RTS451KEY and interconnect feature

Wiring diagram for DH100ACDC to SSK451 and interconnect feature



Coil Note

Please note that the magnetic coil supplied with the RTS451 and RTS451KEY is not required when these accessories are used with the DH100ACDC detectors. The functionality of the magnetic coil has been designed into the circuitry of the new Innovair™ duct smoke detectors.



*NOTE: For RTS451KEY only without a Control Panel.