

Photoelectrics Retro-reflective Type PA18ALR30T., AC, Metal housing

CARLO GAVAZZI



- Range: 3 m
- Modulated infrared light
- Supply voltage: 20 to 250 VAC
- Output: 500 mA SCR
- Make and break switching functions
- LED output indication
- High immunity to ambient light
- Heavy duty M18 metal housing, IP 67
- Cable and plug versions



Product Description

The PA18LR30.. is a family of general purpose retro-reflective sensors in a long M18 nickel-plated brass housing for heavy duty applications. They are useful for simple applications, where a basic sensor provides adequate sensing performance. The sensors are easy to adjust with a 270° single-turn potentiometer. The output is a 2-wire NO or NC thyristor (SCR) output.

Ordering Key PA18ALR30TOM6SA

| | |
|----------------------|-------|
| Type | _____ |
| Housing style | _____ |
| Housing size | _____ |
| Housing material | _____ |
| Housing length | _____ |
| Detection principle | _____ |
| Sensing distance | _____ |
| Output type | _____ |
| Output configuration | _____ |
| Connection type | _____ |
| Adjustable | _____ |

Type Selection

| Housing diameter | Rated operating dist. (S _n) | Ordering no. SCR/cable Make switching | Ordering no. SCR/plug Make switching | Ordering no. SCR/cable Break switching | Ordering no. SCR/plug Break switching |
|------------------|---|---------------------------------------|--------------------------------------|--|---------------------------------------|
| M18 | 3 m | PA18ALR30TOSA | PA18ALR30TOM6SA | PA18ALR30TCSA | PA18ALR30TCM6SA |

Note: Plugs and reflector to be ordered separately

Specifications

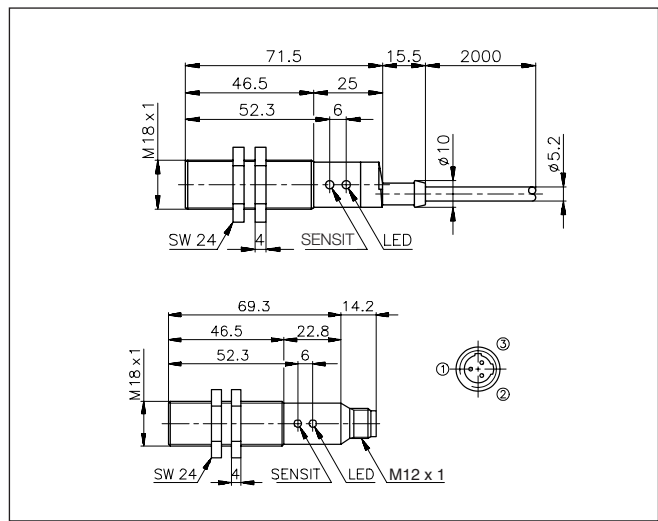
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|---|--|--|---|
| Rated operating dist. (S_n) | Up to 3 m Ref. reflector type ER4, Ø 84 mm | Optical angle | ±2.2° |
| Sensitivity | 270° single-turn pot. meter | Light spot size | 150 mm at 2 m |
| Temperature drift | 0.4%/K | Ambient light | Max. 10,000 lux |
| Hysteresis (H) (Differential travel) | 3 to 20% | Operating frequency (f) | Max. 20 Hz, light/dark ratio 1:2 |
| Rated operational volt. (U_B) | 20 to 250 VAC, 45 to 65 Hz | Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF}) | ≤ 20 ms ≤ 30 ms |
| Output current (AC 12, AC 140) Continuous (I _e) Short-time (I) | ≤ 500 mA ≤ 3 A, max. 20 ms | Power ON delay (t_v) | Typ. 100 ms |
| Min. operational current (I_m) | 10 mA | Indication function Output ON | Dark (NC) or light (NO) switching LED, yellow |
| OFF-state current (I_o) | < 5 mA, typ. 2.6 mA | Environment Overvoltage category Pollution degree Degree of protection | II (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1) |
| Voltage drop (U_d) | ≤ 10 VAC, typ. 7 VAC | Temperature Operating Storage | -20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F) |
| Protection | Transients | Vibration | 10 to 150 Hz, 0.5 mm/- 7.5 g (IEC 60068-2-6) 2 x 1 m 100 x 0.5 m (IEC 60068-2-32) |
| Transient voltage | 1 kV/0.5 J | Shock | |
| Light source | GaAlAs LED, 880 nm | | |
| Light type | Infrared, modulated | | |



