

SCADA Solution for Wide Area Plants

Characteristics:

- Low power consumption
- DFI302 modular design
- Conventional I/O and Fieldbuses
- All-in-one CPU
- Easy Integration to telecom systems
- SCADA
- Online maintenance

Considering its flexible and interoperable solution, the SMAR System302 control system can be easily adjusted to comply with most of the applications, providing an open pathway between the plant floor and corporate network.

Standard DCS/PLC type of control systems are normally used in plants where process concentration does not demand specific telecommunication systems due to smaller distances between equipment areas, hence providing standard LAN (Local Area Network) solutions.

As a standard process control system, the SMAR System302 also utilizes standard off-the-shelf hardware such as Ethernet switches, routers, firewalls in a combined scenario to properly address the LAN connectivity using CAT5 cable and/or fiber optics.

However, in certain specific applications the process patterns and nature of job require special characteristics from control system which will lead to a Wide Topology referring to efficiency rather than simply fast updates on HMI screens.

From oil & gas wells to water distribution pipelines, the specific requirements of remote applications are more and more being used and embedded into control systems.

In Wide Area Plants the control system is normally split in a Main Terminal unit (MTU), Telecommunication System (telecom) and several Remote Terminal Units (RTU's), targeting standalone and local process intervention, and simple process monitoring.

The RTU's are normally used as standalone equipment and implemented to execute local control for immediate action upon abnormal process behavior at low power and high connectivity.

The telecom is the important solution to address the long distances issue introduced by such applications. Various scenarios are known and implemented in different locations, e.g. satellite communication, fiber optics, radio network, GSM/GPRS, 3G, etc.

Finally, the MTU is the concentrator of all data coming from different

RTU's via telecom and compiled into a single database. The MTU is also implemented to operate, configure and maintain all RTU's remotely based on various protocols.

Following this idea, SMAR System302 can be totally adjusted to fulfill all requirements of Wide Area Plants, also introducing a list of special features:

- Low power consumption;
- Modular design;
- All-in-one CPU;
- Easy integration to telecom systems;
- SCADA embedded;
- Online maintenance.

SMAR System302 hardware is totally based on DFI302 modular design, hence utilizing all standard modules and accessories.

SMAR System302 also provides a solution for the MTU part of a Wide Area Topology, by providing SCADA software SMAR ProcessView along with specific set of OPC servers to integrate all RTU's through the telecom system.

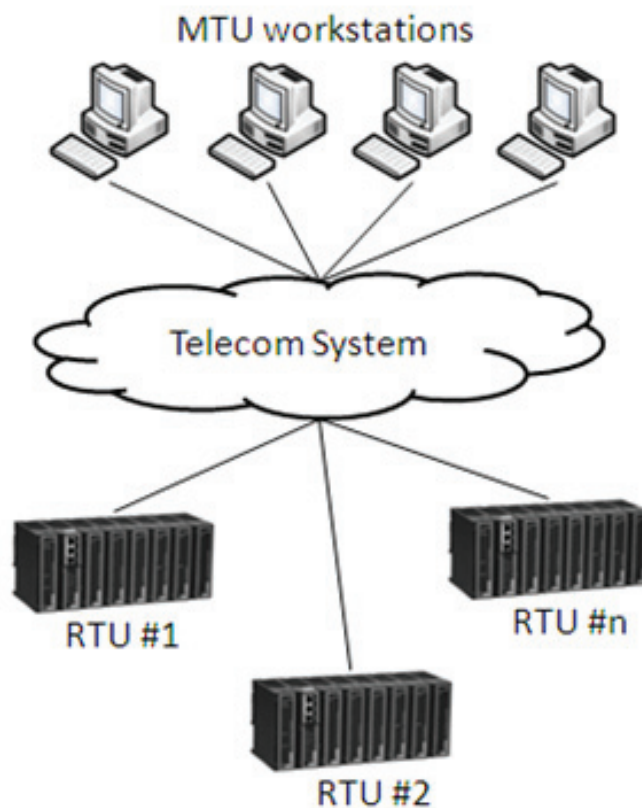
Standard OPC and Foundation Fieldbus High Speed Ethernet (FF HSE) communication protocols are used to provide all means to send/receive data to/from RTU's.

In case of narrowed network bandwidths, specific protocols can also be implemented, such as DNP3 which will target the data collection from RTU's where network cannot be accessed 100% of the time in a shared environment (supervision, control and voice). The local DFI302 RTU's also count with a local memory for data storage in case of telecom link break or long pooling periods, whereas 45,000 registers are available to prevent data loss.

Characteristic	SYSTEM302 Availability
Analogue Inputs / Outputs	Up to 128*
Discrete Inputs/Outputs	Up to 256*
Modbus-RTU	1 x RS-232
Modbus-TCP/IP	Yes
DNP3 serial	Yes
DNP3 TCP/UDP	Yes
DNP event logging capacity	45,000 registers
OPC support	Yes
Foundation Fieldbus HSE	2 x 100Mbps ports
Foundation Fieldbus HI	4 x HI ports
VAC Power Supply	90 to 264VAC
VDC Power Supply	20 to 40VDC
GSM/GPRS/3G support	Yes**
Redundancy support	Yes (CPU only)

* Combined scenario, 256 I/O in total if both analogue and discrete signals are used.

** Optional external modem needed.



For additional information please contact us.