

TD50X LED Signal Light

One-Layer Multi-Color Machine Warning Lamp

User Manual

Model D50X Series - order code D50X/3/24/C/F/G/1

5 V / 12 V / 24 V / 110 V / 220 V - 85 dB buzzer - Shade dia. 50 mm

Kemotronics Industrial Lighting

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This manual covers the TD50X series (order code D50X/...) in all voltage, function, buzzer, mounting and wiring options. Section 2.1 explains how to read the order code printed on the label.

1. PRODUCT OVERVIEW

The TD50X is a one-layer multi-color LED signal light. Red, yellow and green are produced by 3528 LED groups inside a single 50 mm prism-cut shade, so one lamp reports three machine states without stacked modules. The light engine sits on an all-aluminium core for even heat spreading, and the wide-voltage current-limited driver keeps the lamp alive when a machine supply swings.

Three mounting types share the same head: a pole mount (G), a folding base that snaps together without tools (Z), and an L-shaped bracket (L). An integrated buzzer above 85 dB is available on every version.

Typical users: CNC machining centres, engraving and high-gloss machines, textile machinery, security and inspection equipment, automated production lines, sorting and laser equipment, filling lines and automated warehouses.

2. TECHNICAL SPECIFICATIONS

Model series	TD50X (order code D50X/...)
Product type	One-layer multi-color LED signal light
Light colors	Red, yellow, green - three colors in one shade
LED type	3528 SMD
Optional voltage	5 V / 12 V / 24 V / 110 V / 220 V (state at order)
Power per layer	0.96 W
Current per layer	0.04 A
Buzzer	Above 85 dB
Rated life	100,000 hours
Operating temperature	-25 to +75 degrees C
Material	ABS plus AS
Housing colors	White or black
Light functions	Steady / flashing / buzzer / mixed steady plus flash / universal steady plus flash
Mounting	Pole (G), folding base (Z), L bracket (L)
Shade diameter	50 mm
Pole diameter	18 mm
Base fixing	4 x dia. 4.5 mm holes; 100 mm pole extension available
Certification	CE (EMC and LVD)
Note	Dimensions are measured manually, tolerance 1-3 mm

2.1 HOW TO READ THE ORDER CODE

The label on the lamp and carton carries a seven-block order code. Example: D50X/3/24/C/F/G/1

Block	In the example	Meaning
1 Series	D50X	TD50X one-layer multi-color head
2 Colors	3	Three colors: red, yellow, green
3 Voltage	24	24 V (5 / 12 / 24 / 110 / 220 selectable)
4 Function	C	Steady on (C). Other function letters per the supplier option list
5 Buzzer	F	With buzzer (F); leave blank for the silent version
6 Mounting	G	Pole. Z folding base, L L-bracket
7 Wiring	1	Wiring type 1, DC 24 V non-polarized. See section 5

Always quote the full code when reordering - the voltage, function and wiring blocks are not interchangeable between versions.

2.2 MOUNTING TYPES

Type	Code	Description
Pole	G	18 mm pole; fix through the 4 x dia. 4.5 mm holes; 100 mm extension available
Folding base	Z	Square snap-fit base, assembled without screws or tools; head folds down for transport
L bracket	L	L-shaped bracket for side or wall fixing where a floor base does not fit

3. PACKAGE CONTENTS

- 1 x TD50X LED signal light, code as ordered
- 1 x Wiring instruction label

Fixing screws for the mounting surface are NOT included. The folding base itself is screw-free; where the base must be fixed to a machine, use M4 screws suited to your panel.

4. INSTALLATION INSTRUCTIONS

Step 1 - Check the voltage: read the third block of the order code and the label. Never connect a 5 V, 12 V or 24 V version to mains, and never connect a 110 V or 220 V version to a DC supply.

Step 2 - Choose the position: pick a spot where all three colors are visible from the operator position, clear of coolant jets, moving guards and hot surfaces.

Step 3 - Mount the lamp: for the folding base, place the base on the surface and snap the head onto it - no tools are needed; fix the base through the 4 x dia. 4.5 mm holes where the machine needs a solid fixing. For the pole version fix the pole flange, and for the L bracket fix the bracket to the side of the machine.

