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1 EVENT RECORDER - STATION MONITORING SYSTEM

1.1 Application

When using a front connected personal computer (PC) or Station Monitoring System (SMS), an event list can be available for each of the recorded disturbances in the disturbance report. Each list can contain up to 150 time tagged events. These events are logged during the total recording time, which depends on the set recording times (pre-fault, post-fault and limit time) and the actual fault time. During this time, the first 150 events for all the 48 selected binary signals are logged and time tagged. This list is a useful instrument for evaluating a fault and is a complement to the disturbance recorder.

To obtain this event list, the function “Event recorder” (basic in some protections and optional in others) must be installed.

1.2 Theory of operation

When one of the trig conditions for the Disturbance report is activated, the events are collected by the main processing unit, from the 48 selected binary signals. The events are coming from both internal logical signals and binary input channels. The internal signals are time tagged in the main processing module, while the binary input channels are time tagged directly on each I/O-board. The events are collected during the total recording time, tRecording, and they are stored in the Disturbance report memory at the end of each recording.

The name of the binary input signal that appears in the event list, is the user defined name that can be programmed in the protection terminal.

The time tagging of events emerging from internal logical signals and binary input channels have a resolution of 1 ms.

1.3 Setting

The settings of the Event recorder consist of the signal selection and the recording times. It is possible to select up to 48 binary signals, either internal signals or signals coming from binary input channels. These signals coincide with the binary signals recorded by the disturbance recorder. Furthermore, the disturbance summary indications that are scrolled automatically on the built-in man machine interface (MMI), can only be selected from these 48 event channels.

The signal selection is found at:

Settings
- **DisturbReport**
  - **Binary Signals**
    - **Signal n (1 - 48)**

Each of the up to 48 event channels can be selected from the signal list, consisting of all available internal logical signals, and all binary input channels.

For each of the binary input signals, a user defined name can be programmed at:

Configuration
Binary Inputs

See item “Disturbance report - Settings”, 1MRK 580 029-XEN, for more information.

1.4 Testing

During testing, the Event recorder can be switched off if desired. This is found in SMS or Substation Control System (SCS). See item “Disturbance report - Settings”, 1MRK 580 029-XEN, for more information.

1.5 Technical data

Table 1:

Function	Value
Time tagging resolution	1 ms
Event buffering capacity Max number of events/disturbance report Max number of disturbance reports	 150 10
Time tagging error with sychronisation once/1s	± 1,5 ms
Time tagging error with sychronisation once/10s	± 1,5 ms
Time tagging error with sychronisation once/60s	± 1,5 ms
Time tagging error without sychronisation	± 3 ms/min