



Audible and Visual Signals

TNFCD/TNFAD and TNFCDM, Flameproof Flashing Lights

BARTEC **TECHNOR**



Technor's Flashing Beacon has proven itself to be an efficient solution to the demanding environments of the Northern Seas. The unit is Ex d, fitted with an Ex e connection chamber, and it can be delivered for direct operation or for several types of separate triggering. The unit can also be supplied with an oscillator card for acoustic warning.

- Enclosure material in stainless steel 316L/CF-3M.
- Long lifetime of flashing tube: 8×10^6 flashes.
- High mechanical strength and corrosion resistance. Suitable for harsh environments.
- Universal mounting bracket in SS316L enables an easy installation, standing as well as hanging.
- Can be delivered as complete alarm stations,

with 1, 2 or 3 beacons installed on a common Ex e connection box, which can also be equipped with Ex-loudspeakers. This gives quick and easy installation of complex systems.

- Several triggering possibilities.
- High ingress protection, IP66, optionally IP67
- Wide temperature range (-50°C to +60°C).
- High operational reliability and low lifecycle cost.
- ATEX and GOST approved.



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Applications

The range of flashing beacons is designed to meet the rigorous of the North Sea environments. They are ideal for Petrochemical and Marine applications, and for all kind of industry where an explosive atmosphere may be present and the need for warning is required. TNFCD flashing beacons are also available as Ex d only, or as Non-Ex. Special applications may be delivered upon request.

Thousands of Technor flashing beacons are installed on- and offshore.



General specifications

Material TNFCD/TNFCDM	Stainless steel 316L/ CF-3M
Material TNFAD	Seawater resistant aluminium
Surface treatment SS316L	Shot blasted / Machined
IP rating	IP66 (IP67 upon request)
Ambient temperature	-50°C - +60°C
Real humidity	100%
Approvals	NEMKO 01ATEX430
Standards	IEC: 60079-0, 60079-1, 60079-7 EN: 50281-1-1
Ex-Codes:	
TNFCD/TNFAD	⊕ II 2 G, Ex d IIC T4 or Ex de IIC T4
TNFCDM	⊕ II 2 G/D, Ex d IIC T4
Dome colours	Red, Yellow, Blue, Green, Orange, Clear
Flash frequency	1 Hz
Flash energy TNFCD/TNFAD	10 joule
Flash energy TNFCDM	5 joule
Earthing	Inside and outside
Weight	TNFCD 5,1Kg TNFAD 2,5Kg TNFCDM 2,5Kg
Cable entry TNFCD/TNFAD	M25
Cable entry TNFCDM	M25, M20 or flying lead upon request



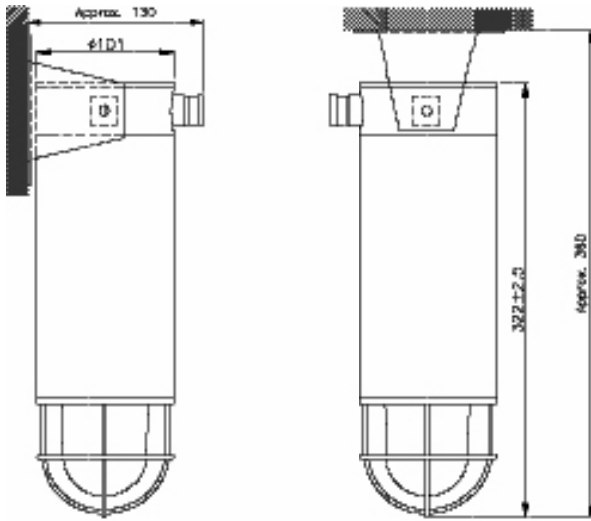
Electrical data TNFCD/TNFAD

Rated Voltage	220-254 VAC	110-120 VAC	110VDC	24-48VDC	
Voltage Range	±10%	±10%	±20%	±20%	
Rated current	110mA	220mA	135mA	24VDC: 670mA	48VDC: 330mA
Power consumption	24VA	24VA	15VA	16VA	
Frequency	50/60 Hz	50/60 Hz			
Typical start current	>1A in max 1msec.				
Triggering	Direct, Telephone, 24-48VDC, Fail safe				
Fuse	1-2 A time-lag fuse is recommended				
Siren card for acoustic warning	8W, 20W or 25W for Ex loudspeaker (8 ohm, 20 ohm or 100V line)				