Step 4 - Connect the wires: isolate the machine supply, then wire per section 5. Keep the cable short, clear of moving parts, and leave a small service loop.

Step 5 - Test: restore the supply and switch red, yellow and green on in turn. Check the flashing function if fitted, and confirm the buzzer is audible above machine noise.

5. WIRING

Four wiring types are built. Identify the type from the last block of the order code before connecting anything.

Type	Supply	Notes
1	DC 24 V	Non-polarized dedicated type - the supply can be connected either way
2	AC or DC 24 / 110 / 220 V	Universal wide-voltage input
3	24 V AC or DC	Steady plus flash universal type
4	110 V / 220 V	Steady on only (no flashing function)

Inside the lamp each function has its own core: one core for the red group, one for yellow, one for green, one for the buzzer, plus a common supply core.

Core function	Cores	Connection
Red LED group	1	Switched by the machine output of the red channel
Yellow LED group	1	Switched by the machine output of the yellow channel
Green LED group	1	Switched by the machine output of the green channel
Buzzer	1	Switched by the alarm output (versions with buzzer)
Common supply	1	Supply common - live or neutral on AC, plus or minus on DC

Type 3 (24 V AC or DC, steady plus flash) carries one extra core that selects steady or flashing; on that version connect the selector core to the supply for steady and leave it open for flashing, or the reverse as printed on the wiring label.

The core colours are printed on the wiring label supplied with the lamp and vary between the four wiring types. Identify each core with a multimeter before connecting - do not rely on colours alone. Never connect an AC version to a DC supply or the reverse.

6. COLOR STATUS RECOMMENDATIONS

The three channels are independent, so any logic can be used. The convention below matches most machine and line controls.

Color	Meaning	Typical machine state
Green	Normal	Cycle running, no fault, line ready
Yellow	Attention	Setup, tool change, material low, waiting for operator
Red	Stop	Fault, emergency stop, guard open, alarm requiring intervention

Use flashing red (or red with the buzzer) for a fault that needs immediate action. On mixed-mode versions yellow and green stay steady while red flashes.

7. MAINTENANCE AND CARE

- Wipe the prism shade with a soft dry cloth or a damp cloth and mild soap.
- Do not use solvents, thinners or abrasive pads on the shade.
- Check the fixing screws, the snap joints and the cable entry every six months on machines with heavy vibration.
- Keep the folding joint clean; do not force the head if it feels obstructed.
- Store spare lamps in a dry place at -20 to +60 degrees C, away from direct sunlight.

8. SAFETY WARNINGS

- ALWAYS isolate the machine supply before installation, wiring or maintenance.
- Connect the lamp only to the voltage printed in the third block of its order code.
- Do not open the shade or replace the LED module - the light engine is not serviceable in the field.
- The buzzer is loud (above 85 dB). Do not hold the lamp close to your ear during testing.
- Do not cover the lamp while it is on for long periods; the aluminium core needs free air.
- Install out of reach of moving guards and cutting fluid.
- Installation should be carried out by a qualified electrician.

9. TROUBLESHOOTING

Problem	Possible cause	Solution
No light at all	No supply, or wiring type not matched to the supply	Check the supply and the last block of the order code
One color does not light	Open core, or wrong channel output	Check that core and the machine output
Flashing does not work	Wiring type 4 (steady only), or selector core not connected	Check the wiring type; swap to type 3 for flashing
Buzzer silent	Silent version supplied, or buzzer core not connected	Check the buzzer block of the code and the core
Light dim or flickering	Supply outside the rated range or volt drop on a long cable	Use a cable with a larger cross section, check the supply
Head loose in the base	Snap joint not fully seated	Press the head down until both clips click

10. WARRANTY POLICY

1 year from the date of delivery, covering manufacturing defects in the LED groups, the buzzer, the driver circuit and the housing.

Not covered: damage from connection to the wrong voltage, water ingress, dismantling, impact, and normal brightness decay after the rated life.

11. AFTER-SALES SERVICE

Contact	Jude
Tel / WhatsApp	+86-15915305795
Email	sales01@birtechnology.com
Website	www.cnclight.com

Please quote the full order code (for example D50X/3/24/C/F/G/1) and your order number when contacting us.