### keep a SharpEye" on vour sai













40/40M

40/401

40/40L-LB 40/40L4-L4B 40/40U-UB

# 40/40R

## Single IR Flame Detectors

A low cost solution in a durable, high spec package



#### **SharpEye**

The new 40/40R single IR Flame Detector detects bydrocarbon-based fuel and gas fires using advanced flame analysis tools. The detector provides early warning of flaming fires working at 4.5 µm for maximum sensitivity, and immunity to false alarms from IR sources such as sunlight and IR projectors.

The new design is the most durable and weather resistant single IR flame detectors currently on the market. Its new features include a heated window, to eliminate condensation and icing; HART capabilities, for digital communications; lower power requirements; and a compact, lighter design.

Due to increased reliability, the 40/40 Series warranty period has been extended to 5 years and is approved to IEC 61508 Safety Integrity requirements of SIL2.

#### FEATURES & BENEFITS

- Sensitivity selection
- · Automatic and Manual Built-In-Test (BIT) to assure continued reliable operation
- Heated window for operation in harsh weather conditions (snow, ice, condensation)
- · Multiple output options for maximum flexibility and compatibility
  - Relays (3) for Alarm, Fault and Auxiliary
  - 0-20mA (stepped)
  - HART Protocol for maintenance and asset management
  - RS-485, Modbus Compatible
- High Reliability MTBF minimum 150,000 hours
- Approved to Safety Integrity Level 2 (SIL2 TUV)
- 5-Year Warranty
- User Programmable via HART or RS-485
- Ex approved for Zone 1 hazardous area location
- ATEX
- IECEx
- FM
- CSA
- 3rd party Performance Tested
- EN54-10 (LPCB)
- FM3260 (FM)

#### **APPLICATIONS**

Offshore Oil & Gas installations Onshore Oil & Gas installations and pipelines Chemical plants Petrochemicals plants Storage Tank farms Power Generation facilities Pharmaceutical Industry **Printing Industry** Warehouses Automotive Industry Waste Disposal facilities