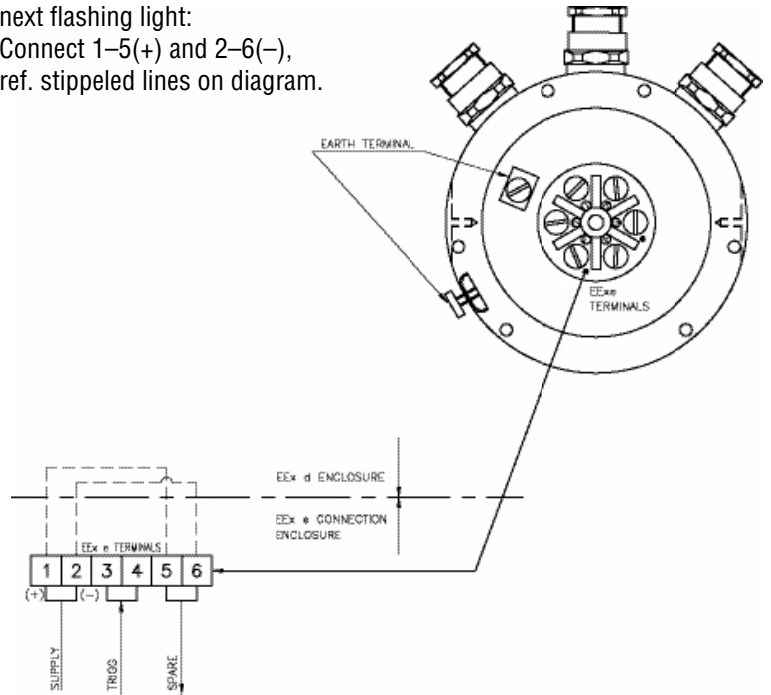
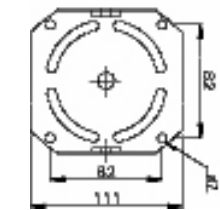


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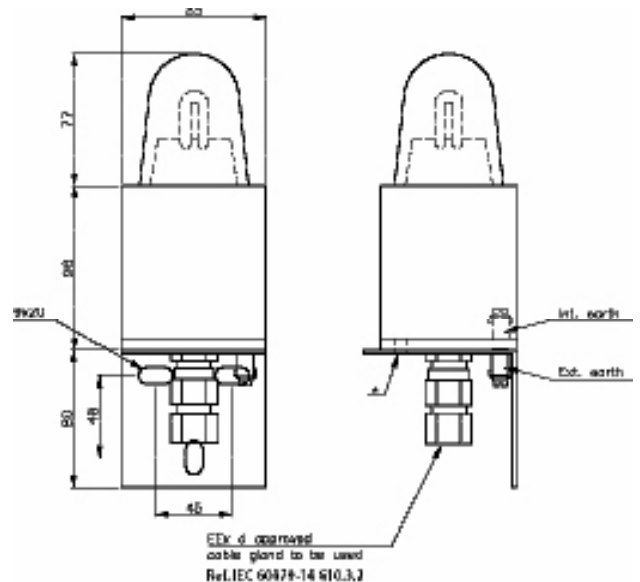


- Terminals 1 and 2 are always supply. Polarity at DC-Voltages: 1=+ and 2=-
- Upon DC-triggering (both AC and DC supply): 3=+ and 4=-
- Upon internal wiring of supply to next flashing light: Connect 1-5(+) and 2-6(-), ref. stipped lines on diagram.

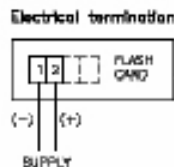


Termination ref. dwg. TNF-84-3 and TNF-85-3

Electrical data TNFCDM				
Rated Voltage	220-254VAC	110-127VAC	24VDC	48VDC
Voltage Range	190 - 272VAC	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$
Power consumption	100mA		380mA	200mA
Triggering	Direct			
Typical start current	1A in max 1msec			



* For disassembling the top section (tube and dome) the locking screw must be screwed at least 2 turns counter clockwise. Use a 4mm hex Allen key.





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Hazardous area information & terminology

ATEX Directive

The ATEX Directive, derived from the French "AT mosphères EXplosibles" and formally known as 94/9/EC, contains the ESR (Essential Safety Requirements) to which electrical equipment and protective systems used within potentially explosive atmospheres must conform.

The new ATEX Directive currently in place within the European Union was made mandatory on 1st July 2003. Primarily intended for manufacturers of hazardous area equipment for use in the presence of flammable gases, vapours, fumes or dusts, the new directive requires a quality management system to be implemented.

Procedures for the design, manufacture and verification of products are to be approved by a notified body (i.e. DNV, NEMKO, etc.) and all equipment conforming to the new directive will feature CE and Ex Marking.

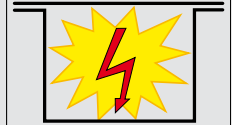
Zone Classification with the presence of GAS

Zone 1 (Category 2)	An area in which explosive gas is likely to be present during normal operation of the plant.
Zone 2 (Category 3)	An area in which explosive gas is not continuously present, but may exist for a short period of time.

Applicable EX protection

Ex d Protection

Parts, which can ignite a potentially explosive atmosphere, are surrounded by an enclosure, which are designed to withstand the pressure of an internal explosion and to prevent the propagation of the explosion to the atmosphere surrounding the enclosure.



Ex e Protection

for electrical components that do not spark under normal working conditions but where measures are applied to prevent high temperatures and the occurrence of arcs and sparks internally.

