

## Ex-proof measuring and testing devices



# Part catalogue Ex-testing devices

## Voltage tester up to 1 kV

Prüfball SPB Analog with moving-iron instrument  
 Prüfball SPB Digital with LCD  
 Electricity meter Prüfball ZAP Analog  
 Electricity meter Prüfball ZAP Digital  
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 DSP 3TT1 Telescope voltage tester for light rail systems

## High voltage tester up to 36 kV

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## Ex-proof measuring and testing devices

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# ΩMegaSafe EP 4 / EP 4Ex

## Compact earth resistance tester



EP 4Ex



Test lines in accordance with  
EN-61010-031 CAT III  
Cap removable for CAT II environments

The ΩMegaSafe EP 4 is a manageable resistance measuring device for fast testing according to VDE 0413 of protective and grounding lines, equipotential bonding lines and lines at lightning arrester.

- Safe and universal between 10 mΩ and 2 MΩ
- High measurement current 0,2 A for Lo-Ω-range up to 10 Ω
- Fast compensation of measuring line per keypress
- Automatic pole change and storage of measurement results





### Low resistance line tests

Easy testing of resistances in protective lines and grounding systems, equipotential bonding lines, shielding etc. in accordance with EN 61557-4 (VDE 0413-4).

### Universal and safe

Measurements between 10 mΩ and 2 MΩ with extreme safety against external voltage

- Lo-Ω-measurement range up to 10 Ω with high measurement current 0,2 A
- further measurement ranges up to 2000 kΩ
- usable in mains up to 500 V
- acoustic and optic warning in case of external voltage, flashing indication of voltage value
- robust, manageable casing with attached test prod for heavy demands, IP 65

### EP 4 for reliable and fast low resistance tests

Easy handling

- zero balance (compensation) of measuring line per keypress
- supports several measuring lines with an impedance up to 3,5 Ω (approximately 200 m) for quick results
- automatic pole change and storage of measurement results (can be switched off)



### Three readout systems

Unambiguous and rapid recognition of function, result and danger:

1. LED for external voltage, polarity and Lo-Ω-measurement with 0,2 A
2. clear display for measurement result and function with backlight
3. acoustic warning signal

### Wide range of safety accessories

Test lines and battery are included in the delivery of the EP 4 (standard version) or EP 4Ex (Ex-proof version).



- 50 m measuring line on decoiler with standard socket, not for ex-areas
- 50 m measuring line on wire reel
- contact clip with standard socket
- leather bags
- sawtooth test prod for rusty and varnished test sites



Test prod for rusty and varnished test sites

### Technical data

Line and resistance measuring device EP 4 / EP 4Ex according to EN/IEC 61010-1 and EN/IEC 61557-4 (VDE 0413 part 4)  
Ex-proof version EP 4Ex additionally according to DIN EN 60079-0 and 60079-11

EC type examination certificate (EP 4Ex)

II 2 G Ex ib IIC T4 ATEX 552826

Measurement ranges

10 Ω (Lo-Ω)	resolution	0,01 Ω
100, 2000 Ω	resolution	0,1 ... 1 Ω
20, 200, 2000 kΩ	resolution	0,01 ... 1 kΩ

Accuracy

1,5% +/- 4 digit at 20°C

Measurement current

10 Ω (Lo-Ω)-range:	200 mA
100 Ω-range:	20 mA
further ranges:	1 μA ... 20 mA

Open-circuit voltage

> 4 V

Measuring line balance

automatic 0-balance (CAL) up to 3,5 Ω

Digital indication

2-line LCD-display, 3 ½ digit, overflow indication via OL backlight

Voltage indication

red LED and acoustic warning signal as well as indication of the value in Volt

Overvoltage protection

up to 400 V reversible via semiconductor, between 400 up to 500 V via special fuse

Overvoltage category

CAT III 300 V / CAT II 600 V according to EN/IEC 61010-1

Operating temperature

-10°C ... + 50°C

Power supply

battery 9 V-block AIMn IEC 6LR61 (also for Ex-proof version)  
multistage BAT-indication  
automatic switch-off

Casing

made of impact resistant ABS with unbreakable display cover

Protection category

IP 65, device can be used in moist environments

Dimensions/weight

60 x 230 x 40 mm  
EP 4 180 g, EP 4Ex 220 g

Article number	Type / Label
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83302	EP 4
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83301	EP 4EX
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## ΩMegaSafe ISO 1Ex

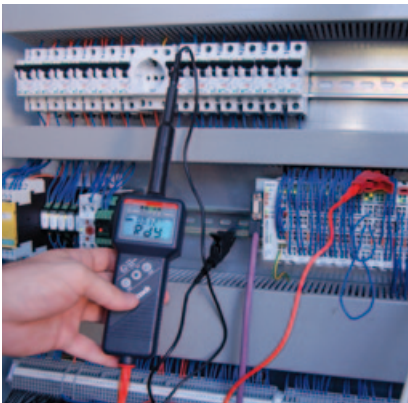
Compact megohmmeter for potentially explosive atmospheres



The ΩMegaSafe ISO 1Ex is a compact high-impedance testing device for insulating resistances and bleeder resistors in potentially explosive atmospheres.

