

Explosion Proof Visual Signal 5, 10 or 20 Joule Series FL60



- > 5, 10 or 20 Joule xenon strobe
- > Lens available in seven different colours
- > IP66 rated as standard
- > Aluminium enclosure with stainless steel fasteners
- > Flash rate 1 per second
- > Lens guard and mounting bracket supplied as standard
- > Telephone initiate option available



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13914E00



Yodalex range

Product Series FL60 is designed to provide a visual alarm which can be used to alert, warn or draw attention to machine malfunction/start up or any number of safety related issues in hazardous areas. Visual signal designed for use in hazardous or harsh environments.

		ATEX / IECEx									NEC 505			NEC 506						NEC 500					
		0	1	2	20	21	22	Zone			Class I						Division			Class I		Class II		Class III	
Zone								0	1	2	20	21	22				1	2	1	2	1	2			
For use in		x	x			x	x	For use in	x	x			x	x	For use in	x	x	x	x	x	x	x	x		

WebCode FL60B

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Explosion Protection

Global (IECEX)

Gas and dust	IIB+H2	IECEX BAS 05.0087X
	IIB	IECEX BAS 05.0086X
	IIB+H2, IIB	IEC 60079-0: 2011 / IEC 60079-1: 2007-04 / IEC 60079-31: 2008
	IIB+H2	Ex d IIB+H2 T4 Gb (Ta = -20 ... +60 °C) Ex tb IIIC T135°C Db IP 66 (Ta = -20 ... +60 °C) Ex d IIB+H2 T6 Gb (Ta = -20 ... +40 °C) Ex tb IIIC T85°C Db IP 66 (Ta = -20 ... +40 °C)
	IIB	Ex d IIB T4 Gb (Ta = -35 ... +60 °C) Ex tb IIIC T135°C Db IP 66 (Ta = -35 ... +60 °C) Ex d IIB T6 Gb (Ta = -35 ... +40 °C) Ex tb IIIC T85°C Db IP 66 (Ta = -35 ... +40 °C)

Europe (ATEX)

Gas and dust	IIB+H2	Baseefa02ATEX0222X
	IIB	Baseefa02ATEX0212X
	IIB+H2, IIB	EN 60079-0: 2009 / EN 60079-1: 2007 / EN 60079-31: 2009
	IIB+H2	⊗ II 2 G Ex d IIB+H2 T4 Gb (Ta = -20 ... +60 °C) ⊗ II 2 D Ex tb IIIC T135°C Db IP 66 (Ta = -20 ... +60 °C) ⊗ II 2 G Ex d IIB+H2 T6 Gb (Ta = -20 ... +40 °C) ⊗ II 2 D Ex tb IIIC T85°C Db IP 66 (Ta = -20 ... +40 °C)
	IIB	⊗ II 2 G Ex d IIB T4 Gb (Ta = -35 ... +60 °C) ⊗ II 2 D Ex tb IIIC T135°C Db IP 66 (Ta = -35 ... +60 °C) ⊗ II 2 G Ex d IIB T6 Gb (Ta = -35 ... +40 °C) ⊗ II 2 D Ex tb IIIC T85°C Db IP 66 (Ta = -35 ... +40 °C)

North America (cULus listed)

Gas and dust	IIB+H2, IIB	E168831
	IIB+H2, IIB	USL: UL 60079-0 / UL 60079-1 / UL 1203 / UL 1638 CNL: CSA C22.2 No. 30-M1986 / CSA C22.2 No. 25-M1966 / CSA E60079-0-7 / CSA E60079-1
	IIB+H2	CLASS I, DIVISION 1, GROUPS B, C and D, T4; CLASS II, DIVISION 1, GROUPS E, F and G; CLASS III CLASS I, ZONE 1 AEx d IIB+H2 T4 CLASS I, ZONE 1 Ex d IIB+H2 T4 Operating temperature -25 ... +66 °C Visual signal appliance private mode
IIB	CLASS I, DIVISION 1, GROUPS C and D, T4; CLASS II, DIVISION 1, GROUPS E, F and G; CLASS III CLASS I, ZONE 1 AEx d IIB T4 CLASS I, ZONE 1 Ex d IIB T4 Operating temperature -35 ... +66 °C Visual signal appliance private mode	

Certifications and certificates

Certificates	IECEX, ATEX, Brazil (INMETRO), India (PESO), Kazakhstan (TR), Russia (TR), Taiwan (ITRI), USA (UL), Belarus (TR)
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Functional safety (IEC 61508)

Test report	SIL 1 IEC61508-2:2010
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Technical Data

Electrical data

Rated operational voltage	24 V DC, 48 V DC, 115 V AC and 230 V AC operational parameters + or -10 %		
Rated operational current	24 V DC	5 J	220 mA
		10 J	500 mA
		20 J	1100 mA
	48 V DC	5 J	135 mA
		10 J	300 mA
		20 J	560 mA
	115 V AC	5 J	90 mA
		10 J	105 mA
		20 J	260 mA
	230 V AC	5 J	45 mA
		10 J	53 mA
		20 J	107 mA

