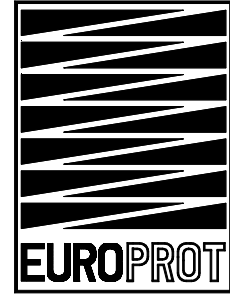


# DISTREC-EP

## DIGITAL DISTURBANCE RECORDER



The digital disturbance recorder of type **DISTREC-EP** has been developed for recording and storing analog signals of voltages and currents and digital signals.

The DISTREC-EP disturbance recorder is suitable to record events of protections, automatic equipment's, CB's, etc. when short circuit or other abnormality occurs on a high voltage network, included the pre- and post-time periods as well.



### *Features, functions*

- Each analogue input board contains 3 identical transformers (CT's or VT's).
- Maximum number of analogue input modules is 5 pcs, i.e. maximum 15 analogue input channels can be recorded in each device.
- Each digital input module contains 8 optical coupled inputs.
- The number of digital input modules can vary from 2 to 8. Since the data are stored in 16 bit units, the number of digital input channels can be 16, 32, 48 or 64.
- Since the size of the rack or case in which a disturbance recorder is housed and the terminal number of a recorder is limited, 16 PCB places are the maximum. Since an analogue board takes two places, the maximum channel number is as follows:  $\frac{2}{3} \times \text{analogue channel number} + \frac{1}{8} \times \text{digital channel number} + 3 \leq 16$  (+ 2 means supply PCB, 1 means CPU).
- Sampling time is 0.5 ms for analogue signals and 1 ms for digital inputs.
- Analogue signal resolution is 12 bit A/D conversion but 15 bit signal range due to an automatic measuring range changeover.
- Memory capacity is 1, 2 or 4 MB SRAM card with battery backup.
- Recording time is 25 to 250 s depending on the number of input channels and the memory capacity.

- Consumer-friendly digital parameter setting method for time period data of maximum record, pre-recording and post-recording time, for channel titles. For triggering signal level or rising/falling edge can be selected.
- Independent event sequence recorder for 300 events with real date and time.
- 4 output alarm relays of warning signals for start, for memory 75 % full, for record overwrite on memory quite full, for inner failure monitoring.
- RS 232 or optical fibre cable for external serial communication.
- WINDOWS based software for high performance evaluation.
- WINDOWS based 24 hour saving system for automatic data store of several DISTREC disturbance recorders and protection relays with remote workstation capability.
- Fast checking possibility of the setting data.
- Password protection against unauthorized setting action.
- Fast information displaying possibility of actual operation data (e.g. channel state).
- Real time clock handling, synchronized by external PC or by local area radio transmitter.
- Immediately appearing "messages" on recording.

### *Setting and signals*

Parameter setting and checking of digital disturbance recorder, request of the recorded data, events and signals, and recorder setting values, setting of software matrix, and handling of automatic messages is possible with an integrated LCD of 2x16 characters and six push-buttons with the aid of a menu system or with an external PC. PROTECTA Co. Ltd. delivers the operating program with the DISTREC disturbance recorder to make handling functions possible by an external PC.

### *Arrangement*

The digital disturbance recorder type **DIGIPROT-EP** is a member of the device family **EuroProt**. It has two different designs. The one is a device for **rack mounting** to a 19" standard cabinet frame, the other is a flash mounting or raising mounting device **to a panel**.