- Safe and universal between 1 k Ω and 2 TΩ
- Test voltage 32, 100, 500 V
- Indication of external voltage and integrated voltage indication up to 500 V
- Push-button for rapid discharge of capacitances





### Easy insulation tests

In Ex-areas with EN 61557-2 (VDE 0413-2), connectible bleeder test in accordance with EN 61340

### Universal and safe

Measurements between 10 k $\Omega$  and 2 G $\Omega$  / 2 T $\Omega$  with extreme safety against sparking

- robust, manageable casing with fixed test prod, IP 65
- 4/7 measurement ranges with automatic range selection
- acoustic and optic warning in case of external voltage, flashing indication at voltages > 32 V
- push-button for rapid discharge of capacitances

### Reliable and fast

Easy handling

- test voltage selection per push-button
- simultaneous indication of test voltage and resistance value on the two-line display
- warning against voltages > 32 V and rapid discharge of capacitances per push-button
- fast measurements in G $\Omega$  ranges, measurement option T $\Omega$  switchable (3 additional measurement ranges)



### Three readout systems

Unambiguous and rapid recognition of function, result and danger:

1. LED for external voltage, active testing and selected test voltage
2. display for test voltage and measurement value with backlight
3. acoustic warning signal

### Accessories

- 2 test lines 600 V CAT III red and black 80 cm
- 2 safety crocodile clips 1000 V CAT III red and black
- leather bags
- attachable test probe



### Special accessories for measurements up to 2 T $\Omega$ :

Special measurement lines and electrodes are required for measurements at bleeder and surface resistances

- ISO-T $\Omega$  measuring line
- annular electrode in accordance with EN 61340-5-1 and EN 61340-2-3 for measurements of surface resistance and volume resistivity weight: 0,515 kg
- electrode in accordance with EN 61340-4-1 and EN 61340-2-3 for measurements of surface and bleeder resistance weight: 2,27 kg



Attachable test probe CAT III (not suitable for Ex-application)

### Technical data

High-impedance megohmmeter  $\Omega$ MegaSafe ISO 1Ex according to EN/IEC 61010-1 and EN/IEC 61557-2 (VDE 0413 part 2)  
Ex-proof version in accordance with EN 60079-0 und EN 60079-11

EC type examination certificate (ISO 1Ex)

Ex II 2 G Ex ib IIBT4 BVS 06 ATEX E130  
Ex I M2 (M1) EX ib [ia] I BVS 06 ATEX E130

Measurement ranges

1,999 M $\Omega$	resolution 1 k $\Omega$	5% +/- 5D
19,99 M $\Omega$	resolution 10 k $\Omega$	5% +/- 5D
1,999 G $\Omega$	resolution 1 M $\Omega$	5% +/- 5D

with selected measurement option T $\Omega$

19,99 G $\Omega$	resolution 10 M $\Omega$	10% +/- 5D
199,9 G $\Omega$	resolution 100 M $\Omega$	10% +/- 5D
1999 G $\Omega$	resolution 1 G $\Omega$	25% +/- 5D

Accuracy

5% +/- 5 digit at 20°C

Test voltage/measurement current

32 V	64 $\mu$ A	+/-20 %
100 V	200 $\mu$ A	+/-20 %
500 V	1 mA	+/-20 %

Discharge push-button

for rapid discharge of capacitances

Digital indication

2-line LCD-display, 3 1/2 digit, overflow indication via OL backlight

Voltage indication

red LED and acoustic warning signal as well as indication of the value in Volt  
24 - 400 V AC  
15 - 500 V DC

Overvoltage category

CAT III 600 V according to EN/IEC 61010-1

Operating temperature

-10°C ... + 50°C

Power supply

battery 9 V-block AIMn IEC 6LR61 (type, see certificate/user instructions)  
multistage BAT-indication  
automatic switch-off

Casing

made of impact resistant ABS with unbreakable display cover, antistatic coated

Protection category

IP 65, device can be used in moist environments

Dimensions/weight

60 x 230 x 40 mm / 220 g

Article number	Type / Label
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83310	$\Omega$ MegaSafe ISO 1EX
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Accessories on page 52

# VarioSafe EXM 25

Multimeter for mining and chemical industries



The VarioSafe EXM 25 is an intrinsically safe multimeter for potentially explosive atmospheres.

