

<KEWTECHNIK>®

SOCKET & SEE™

110V, 230V and 400V Industrial Mains Wiring Testers

and instructions
for use of

**SOK 40/16HD,
SOK 50/16HD,
SOK 60/16HD,
SOK 60/TCN
SOK 72UK,
SOK 72EU**



110V



230V



400V

**SOKHDINS
10/02**

EN 60 309 (BS4343) MODELS COVERED

SOK 40/16HD

230V AC

16 Amp EN 60 309 (BS4343)

3 Pin (2P+E) Socket Tester.



SOK 50/16HD

110V AC (55-0-55V AC)

16 Amp EN 60 309 (BS4343)

3 Pin (2P+E) Socket Tester.



SOK 60/16HD

400V AC

16 Amp EN 60 309 (BS4343)

4 Pin (3P+E) Socket Tester.



SOK 60/TCN

400V AC

32 Amp EN 60 309 (BS4343)

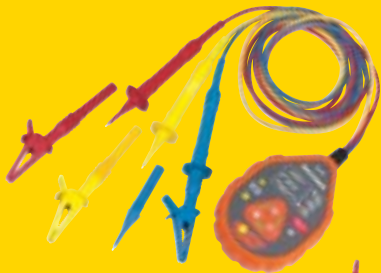
5 Pin (3PN+E) Socket Tester.



SOK 72 UK

400V AC

Phase Tester with Fused Test Leads.



SOK 72 EU

400V AC

Phase Tester with Fused Test Leads.



Who should be testing mains wiring?

Basically anyone who wants to know the mains socket about to be used is correctly wired and safe to plug into.

In particular those with a responsibility of care for their employees and the public.

- Local Authorities.
- Police Forces.
- Hospitals, including home visits.
- Schools and Colleges.
- Sports Facilities.
- Military Housing and Education.
- IT Managers.
- Heads of Department.
- Health and Safety Officers.
- Outdoor Leisure.
- Transport Users.

Good work practice

Use of a Socket Tester will be seen to show a responsible attitude to electrical safety plus the very reasonable price of Socket & See testers means they place a cost effective solution in the hands of many more users at the front end of responsibility and care.

What a Socket & See Tester will tell you

The testers are designed to give a quick and easy indication of correct wiring at the socket. Particular emphasis is placed on detecting very dangerous wiring conditions such as reversed live earth connections and disconnected wires.

What a Socket & See Tester will not tell you

Socket & See wiring testers are for simple first line diagnosis for use by those *with* and *without* electrical skills.

The exception to this are SOK 72 UK and SOK 72 EU which should only be used by skilled and competent personnel with suitable electrical training

Safety Instructions

- Check operation of tester immediately before and after use on a known live source.
- Only use the tester in the voltage range specified on the product.
- Always allow the tester to finish it's self-check to be sure it's functioning correctly.
- Do not use if the function of any display fails or unit fails to function correctly.
- Do not touch the exposed tips of plugs or test probes at any time.
- Do not use the tester if:
 - In a high moisture environment.
 - Visual damage can be seen.
 - Test leads are damaged.
 - It has been stored for a long period of time under abnormal conditions.
- The tester is sealed for safety, do not attempt to dismantle it.
- The tester and leads should be periodically examined for damage to insulation etc. If any damage is evident, the unit should not be used.

- These units are not designed for continuous use. Do not use for more than 5 minutes at a time.
- Always unplug or disconnect the supply before taking corrective action.

SOK 42/16HD FAULT INDICATION CHART

LED's show actual pin location Live, Earth, Neutral

Condition Number	Wiring Condition	Supply Terminal	LED Display	Buzzer
		N E L		
		Socket Wiring		
1	Correct	N E L		Continuous
2	L-E reverse	N L E		Warble
3	L-N-E miswire	E L N		Warble
4	L-N reverse	L E N		Warble
5	L-N-E miswire	L N E		Warble
6	Faulty N / L-E miswire	NC L N		Warble
7	Faulty N / E miswire	NC N L		Warble
8	Faulty N	NC E L		Warble
9	Faulty N / L-E reverse	NC L E		Warble
10	Faulty E / L-N reverse	L NC N		Warble
11	Faulty E	N NC L		Warble
12	Faulty E / N miswire	E NC L		Warble
13	Faulty E / L-N miswire	L NC E		Warble
14	Faulty L / N-E miswire	L N NC		Warble
15	Faulty L / E miswire	N L NC		Warble
16	Faulty L / N-E miswire	E L NC		Warble
17	Faulty L / N miswire	L E NC		Warble
18	No Mains	NC NC NC		

