Pilot Light Lamps — BA9s, XVLA LED Cross-Reference

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The replacement logic for panel indicator lamps: BA9s bayonet and its neon, incandescent and LED generations, Schneider XVLA LED lamps for XVL pilot light units and the 8 mm / 12 mm families, Harmony ZBV LED blocks and lamp caps, Siemens signal columns, voltage and colour rules that decide whether an LED retrofit works, and how to identify a dead lamp from the fitting when the lamp itself is unreadable.

The short version

A panel indicator is two articles: the fitting and the lamp. Fittings survive decades; lamps are the consumable. Most "obsolete pilot light" problems are really lamp-identification problems — the fitting stays, the right lamp family goes back in.
BA9s is the king of bases: the 9 mm bayonet carries three generations — neon (glow) lamps for 110–230 V line-voltage indication, incandescent for 6–60 V transformer/control circuits, and LED retrofits for everything if polarity and voltage are respected. Our catalogue runs from BA9s 3 W 24 V and 5 W 24 V glow/filament service lamps to long-life BA9s neon units (DL1CF220 class, 230 V).
Schneider's XVLA family are purpose-built LED lamps for XVL pilot light units: compact 8 mm and 12 mm series, coded by size, voltage and colour — XVLA133 = 8 mm, 24 V, green, XVLA125 = 8 mm, 12 V, orange, XVLA333 = 12 mm, 24 V, green. Read the pattern: first digit after XVLA = series size (1xx = 8 mm class, 3xx = 12 mm class), then voltage step, last digit the colour.
Harmony (XB4/XB5) heads moved the lamp into the block: ZBV LED modules and ZBV-series lamp caps replace loose bulbs — for those, order the block (ZBV0133-class = green diode cap unit), not a bulb.
LED retrofit rules: match voltage exactly (an LED "24 V" is 24 V, not 6–60 V like a filament), mind AC/DC and polarity on DC circuits, match colour to lens (white LED behind a red lens looks pink and dim — coloured LED behind matching lens is the correct pairing), and on series-resistor neon positions replace like-for-like rather than substituting LED blindly.

1. The base and format table

Base / format | Where it lives | Generations available | Ordering line |

BA9s (9 mm bayonet, single contact) | Classic pilot light units, annunciators, machine tools, marine panels | Neon (110/230 V), incandescent (6–60 V), LED (per voltage) | Base + voltage + technology + colour of lens it sits behind — e.g. BA9s 5 W 24 V |

BA15d / BA15s (15 mm bayonet) | Larger signal fittings, navigation and deck fittings | Incandescent, LED | Base + voltage + wattage class |

T5.5 / midget flange & groove, wedge W2x4.6d | Instrument clusters, annunciator strips, older consoles | Incandescent, LED | Format + voltage; send a photo — these four look alike at a glance |

Schneider XVLA (8 mm / 12 mm LED units) | XVL compact pilot light heads | LED only (that is the product) | XVLA code from the table below, or size + voltage + colour |

Harmony ZBV blocks | XB4 (metal) / XB5 (plastic) 22 mm heads | Integrated LED block; neon and BA9s holders exist in the legacy range | Block reference (e.g. ZBV0133-class green) + supply voltage — see ZBV cap red, yellow |

Signal columns (Siemens 8WD5 class) | Machine and line signalling | Element per colour — e.g. 8WD5 blue 70 mm, red, yellow | Column family + element colour + lamp or LED cartridge type |

2. The XVLA decode

Code | Series / size | Voltage | Colour | Catalogue |

XVLA123 | 8 mm class | 12 V | Green (…3 = green in the colour digit) | Quoted on request |

XVLA125 | 8 mm class | 12 V | Orange | XVLA125 |

XVLA133 | 8 mm class | 24 V | Green | XVLA133 |

XVLA135 | 8 mm class | 24 V | Orange | Quoted on request |

XVLA333 | 12 mm class | 24 V | Green | XVLA333 |

XVLA3xx siblings | 12 mm class | Per voltage digit | Per colour digit | Quoted on request |

Reading rule confirmed across the family: XVLA-abc — a selects the size series (1 = 8 mm compact, 3 = 12 mm), b steps the voltage (2 = 12 V, 3 = 24 V in the common range), c the colour (3 green, 4 red class, 5 orange). When a code falls outside this table, state size, voltage and colour in words on the RFQ and we resolve the article — the words are unambiguous even where memory of the digit scheme is not.

