

RE-401BD

REFLECTIVE OPTICAL BEAM SMOKE DETECTOR

General

The Beam Smoke Detector is a high-performance, UL-certified reflective optical beam detection system designed for expansive and high-ceiling environments, offering early smoke detection, wide coverage, and simplified installation.

The RE-401BD series represents a modern solution for smoke detection in large open spaces where traditional point detectors are impractical or cost-prohibitive. Available in two models—RE-401BD-50 (5–50 meters) and RE-401BD-100 (5–100 meters)—Ravel detectors combine advanced optical technology with user-friendly features to deliver reliable fire protection in complex environments.



Features

- **Compliance and Certification** RE-401BD detectors are UL 268 7th Edition certified, meeting the latest global standards for smoke detection performance and safety.
- **Early Detection** - designed to rapidly detect smoke, providing an early warning of a potential fire
- **Wide Coverage** - suitable for spaces with high ceilings or expansive open areas where traditional point detectors may not be as effective
- **Reduced False Alarms** - reliable and effective fire detection solution
- **Ease of Installation** - simpler and more cost effective than deploying a large number of point detectors to cover the same area
- **Adaptable** - configurable threshold levels to the installation environment
- **Reduced Maintenance** - lower overall costs and less disruption to building operations.

Specification

Parameters	Minimum	Typical	Maximum	Unit
Operating Voltage	15	24	32	V DC
Operating Current	15	20	42	mA
Operating Current – Alignment Modes	-	-	55	mA
Alarm Current	25	33	55	mA
Fault Current	3	10	30	mA
Response Thresholds (25%, 35%, 50%, 75%)	25	35	75	%
Delay to Alarm	-	10	-	s
Delay to Fault	-	10	-	s
Operating Distance (Separation between Detector and Reflector) (4 reflectors required for >50m, >164ft)	10	-	100	m
Rapid Obscuration Fault Threshold	-	85	-	%
Maximum angular alignment range of detector	-	-	±4.5	Deg
Optical Wavelength	-	850	-	nm
Operating Temperature	-	-20 -4	+55 +131	°C °F
Storage Temperature	-40 -40	- -	+55 +185	°C °F
Relative Humidity (non-condensing)	-	-	93	%RH
IP Rating	-	IP40	-	IP
Fire & Fault Relays (VFCO) - Contact voltage	-	-	30	V DC
Fire & Fault Relays (VFCO) - Contact current	-	-	1	A
Cable Gauge	22	-	16	AWG
Housing Flammability Rating	-	UL94 V0	-	-
Detector Dimension	115W x 190H x 130D (mm) ; Weight – 0.7Kg			
Reflector	100W x 100H x 10D (mm) ; Weight – 0.1Kg			

Ordering Information

Model	Description
RE-401BD - 50m	Reflective optical Beam Smoke Detector – 50m
RE-401BD -100m	Reflective optical Beam Smoke Detector – 100m
RE-401BD -LRK	Long Range kit. (3 Reflectors)
RE-401BD -TF	Test Filters

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