Luminous characteristics

Effective candela	5 J		
	Clear lens	30 cd	
	Yellow lens	29 cd	
	Amber lens	17 cd	
	Red lens	9 cd	
	Blue lens	6 cd	
	Green lens	7 cd	
	No figures for Magenta lens		
	10 J		
	Clear lens	96.02 cd	
	20 J		
	Clear lens	301 cd	
Candela seconds	5 J	5.90	Clear Lens
	10 J	19.23	Clear Lens
	20 J	60.38	Clear Lens
Flash energy	5, 10 or 20 J		
Flash rate	60 FPM		

Ambient conditions

Operating temperature range	version			
	IIB	Europe	T4	-35 ... +60 °C
			T6	-35 ... +40 °C
	IIB + H2	Europe	T4	-20 ... +60 °C
			T6	-20 ... +40 °C
	IIB	USA	T4	-35 ... +66 °C
			T6	-35 ... +66 °C
	IIB + H2	USA	T4	-25 ... +66 °C
T6			-25 ... +66 °C	

Mechanical data

Material	
Enclosure	aluminium, seawater resistant
Lens cover	polycarbonate
Fixings	stainless steel
Mounting bracket	mild steel with black polyester powder coat finish; supplied as standard
Product label	metalised polyester UL certified variants supplied with stainless steel label
Degree of protection	IP66 – IEC 60529 NEMA 4X – UL 50
Cable entries	2 cable entries, equipped with stopping plug (1x) and dust cap (1x) UL devices: equipped with M20 / 1/2" adapters (2x)

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Selection Table

Version	Group	Flash energy	Rated operational voltage	Lens colour	Order number	Art. no.	Weight
FL60 Strobe, ATEX & IECEX certification, standard devices	IIB + H2	5 Joule	24 V DC	amber	FL60/C/D50/A/EU	205129	5.080
				red	FL60/C/D50/R/EU	205133	5.080
			115 V AC	amber	FL60/C/L50/A/EU	212366	5.080
				red	FL60/C/L50/R/EU	205145	5.080
			230 V AC	amber	FL60/C/N50/A/EU	205150	5.080
				red	FL60/C/N50/R/EU	205153	5.080
FL60 Strobe, North America cULus certification, standard devices	B, C, D	5 Joule	24 V DC	amber	FL60/B/D50/A/UL	205156	5.080
				red	FL60/B/D50/R/UL	205160	5.080
			115 V AC	amber	FL60/B/L50/A/UL	205163	5.080
				red	FL60/B/L50/R/UL	205165	5.080
			230 V AC	amber	FL60/B/N50/A/UL	212367	5.080
				red	FL60/B/N50/R/UL	211406	5.000
FL60 Strobe, EAC TR certification, standard devices	IIB + H2	5 Joule	24 V DC	amber	FL60/C/D50/A/RU	206976	5.080
				red	FL60/C/D50/R/RU	212381	5.080

Note Variations in gas group, flash energy, voltage and lens colour are available, please use the Selection Table

Selection Table

Version	Variations Type code: please fill in fields		Order Number
FL60 Strobe, devices acc. to specification			FL60 / - / - / - / - / - / - / -
Gas group			
	EU and RU units	IIB	B
		IIB + H2	C
	UL units	C, D gas groups	C
		B gas groups	B
Rated operational voltage			
	24 V DC		D
	48 V DC		F
	115 V AC		L
	230 V AC		N
Flash energy			
	5 Joule		50
	10 Joule (ATEX, IECEX & EAC TR variants only)		100
	20 Joule (ATEX, IECEX & EAC TR variants only)		200
Lens colour			
	amber		A
	red		R
	green		G
	opal		O
	blue		B
	clear		C
	yellow		Y
Certification			
	ATEX & IECEX		EU
	UL		UL
	EAC TR		RU
Additions			
	activation	telephone initiate (5 Joule ATEX, IECEX & EAC TR variants only)	TI
	additional approvals		L


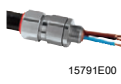





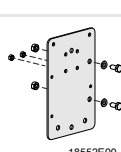

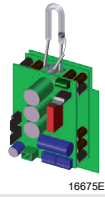
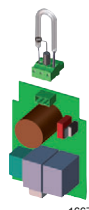
Note Duty + tag labels are available on request. Please contact your local sales office for more details.