NOTE: LED's will flash to indicate fault condition

KEY: The letter indicates the mains supply. The coloured box indicates which socket terminal it is connected to eg L = Live supply connected to neutral terminal on the socket.
 NC - No Connection - LED's lit - LED's off E - Protective Earth
 Continuous tone - indicating correct wiring Warble tone - indicating error

Easy as 1,2,3 ...

(the SOK42/16HD is shown the same principle applies to the SOK 50/16 HD, SOK 60/16HD and SOK 60/TCN)

1 Plug in.



2 Read the mains wiring condition or just listen to the tone.

(Audible Indication)



3 If there is a wiring problem simply read off from the front face of the tester

Instructions for use

SOK 50/16HD

16 Amp BS 4343 3 Pin (2P+E) Socket Tester

- Tough rubber holster for heavy duty use
- Straight forward and easy to understand correct/incorrect conditions.
- Continuous audible tone indicates correct sequence.
- Strong warbling tone indicates faulty condition.
- Clearly indicates position of L1, L2 and Centre Tap.



110+ (55-0-55) V AC TESTER SOK50/16HD

- Insert plug into socket and switch on supply.
- Wait for self-check to complete, indicated via LED's flashing red and green. No measurement takes place until after this period.
- After self check is complete the LED's and tone of buzzer will indicate correct (continuous tone) or incorrect condition (warble tone).
- Use the indication table on the tester to identify correct sequence or fault condition.

If for any reason you need to change the plug, the correct wiring connection to the back of the IEC/EN 60 309 (BS4343) plug is:

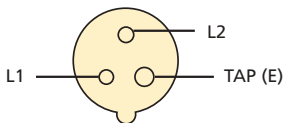
SOK 50/16 HD

GREEN / YELLOW - TAP (E) TERMINAL

BROWN - L /+ TERMINAL

BLUE - UNMARKED TERMINAL

Face on view of
socket/rear of plug



SOK 40/16HD

16 Amp BS 4343 3 Pin (2P+E) Socket Tester

- Tough rubber holster for heavy duty use
- Continuous audible tone indicates correct wiring
- Strong warbling tone indicates incorrect wiring
- Indications include: L-E reverse; L-N reverse faulty N, E or L; Missing L



230V AC TESTER - SOK 40/16HD

- Insert plug into socket and switch on supply
- Wait for self-check to complete, indicated via LED's flashing red and green. No measurement takes place until after this period.
- After self check is complete the LED's and tone of buzzer will indicate correct (continuous tone) or incorrect condition (warble tone).
- Use the indication table on the tester to identify correct sequence or fault condition.

If for any reason you need to change the plug on model SOK 40/16HD, the correct wiring connections to the back of the IEC/EN 60 309 (BS4343) plug is:

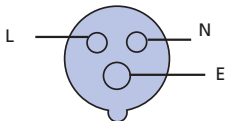
SOK 40/16 HD

GREEN / YELLOW - EARTH

BROWN - L/+ TERMINAL

BLUE - UNMARKED TERMINAL

Face on view of
socket/rear of plug



SOK 60/16HD

16 Amp BS 4343 4 Pin (3P+E) Socket Tester

- Tough rubber holster for heavy duty use
- Phases clearly identified as L1, L2, L3
- Instant Phase sequence is given by 3 green LED's 'rotating' clockwise with a continuous tone or 3 red LED's 'rotating' counter clockwise with a warbling tone



