

MultiSafe DSP 4

Highest precision from 10 mV up to 1200 V



DSP 4-F

push-button F for further functions:
phase sequence tests in ungrounded
mains and frequency measurement



The MultiSafe DSP 4 is a safe testing device for for all applications in power engineering – easy handling, precise, reliable.

- Precise indication of voltage from 10 mV up to 1200 V AC / 1500 V DC
- Phase, phase sequence and continuity tester (possible with gloves) continuity tester up to 2 MΩ
- Highest degree of safety provided by protective resistors in both test prods
- Easy operation
large illuminated display





Five test functions

Fast and safe measuring and testing of:

- Direct and alternating current
- Resistance / continuity
- Polarity
- Phase
- Phase sequence grounded

DSP 4-F additionally:

- Phase sequence test ungrounded for IT-mains
- Frequency measurement

Easy operation

Fully automated test procedures obviate operating errors:

- At 24 V the MultiSafe switches on, or from continuity over to voltage testing
- Automatic selection of correct measurement range.
- Type of voltage and polarity are detected
- Self-test per keypress
- „DATA HOLD“

Three readout systems

Unambiguous and rapid recognition of function and result:

1. Round red flares for voltage, green square symbol for resistance and two red triangles for phase and phase sequence.
2. The display shows precise values in V or kΩ as well as voltage type and polarity.
3. An acoustic signal indicates continuity up to 10 kΩ.



large display with illumination

Robust design

High-quality elements guarantee function and safety under extreme conditions:

- Impact resistant plastic casing and break-proof display cover
- dust- and waterproof (IP 65, approved for operation in outdoor areas)
- Spring-mounted test contacts
- Twin insulated PUR control cable



Highest level of safety

- Protective resistors located directly behind both test electrodes protect user and device especially against dangerous voltage peaks and energy from external sources.
- Clear LED indication of hazardous voltages > 50 V AC / 120 V DC, which works without battery.
- The MultiSafe has been tested and certified by VDE.

Phase sequence and continuity test without sensor

- Exact phase sequence test in grounded mains from 165 V up to 1200 V / 50 Hz by microcontroller analysis
- Phase sequence test possible with gloves

DSP 4-F additionally:

- New measuring principle for phase sequence tests works **also in ungrounded mains**, applicable for IT-mains

Safety accessories

(Accessories are not included in scope of delivery)

- pin prod for test objects that are difficult to access
- adapter for test lines with 4 mm standard plug
- extensions for tests at overhead lines



Increased security of the connection through tightly screwable extensions. Thread set for MultiSafe test prods required (optionally).

| Art.-no. | Type / Label |
|------------------------|-------------------|
| 84402 | MultiSafe DSP 4 |
| 84403 | MultiSafe DSP 4-F |
| 84019 | Thread set DSP |
| Accessories on page 32 | |

Technical data

Two-pole voltage-continuity tester
MultiSafe DSP 4 / DSP 4-F tested and certified in accordance with EN/IEC 61243-3 (VDE 0682 part 401)

Nominal voltage

24 ... 1000 V AC / 1500 V DC
(according to VDE: automatic switch on/over at ≥ 24 V)

Display range

0,01 V ... 1500 V DC
1 V ... 1200 V AC

Frequency

15 Hz ... 10 kHz < 500 V, 15 Hz ... 4 kHz > 500 V

Indication of voltage/phase/phase sequence

4 LEDs for voltage, continuity, phase sequence
1 LCD digital indication, backlit
7-segment display, 2 lines, 0 ... 1999 digit

Measuring ranges - voltage

DC: 0,01...8,99/10,0...99,9/100...1500 V (1,5% + 3 D)
AC: 1...99,9/100...1200 V (1,5% + 3 D)
(TRMS 15...1800 Hz)
15 ...1200 V (15% + 3 D)
(sineff > 1,8 ... 4/10 kHz)

Indication of resistance/continuity/diodes

green LED for continuity up to 1999 kΩ and diodes,
LCD 3½-digit for kΩ-measurement value
buzzer ≤ 10 kΩ

Measuring ranges - resistance

0 ... 1999 kΩ (5% + 3 D)

Measuring ranges - frequency

only DSP 4-F: 15 ... 1999 Hz, 2,00 ... 10,00 kHz

Input resistance

412 kΩ at 50 V / 50 Hz
311 kΩ at 1000 V AC, 720 kΩ at 1000 V DC
protective resistors directly behind both test electrodes

Current peak value

3,2 mA at 1000 V

On-time

2 minutes

Overvoltage category

CAT IV 600 V / CAT III 1000 V
in accordance with IEC 60664-1 (VDE 0110)

Surge voltage strength

> 12 kV case insulation to user
> 8 kV switching mechanism between test prods

Insulation test voltage

6 kV unit inspection of case and line

Operating temperature

-15°C ... +45°C

Power supply

9 V-block IEC 6 LR61 energy-saving circuitry,
automatic switch-off after 30 s without measuring
indication of battery condition

Casing

ABS, display cover PC impact resistant,
test electrodes spring-mounted

Protection category

IP 65, device can be used in moist environments

Line

PUR control cable, 1000 V, 1 m
with protective cap for electrodes

Dimensions / Weight

240 x 62 x 39 mm (device with display) / approx. 270 g