



DT-P

Data sheet

Programmable High-Voltage Testers

The DT-P is a programmable high-voltage tester designed to perform dielectric withstand voltage testing on electrical components in accordance with IEC 60060.

General & Technical Specifications

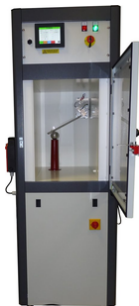
AC Voltage (ref. S)	1 kV to 200 kV	Operating Altitude	<1000m
DC Voltage (ref. R)	1 kV to 200 kV	Storage Temperature	-10°C à 50°C
Power	500 VA to 400 kVA		
Operating Temperature	10°C to 35°C (lower operating temperatures available upon request)	Safety Class	Class I (Protective Earth connection)

KEY FEATURES

- Continuous monitoring of voltage and current
- Burn mode for fault location*
- Compensation for capacitive loads*
- Discharge relay tested before and after the test*
- Breakdown indication via visual alarm
- Readings displayed on digital indicators
- Enhanced safety features: emergency stop, safety loop, and start interlock
- Dual safety loop compliant with EN 13849-1, enabling achievement of (PL d)

*Option

AVAILABLE CONFIGURATIONS

model	B	SU	C
Description	Integrated unit (transformer + control)	Separate units	Enclosure with safety cage
Power	<30 kV	>50kV	AC/DC 50kV AC 40mA 80kV DC 10mA
Shredder			

HOW TO DEFINE THE PART NUMBER/REFERENCE OF A HIGH-VOLTAGE TESTER?

INFORMATION REQUIRED TO PREPARE A QUOTATION

 **Voltage:** Do you require AC voltage (alternating current), DC voltage (direct current), or both?

 **Current:**

- For AC: $IAC = C \times U \times \omega$, where $\omega = 2\pi f$
- For DC: $IDC = (C \times U) / t$, where t = rise time

 **Required Model:**

- Model C: Cabinet with integrated safety cage
- Model B: Single unit with integrated transformer
- Model SU: Separate units (control unit + transformer)

 **Application:** What device will be tested? (type, dimensions, characteristics)

Tester Type	Voltage (kV)	Current (mA)	S = AC R = DC SR = AC/DC	Mode	Configuration Models
DT	-U	-I	-S ou -SR ou R	-P (Programmable)	-C/B/SU

REFERENCE EXAMPLES

DT-30-100-S-P-B	30 kVAC, 100 mA, programmable, single-rack unit without safety cage
DT-60-20-SR-P-SU	60 kVAC, 20 mA AC + 141 kV DC, programmable, separate units without safety cage
DT-40-40-S-P-C	40 kVAC, 40 mA, programmable, cabinet with integrated safety cage

DIELECTRIC WITHSTAND TESTS PERFORMED BY THE DT-P

AC TEST FUNCTION

AC Voltage	from 1 kV to 200 kV
AC Current	from 1 mA to 200 A
Power Rating	up to 400 kVA
Output Voltage	adjustable from <3% to 100% of the maximum voltage
Ramp-Up Rate	automatic or manual
Current Threshold	0–100% of the rated current
Short-Circuit Current	approximately 10 times the rated current
Display	via touchscreen HMI
Accuracy	1% of full scale for output generation from 10% to 100% of full scale. A 20% full-scale subrange for generation is available.
Breakdown Indication	detailed visual indication on the HMI.

DC TEST FUNCTION (OPTIONAL)

Filtered DC (Option R)

- High-voltage rectifier + filtering capacitor
- Standard ripple: 10% peak-to-peak of U_{max} @ 10 mA
- True DC voltage measurement

External Diodes (Options D and DR)

- Half-wave rectifier mounted at the HV output
- DC current limited to $0.45 \times$ AC current (maximum 50 mA DC) from 20 kV to 280 kV

Safety and Protection

- Fast breakdown detection (10 ms)
- HV primary interruption (60 ms)
- Safety loop
- Emergency stop
- Zero-voltage start interlock
- End-of-test discharge monitoring through measurement of a voltage close to 0 V.

DT-P OPERATING MODES

1. Standard Mode

- The tester operates without any time limitation, delivering the maximum available current across the entire voltage range.
- By default, none of the optional modes (duty cycle, compensation, etc.) are enabled.

2. Resonant Compensation Mode (Option K or Vk)

- Application: capacitive loads only.
- Option K: 50% of the maximum power is compensated by an internal inductance.
- Option Vk: 100% of the maximum power is compensated by an internal inductance.
- Advantages:
 - More cost-effective solution
 - More compact and lightweight equipment
 - Reduced power consumption
- Limitation: The available current varies proportionally with the output voltage.

3. Burn Mode (Option BRP)

- Purpose: Enables the burning of a fault in the device under test to facilitate its location, either visually or using diagnostic instruments.
- Operation:
 - Limited impedance allows continuous burning with a low short-circuit current.
 - The operator manually adjusts the current to maintain suitable short-circuit conditions at low voltage.

ACCESSORIES

CONTROL

Pi	Control and monitoring via a 4 kV isolated Serial-to-USB converter. Installation requirement: Virtual COM driver.
TestLab	Control, monitoring, and automatic data logging. Uses .NET Framework 4 and supports Windows XP through Windows 10. Only the English, French, and German versions have been validated.
USBLOG	CSV file configuration: date, time, message yyyymmdd hhmmss NS;OP;...;V2;U2;T2;result;U;I;T Includes a USB feedthrough connector and a USB flash drive with LED status indicator.
RMTP	Remote control panel with 10 m connection cable.

