Clifford & Snell®

Yodac® Ex FD/SD40IS

Intrinsically Safe Devices

Visual signals for use in Potentially Explosive Atmospheres



PRODUCT FEATURES

- LED Long Life Array
- Low current consumption
- Flashing (FD) or Static (SD) modes
- IP65 as standard*
- Flame retardant ABS back box
- UV stable polycarbonate lens
- Multiple back box configuration
- Modular signal flexibility
- Robust, reliable and simple to install
- Lenses available in 8 colours
- ATEX, IECEx & UKEX Approval
- Zones 0, 1, 2, 20, 21, 22

Product Approvals

CE

Ex ATEX — Beacon Certificate Number: **ERO22ATEX0001X**

UKCA — Beacon Certificate Number: **EMA22UKEX0003X**

IEC IECEx — Beacon Certificate Number: **IECEx EMT 22.0001X**

Improved and upgraded design, now including IECEx approvals!

Issue 3

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TECHNICAL DATA

Certification	
Type	Product Approvals
FD/SD40IS/ISC/T4	II 1 G Ex ia IIC T4 Ga II 1 D Ex ia IIIC T135°C Da
Zones	0, 1 & 2 (Gas Groups > IIC) 20, 21 & 22 (Dust Group > IIIC)
Conforms to	IEC 60079-0:2017, EN IEC 60079-0:2018 IEC 60079-11:2011, EN 60079-11:2012

Ambient Conditions	
Operating temperature	-40 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Max. Relative humidity	95% at 40 °C

Mechanical Data	
Enclosure Material	ABS FR UL94 5VB
Lens Material	UV Stable Polycarbonate
External Fixings	Stainless Steel
Degree of protection	Up to IP65 (IEC60529) *Subject to the correct cable gland being fitted

Luminous characteristics	
Array Type	8 High Brightness LEDs
Flash Rate	60FPM for FD40IS versions Static (Steady on) for SD40IS versions
Lens Colour	Amber, Yellow, Red, Green, Opal, Blue, Magenta, Clear

Electrical Data			
Operating Voltage	16.2...26.4V		
Current consumption	Power Supply	Certified barrier / Isolator parameters	Current Consumption
	24vDC	28v/300 Ω	22 mA
	18vDC**	28v/300 Ω	14 mA
	** Light output reduced		
Certified input parameters	U_i =	28v	C_o = 0.083uF
	I_i =	93 mA	L_o = 4.11mH
	P_i =	0.66w	
	C_i =	0	
	L_i =	0	
Line monitoring	Yes		

Line integrity on DC systems

If line monitoring is required an end-of-line resistor is needed and should have a minimum resistance of 750 Ohm and rated power of at least 2W or a 4700 Ohm and a rated power of at least 0.4W! For end of line monitoring, a suitable barrier/isolator will be required that allows for reverse polarity connection (see Zener Barrier Article number 071857 on page 4).