- Universal for resistance, current, frequency, temperature and voltage up to 2000 V
- For intrinsically safe and not intrinsically safe circuits up to 2000 V according to ATEX directive 94/9 EG
- Highest degree of safety provided by moulded protective resistors in DATA-HOLD test prods CAT IV, 1000 V
- Intrinsically safe source of energy NiMH accu or Li-battery
- Robust casing made of antistatic plastic





### Universal and variable

- 5 integrated measurement functions
- illuminated two-line display for voltage, resistance, current, frequency and temperature with test attachment
- power supply either from battery or accu
- multifunctional accessories

### Safe

#### Voltage tester functions

- moulded resistors directly behind the test prods guarantee an absolutely safe voltage testing - **CAT IV 1000 V**
- approved for **intrinsically safe** and **not intrinsically safe** circuits up to **2000 V**
- distinctive by separate test prods for voltage or resistance
- voltage test prods lockable by bayonet fastenings additional LED signal for voltage
- moulded safety barrier protects against voltage up to 1000 V during resistance measurements
- integrated control of current range up to 1000 V

### Easy operation

Automatic function and integrated safety against operating errors

- automatic selection of measurement range
- indication of type of voltage + - ~
- red LED signals voltage, green LED indicates continuity, DATA-HOLD button records the displayed value
- self-test and automatic battery check
- automatic switch-off after 60 sec when no measurements are taken

### Robust casing

For decades approved in mining

- special casing made of impact resistant antistatic plastic and unbreakable display cover
- universal jack with bayonet fastening
- for DATA-HOLD test prods and further accessories
- standard sockets for resistance and current
- LEDs for voltage and resistance
- magnets on the rear to fix the unit to metal surfaces



### Standard accessories

DATA-HOLD test prods for voltage and frequency up to 1 kV and standard prods for resistance/current, as well as an intrinsically safe energy source, accu or battery are included in the scope of delivery.

### Accessories / spare parts

- ever-ready bag
- plug-in power supply
- NiMH accu intrinsically safe T4
- Lithium-battery intrinsically safe T6
- temperature measurement accessory, intrinsically safe, -80°C up to +600°C
- universal sensor Fe-CuNi
- surface sensor Fe-CuNi
- high-tension test prods up to 2000 Volt (Ex I)
- clamp-on ammeter for AC/DC up to 1000 A (for Ex I only)

### Technical data

Intrinsically safe multimeter VarioSafe EXM 25 tested an certified in accordance with EN 60079-0 and EN 60079-11

EC type examination certificate

DMT 03 ATEX E 013

Ex II 2G Ex ib T6/T4 and Ex I M2 Ex ib I

Nominal measurement ranges

usable in electricity networks group Ex I up to 1(2) kV, Ex IIB and Ex IIC up to 690 V

Direct current 1 kV (2 kV – request information)

red LED up to 12 V, LCD 3 1/2-digit:  
1, 10, 100, 1000 V (1600 V), ± 0,5% + 2 digit  
resolution 0,001 ... 1 V

Alternating voltage 1 kV (2 kV – request information)

red LED up to 12 V, LCD 3 1/2-digit, TRMS;  
10, 100, 1000 V (1150 V) ± 1% + 2 digit  
up to 500 Hz, resolution 0,01 ... 1 V

Input resistance

2 MΩ distributed to 4 resistances,  
moulded into DATA-HOLD test prods

Continuity/resistance

green LED LCD 3 1/2-digit

200, 2000 Ω

20, 200, 2000 kΩ, 2 MΩ, 20 MΩ ± 1% + 5 digit,  
resolution 0,1 ... 10 kΩ

Current

AC/DC 1000 mA, 2 A ± 1% + 2 digit,  
resolution 1 ... 10 mA

Current with clamp

AC/DC 100, 1000 A, ± 1,5% + 2/3 digit,  
resolution 0,1 ... 1 A

Frequency

200, 2000 Hz ± 1% + 2 digit, resolution 0,1 ... 1 Hz  
10 kHz ± 3% + 2 digit, resolution 0,01 kHz

Temperature with measurement accessory

-80 ... +150°C ± 1,5% + 3 digit, resolution 0,1°C  
-80 ... +600°C ± 1,5% + 2 digit, resolution 1°C

