

40F LED Machine Work Light

Sealed Waterproof Machine Lamp - 6 W to 24 W

User Manual

Model 40F Series

24 V / 36 V DC / 110-220 V AC - Short 300 mm or long 500 mm arm

Kemotronics Industrial Lighting

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1. PRODUCT OVERVIEW

The 40F is a sealed LED work light for machine tools - CNC lathes, milling and drilling machines, wire-cut EDM and laser equipment. The lamp head is a thick aluminium alloy casting with a fully sealed front lens, so oil mist, coolant splash and metal chips stay outside and the beam keeps its brightness. An aluminium heat path carries the heat away from the LEDs through the housing, which keeps the head cool in long shifts.

The 40F is supplied as a configurable series so one lamp design covers most machines: choose the power (6 W to 24 W), the voltage (24 V or 36 V DC, or 110-220 V AC), the arm length (short 300 mm or long 500 mm) and the base hole spacing. White light is standard and a yellow light version is available for inspection work.

Typical users: machine tool operators, CNC and lathe shops, tool rooms, maintenance and repair benches.

2. TECHNICAL SPECIFICATIONS

Model	40F Series (sealed LED machine work light)
Power	6 W / 7 W / 9 W / 12 W / 14 W / 18 W / 24 W (selected when ordering)
Voltage	24 V DC / 36 V DC / 110-220 V AC (selected; NOT interchangeable)
Light colour	White as standard; yellow light version for inspection work
Light head	dia. 120 mm x 90 mm, thick aluminium alloy, fully sealed lens
Arm	Flexible arm with metal core; short 300 mm, long 500 mm
Arm length options	500 mm standard on the long-arm model; 800 mm on request
Arm movement	360 degree free bending, holds the set position without sagging
Switch	Metal push switch or rocker switch, mounted on the lamp head
Mounting base	4-hole base on the lamp body, hole spacing 45 x 45 mm; large base 60 x 60 mm
Power cable	approx. 1.4 m, pre-attached at the factory
Cable termination	110-220 V AC: fitted with a plug. 24 V and 36 V DC: bare wire, no plug
Housing	Aluminium alloy head with ABS body
Protection	IP65 - waterproof and dustproof, oil-proof sealing
Warranty	2 years
Note	Dimensions are measured manually, tolerance 1-3 mm

3. PACKAGE CONTENTS

- 1 x 40F LED work light with pre-attached power cable (selected power, voltage and arm length)
- 1 x Mounting gasket
- 1 x Mounting screw set

The four-hole mounting base is part of the lamp body. The package contains one mounting gasket and a screw set. Please state the power, the voltage and the arm length you need when ordering.

4. INSTALLATION INSTRUCTIONS

Step 1 - Check the voltage: read the label on the lamp. The 24 V DC, 36 V DC and 110-220 V AC versions are completely different inside - connecting a 24 V lamp to mains voltage destroys it instantly.

Step 2 - Prepare the mounting surface: mark or drill holes at 45 x 45 mm spacing (60 x 60 mm for the large base). The surface must be flat and free of oil, paint and chips.

Step 3 - Fit the base: screw the lamp base to the machine with the supplied gasket and screws (hole spacing 45 x 45 mm, or 60 x 60 mm for the large base) and check that the lamp sits square to the work area.

Step 4 - Aim the light: bend the arm by hand until the head sits over the work. Bend gradually along the whole arm rather than forcing a single point.

Step 5 - Power and test: plug in the AC version, or connect the DC version to the machine supply observing polarity, then press the switch and check that the beam falls on the work and not into the operator's eyes.

5. WIRING

Version	Cores	Connection
110-220 V AC	Live + Neutral + Earth	Fitted with a plug - plug into a matching socket. Where a three-core cable is supplied, the earth core must be connected
24 V DC	Positive + Negative	Bare wire, no plug. Connect to the machine 24 V supply observing polarity
36 V DC	Positive + Negative	Bare wire, no plug. Connect to the machine 36 V supply observing polarity

The cable is attached to the lamp at the factory - there is no terminal block. Wire colours may vary by production batch: identify each conductor with a multimeter before connecting. If the cable is extended, use a cable of at least 0.75 mm², keep the joint dry and route it away from hot chips and moving axes.

NEVER connect a 24 V or 36 V lamp to 110-220 V, and never connect a 110-220 V lamp to a low-voltage supply. Wrong voltage is not covered by warranty.

6. COLOUR STATUS

NOT APPLICABLE.

This is a work light, not a signal light. It has no colour-status function - the light colour is the white working beam (or the yellow beam on the inspection version) only.

7. MAINTENANCE AND CARE

- Wipe the lens and the housing with a soft dry cloth; in oily shops use a slightly damp cloth and dry afterwards.
- Do not use solvents, petrol or abrasive pads - they cloud the lens and mark the ABS body.
- Check base screws and cable entry every 6 months; re-tighten if the lamp has shifted.
- Do not over-bend the arm at one point - bend it along its length.
- Keep the cable clear of moving parts, hot chips and sharp edges; store dry between -20 C and +55 C.

8. SAFETY WARNINGS

- ALWAYS disconnect the machine from the mains before installing, wiring or cleaning the lamp.
- Check the voltage on the label first. Connecting a 24 V or 36 V lamp to 110-220 V, or the reverse, destroys it and is not covered by warranty.
- Do not look directly into the LED beam when the lamp is on. Direct the beam onto the work only.
- The lamp is sealed to IP65 for splash and oil mist, not for immersion. Do not dip it in coolant, water or cleaning liquid.
- The arm is a flexible support, not a handle or a lifting point. Do not hang loads on it.
- Do not cover the lamp or block the housing - it relies on the aluminium head and body to stay cool.
- Where local regulations require it, installation must be carried out by a qualified electrician.

9. TROUBLESHOOTING

Problem	Possible cause	Solution
Light does not turn on	No supply, wrong voltage version, faulty switch or cable	Check the supply and the label rating; test the switch and the cable; replace if the driver has failed
Light flickers	Loose cable entry, unstable supply, failing driver	Re-seat the cable, check the supply voltage, replace if the driver has failed
Light is dim	Supply below rating, clouded or dirty lens	Use the rated voltage, clean the lens with a soft cloth
Only part of the head lights	Damaged LED module	Replace the lamp head or the lamp
Lamp head becomes hot	Power option high for the enclosure, housing covered or blocked by chips	Do not cover the housing; clear chips from the heat path
Arm droops or softens	Arm over-bent at one point	Re-shape evenly; replace the arm if permanently bent
Water or oil inside the head	Seal damaged, lens ring loose	Stop using the lamp and contact the supplier for a replacement head

10. WARRANTY POLICY

2 years warranty from the date of delivery, covering manufacturing defects: LED and driver failure under the correct voltage, switch failure, and arm or base failure under normal use.

Not covered: damage from wrong voltage, immersion in coolant or water, over-bending of the arm, mechanical impact, or dismantling of the sealed head.

11. AFTER-SALES SERVICE

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Please quote model 40F and your order number when contacting us.