400V AC PHASE TESTER

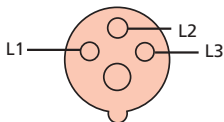
- Insert plug into socket and switch on supply
- The LED's will indicate phase present (LED on) or disconnected (LED off). If all 3 phases are connected the LED's will 'rotate' to give - clockwise 3 green LED's 'rotating' with a continuous tone or counter clockwise 3 red LED's 'rotating' with a warble warning tone.
- If a phase is missing that phase LED will not be on. The other 2 LED's of the 3 phase indication will flash to show they are present.
- The PE LED will be green if the protective earth is present or red if the protective earth is not present

Face on view of socket/rear of plug

If for any reason you need to change the plug on model SOK60/16HD, the correct wiring connections to the back of the IEC/EN 60 309 (BS4343) plug is:

SOK 60/16 HD

GREEN / YELLOW - PROTECTIVE EARTH (PE)
BROWN - L1 BLUE - L2 BLACK - L3



SOK 60/TCN

32 Amp BS 4343 5 Pin (3PN+E) Socket Tester

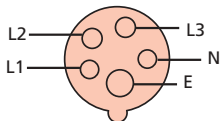
- Tough rubber holster for heavy duty use
- Phases clearly identified as L1, L2, L3
- Instant Phase sequence is given by 3 green LED's 'rotating' clockwise with a continuous tone or 3 red LED's 'rotating' counter clockwise with a warbling tone



400V AC PHASE TESTER

- Insert plug into socket and switch on supply
- The LED's will indicate phase present (LED on) or disconnected (LED off). If all 3 phases are connected the LED's will 'rotate' to give - clockwise 3 green LED's 'rotating' with a continuous tone or counter clockwise 3 red LED's 'rotating' with a warble warning tone.
- If a phase is missing that phase LED will not be on. The other 2 LED's of the 3 phase indication will flash to show they are present.
- The N LED will be green if the neutral is present or red if the neutral is not present

Face on view of socket/rear of plug



If for any reason you need to change the plug on model SOK60/TCN, the correct wiring connections to the back of the IEC/EN 60 309 (BS4343) plug is:

SOK 60/TCN

GREEN / YELLOW - NEUTRAL

BROWN - L1 BLUE - L2 BLACK - L3

SOK 72UK

Phase Tester with Fused Test Leads

Note: only for use by qualified personnel



- Fitted with heavy duty rubber holster
- UK colours (Red, Yellow, Blue) to indicate phases
- Colours 'rotate' to clearly indicate direction
- Continuous tone indicates clockwise rotation
- Strong warbling tone indicates counter clockwise rotation
- All leads and crocodile clips are fused and conform to Health & Safety GS 38 and Supply Industry Engineering Rec M15/4

400V AC PHASE TESTER - SOK 72UK WITH FLYING LEADS

- Connect the red, yellow and blue leads of the tester to the phases red, yellow, blue respectively and switch on the supply. Wait for self-check to complete, this is indicated via the 3 LEDs staying on for at least 5 seconds. No measurement takes place until after this period.
- If all phases are present this will be identified via all 3 LEDs rotating in a clockwise rotation if the phases arise from their source in the order R-Y-B, or counter clockwise if the order is R-B-Y.
- If the phase rotation is clockwise the 'tone' sounds continuously. If it is counter clockwise it warbles.
- If a phase is missing that LED will not flash on. The other 2 LEDs of the 3 phase indication will flash to show they are present.
- If there is any fault with the 3 phases or they are not connected the tone remains silent.

TO IDENTIFY CONNECTION OF COLOUR CODING

Connect the leads as above to supply connections at incoming distribution box when the tester will indicate the phase rotation either as clockwise or counter clockwise. If the installation is correct, a similar test at any other distribution box should produce the same indication. If at any one-test point the phase rotation is reversed, it is obvious that one or more of the phase colours have been cross connected.

To overcome this, with the tester in circuit withdraw a fuse, for example the red line at the last proved test point. The tester will show which lead is connected to the red line, i.e the yellow LED will go out, this will mean that the yellow lead of the tester is connected to the red phase of the supply. Thus having identified the red supply phase (which is wrongly coded as





yellow), interchange the tester lead at this point with the red tester lead. Replace the fuse and note the indication of the tester. If the correct indication is given, the tester lead colours should correspond to the phase colours. As extra security precaution, withdrawal of the blue and yellow fuses in turn will be conclusive proof of correct identification. The phase connections may then be corrected as appropriate. Always make sure you are observing correct safety procedures before as disconnection of supply.

