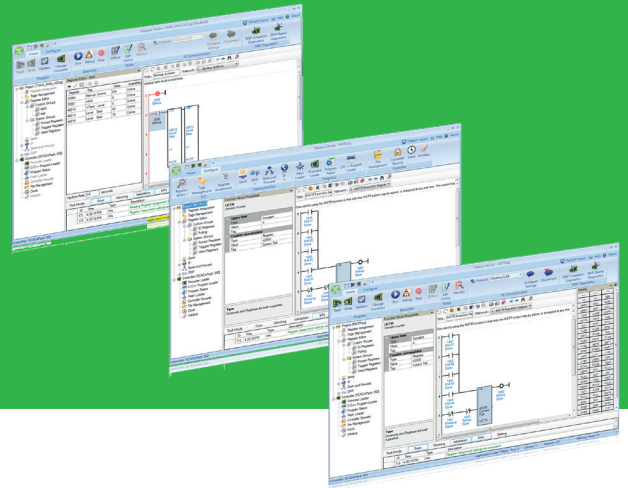# Telepace Studio

Relay Ladder Logic for SCADAPack Smart RTU

At a glance

- Easy-to-use programming environment
- Comprehensive list of SCADA-specific functions
- On-line editing and monitoring
- Off-line development and editing
- Variety of communications media and protocols supported
- C/C++ applications run concurrently with Telepace Studio applications
- Windows© 7, 8.1 and 10 Support

Overview

Telepace™ Studio from Schneider Electric provides the ideal programming environment in which to develop ladder logic applications for the standard (non-E) SCADAPack™ family of Smart RTUs.

Telepace Studio

Relay Ladder Logic
for SCADAPack Smart RTU

Features

Easy-to-Use Environment

Telepace Studio is a user-friendly, flexible environment for developing, debugging, and downloading ladder logic code to SCADAPack Smart RTUs. It allows for both off and on-line code development and provides local and remote access to your process by utilizing intranet and Internet technologies. It also provides Smart RTU diagnostic and configuration tools, including an integrated firmware loader, as well as custom functions for SCADA-specific applications.

Telepace Studio allows engineers and electricians to quickly and efficiently develop analog and digital control sequences, configure PID process control, create data logs, calculate flow totals, and perform communication functions.

Custom Ladder Logic Functions

Telepace Studio combines the simplicity of traditional ladder logic with the flexibility and power of custom functions. Users familiar with ladder logic programming techniques and elements such as contacts, coils and timers can easily progress to the more advanced SCADA functions that are available with SCADAPack Smart RTUs.

Advanced SCADA functions include	
DIAL, INIM	Control dial-up phone line communication
DLOG, GETL	Create datalog and retrieve logged data
FLOW	Accumulate and log flow totals based on pulse-type input
TOTL	Totalize and log values based on rate input
HART	Send a HART protocol command and process the response
MSTR	Send a serial protocol message
MSIP	Send a TCP/IP protocol message
PIDA, PIDD	Perform an analog or digital output-based PID algorithm
SCAL	Scale an integer to a floating-point value
SUBR	Define subroutines

Telepace Studio

Relay Ladder Logic
for SCADAPack Smart RTU

Features - continued

Communications

Telepace Studio supports a variety of communication media and protocols over the computer-to-Smart RTU link.

Communication media include:

- Direct-wired (RS232/485 and USB)
- Dial-up
- Leased-line
- Licensed and spread-spectrum radio
- Ethernet TCP/IP, on Ethernet port-equipped RTUs

Supported protocols include:

- Serial Modbus™ (RTU and ASCII)
- DF1
- DNP3, DNP3/TCP and DNP3/UDP
- Modbus/TCP and Modbus/UDP
- Modbus (RTU and ASCII) in TCP and UDP

Customizable Workspace

Telepace Studio program information and Smart RTU settings are organized in viewing panes on the workspace canvas.

When debugging multiple projects at the same time, such as a client and server application, multiple instances of Telepace Studio may run concurrently to allow simultaneous debugging of each project.

For more details on Telepace Studio please consult our website at www.se.com.

On-Line Functionality

Telepace Studio provides remote or local on-line editing and monitoring of ladder logic programs. Minor changes to the ladder logic code can be made online. This helps to ensure that only the new code is written to the Smart RTU and not the entire application.

Program execution can be monitored in real time with logic power-flow displayed on the logic network itself. I/O database variable values are conveniently displayed in the register editor view where custom lists of variables are easily created.

Process variables controlled by the ladder logic code can be forced to predetermined values. This simplifies code debugging in the absence of actual input process values or when temporarily removing a process input from service for maintenance purposes.

Off-Line Development

Developing ladder logic code is quick and easy using the built-in editing features of Telepace Studio. These include copy-and-paste to copy code fragments or entire networks, special configuration views for complex function blocks, and the use of subroutines to compartmentalize sections of code.

Important logic documentation can be appended to the network where the logic resides, to make code more understandable for future users. Tag names can be assigned to individual I/O database points to further enhance code readability.

Telepace Studio

Relay Ladder Logic
for SCADAPack Smart RTU

Features - continued

Concurrent C/C++ Code Execution

For additional programming power, Telepace Studio applications can execute in the SCADAPack Smart RTU concurrently with C/C++ code. Process data generated in either application can be passed to the other through a common I/O database.

For example, the results of complex mathematical algorithms implemented calculated in C/C++ can be used by the Telepace Studio application to control the process.

In a typical oil and gas application, Schneider Electric's Realflo™ gas flow computer handles the gas flow calculation and logging functions with C/C++ code. A concurrently-executing Telepace Studio application handles the remainder of the well site automation and communication duties which could include the control of equipment such as pumps and motor starters.

System Requirements

Telepace Studio is supported on these platforms.
- Windows 10 Professional on 32-bit and 64-bit platforms.
- Windows 8.1 Professional on 32-bit and 64-bit platforms.
- Windows 7 Professional on 32-bit and 64-bit platforms.
- Windows 7 Ultimate on 32-bit and 64-bit platforms.

In addition to the recommended configuration for Windows on the platform, Telepace Studio requires the following resources.
- 250 MB of free disk space
- 256 MB RAM
- Minimum supported monitor resolution is 1024x768. Recommended monitor resolution is 1280x1024.
- NET 3.5 framework