## **Technical Data**

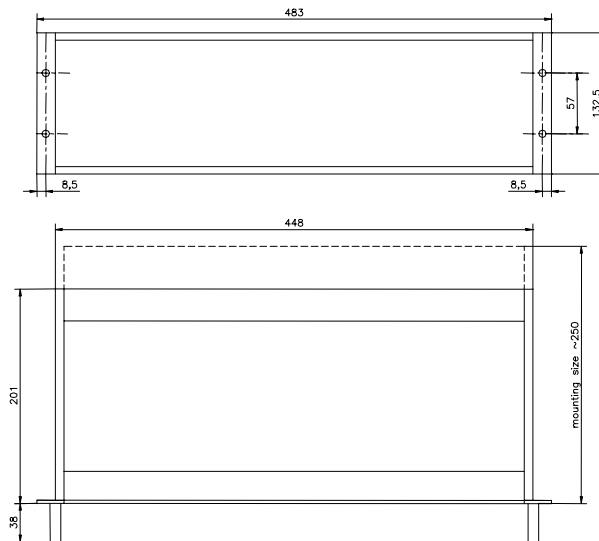
<b>Data of analogue channels:</b>	
Rated secondary voltage, $U_n$	100 V, 200 V, $100\text{ V} / \sqrt{3}$ , $200\text{ V} / \sqrt{3}$ or other
Rated secondary current, $I_n$	1 A, 5 A or other
Channel title written on record (settable)	maximum 16 characters
Overload current capacity, thermal, continuous 1 s	$4 \times I_n$ $100 \times I_n$ (if $I_n = 1\text{ A}$ ) $50 \times I_n$ (if $I_n = 5\text{ A}$ )
Overload voltage capacity, thermal, continuous	$1,3 \times U_n$
Dynamic current limit	$100 \times I_n$
<b>Data of digital channels:</b>	
Input voltages	12 to 220 V, to be defined when ordering
Channel title written on record (settable)	maximum 16 characters
<b>General data:</b>	
Analogue channel number	6, 9, 12 or 15 pcs
Digital channel number	16, 32, 48 or 64 pcs
Output relays of warning signals	4 pcs print relays
Output contacts, electrical data: rated switching voltage continuous load current making current DC breaking capability at 220 V, at pure conductive load at load of $L/R = 40\text{ ms}$	250 V 8 A 16 A 0,25 A 0,14 A
External communication	RS 232 or optical fiber cable
Communication speed (BaudRate)	150 to 19200 Baud, with 2 times steps
No. of substations within a system	0 to 253
No. of devices within a substation	0 to 253
Auxiliary DC voltage voltage tolerance	220 V or 110 V or other 88 to 310 V

## Ordering information

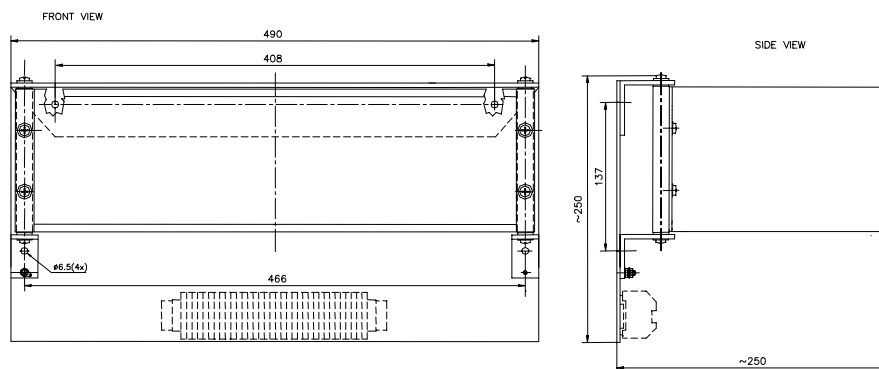
- Type of relay [DISTREC-EP]
- Auxiliary dc battery voltage [220 V, 110 V or other]
- Rated VT secondary voltage [100 V, 200 V,  $100\text{ V} / \sqrt{3}$ ,  $200\text{ V} / \sqrt{3}$  or other]
- Rated CT secondary current [1 A, 5 A or other]
- WINDOWS based evaluation program for disturbance recorder [yes or not]
- Required memory [1, 2 or 4 MB]

## Cases

The DISTREC -EP disturbance recorder is housed in two forms. Weight: 8 kg.



RACK MOUNTING



FRONT VIEW

SIDE VIEW

TOP VIEW

RACK CAN BE TURNED OUT FROM RIGHT-TO LEFT AND LEFT-TO RIGHT TOO.

PANEL MOUNTING