Further functions

automatic selection of measurement range,  
indication of function, self-test, automatic switch-off

Power supply

intrinsically safe energy source, exchangeable  
Li-battery (T6) or NiMH accu (T4)  
exchange in Ex-areas admitted

Operating temperature

- 10°C ... + 40°C

Casing

PA impact resistant, antistatic, LCD cover  
PC unbreakable

Protection category

IP 54, device can be used in moist environments

Dimensions/weight

85 x 180 x 38 mm / 335 g

Article number	Type / Label
82025	VarioSafe EXM 25A (with accu)
82026	VarioSafe EXM 25LB (with Li-battery)
	Accessories on page 53



## VarioSafe EXM 24

Voltage and resistance measuring device  
for mining and chemical industries



The VarioSafe EXM 24 is an intrinsically safe voltage and resistance measuring device for potentially explosive atmospheres.

- For intrinsically safe and not intrinsically safe circuits up to 1000 V according to ATEX directive 94/9 EG
- Highest degree of safety provided by moulded protective resistors in DATA-HOLD test prods CAT IV, 1000 V
- Intrinsically safe source of energy NiMH accu or Li-battery
- Robust casing made of antistatic plastic

AC/DC  
1000 V

Ω  
2 MΩ

CE

IP 54

Ex

CAT IV

### Simple design

The VarioSafe EXM 24 is provided with less functions than the EXM 25 but with similar mechanical construction and safety features as the fully equipped multimeter

- einzeliges Display für Spannung und Widerstand
- alternative Versorgung durch Akku oder Batterie

### Safe

Voltage tester functions

- moulded resistors directly behind the test prods guarantee an absolutely safe voltage testing - **CAT IV 1000 V**
- approved for **intrinsically safe** and **not intrinsically safe** circuits up to **1000 V**
- distinctive by separate test prods for voltage or resistance
- voltage test prods lockable by bayonet fastenings additional LED signal for voltage
- moulded safety barrier protects against voltage up to 1000 V during resistance measurements

### Easy operation

Automatic function and integrated safety against operating errors

- automatic selection of measurement range
- indication of type of voltage + - ~
- red LED signalises voltage, green LED indicates continuity, DATA-HOLD button records the displayed value
- self-test and automatic battery check
- automatic switch-off after 60 sec when no measurements are taken

### Standard accessories

DATA-HOLD test prods for voltage up to 1 kV and standard prods for resistance, as well as an intrinsically safe energy source, accu or battery are included in the scope of delivery.

### Accessories / spare parts

- ever-ready bag
- plug-in power supply
- NiMH accu intrinsically safe T4
- Lithium-battery intrinsically safe T6

### Robust casing

For decades approved in mining

- special casing made of impact resistant antistatic plastic and unbreakable display cover
- universal jack with bayonet fastening
- for DATA-HOLD test prods and plug-in power supply
- standard sockets for resistance and current
- LEDs for voltage and resistance
- magnets on the rear to fix the unit to metal surfaces

### Technical data

Intrinsically safe multimeter VarioSafe EXM 24 tested according to EN 60079-0 and EN 60079-11

EC type examination certificate

DMT 03 ATEX E 013

Ex II 2G Ex ib T6/T4 and Ex I M2 Ex ib I

Nominal measurement range

usable in electricity networks group Ex I up to 1000 V, Ex IIB and Ex IIC up to 690 V

Direct current 1 kV

red LED up to 12 V, LCD 3 1/2-digit, TRMS; 10, 100, 1000 V (1150 V) ± 1% + 2 digit up to 500 Hz, resolution 0,01 ... 1 V

Alternating voltage 1 kV

rote LED ab 12 V, LCD 3 1/2 stellig, TRMS; 10, 100, 1000 V (1150 V) ± 1% + 2 Digit bis 500 Hz, Auflösung 0,01 ... 1 V

Input resistance

2 MΩ distributed to 4 resistances, moulded into DATA-HOLD test prods

Continuity/resistance

green LED LCD 3 1/2-digit 200, 2000 Ω 20, 200, 2000 kΩ, 2 MΩ ± 1 % + 5 digit, resolution 0,1 Ω ... 10 kΩ

Further functions

automatic selection of measurement range, indication of function, self-test, automatic switch-off

Power supply

intrinsically safe energy source, exchangeable Li-battery (T6) or NiMH accu (T4) exchange in Ex-areas admitted

Operating temperature

- 10°C ... + 40°C

Casing

PA impact resistant, antistatic, LCD cover PC unbreakable

Protection category

IP 54, device can be used in moist environments

Dimensions/weight

85 x 180 x 38 mm / 335 g

Article number	Type / Label
82024	VarioSafe EXM 24A (with accu)
82023	VarioSafe EXM 24LB (with Li-battery)
	Accessories on page 53