3. Neon, incandescent, LED — choosing the technology

Technology | Voltage habitat | Life | Strengths | Watch-outs |

Neon (glow) | 110–230 V direct, with internal series resistor | Long (tens of thousands of hours) | Line-voltage indication without a transformer; cool running | Dim by modern taste; needs its resistor — a neon marked 230 V is a unit, not a bare bulb |

Incandescent | 6–60 V control circuits | Short (the panel consumable) | Cheap, polarity-free, dimmable by voltage | Heat

crazes lenses over years; vibration kills filaments — ships eat them |

LED (BA9s retrofit or native XVLA/ZBV) | Per marked voltage, AC/DC per type | Very long | Vibration-immune (the marine argument), low heat, bright | Exact voltage only; DC polarity on some types; colour-match to lens; leakage current of proximity sensors can glow an LED that a filament would ignore — use a dummy load where that bites |

That last row's footnote deserves its sentence: on circuits fed through two-wire proximity switches or long parallel runs, the few milliamps of leakage that never lit a filament will softly light an LED, and "the pump light glows when the pump is off" tickets follow. The fix is a bleeder/dummy-load resistor or the fitting maker's designed-for-LED unit, not a return of "faulty" lamps.

4. Identifying a lamp when the markings are gone

Work from the fitting outward. Base: bayonet pins at 9 mm = BA9s; 15 mm = BA15; glass wedge = W2x4.6d class; all-plastic module that twists into a Schneider XVL head = XVLA; nothing user-removable in a modern Harmony head = the ZBV block is the spare. Circuit voltage: read it from the schematic or measure at the socket — 230 V across a socket means neon or LED-rated-230 territory, never a 24 V article. Colour: comes from the lens on neon/filament fittings (lamp is clear) but from the LED itself on XVLA/ZBV — so a green position needs a green-coded LED article. Panel context: a 1970s machine tool full of BA9s sockets is a candidate for a one-time LED harmonisation (same base, one voltage, colours per lens) — done panel-wide it cuts the lamp drawer to two articles; our panel-spares guides and starter finder cover the neighbouring consumables that belong on the same stock list.

How buying works at cballast. We quote lamps by article code or by the three words that define one (base/series, voltage, colour), flag LED-retrofit traps (polarity, leakage glow, lens mismatch) on the quote line, and bundle panel-wide lamp harmonisations as a single list. Accounts are vetted at onboarding; first order prepaid; established accounts on credit terms with repeat discounts; public bodies and utilities invoiced against purchase order from the first order. RFQs to sales@cballast.com.

Frequently asked questions

What lamp is XVLA133?A Schneider Electric LED unit for XVL pilot light heads: 8 mm series, 24 V, green. The family logic is XVLA + size digit (1 = 8 mm, 3 = 12 mm) + voltage digit + colour digit — XVLA125 is the 8 mm 12 V orange sibling, XVLA333 the 12 mm 24 V green.
Can I replace a BA9s filament bulb with an LED?Usually yes: same base, but match the circuit voltage exactly, respect polarity on DC types, and pick the LED colour that matches the lens. On circuits with leakage current (two-wire proximity switches), add a dummy load or the LED will glow faintly when "off".
What is the difference between a neon and an incandescent pilot lamp?Neon (glow) lamps run directly on 110–230 V through an internal resistor and last for years — they are the classic line-voltage indicator. Incandescent BA9s lamps run on low control voltages (6–60 V), burn brighter and die sooner, especially under vibration. The voltage at the socket tells you which family you are holding.
My Schneider Harmony pilot light has no bulb — what do I order?Modern XB4/XB5 heads use integrated LED blocks (ZBV series) rather than removable bulbs: order the block by reference and supply voltage (e.g. a ZBV0133-class green unit), or the cap if only the cap is damaged. Legacy holders for BA9s exist in the same range — the head's reference decides.
Why does my LED indicator glow dimly when switched off?Leakage current — typically from two-wire proximity sensors, RC snubbers or long cable runs — enough to light an LED though it never lit a filament. Fit a bleeder resistor (or the manufacturer's dummy-load module) across the lamp, or use fittings designed for LED loads. The lamp is not faulty.
Who supplies pilot light lamps and LED blocks?cballast.com stocks and quotes BA9s glow and filament lamps, XVLA LED units, ZBV blocks and caps, signal-column elements and the obscure instrument formats — by code or by photo of the fitting. Write to sales@cballast.com.

References and related guides

Standards and sources referenced: IEC 60061 (lamp caps and holders — BA9s, BA15, wedge bases); Schneider Electric Harmony XVL/XB4/XB5 catalogue data (XVLA, ZBV, DL1 series); Siemens SIRIUS 8WD signalling catalogue.

Motor starter finder — Siemens, Schneider, Eaton

Timer relay functions explained

Siemens fuse systems — 3NA, 3NE SITOR, 3NW

Circuit breaker coordination & selectivity

Questions on an unidentifiable lamp or a panel LED conversion: write to sales@cballast.com. We answer whether or not you buy from us.

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