

## Cable fault location system 32 kV

The FOS P32i is a single trace measuring system for fault location in power cables in low-voltage networks as well as for cable testing as per VDE. The operating unit of the system is arranged together with the power supply unit in a case that firmly on the HV-unit is mounted. 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 methodes

- *pre-location surge arc reflection technique ART*
- *pre-location TDR*
- *pin pointing 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 pin pointing 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 oder 3:1

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

**TDR measurement**  
 Meßbereich 0-95 km  
 pulse widht 50 ns, 100 ns, 200 ns, 500 ns, 1  $\mu\text{s}$ , 2  $\mu\text{s}$ , 5  $\mu\text{s}$ , 10  $\mu\text{s}$   
 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 und end  
 manuel 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 ca. 195 kg

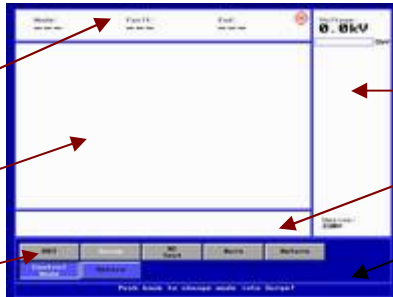
**Optional accessories**  
 Installation kit car with sep. transformer  
 Acoustic pin pointing system Kamphone  
 InterSheath Fehlersonde LS-M

**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

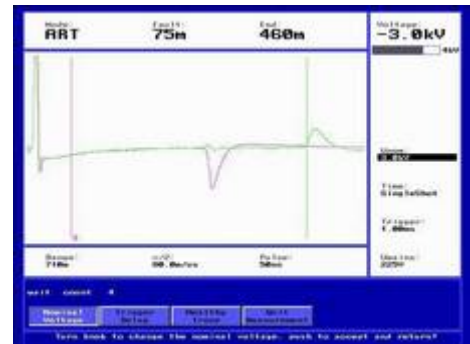


**Pre-location surge arc reflection technique ART**

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 up to 32 kV is available for the mode DC Test. In the curve window appears a diagram in which voltage courses 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, the mode DC Testing 40 kV 7,5 mA is optionally 7.5 mA including 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 (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 und 6/1