## Accessories



# Accessories ΩMegaSafe EP / ISO



Article no.	Type	Description	EP	ISO
62013	BAT-AIMn	Battery Daimon MN 1604, Al-Mn-block 9 V, yellow	■	■
73009	EP-LEI	Test line for EP 4 CAT II, with protective cap CAT III, 1000 V, black	■	
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red	□	■
84314	L-SETS	Test line 0.8 m with crocodile clip 1000 V, CAT III, black	□	■
73021	EP-LED	Leather bag for EP / ISO, 37 x 20 x 12 cm	□	□
81030	SP-LED	Leather bag for SPB / DSP, 33 x 12 x 6 cm		□
73006	EP-DH50	50 m measuring line on wire reel	□	
73004	EP-RH50	50 m measuring line on decoiler, NOT for ex-areas!	□	
73001	EP-EK	Earth clamp with 4 mm standard socket	□	
73007	EP-SAW	Sawtooth test prod for EP attachable, CAT II	□	
73008	ISO-PROBE	Attachable test probe for ISO 1Ex, CAT III		□
73010	ISO-TOL	Terra ohm line for high bleeder resistors		□
73011	ISO-ELR	Annular electrode for ISO 1Ex, EN 61340-5-1 / 61340-2-3		□
73012	SO-ELVO	Electrode for ISO 1Ex, EN 61340-4-1 / 61340-2-3		□
73013	ISO-3FUSS	Tripod electrode for ISO 1Ex, Oberflächen / Sonde 1081		□

■ included in the delivery

□ available accessories

# Accessories VarioSafe EXM



Article no.	Type	Description	EXM 24	EXM 25
72025	EXM-AK9	EXM accu NiMH , 9 V, 170 mAh / 40 h operation	■*	■*
72026	EXM-LB3	EXM Lithium-battery 3,6 V,2400 mAh / 300 h operation	■*	■*
82010	WID	Test lines for resistance and current	■	■
72010	SPA	Voltage test prods for EXM 3,4,5,24,25, 1000 V, CAT IV	■	■
72011	SPA-HS2	Voltage test prods for EXM 25, 2000 V		□
72012	SPA-HS7	Voltage test prods for EXM 25, 7000 V, only Ex I limited		□
82011	EXM-LED	Ever-ready bag (leather) for EXM, 18 x 19 x 5 mm	□	□
72328	NG4	Plug-in power supply NG4 for charging the NiMH-accu	□	□
82318	TMZ 25	Temperature measurement accessory for EXM 25, without sensor		□
82107	EXM-TFU	Universal sensor for TMZ, 250 mm		□
82108	EXM-TFO	Surface sensor for TMZ, 110 mm		□
82319	MZ 1005	clamp-on ammeter for EXM 25, 1000 A AC / DC, incl. accu and charger		□
62022	AKKU-MZ	NiMH-accu, 9 V, 170 mAh for MZ 1005		□