# keep a **SharpEye**" on your safety

GENERA	AL SPECIFICA	ATIONS							
Spectral Respor	ıse	Single band IR	4.4-4.6 μm						
<b>Detection Range</b>		Fuel	ft / m	Fuel		t / m	Fuel		ft / m
(at highest Sensi	itivity Setting	n-Heptane ! Gasoline !	50 / 15	Kerosene		7/11	Methane*		16 / 5
for $1f\overline{t}^2$ (0.1m <sup>2</sup> ) $\mu$	pan nre)	Diesel Fuel	50 / 15 37 / 11	Ethanol 95% Methanol		5 / 7.5 5 / 7.5	LPG * Polypropylene I	Pellets	16/5 10/3
		JP5	37 / 11	IPA (Isoprop			Office Paper	Circlo	$\frac{10}{20}$ 6
		* 20" (0.5m) high,	8" (0.2m) wid	th plume fire		•	•		•
Response Time		Typically 5 seco	nds						
Adjustable Time	Delay	Up to 30 secon							
Sensitivity Rang	ges	2 ranges; 1 ft <sup>2</sup>	(0.1m <sup>2</sup> ) n-h	eptane pan fi	re from 15 f	t (5m) o	r 50 ft (15m)		
Field of View		Horizontal 90°;	Vertical 90	0					
Built-in-Test (BIT	Γ)	Automatic (and	Manual)						
Temperature Ra	nge		67°F to +16		(-55°C	to +75°0	C)		
			67°F to +18			to +85°			
			67°F to +18			to +85°(	•		
Humidity		Up to 95% non-				RH for s	nort periods)		
Heated Optics		To eliminate co	ndensation	and icing on	the window				
ELECTR	ICAL SPECIF	ICATIONS							
Operating Voltag	ge	24 VDC nomina	al (18-32 VD	OC)					
Power Consump	otion			4 (150mA wit					
				4 (200mA wit		ndow)			
Cable Entries		2 x 3/4"- 14NP			L.5 mm ISO				
Wiring		12 - 22AWG (2		•					
Electrical Input		According to M							
Electromagnetic		EMI/RFI protected to EN50130-4							
Electrical Interfa	ace	The detector includes twelve (12) terminals with five (5) wiring options (factory set)							
OUTPU'	ΓS								
Relays		Alarm, Fault an SPST volt-free o	d Auxiliary contacts rat	ed 5A at 30 V	DC or 250 \	/AC.			
0-20mA (steppe	ed)	Sink (source or		uration					
			0 +1mA 2mA ± 10%		Warning: Alarm:		10mA ± 5% 15mA ± 5%		
		Normal:	$5mA \pm 10\%$		Resistance	e Loop:			
HART Protocol		HART communi	cation on th	ne 0-20mA an	alog current	.(FSK) - ι	used for maintena	ance, co	nfiguratio
		changes and a							
RS-485			s compatib	e communica	ation link tha	at can be	used in compute	er contro	olled
		installations							
	NICAL SPECI								
Materials Enclosure option	ne.	- Stainless Stee			n tinish				
·	15		ppei nee ai	uminum (locc		ad anav	onamal finish		
		Ctainlaga Ctaal		· · · · · · · · · · · · · · · · · · ·	than 1%), r	ed epoxy	enamel finish		
				electro polish	than 1%), r finish				
Dimensions		Detector	316L with 6	electro polish 3.5" x 4.5" x	than 1%), r finish 6.1" (90 x	ed epoxy			
Dimensions		Detector Detector (St.St. Detector, alumi	316L with 6	3.5" x 4.5" x 5.5 lb ( 2.5 lb (	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg)				
Mounting Dimensions Weight Environmental S		Detector Detector (St.St. Detector, alumi Tilt mount	316L with (	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb (	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg)	114 x 1	56 mm)	չի Temp	Low Tem
Dimensions Weight	Standards	Detector Detector (St.St. Detector, alumi Tilt mount	316L with (	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( umidity, Salt &	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibrati	114 x 1		gh Temp	Low Tem
Dimensions Weight Environmental S	Standards	Detector  Detector (St.St. Detector, alumi Tilt mount  Meets MIL-STD-	316L with (	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( umidity, Salt &	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibrati	114 x 1	56 mm)	gh Temp	Low Tem
Dimensions Weight Environmental S Water and Dust  APPROV	Standards /ALS	Detector  Detector (St.St. Detector, alumi Tilt mount  Meets MIL-STD- IP66 and IP67	316L with 6 ) num 810C for Hu per EN6052	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( umidity, Salt & 29, NEMA 250	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibrati	114 x 1	56 mm)	gh Temp	Low Tem
Dimensions Weight Environmental S Water and Dust  APPROV	Standards /ALS	Detector  Detector (St.St. Detector, alumi Tilt mount  Meets MIL-STD-	316L with 6 ) num 810C for Hu per EN6052  Ex II 2 G Ex de IIE	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( midity, Salt & 29, NEMA 250 D, 3+H2 T5 (-55)	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 6P	114 x 1	56 mm)		
Dimensions Weight Environmental S Water and Dust  APPROX	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD- IP66 and IP67  ATEX and IECE	316L with 6 ) num 810C for Hu per EN6052  a Ex II 2 G Ex de III Ex tD A2	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( midity, Salt & 29, NEMA 250 D, 3+H2 T5 (-55)	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P	114 x 1 on, Mech	56 mm) nanical Shock, Hig	to + 85°(	
Dimensions Weight Environmental S Water and Dust  APPROV	Standards /ALS	Detector  Detector (St.St. Detector, alumi Tilt mount  Meets MIL-STD- IP66 and IP67	316L with 6 ) num 810C for Hu per EN6052  Ex II 2 G Ex de III Ex tD A2 Class I I	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( 1.2 lb ( 2.9, NEMA 250 1.0 lb, 3.4 lb, 3.5 lb, 3.6 lb, 3.7 lb,	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D	114 x 1  DDN, Mech	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C	to + 85°(	
Dimensions Weight  Environmental S Water and Dust  APPROV Hazardous Area	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD-IP66 and IP67  ATEX and IECES  FM / CSA	316L with 6 ) num 810C for Hu per EN6052  (Ex II 2 G Ex de III Ex tD A2 Class I I Class II/	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( midity, Salt & 29, NEMA 250 D, 3+H2 T5 (-55)	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D	114 x 1  DDN, Mech	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C	to + 85°(	
Dimensions Weight  Environmental S Water and Dust  APPROV Hazardous Area	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD-IP66 and IP67  ATEX and IECES FM / CSA  EN54-10 (LPCE FM-3260 (FM)	316L with 6 ) num 810C for Hu per EN6052  ( Ex II 2 G Ex de III Ex tD A2 Class I I Class II/ 3)	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( 1.2 lb ( 2.9, NEMA 250 1.0 lb, 3.4 lb, 3.5 lb, 3.6 lb, 3.7 lb,	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D	114 x 1  DDN, Mech	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C	to + 85°(	
Dimensions Weight  Environmental S Water and Dust  APPROV Hazardous Area	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD-IP66 and IP67  ATEX and IECE: FM / CSA  EN54-10 (LPCE	316L with 6 ) num 810C for Hu per EN6052  ( Ex II 2 G Ex de III Ex tD A2 Class I I Class II/ 3)	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( 1.2 lb ( 2.9, NEMA 250 1.0 lb, 3.4 lb, 3.5 lb, 3.6 lb, 3.7 lb,	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D	114 x 1  DDN, Mech	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C	to + 85°(	
Dimensions Weight  Environmental S Water and Dust  APPROV Hazardous Area	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD-IP66 and IP67  ATEX and IECES FM / CSA  EN54-10 (LPCE FM-3260 (FM)	316L with 6 ) num 810C for Hu per EN6052  ( Ex II 2 G Ex de III Ex tD A2 Class I I Class II/ 3)	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( 1.2 lb ( 2.9, NEMA 250 1.0 lb, 3.4 lb, 3.5 lb, 3.6 lb, 3.7 lb,	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D	114 x 1  DDN, Mech	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C	to + 85°(	
Dimensions Weight  Environmental S Water and Dust  APPROV Hazardous Area  Performance Reliability	Standards /ALS	Detector Detector (St.St. Detector, alumi Tilt mount Meets MIL-STD-IP66 and IP67  ATEX and IECES FM / CSA  EN54-10 (LPCE FM-3260 (FM)	316L with 6 ) num 810C for Hu per EN6052  ( Ex II 2 G Ex de III Ex tD A2 Class I I Class II/ 3) 2 (TUV)	electro polish 3.5" x 4.5" x 5.5 lb ( 2.5 lb ( 2.2 lb ( 1.2 lb ( 2.9, NEMA 250 1.0 lb, 3.4 lb, 3.5 lb, 3.6 lb, 3.7 lb,	than 1%), r finish 6.1" (90 x 2.5 kg) 1.2 kg) 1.0 kg) Fog, Vibration 0 6P CC to + 75°C 95°C B, C & D ups E, F & G	114 x 1  Don, Mech  Ex de Ex tD	56 mm) nanical Shock, Hig IIB+H2 T4 (-55°C A21 IP66/X7 T 1	to + 85°(	C)

