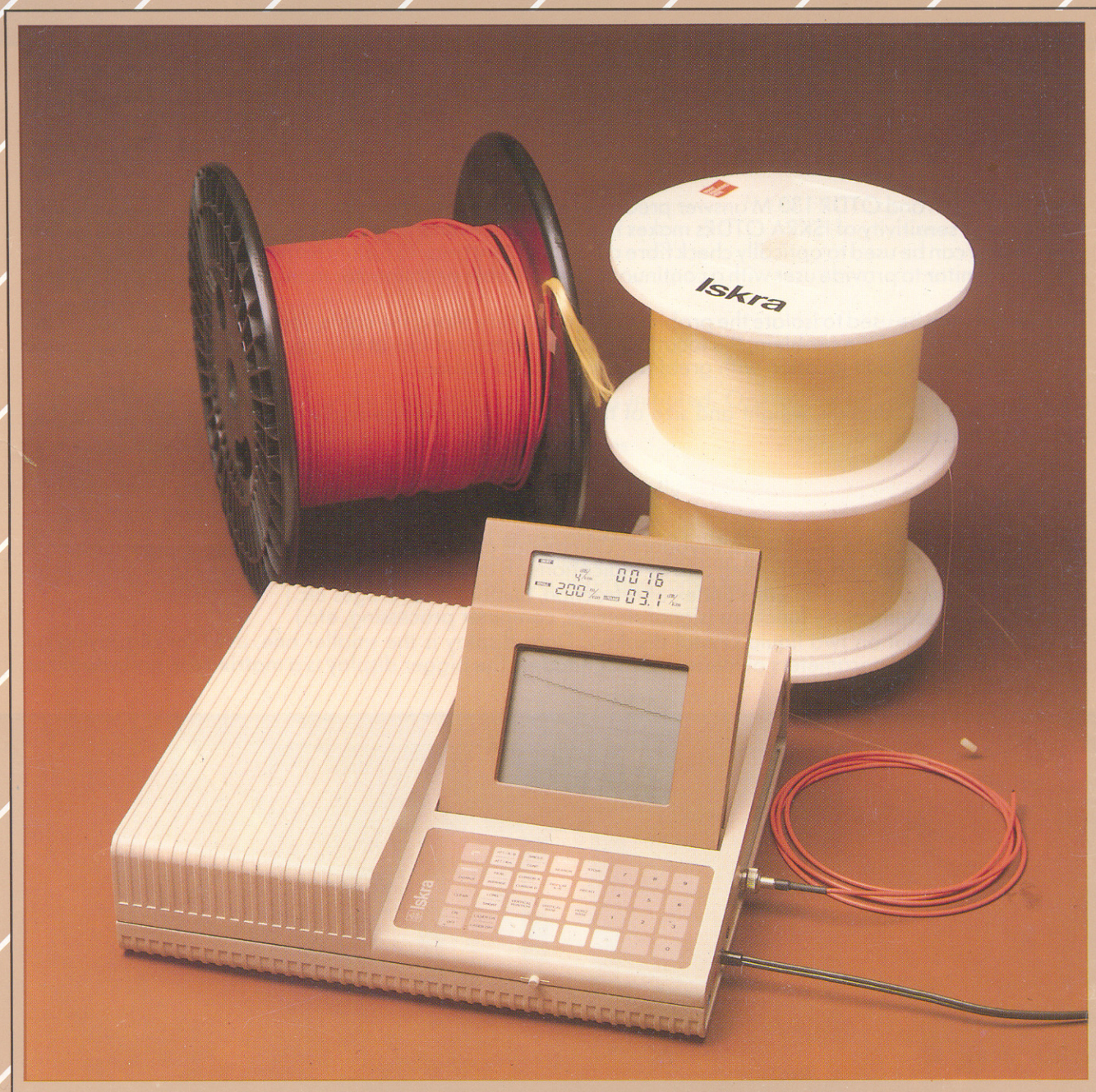


# OPTICAL TIME-DOMAIN REFLECTOMETER

OTDR 85 M, 130 M



**Iskra**



ISKRA OTDR 85 M, 130 M high-tech instrument is a digital optical reflectometer, used for measuring reflectance of multimode optical fibres at  $\lambda = 850 \text{ nm}$  or  $\lambda = 1300 \text{ nm}$ , resp. The unit is ideal for use in laboratory and workshop practice and in the field. OTDR is noted for lightweight design (5 kg), waterproof casing, LC display and built-in battery power supply. The instrument takes advantage of the latest technology providing quick, accurate, and reliable testing of multimode fibres or optical cables.