■ included in the delivery

□ available accessories

\*Scope of delivery 1 power block according to type

# Article list

## Voltage tester

Art.-No.	Type	Description
<b>Prüfball SPB / ZAP</b>		
81301	SPB 500	Voltage tester analog 500 V
81302	SPB 500P	Voltage tester analog 500 V with phase and phase sequence indication
81321	SPB 500PR	Voltage tester analog 500 V with phase and phase sequence indication, continuity and self-test, RCD tripping
81313	SPB 500PRA	Voltage tester analog 500 V with phase and phase sequence indication, continuity and self-test, acoustic signal at voltage
81305	SPB 740	Voltage tester analog 740 V
81306	SPB 740P	Voltage tester analog 740 V with phase and phase sequence indication
81325	SPB 740PR	Voltage tester analog 740 V with phase and phase sequence indication, continuity and self-test, RCD tripping
81307	SPB 1000	Voltage tester analog 1000 V
81308	SPB 1000P	Voltage tester analog 1000 V with phase and phase sequence indication
81327	SPB 1000PR	Voltage tester analog 1000 V with phase and phase sequence indication, continuity and self-test, RCD tripping
81322	SPB 500L	Voltage tester digital 500 V with phase and phase sequence indication, continuity and self-test, RCD tripping
81323	SPB 1000L	Voltage tester digital 1000 V with phase and phase sequence indication, continuity and self-test, RCD tripping
81314	ZAP 350	Electricity meter tester analog 500 V, load 350 W at 230 V, with phase and phase sequence indication, continuity and self-test
81315	ZAP 350L	Electricity meter tester digital 500 V, load 350 W at 230 V, with phase and phase sequence indication, continuity and self-test
81316	ZAP 1050L	Electricity meter tester digital 500 V, load 1050 W at 230 V, with phase and phase sequence indication, continuity and self-test
<b>Accessories SPB / ZAP</b>		
81019	SPB...G	Thread on both electrodes
81020	SPB-S500-*	SPB extension 500 mm, insulated stainless steel tube, 1000 V
81022	SPB-S600-*	SPB extension 600 mm, insulated stainless steel tube, 1000 V
81028	SPB-S900-*	SPB extension 900 mm, GRP tube, 1000 V
81021	SPB-S20-A	SPB insertion prod for underground cables, 1000 V
81023	SPB-S70	SPB pin prod for test holes 70 mm, diameter 5 mm
81029	SPB-S-ADA	SPB srewable adapter with 4 mm socket, 1000 V
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red
81030	SP-LED	Leather bag for SPB / DSP / EP / ISO, 30 x 12 x 6 cm
81032	SP-KLT	Artificial leather bag SPB / DSP, 30 x 12 x 6 cm
81035	SP-KLT-S600	Artificial leather bag for SPB / DSP / LSP and test probes to 600 mm, 65 x 17 cm
81033	Z350-LED	Leather bag for ZAP 350, 30 x 21 x 6 cm
81034	Z350-KLT	Artificial leather bag for ZAP 350, 30 x 21 x 6 cm
81037	Z1050-LED	Leather bag for ZAP 1050, 36 x 21 x 6 cm
81031	S-HUELSE	Plastic casing for extension test probes up to 600 mm

\* standard shape of electrode Y, alternative i, G. Please specify!

Art.-No.	Type	Description
<b>MultiSafe DSP</b>		
84002	DSP 2	MultiSafe 1000 V AC / 1500 V DC with phase and phase sequence indication, continuity and self-test
84301	DSP 3	MultiSafe 1000 V AC / 1500 V DC extra-low voltage 0,01...9,99 V, LCD lighted with phase and phase sequence indication, continuity and self-test, expandable with DSP-HS5 5 / 7 kV
84302	DSP 4	MultiSafe 1000 V AC / 1500 V DC extra-low voltage 0,01...8,99 V, LCD backlighted with phase and phase sequence indication, continuity and self-test, LED indication without battery

### Accessories DSP

84019	DSP...-G	Thread set for both probes of the DSP
84313	LSP-S500-*	DSP / LSP extension 500 mm insulated stainless steel tube attachable, 1000 V
84010	DSP-S500-*	DSP extension 500 mm insulated stainless steel tube screwable, 1000 V
84014	DSP-S940-*	DSP extension 940 mm GRP screwable, 1000 V
84321	DSP-S20-A	insertion prod for underground cables screwable, 1000 V
84013	DSP-S70	DSP / LSP pin prod for test holes 70 mm diameter 5 mm screwable, 1000 V
84011	DSP-S-ADA	DSP / LSP attachable adapter with 4 mm socket, 1000 V
84312	DSP-S-ADAS	DSP adapter screwable with 4 mm socket, 1000 V
84316	DSP-HS5-**	High voltage test probe 5 kV screwable for DSP 3-G with thread (84019), 5 kV AC / 7 kV DC, 2 extensions essential!
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red
81030	SP-LED	Leather bag for SPB / DSP / EP / ISO, 30 x 12 x 6 cm
81032	SP-KLT	Artificial leather bag SPB / DSP, 30 x 12 x 6 cm
84020	DSP-ETU	Artificial leather case for DSP / LSP, 32 x 13 cm
84021	DSP-COR	Cloth bag Cordura for DSP, 30 x 16 cm
81035	SP-KLT-S600	Artificial leather bag for SPB / DSP / LSP and test probes to 600 mm, 65 x 17 cm
84022	ALU-KOF-KL	Solid box for HS5, 42 x 32 x 11 cm
81031	S-HUELSE	Plastic casing for extension test probes up to 600 mm

### ProfiSafe LSP

85322	LSP 3-400	ProfiSafe 12-400 V LED steps with phase and phase sequence indication, continuity and self-test
85321	LSP 3-690	ProfiSafe 24-690 V LED steps with phase and phase sequence indication, continuity and self-test

### Accessories LSP

85320	LSP-COR	Cloth bag Cordura for LSP, 29 x 14 cm
84313	LSP-S500-*	DSP / LSP extension 500 mm insulated stainless steel tube attachable, 1000 V
84013	DSP-S70	DSP / LSP pin prod for test holes 70 mm diameter 5 mm screwable, 1000 V
84011	DSP-S-ADA	DSP / LSP attachable adapter with 4 mm socket, 1000 V
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red

\* standard shape of electrode Y, alternative i, G. Please specify!

