BARTEC TECHNOR

# Audible and Visual Signals

# Audible and Visual Signals

TNFCD and TNFCDM, Flameproof Flashing Lights

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BARTEC TECHNOR's flashing beacon is an efficient solution for use in Ex-zones offshore as well as onshore, and has been supplied to installations in the demanding environments of the North Sea for more than 25 years.
TNFCD flashing lights are available as Ex de, Ex d or non-Ex. TNFCDM is Ex d only. Beacon operates when power is applied. TNFCD can optionally use external trigging, and can be supplied with a siren card for acoustic warning.

- Enclosure material in stainless steel 316L/CF-3M.
- Long lifetime of flashing tube: 8 x $10^6$ 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
- Temperature range -20°C to +60°C (Upon request -50°C to +60°C)
- High operational reliability and low lifecycle cost.
- ATEX approved.

## Applications

BARTEC TECHNOR's flashing lights 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. Special applications may be delivered upon request.

## General specifications

| | |
|---|---|
| Material TNFCD/TNFCDM | Stainless steel 316L/ CF-3M |
| Surface treatment SS316L | Shot blasted / Machined |
| IP rating | IP66 (IP67 upon request) |
| Ambient temperature | -20°C - +60°C (Upon request -50°C to +60°C) |
| Real humidity | 100% |
| Approvals | NEMKO 01ATEX430 |
| Standards | EN: 60079-0, 60079-1, 60079-7 |
| Ex-Codes: | |
| TNFCD | Ⓔx II 2 G, Ex d IIC T4 or Ex de IIC T4 |
| TNFCDM | Ⓔx II 2 G/D, Ex d IIC T4 |
| Dome colours | Red, Yellow, Blue, Green, Orange, Clear |
| Flash frequency | 1 Hz |
| Flash energy TNFCD | 10 joule |
| Flash energy TNFCDM | 5 joule |
| Ground terminal | Inside and outside |
| Weight | TNFCD 5,1Kg<br>TNFCDM 2,5Kg |
| Cable entry TNFCD | M25 |
| Cable entry TNFCDM | M25, M20 or flying lead upon request |

# Audible and Visual Signals

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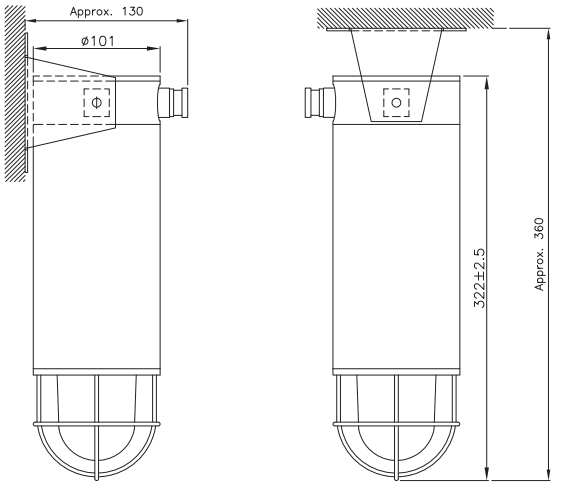
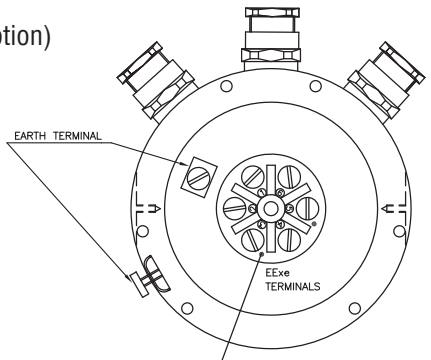
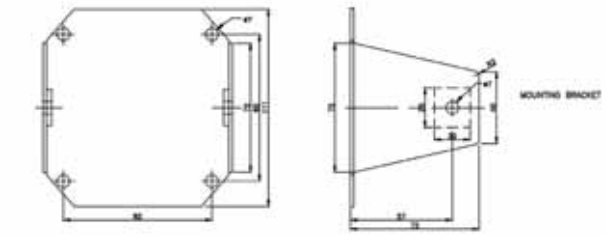
| Electrical data TNFCD | | | | |
|---|---|---|---|---|
| Rated Voltage | 220-254 VAC | 110-120 VAC | 24-48VDC | |
| Voltage Range | ±10% | ±10% | ±10% | |
| Rated current | 110mA | 220mA | 24VDC: 670mA | 48VDC: 330mA |
| Power consumption | 24VA | 24VA | 16VA | |
| Supply frequency | 50/60 Hz | 50/60 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) | | | |

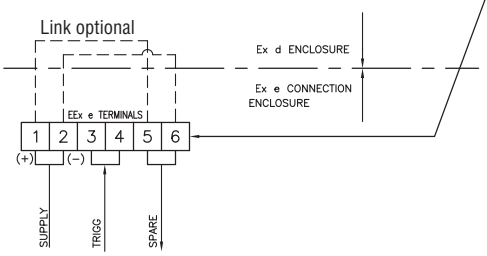



## Terminals

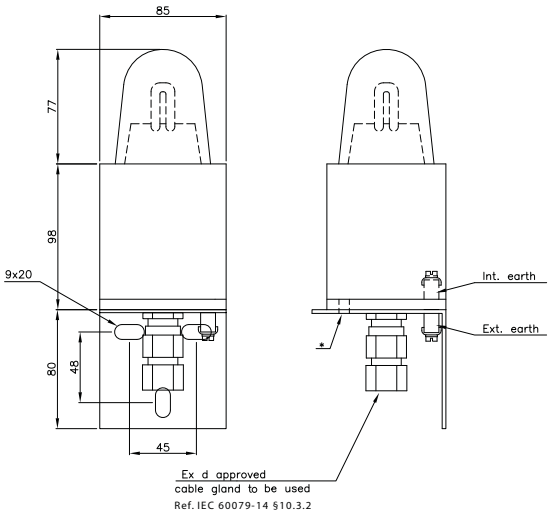
- 1 and 2: Supply input.
  [1 = Live or +, 2 = Neutral or –]
- 3 and 4: External trigging input.
  [3 = +, 4 = –] (telephone and failsafe are options)
- 5 and 6: Spare.
  Siren speaker output (option)
  Supply linking (option)



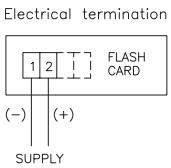




| Electrical data TNFCDM | | | | |
|---|---|---|---|---|
| Rated Voltage | 220-254VAC | 110-127VAC | 24VDC | 48VDC |
| Voltage Range | 190 – 272VAC | ±20% | ±20% | ±20% |
| Power consumption | 100mA | | 380mA | 200mA |
| Triggering | Direct | | | |
| Typical start current | 1A in max 1msec | | | |




* 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 for TNFCD, 3mm for TNFCDM



## Hazardous area information & terminology

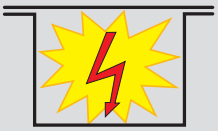
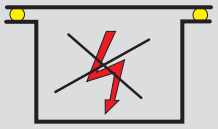
### ATEX Directive

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 occurence of arcs and sparks internally. |  |

DOC.NO.: 24-TNF-5, REV. 01-15 • MAY 2015