The OTDR 85 M and OTDR 130 M answer precisely to the questions you require in all phases of optical cable testing. High sensitivity of ISKRA OTDRs makes it easy to spot even the smallest defects in the cable. The real time display can be used to optically check fibre core alignment prior to fusion, to minimize loss. It can function as a line monitor to provide user with a continuous view of cable or connector manipulation to aid alignment.

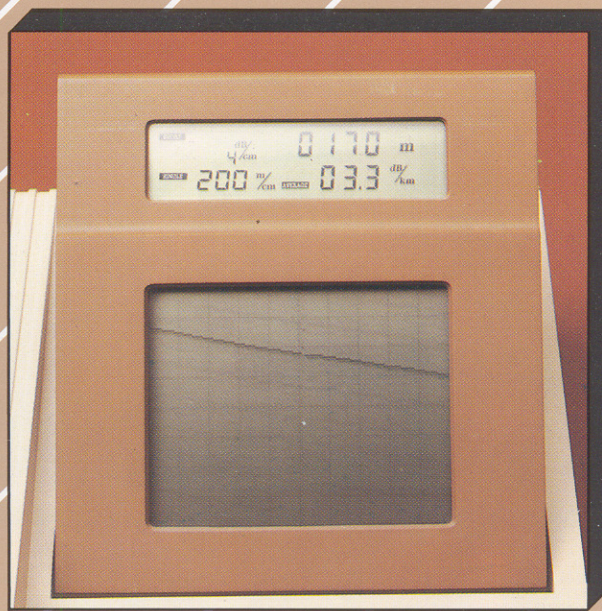
Dual cursors can be used to isolate the problem area anywhere along the cable, for close viewing. This will tell the user the nature of the problem, the location, and the amount of loss at that particular point. Search mode enables automatic fault location with great accuracy and precision.

With the use of LC display, weight and size of the instrument have essentially been minimized and energy consumption decreased.

## GENERAL

OTDR is controlled via a membrane keyboard. Commands are backed by tone signalling (peeping sound is generated when the key is depressed) and by indications on data display. There are two kinds of commands: — changing measuring parameters (index of refraction, number of averages etc.) — executing supplementary functions (signal storage, computer processing, etc.) Results are read out on two liquid crystal displays. Data display is the smaller one, used for displaying all required results and parameters of measured magnitudes. The bigger display is a matrix-type and visualizes recorded signals.





## MEASURING

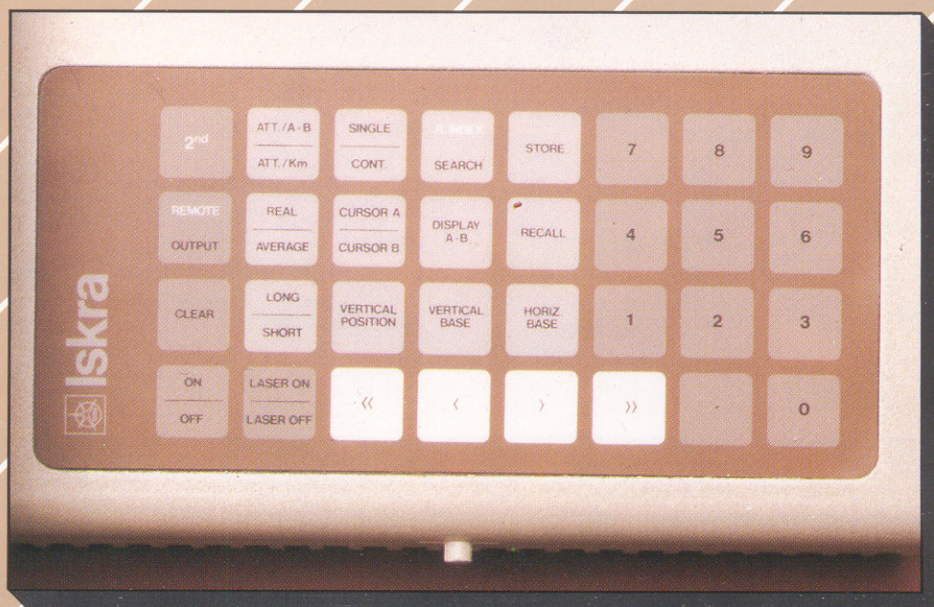
Optical fibre to be measured is coupled with OTDR via optical connector or via elastomeric joint. Quality of this joint is observed in real time on LC matrix display. Before measurement procedure the default values can be changed if required:

