



Kingfisher Company, inc.

KFD4120 Duct Smoke Detector



3242-1653-0207

Features:

- 4-Wire Photoelectric, integrated low-flow technology
- Air velocity rating from 100ft/min to 4,000 ft/min (0.5 m/s to 20.32 m/sec)
- Versatile mounting options: square or rectangular configuration
- Plug-in sensor offers superb false alarm immunity and the latest sensor technology Broad rangers for operating temperature (-4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Increased wiring space with a newly added 3/4 conduit knockout
- One easy-access Test/Reset button and improved LED status
- Patented interconnect feature for multi-fan shutdown
- New high contrast terminal designations
- Built-in short circuit protection from operator wiring errors
- Field selectable settings for configuring the detector
- Two DPDT Form-C relay contacts
- 24VAC/DC or 120VAC



Description:

The KFD4120 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork. This unit senses smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of -4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). A plug-in sensor head offers improved false alarm immunity and simple installation, testing, and maintenance. An improved cover design isolates the sensor head from the low-flow feature for simple maintenance.

The Kingfisher housing provides ample wiring space, a 3/4-inch conduit knockout, and built-in short circuit protection to prevent damage to sensitive components during installation. High contrast terminal designations make wiring easy. With its 2:1 sensor-to-power capability, the power board of the D4120 may be used to monitor a second sensor, D4S, simultaneously (i.e., supply and return side). As many as 50 King-Fisher detectors can be interconnected. When one unit senses smoke, all interconnected detectors will switch their relays; only the detector sensing smoke will go into alarm, thus pinpointing the fire source

Specifications:

Physical Specifications:

Square Dimensions:	7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth
Rectangular Dimensions:	14.38 in (37 cm) Length; 5 in (12.74 cm) Width; 2.5 in (6.36 cm) Depth
Weight:	2.5 lbs (1.14 kg)
Operating Temperature:	-4° to 158°F
Storage Temperature:	-22° to 158°F
Operating Humidity:	0% to 95% relative humidity non-condensing
Air Duct Velocity:	100 to 4000 ft/min (0.5 to 20.32 m/sec)

Electrical Specifications:

Power Supply Voltage:	20-29VDC	24VAC 50-60Hz	120VAC 50-60Hz
Input Capacitance:	270µF Max	270µF Max	N/A
Reset Voltage:	3 VDC Min	2 VAC Min	10 VAC Min
Reset Time (with RTS151):	.03-.3 Seconds	03-.3 Seconds	03-.3 Seconds
Reset Time (by power down):	.6 Seconds Max	.6 Seconds Max	.6 Seconds Max
Power Up Time:	35 Seconds Max	35 Seconds Max	35 Seconds Max
Alarm Response Time:	15 Seconds	15 Seconds	15 Seconds
Sensitivity Test:	See Detector Label	See Detector Label	See Detector Label
Max Standby Current:	21mA	65mA RMS	20mA RMS
Max Alarm Current:	65mA	135mA RMS	35mA RMS

Contact Ratings:

Alarm Initiation Contacts:	2A @ 30VDC(resistive)
Alarm Aux. Contacts:	10A @ 30 VDC (resistive); 10A @ 250 VAC (resistive); ½ HP @ 240 VAC ; ¼ HP @ 120 VAC
Supervisory Contacts:	2.0A @ 30 VDC (resistive); 2.0A @ 125 VAC (resistive)



KFD4120W (KF P/N: #84193)

Kingfisher Company, inc. 81 Old Ferry Road - Lowell, MA 01854
Phone: 978-596-0214 Fax: 978-596-0217 www.kfci.com

ORDERING INFORMATION

KCi #	Model #	Description
84191	KFD2	Duct Smoke Detector—Photoelectric, Low-Flow 2-Wire
84192	KFD4120	Duct Smoke Detector—Photoelectric, Low-Flow, 4-Wire, 2 Form 'C' Contacts, 24VAC/DC or 120VAC (Comes with smoke detector head)
84193	KFD4120W	Duct Smoke Detector—Photoelectric, Watertight, Low-Flow, 4-Wire, 2 Form 'C' Contacts, 24VAC/DC or 120VAC
52836	KFDST3	Sampling Tube—3', for 2'-4' Duct
52837	KFDST5	Sampling Tube—5', for 4'-8' Duct
52838	KFDST10	Sampling Tube—10', for 8'-10' Duct
52841	KFRA100Z	Remote Alarm LED—single-gang mounting
52842	KFRTS451	Remote Test Station—single-gang mounting) requires 52835 test coil when used with 84191)
52843	KFRTS451KEY	Remote Test/Reset—Keyed, single-gang mounting (requires 52835 test coil when used with 84191)
52835	KFDCOIL	Remote Test Coil, 2-wire—required for use with 52842, 52843
84157	KF2151	Smoke Detector Head—Photoelectric (replacement for 84191)
84194		Smoke Detector Head—Photoelectric (replacement for 84192 & 84193)
84191-DTS		Specification Data Sheet

Kingfisher Company, inc., products must be used within their published specifications and must be PROPERLY specified, applied, installed, operated, maintained and operationally tested in accordance with their installation instructions at the time of installation and at least twice a year or more often and in accordance with local, state and federal codes, regulations and laws. Specification, application, installation, operation, maintenance and testing must be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters' Laboratories (UL), National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA), local, state, county, province, district, federal and other applicable building and fire standards, guidelines, regulations, laws and codes including, but not limited to, all appendices and amendments and the requirements of the local authority having jurisdiction (AHJ).

