EVENT SEQUENCE RECORDER, ESR-100

Core Technologies' Event Sequence Recorder ESR-100, is a flexible, modular system comprising of remote terminal Units (RTU) each catering to 128 Digital Input points. The system is expandable to 2048 points using up to 16 RTUs in one rack. Each RTU has 8 plug-in modules having Termination, Signal Conditioning, Isolation and DC excitation for 16 Digital Inputs. Operating under a dedicated Microprocessor the RTU Logs sequence of an event (Digital Input status changes) with a resolution of 1.0 milli second derived from an internal or external (switch selectable) 1.000 KHz Oscillator Signal. Event synchronization in larger system involving more than one RTU (in one rack) is achieved using "First To Assert Broadcast" logic techniques to signal start of an "Event". The external common clock can be derived from any one of the RTUs and is settable from 1ms to 1.0 sec in predefined steps. Each RTU is configured with a DIPswitch selectable address (0-15), for RS-485 multi-drop serial communication, to receive commands and to transfer status/event data to any supervisory control Data Acquisition system (SCADA). Each RTU has its own program and Data Memory and a Real Time Clock Calendar. Considering that about 30% of the DI points of RTU participating in an event, the Data Memory of the RTU will be able to store more than 100 Event Records. Each RTU has its own Real Time Clock and Calendar IC, which can be configured and synchronized from the Host PC. Besides enunciation on the PC screen, each DI module will provide LED Status indication, locally on the

RTU Sub Rack Rear Panel. RTU is constructed in a standard 19", 3U (138 mm Height), 250 mm (depth) Sub Rack unit with its own power conditioning operating under external 24V DC Supply (Not included in the scope of supply).

All inputs are driven by 24V DC isolated Supply with 2.0mA nominal load. Inputs will be filtered by a 3.0mS settling Analog filter, an Opto Isolator (Isolation 1500V DC), a +15V logic Schmitt Trigger circuit and a logic level translator for TTL processing.

The RTUs communicate between them through optically isolated current loop, logic signals to perform function like signaling start of "Event" and "Master Reset" etc.

Event Records are stored in the Microprocessor's nonvolatile memory and are retrieved by the supervisory computer under a software package developed by Core Technologies. The serial communication command set includes Clock Synchronization, Status log on demand or periodic log at predefined intervals, clear data and setup operation. Raw data files from different RTUs are merged and arranged to generate a composite Event Sequence Record. The software provides for archival and retrieval of old data from the hard disk using dedicated screens operating under Windows 98/2000/ME.

Specifications

1.	Number of Digital inputs /RTU	128
2.	Contact Type	Potential Free NC/NO
3.	Contact interrogation	DC 24V@ 2 mA.
4.	Isolation	1500V DC 750V AC
5.	Event Recording Resolution	1.0 mS programmable in step of 1,2,5,10 up to 100 mS.
6.	Debounce time	10ms
6.	Serial Communication	Multi drop RS-485, 16 Addresses
7.	Power Requirement	220 VDC 15 W nominal
8.	Number of DI Expandable to	2048 DI points in step of 128.
9.	Size	140 (H), 483(w), 270(D)
10.	Weight	5.0kg (Nominal)