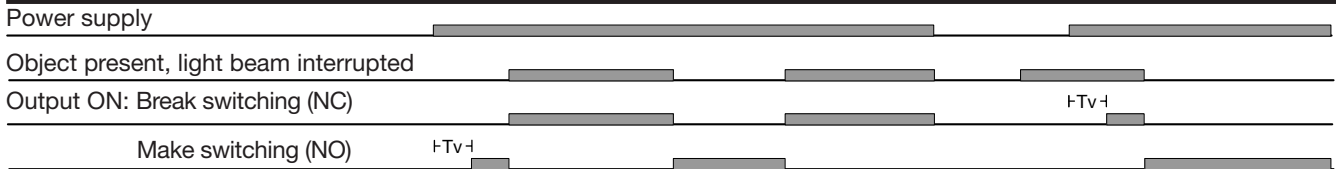
Specifications (cont.)

| | |
|---------------------------|---|
| Dielectric voltage | 1500 V (IEC 60364-4-41) |
| Housing material | |
| Body | Nickel-plated brass |
| Front | Luran®, black |
| Cable end | Polyester, black |
| Nuts | Nickel-plated brass |
| Connection | |
| Cable | Grey, 2 m, 2 x 0.5 mm ² , oilproof PVC |
| Plug | M12 x 1 |
| Cables for plug (-3) | CON.6A-.. serie |
| Weight | |
| Cable version | 150 g |
| Plug version | 65 g |
| Approvals | UL, CSA |
| CE-marking | Yes |

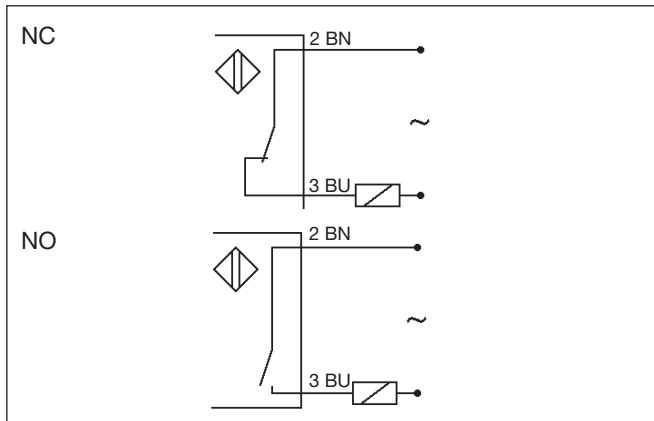
Dimensions



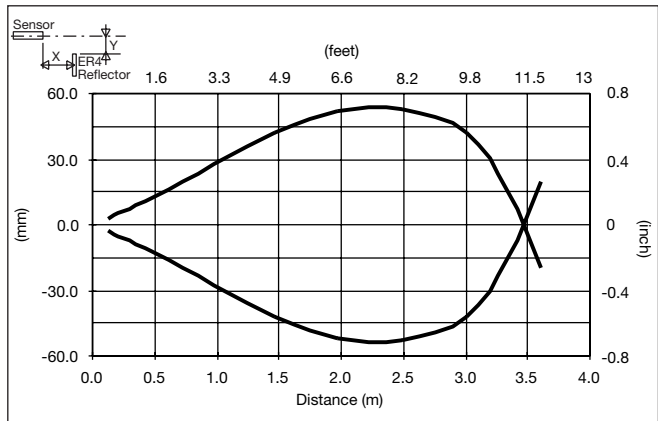
Operation Diagram



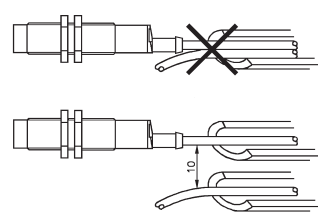
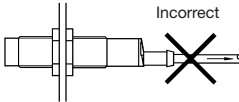

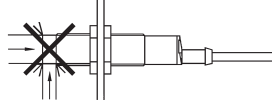
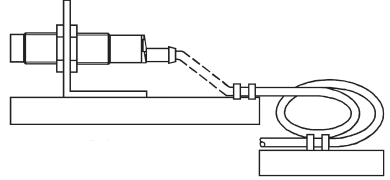
Wiring Diagrams



Detection Diagram



Installation Hints

| | | | |
|---|---|--|--|
| <p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p>  | <p>Relief of cable strain</p> <p>Incorrect</p>  <p>Correct</p>  <p>The cable should not be pulled</p> | <p>Protection of the sensing face</p>  <p>A proximity switch should not serve as mechanical stop</p> | <p>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p> |
|---|---|--|--|

Delivery Contents

- Photoelectric switch: PA18ALR..
- 2 nuts
- **Packaging:** plastic bag

Accessories

- Reflectors: ER series
- Connector type CON.6A-.. serie
- MB18A
- APA18-RAR

For further information refer to "Accessories"