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Accessories and Spare Parts

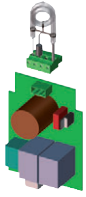
Designation	Figure	Description	Order number	Art. no.	WebCode
Cable glands		Ex d & Ex e Compound barrier cable gland for all types of unarmoured and braid armour cables (nickel plated brass)	CMP -20PXSS2K	109441	PXSS2KA
		RapidEx liquid pour sealing system	CMP -20PXSS2K-REX	246605	PXSS2KB
		Ex d & Ex e Compound barrier cable gland for all types of armoured cables (SWA, braided, tape) (nickel plated brass)	CMP -20PX2K	109428	PX2KA
		RapidEx liquid pour sealing system	CMP -20PX2K-REX	246649	PX2KB
		Ex d & Ex e cable gland for all types of unarmoured and braid armour cables (nickel plated brass)	CMP -20A2F	243464	A2FA
		Ex d & Ex e cable gland for all types of armoured cables (SWA, braided, tape) (nickel plated brass) with unique compensating displacement seal system (CDS)	CMP -20T3CDS	246561	T3CDSA
Stopping plugs		made of stainless steel, Series 8294			
		8294/123-M20x1,5 1 piece	8294 / 123 - M20x1,5	143652	8294A
Mounting bracket		Stainless steel L-bracket - see dimensional drawings		221711	
Pipe clamp			R 1 1/4 "	120812	
			R 1 1/2 "	120819	
			R 2 "	120823	
Fastening set adapter plates		Adaptor plate for use in conjunction with pipe clamp		256519	
Replacement PCB assembly		24 V DC / 5 J		222971	
		48 V DC / 5 J		223072	
		115 ... 230 V AC / 5 J		209503	
		24 V DC / 10 J		209508	
		48 V DC / 10 J		209509	
		115 V AC / 10 J		209506	
	230 V AC / 10 J		209507		

Note Approvals of cable entries have to be observed.

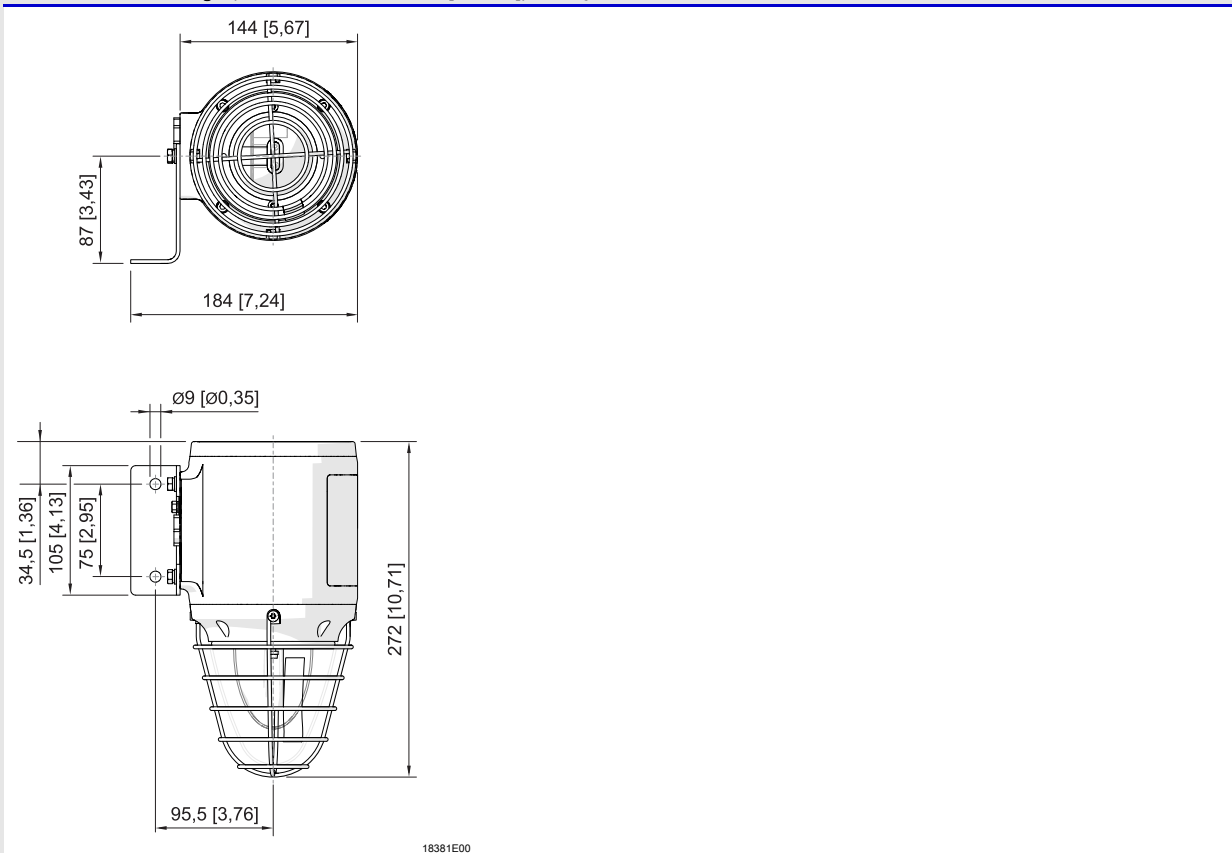
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Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	WebCode
Replacement PCB assembly		24 V DC / 20 J		209512	
		48 V DC / 20 J		209513	
		115 V AC / 20 J		209510	
		230 V AC / 20 J		209511	

Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations



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We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.