

Cable fault location system 32 kV

The P32i is a single phase measuring system for fault location in power cables in low-voltage or medium-voltage networks and cable testing as per VDE. The operating unit of the system is arranged together with the power supply unit in a case that is mounted firmly on the HV-unit. The control assemblies in the HV-unit, control unit and energy supply unit are connected by a CAN bus system. The Control Unit works computer-controlled, all functions of the system and all measuring results are shown on a LC display TFT.

Features

- *simple operation, compact design*
- *integrated Reflectometer*
- *VGA Colour TFT LC-Display, 10,4"*
- *motor controlled switch for mode selection and surge voltage levels*
- *automatic discharge cable under test / system*
- *data transfer software*
- *optional safety control systems*
 - *mains voltage*
 - *voltage time surface*
 - *station ground-signal ground-resistance*



Measuring and test methods

- *pre-location surge arc reflection technique ART*
- *pre-location TDR*
- *pinpointing with surge methode*
- *pre-location – pinpointing 0-8/16/32 kV 1000 J, optional 2000J*
- *DC Test 32 kV 50mA,*
- *DC Testing 40 kV 7,5 mA (optional)*
- *cable sheath testing 10 kV*
- *cable sheath pinpointing with pulses 10 kV*

Specifications

DC Test 32 kV
 output voltage 0-32 kV, infinitely adjustable
 output current $I_n = 10 \text{ mA}$, $I_k = 50 \text{ mA}$

Option DC Test 40 kV
 output voltage 0-40 kV, infinitely adjustable
 output current 7,5 mA
 current measurement 0 – 7,5 mA

Surge and surge ART
 surge voltage 0–8 kV, 0-16 kV, 0-32 kV
 surge power 1000 Joule , each surge layer
 optional 2000 Joule
 surge pulse 3-10 sec. and single shot
 surge ART: single shot

Cable sheath location
 output voltage 0-10 kV, infinitely adjustable
 output current 0–50 mA
 pulse rate 1:3, 1:6, 6:1 or 3:1

Power supply
 mains voltage 230 V 50/60 Hz
 power consumption 2000 VA

TDR measurement
 measuring range 0-95 km
 pulse width 50 ns, 100 ns, 200 ns, 500 ns, 1 μs , 2 μs , 5 μs , 10 μs
 velocity of propagation $V/2 = 40\text{-}150\text{m}/\mu\text{s}$
 pulse amplitude 60 V
 clock speed 100 MHz
 display VGA Colour TFT LCD 10.4"
 distance measurement 3 cursor, start, fault and end manual or automatic
 memory capabilities 200 storage spaces for curves, parameters and V/2
 interface RS 232

Mechanical data
 dimensions (LxWxH) 1150 x 516 x 1120
 weight approx. 195 kg

Optional accessories
 Installation kit car with sep. transformer
 Acoustic pin pointing system Kamphone
 InterSheath earth probe LS-M

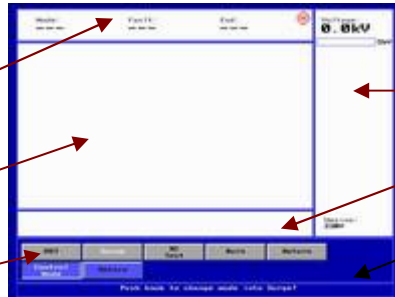
- Product information InterCable P32i -

Display panel separated into 6 windows areas:

Status window: operation mode and distance measurement values of cursors

Curve window

selection menu operation mode and special selections



Window control field :
Current values and set values

Window parameter

Window: help and instructions

Picture:
Control field

Displays the current values of the high-voltage generator

Mains value shown in every mode

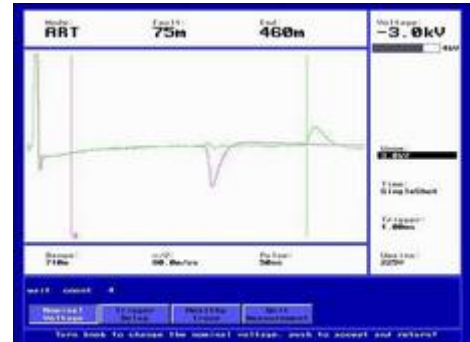


Pre-location surge arc reflection technique ART

For pre-location of cable faults different impulse reflection methods are applied. The surge arc reflection technique (ART) always exists, on this occasion, as a standard. The maximum surge power of 1000 Joule is available in each surge layer 8, 16, 32 kV

With the help of the cursor cable end and fault distance can be determined. In addition the reflections of cable fault and cable end are marked with cursor. From the distance between start cursor and fault cursor the actual distance determines itself about the velocity propagation.

Optionally the upgrade of the surge energy up to 2000 joules is available.



DC Test

A source voltage from 0 up to 32 kV is available for the mode DC Test. In the curve window appears a diagram in which voltage curves are charted graphical during the DC test. On the left side of the diagram is the scaling of 0–32 kV for the voltage values located. The time axis in the lower edge of the diagram is dynamically explained.

DC Testing 40 kV(optional)

In addition, in the optional mode DC Testing 40 kV , 7,5 mA , a current measurement is available. On the right side of the curve window is the scaling arranged for the current value. The scaling for the current values dynamically occurs as a function of the amplitude of the measured current.



Pin pointing surge

For the pinpointing of cable faults together with a ground sound microphone the mode surge is available. The mode surge is laid out switch able for the nominal tensions of 8 kV, 16 kV or 32 kV. Within every surge voltage level the max. surge energy amounts in each level to 1000 joules. The selection of the surge voltage levels occurs through a motorized switch.

The output voltage is continuously adjustable. The pulse rate of 3 – 10 sec. and single shot is electronically adjustable.

Optionally the upgrade of the surge energy up to 2000 joules is available.



Cable sheath fault location (optional , CSFL)

The system P32i produce a pulsed DC voltage for the mode cable sheath fault pin-pointing with a voltage output up to 10 kV and a maximum output current of 50 mA.

The maximum value of the voltage could be limited to a maximum value of 0-10 kV with the SW-button „max voltage“ independent of the adjustable value setting.

The pulse rate could be selected via SW-button to 1/31/6, 3/1 and 6/1