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Kingfisher Company, inc., standard terms and conditions

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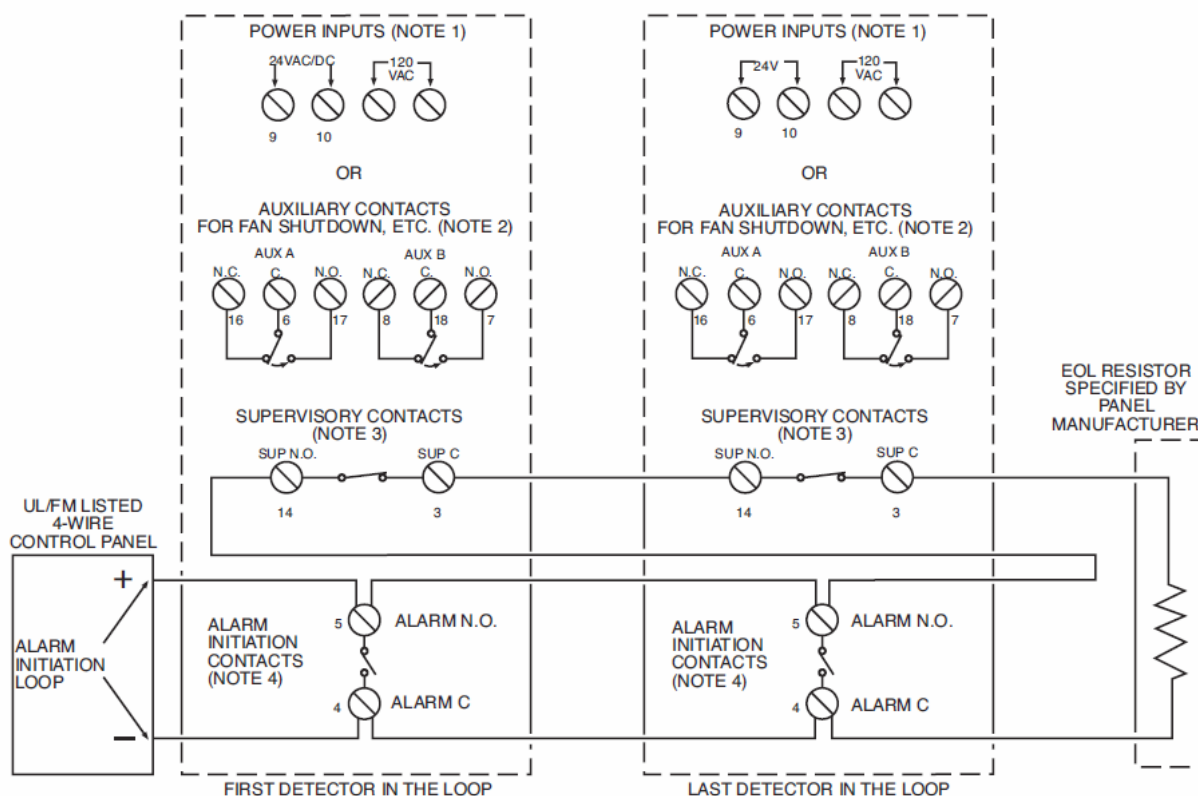
DRAWINGS OR DIAGRAMS

Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be inserted from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).



Wiring for 4-wire Duct Smoke Detector and Accessories



NOTE 1: 24V Power Inputs accept a non-polarized 24VDC or 24VAC 50-60Hz. 120VAC Power Inputs accept only 120VAC 50-60Hz. Connect power source to appropriate terminals of each detector. See specifications for additional power supply information.

NOTE 2: Auxiliary contacts shown in standby position. Contacts switch during alarm as indicated by arrows. Auxiliary contacts are not to be used for connection to the control panel. See specifications for contact ratings.

*Please refer to the corresponding installation manual for accessory wiring diagrams.

NOTE 3: Supervisory contacts shown in standby position. Open contacts indicate a trouble condition to the panel. See specifications for contact ratings.

NOTE 4: Alarm Initiation contacts shown in standby position. Closed contacts indicate an alarm condition to the panel. See specifications for contact ratings.

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