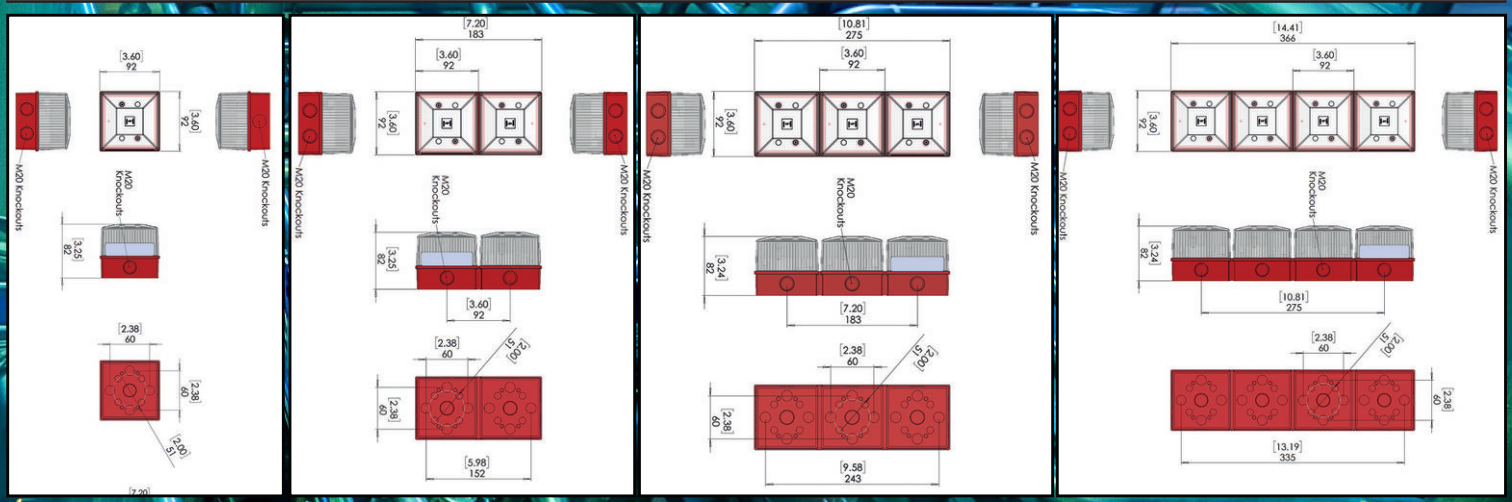
Mounting / Installation

The back boxes should be securely mounted to suitably flat wall or bulkhead, using the internal fixing points moulded into the back boxes. Areas of undue vibration should be avoided. Always use the mounting gaskets supplied. The recommended fixing screws are 4.5mm Dia x 20mm long. To maintain the IP rating of the enclosure the cable entries used must be fitted with a suitably rated cable gland (not included). Max cable termination is 2.5mm^2.

For installations with several modules, the following points should be taken into account. The devices must be supplied by an approved Zener barrier or galvanic isolator whose characteristics do not exceed the input parameters certified in the electrical data table in this data sheet. Each module MUST have its own barrier/isolator.

Dimensional Drawing

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. All Dimensions in mm [inches] - Subject to alterations



SELECTION

Product Approval	Enclosure Colour	Safety Barrier	Temperature Class	Lens Colour	Effective Candela	Order Number	Art. No.	Weight (Kg)
FD40IS Beacon ATEX/IECEx/UKEX Approved	Red Normal (RN) RAL 3001	ISC	T4	Amber	2.68	FD40IS/X/A/RN	207067	0.150
				Red	2.08	FD40IS/X/R/RN	205111	0.150
				Green	21.12	FD40IS/X/G/RN	212407	0.150
				Opal	3.52	FD40IS/X/O/RN	212408	0.150
				Blue	1.88	FD40IS/X/B/RN	212409	0.150
				Clear	8.16	FD40IS/X/C/RN	212410	0.150
				Yellow	9.46	FD40IS/X/Y/RN	245534	0.150
				Magenta	2.31	FD40IS/X/M/RN	245535	0.150
SD40IS Beacon ATEX/IECEx/UKEX Approved	Red Normal (RN) RAL 3001	ISC	T4	Amber	2.68	SD40IS/X/A/RN	212403	0.150
				Red	2.08	SD40IS/X/R/RN	205460	0.150
				Green	21.12	SD40IS/X/G/RN	209638	0.150
				Opal	3.52	SD40IS/X/O/RN	212404	0.150
				Blue	1.88	SD40IS/X/B/RN	212405	0.150
				Clear	8.16	SD40IS/X/C/RN	212406	0.150
				Yellow	9.46	SD40IS/X/Y/RN	245536	0.150
				Magenta	2.31	SD40IS/X/M/RN	245537	0.150
White Normal (WN) enclosure colour option available on request (RAL 9003)								

Product Type	Lens Colour	Order Number
FD40IS - Flashing, SD40IS - Static, Select according to customer requirements	Type Code: Please fill in lens colour	

Single device	FD/SD40IS/X/ - / RN
Double device	FD/SD40IS/2/X/ - / - / RN
Triple device	FD/SD40IS/3/X/ - / - / - / RN
Quadruple device	FD/SD40IS/4/X/ - / - / - / - / RN

Lens Colour							
Amber	Red	Green	Opal	Blue	Clear	Yellow	Magenta	
A	R	G	O	B	C	Y	M	Module (1)
A	R	G	O	B	C	Y	M	Module (2)
A	R	G	O	B	C	Y	M	Module (3)
A	R	G	O	B	C	Y	M	Module (4)

Products requested with White Back Box will have the suffix “RN” replaced by “WN” for their order number.



Systems Installation
The IS Beacons must be installed in accordance with the latest IEC 60079-0, EN IEC 60079-0, IEC & EN 60079-11 standards or equivalent IEC standards, with consideration for any local installation requirements, and should only be carried out by appropriately competent and qualified personnel. Moflash Signalling is not able to offer any assistance with additional system parameters beyond that included on the installation sheet, and can not give advise on individual system installations. The system integrators should be contacted for any additional installation requirements.

ACCESSORIES

WARNING: Connection into these beacons must be via a suitably rated Zener Barrier or Galvanic Isolator. Never connect the beacons directly to the voltage supply without a barrier in place. Failure to do so will result in permanent damage to the PCB & void the warranty.

Product		Description	Order number	Art. No.	Weight
Zener Barrier		Single Channel DC	Z 728	071788	0.150
		Single Channel AC	Z 928	071857	0.150
Galvanic Solenoid Driver		Single Channel	KCDO-SD3-Ex1.1045	304983	0.150
		Dual Channel	KFDO-SD2-Ex2.1045	242032	0.100
Relay Module		Dual Channel	KFDO-RO-Ex2	038975	0.100
Cable Gland		M20 Nylon IP68		50002	0.05