ENERGY

K	50% compensation
VK	Variable compensation
DP	Partial discharge measurement < 2 pC
TAND	Insulated tank and differential measurement capability allowing connection of a measurement bridge between I (current) and ground.
brp	Continuous burn-in mode limited to rated current and < 10 kVA.

SAFETY

KD	Transformer grounding relay. Includes a self-test procedure.
KDB	KD option with protective enclosure.
FEM	Remote flashing beacon with magnetic mounting base and 10 m cable with connector. Activated when power is applied.
LH	Green/Red signal tower indicating Standby and High Voltage status. Horizontal surface mounting.
LV	Green/Red signal tower indicating Standby and High Voltage status. Vertical mounting bracket included, with 5 m cable.
LM	Remote Green/Red signal tower indicating Standby and High Voltage status. Supplied with magnetic mounting base and 10 m cable with connector.
BUZ	Audible warning buzzer.
BAU	Emergency stop unit with 10 m cable and connector.
PHM	Three-position enabling switch (dead-man handle). Releasing the switch or excessive pressure on the button opens the safety circuit.
BPO	Three-position enabling switch (dead-man handle). Releasing the switch or excessive pressure on the button opens the safety circuit.
PO	Operator Presence pushbutton connected in series with the emergency stop circuit. Releasing the button opens the safety circuit.
PERCH-D	Remote 45 kV grounding stick with 5 m grounding cable.
PERCH-I	45 kV grounding stick with integrated holder and position detector, compatible with Type 2 or Type 3 control systems. Supplied with 5 m grounding cable.
PERCH	45 kV grounding stick with 5 m grounding cable. Without position detector.
PERCHS	45 kV rescue hook.
LOCK	Automatic door interlock with anti-entrapment safety device.

ACCESSORIES

MOBILITY & PACK

TW1	Transformer caster set, Ø75 mm, for loads < 150 kg. 4 swivel casters, 2 with brakes.
TW3	Transformer caster set, Ø80 mm, for loads < 300 kg. 4 swivel casters, 2 with brakes.
TW5	Transformer caster set, Ø125 mm, for loads < 700 kg. 4 swivel casters, 2 with brakes.
TW150	Transformer caster set, Ø150 mm, for loads < 600 kg. 2 fixed casters, 2 swivel casters, 1 brake.
TW160	Transformer caster set, Ø160 mm, for loads < 1,700 kg. 2 fixed casters, 2 swivel casters, 1 brake.
TW200	Transformer caster set, Ø200 mm, for loads < 3,000 kg. 2 fixed casters, 2 swivel casters, 1 brake.
CW1	Caster kit for Type 50, 60 and 70 control units, Ø75 mm, for loads < 150 kg. 4 swivel casters, 2 with brakes, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CW3	Caster kit for Type 100, 120 and SU control units, Ø80 mm, for loads < 300 kg. 2 fixed casters, 2 swivel casters, 1 brake, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CW5	Caster kit for Type 100, 120 and SU control units, Ø125 mm, for loads < 700 kg. 2 fixed casters, 2 swivel casters, 1 brake, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CW150	Caster kit for Type 100, 120 and SU control units, Ø150 mm, for loads < 600 kg. 2 fixed casters, 2 swivel casters, 1 brake, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CW160	Caster kit for Type 100, 120 and SU control units, Ø160 mm, for loads < 1,700 kg. 2 fixed casters, 2 swivel casters, 1 brake, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CW200	Caster kit for Type 100, 120 and SU control units, Ø200 mm, for loads < 3,000 kg. 2 fixed casters, 2 swivel casters, 1 brake, cable hook, and connectors for signaling and safety loop circuits. Replaces internal terminal blocks.
CB1	Type 1 wooden crate for equipment up to 100 kg.
CB2	Type 2 wooden crate for equipment up to 300 kg.
CB3	Type 3 wooden crate for equipment up to 700 kg.
CB4	Type 4 wooden crate for equipment up to 1,500 kg.

ACCESSORIES

CONNECTION

CLV	Shielded cable rated up to 15 kV
CMV	Shielded cable rated up to 30 kV
CHV	Unshielded cable for overhead connections
CHV2	Unshielded cable for overhead connections
CHV3	Rigid unshielded cable for overhead connections
MX5-n	5 kV, 10 A AC switching matrix
MX15-n	15 kV, 10 A AC switching matrix
MX36-n	36 kV, 10 A AC switching matrix
OB1	50 kV oil test bath with EL25/75 electrodes
OB2	100 kV oil test bath with electrodes
EL50/60	50/60 mm electrode set
EL25/75	25/75 mm electrode set

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SYNOR Cable Testers

- Scalable solutions from 8 to 140,000 test points
- 2-wire and 4-wire continuity testing up to 10 A
- Insulation resistance testing up to 5 kV DC
- Dielectric withstand (HiPot) testing up to 4 kV AC and 5.5 kV DC
- Available as cabinet or compact benchtop systems, with mobile or remote configurations.



64-SC Hipot Scanner

- High-density solution scalable from 8 to 512 channels
- Test voltages up to 5 kV AC / 500 VA and 6 kV DC
- Insulation resistance measurements up to 200 GΩ at 1 kV DC
- Protective earth continuity testing up to 32 A AC
- Designed in compliance with IEC 61010-2-034 standards.



SEFELEC 5X

- Dielectric withstand (HiPot) testing up to 5 kV AC and 6 kV DC, available with 50 VA or 500 VA power
- Insulation resistance measurements up to 2 TΩ at 1 kV DC
- Protective earth continuity testing up to 32 A AC or 50 A AC
- Designed for electrical safety testing in accordance with international standards.