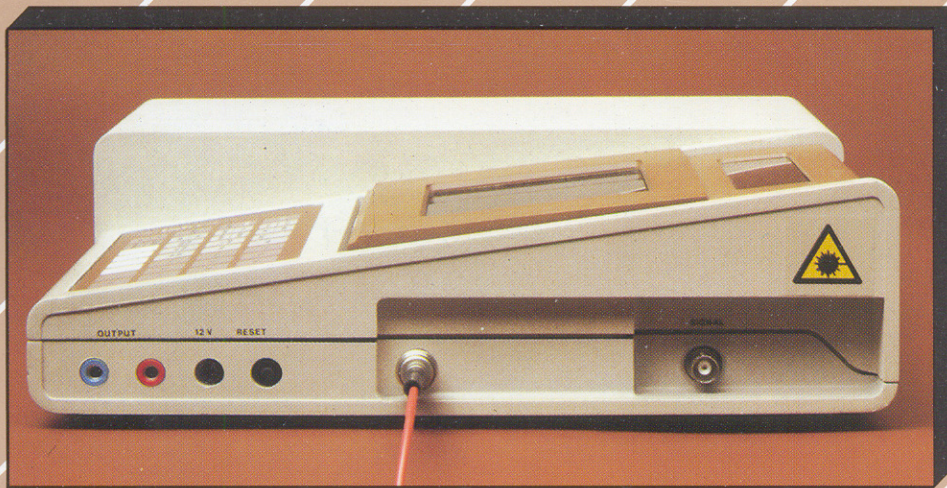
- refractive index value
- number of average calculation values
- width of laser pulse
- cursor position
- automatic fault search
- real or average mode
- single or continuous mode.

By pressing the LASER ON key the measuring procedure is initiated. Operations to be executed after the measurement is finished:

- measuring results are stored into one of the ten memories
- intercursor loss is computed
- location of discontinuity is searched manually or automatically
- results are printed on a graphic printer.

All data on instrument conditions and measured values are read on data display. An OTDR component option is RS 232 serial interface which enables simple connection with computer. Built-in Ni-Cd battery power supply provides the instrument with 8 hours of continuous operation and computer data storage for about 1000 hours.





## TECHNICAL SPECIFICATION

### General data

Temperature range	-10 deg C	.....	+ 50 deg C
	+ 14 deg F	.....	+ 140 deg F
Storage temperature	- 30 deg C	.....	+ 60 deg C
	- 22 deg F	.....	+ 140 deg F
Relative humidity at operation and storage	30-90 %		
Power supply of built-in in 12 V Ni-Cd battery, external 15 V DC, from mains via rectifier			

### Power consumption

operating	6 W
standby	0.02 W
<b>mass</b>	<b>5 kg (11 lbs)</b>
<b>size</b>	<b>330×300×80 mm</b> <b>12,9×11,8×3,1"</b>

### Display characteristics

Matrix display	100 × 80 mm 3.9 × 3.1"
Data display	100 × 27 mm 3.9 × 1.1"

### Horizontal base

max. real time sampling rate 100 ns, 200 m/cm  
max. multiple sample sampling rate 10 ns, 20 m/cm  
sampling ranges: 8 ranges from 20m/cm to 5km/cm incrementally

Averaging calculating operation  
number of averaging 16, 32, 64 and 128  
256 data point average

Communications protocol  
RS 232 C serial interface  
9600 max. baud rate  
control over all OTDR functions by external computer  
various measured data transfer possibilities  
printout on Yt plotter

### Optical characteristics

	OTDR 85 M	OTDR 130 M
Wavelength	850 nm	1300 nm
Pulse width	60 ns/100 ns	60 ns/100 ns
Range (one way backscattering)	24 dB	19 m
Measuring accuracy	1 m	1 m
Resolution	0.1 dB	0.1 dB

Data subject to change without notice.

# Iskra

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