\*\* standard shape of electrode i, alternative Y, G. Please specify!



# Article list

## High voltage testers / Telescope voltage testers / Special types

Art.-No.	Type	Description
<b>High voltage testers</b>		
89305	DSP 3HS3M	High voltage tester 3 kV AC / DC with backlighted LCD, self-test, contact magnet
89335	DSP 3HS3K	High voltage tester 3 kV AC / DC with backlighted LCD, self-test, universal clamp
84316	DSP-HS5-**	High voltage test probe 5 kV screwable for DSP 3-G with thread (84019), 5 kV AC / 7 kV DC, 2 extensions essential!
89304	DSP 3HS11	High voltage tester 11 kV AC / 16 kV DC with backlighted LCD, self-test
89308	DSP 3HS36	High voltage tester 36 kV AC / DC with backlighted LCD, self-test, frequency indication, universal clamp
<b>Telescope voltage testers</b>		
89306	DSP 3TT1M	Telescope voltage tester 1 kV AC / 1,5 kV DC with backlighted LCD, self-test, contact magnet, test height up to 6,2 m
89336	DSP 3TT1K	Telescope voltage tester 1 kV AC / DC with backlighted LCD, self-test, clamp for the rail foot, test height up to 6,2 m
89307	DSP 3TT3M	Telescope voltage tester 3 kV AC / DC with backlighted LCD, self-test, contact magnet, test height up to 6,2 m
89337	DSP 3TT3K	Telescope voltage tester 3 kV AC / DC with backlighted LCD, self-test, clamp for the rail foot, test height up to 6,2 m
89309	DSP 3TT36	Telescope voltage tester 36 kV AC / DC with backlighted LCD, self-test, frequency indication, clamp for the rail foot, test height up to 6,2 m
<b>Special types</b>		
81388	SPB 1000UB1	Voltage tester analog 1000 V with continuity and self-test, additional with green LED, acoustic signal at voltage, clamp for the rail foot, curved probe for testing of underground
<b>Accessories</b>		
84331	DSP-HS-KLT	Artificial leather bag for HS3 / 11, 111 x 28 cm
84022	ALU-KOF-KL	Solid box for HS5, 42 x 32 x 11 cm
84330	ALU-KOF-MI	Solid box for HS3 / 11 / 36, 124 x 27 x 12 cm
84332	TT-KLT	Artificial leather bag for Telescope tester, 176 x 24 cm
63042	TT-WAND	Wall holder / 2 spring clips for TT
<b>Electrodes</b>		
89311	ELEK-i	Electrode-i for HS5 / SPB-S900 / DSP-S900 for testing conductor rails
89312	ELEK-iHS	Electrode-i for HS3 / HS11 / HS36 for testing conductor rails
89313	ELEK-G	Electrode-G for HS5 / SPB-S900 / DSP-S900 for special applications
89314	ELEK-GHS	Electrode-G for HS3 / HS11 / HS36 for special applications
89315	ELEK-Y	Electrode-Y for HS5 / SPB-S900 / DSP-S900 for testing overhead lines
89316	ELEK-YHS	Electrode-Y for HS3 / HS11 / HS36 for testing overhead lines
89317	ELEK-1	Suspension test electrode (small) for SPB-S900 / DSP-S900
89318	ELEK-U	Suspension test electrode for Telescope tester for testing overhead lines

\*\* standard shape of electrode i, alternative Y, G. Please specify!

## Ex-proof and measuring devices

Art.-No.	Type	Description
<b>ΩMegaSafe EP</b>		
83302	EP 4	Earth resistance tester 0,01 Ω - 1999 kΩ in accordance with EN 61557-4, incl. test line
83301	EP 4Ex	Ex-Earth resistance tester 0,01 Ω - 1999 kΩ in accordance with EN 61557-4, incl. test line

### Accessories EP

62013	BAT-AIMn	Battery Daimon MN 1604, Al-Mn-block 9 V, yellow
73009	EP-LEI	Test line for EP 4, CAT II, with protective cap CAT III, 1000 V, black
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red
84314	L-SETS	Test line 0.8 m with crocodile clip 1000 V, CAT III, black
73021	EP-LED	Leather bag for EP / ISO, 37 x 20 x 12 cm
81030	SP-LED	Leather bag for SPB / DSP / EP / ISO, 30 x 12 x 6 cm
73006	EP-DH50	50 m measuring line on wire reel
73004	EP-RH50	50 m measuring line on decoiler. NOT for ex-areas!
73001	EP-EK	Earth clamp with 4 mm standard socket
73007	EP-SAW	Sawtooth test prod for EP, attachable, CAT II

