MULTI-FUNCTION DISTRIBUTED SYSTEM

CAOM FLUX CONTROL v2

General presentation

The Multi-Function Distributed System CAOM FLUX CONTROL V2.0 is an assembly of hardware modules, system-programs, applications and specifications, which can be used for monitoring and distributing control of the industrial processes.

The CAOM FLUX CONTROL V2.0 design consists on 31 stations (modules) , one of them is the coordinator (MASTER) and the others (SLAVE) are oriented towards application (user modules). The utilization of modules in RETERTOR can expand the design with another 30 pieces. Theoretically, the maximum number of modules can be 20 x 30 = 870.
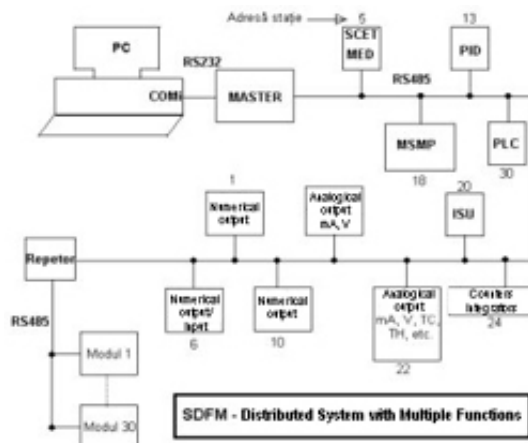

Fig. 1. CAOM FLUX CONTROL System Structure

The user- type modules (stations) can be:
Modules oriented towards application with interface for user, such as:
- SCET- thermal energy calculating system
- MED- flow electronic micro-computer
- PID - type regulator
- MSMP- micro-computer for process values supervising
- ISU- unified signal meter; PLC programmable controller
- Other modules implemented on beneficiary's request

Modules oriented towards application without user's interface
- PID multiple regulators
- PLC programmable controllers

Modules for acquisition and order
- Modules for analogical inputs in voltage or current with common or differential mass
   For RTDs
   For thermocouples
   For measuring bridges
- Modules for analogical outputs mA, V
- Modules for numerical inputs/ outputs
         Contact-type inputs
         Voltage –level type inputs

Relay outputs
Open- collector type outputs
Mixed modules

- Counter/ frequency meter type modules

The MASTER module can be:

active, with a microcontroller and independent functioning from PC. The communication (with galvanic isolation) can be achieved by using:

- COM1 or COM2 serial port
- LPT1 parallel port
- USB serial port

passive, which realizes only the conversion RS232- RS485 and the galvanic isolation, in this case the PC soft takes over the coordinator function for MASTER

On PC, a SCADA software will run and allow to:

- Visualize and list the process values
- Realize historic
- Realize events and alarms journals
- Implement supervising and management algorithms
- PLC s implementation
- Charts implementation and visualization
- Integration into a superior system

The connection among modules is achieved using a 2-twisted-wires cable, with or without cover, according to the operating environment. The maximum length can be 1200 m. The regular standard used is RS485. Every module is galvanically separated from the net. The communication speeds are: 1200, 2400, 4800, 9600, 19200, 62.5 kb/ S. The implicit speed is 62.5 Kb/ S. **All the modules must use the same communication speed**.

CAOM FLUX CONTROL- V2.Ø can be used for the following application types:

- Data acquisition from distance
- Processes monitoring
- Industrial processes control
- Direct digital control
- Management of electrical energy and utilities
- Security systems
- Building automation
- Production testing
- Laboratories automation etc