FUSED TEST LEADS

Always check that the crop clip and probes are fully and firmly screwed home to ensure good contact with the protective fuse.

In the event of damage to the test leads, return the unit for repair - the unit is sealed for safety do not attempt to open it.

SOK 72UK - Fault Indication Chart

Buzzer	LED Display	Indication
Clockwise: Continuous Tone Counter Clockwise: Warble Tone		All phases present (P1,P2,P3)
No Tone		Phase 1 missing
No Tone		Phase 2 missing
No Tone		Phase 3 missing

SOK 72EU

Phase Tester with Fused Test Leads

Note: only for use by qualified personnel



- Fitted with heavy duty rubber holster
- Future proofed against European harmonisation of phase colours
- All leads and crocodile clips are fused and conform to Supply Industry Standards
- Phases clearly identified as L1, L2, L3
- Instant Phase sequence is given by 3 green LED's 'rotating' clockwise with a continuous tone or 3 red LED's 'rotating' counter clockwise with a warbling tone

400V AC PHASE TESTER - SOK 72EU WITH FLYING LEADS

- If all phases are present this will be identified via all 3 LEDs rotating in a clockwise rotation if the phases arise from their source in the order L1-L2-L3, or counter clockwise if the order is L1-L3-L2.
- If the phase rotation is clockwise the tone sounds continuously. If it is counter clockwise it warbles.
- If a phase is missing that LED will not flash on. The other 2 LEDs of the 3 phase indication will flash to show they are present.
- If there is any fault with the 3 phases or they are not connected the tone remains silent.

TO IDENTIFY CONNECTION OF COLOUR CODING

Connect the leads as above to supply connections at incoming distribution box when the tester will indicate the phase rotation either as clockwise or counter clockwise. If the installation is correct, a similar test at any other distribution box should produce the same indication. If at any one-test point the phase rotation is reversed, it is obvious that one or more of the phase colours have been cross connected.

To overcome this, with the tester in circuit withdraw a fuse, for example the L1 line at the last proved test point. The tester will show which lead is connected to the L1 line, i.e the L2 LED will go out, this will mean that the L2 lead of the tester is connected to the L1 phase of the supply. Thus having identified the L1 supply phase (which is wrongly coded as L2), interchange the tester lead at this point with the L1 tester lead. Replace the fuse and note the indication of the tester. If the correct indication is given, the tester lead colours should correspond to the phase colours.






As an extra security precaution, withdrawal of the L3 and L2 fuses in turn will be conclusive proof of correct identification. The phase connections may then be corrected as appropriate. Always make sure you are observing correct safety procedures before as disconnection of supply.

FUSED TEST LEADS

Always check that the crop clip and probes are fully and firmly screwed home to ensure good contact with the protective fuse.

In the event of damage to the test leads, return the unit for repair - the unit is sealed for safety do not attempt to open it.

SOK 72EU - Fault Indication Chart

Buzzer	LED Display	Indication
Clockwise: Continuous Tone Counter Clockwise: Warble Tone	 	All Lives present (L1,L2,L3)
No Tone		L1 missing
No Tone		L2 missing
No Tone		L3 missing

SOCKET & SEETM Adaptors

Enables single tester to cover different plug types and sizes
All plugs and sockets used conform to IEC/EN 60 309 (BS 4343)

110V Adaptor (55-0-55)

SOK ADP50

- Converts 16A tester into 32A (16A socket to 32A plug)



230V Adaptor

SOK ADP40

- Converts 16A tester into 32A (16A socket to 32A plug)



400V Adaptors

SOK ADP60

- Converts 16A 4 pin tester into 32A 4 pin (16A 4 pin socket to 32A 4 pin plug)



SOK 605/16

- Converts 16A 4 pin tester into 16A 5 pin (16A 4 pin socket to 16A 5 pin plug)



SOK 605/32

- Converts 16A 4 pin tester into 32A 5 pin (16A 4 pin socket to 32A 5 pin plug)





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