### ΩMegaSafe ISO

83310	ISO 1Ex	Ex-Megohmmeter 1 kΩ - 2 TΩ in accordance with EN 61557-2, incl. test lines
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### Accessories ISO

62013	BAT-DAIM	Battery Daimon MN 1604, Al-Mn-block 9 V, yellow
84311	L-SETR	Test line 0.8 m with crocodile clip 1000 V, CAT III, red
84314	L-SETS	Test line 0.8 m with crocodile clip 1000 V, CAT III, black
73021	EP-LED	Leather bag for EP / ISO, 37 x 20 x 12 cm
81030	SP-LED	Leather bag for SPB / DSP / EP / ISO, 30 x 12 x 6 cm
73008	ISO-PROBE	Attachable test probe for ISO 1Ex, CAT III
73010	ISO-TOL	Terraohm line for high bleeder resistors
73011	ISO-ELR	Annular electrode for surface resistance and volume resistivity, delivery in solid box with calibration plate in accordance with EN 61340-5-1 / 61340-2-3
73012	ISO-ELVO	Electrode for surface resistance in accordance with EN 61340-4-1 and 61340-2-3
73013	ISO-3FUSS	Tripod electrode for floors and surfaces in accordance with EN 1081













# Article list

## Ex-proof measuring and testing devices











Art.-No.	Type	Description
<b>VarioSafe EXM</b>		
82024	EXM 24A	Ex-voltage and resistance measuring device with NiMH-accu / T4 incl. test line, without Plug-in power supply NG4
82023	EXM 24LB	Ex-voltage and resistance measuring device with lithium battery / T6 incl. test line
82025	EMX 25A	Ex-Multimeter with NiMH-accu / T4 incl. test line, without Plug-in power supply NG4
82026	EMX 25LB	Ex-Multimeter with lithium battery / T6 incl. test line
<b>Accessories EXM</b>		
72025	AK72025/T4	EXM NiMH-accu , 9 V, 170 mAh / 40 h operation
72026	LB72026 Li/T6	EXM Lithium-battery 3,6 V, 2400 mAh / 300 h operation
82010	WID	Test lines for resistance and current
72010	SPA	Voltage test prods for EXM 3,4,5,24,25, 1000 V, CAT IV
72011	SPA-HS2	Voltage test prods for EXM 25, 2000 V
72012	SPA-HS7	Voltage test prods for EXM 25, 7000 V, only Ex I limited
82011	EXM-LED	Ever-ready bag (leather) for EXM, 18 x 19 x 5 mm
72328	NG4	Plug-in power supply NG4 for charging the NiMH-accu
82318	TMZ 25	Temperature measurement accessory for EXM 25, without sensor
82107	EXM-TFU	Universal sensor for TMZ, 250 mm
82108	EXM-TFO	Surface sensor for TMZ, 110 mm
82319	MZ 1005	clamp-on ammeter for EXM 25, 1000 A AC / DC, incl. accu and charger
62022	AKKU-MZ	NiMH-accu, 9 V, 170 mAh for MZ 1005

# Explanation of symbols

## Functions

	Voltage testing up to ... V
	Continuity / Self-test up to ... kV
	Phase tester
	Phase sequence tester
	Digital evaluated rotating field without accessible electrode
	Acoustic signal at voltage
	Acoustic signal at continuity
	Frequency measurement
	Current measurement
	Temperature measurement
	Voltage tests work without battery
	Push-button for load

## Safety / Range of application

	EC conformity
	Mark of approval from VDE in accordance with IEC/EN 61243-3
	Overvoltage category
	Can be used in moist environments Protection category
	For indoor and outdoor applications
	Approved for Ex-areas
	Suitable for grounded voltage
	Suitable for non-grounded voltage
	Suitable for tests in accordance with VDE 0413-4 / protective conductor test
	Suitable for tests in accordance with VDE 0413-2 / Insulation test

# Equipment labelling

	Attention! Observe user instructions!		Device for live working
	Mark of approval from VDE test authority		Push-button (switched)
	EC conformity		This devices may not be disposed with the domestic waste (WEEE 2002/96 EG).
	On-time for voltage testing		Approved for Ex-areas in accordance with ATEX (DIN IEC 60079-0 and DIN IEC 60079-11)

**Quality creates safety.**

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