
Summary of the TSX ETG 30xx Functions

Presentation

The TSX ETG 30•• module includes the following main functions:

- **Gateway and Communication functions** such as TCP/IP > Modbus gateway, PPP > Modbus Gateway, RAS server, Modbus Master, etc.
- **Embedded Web server functions** such as module setup and diagnostic, application monitoring and control, etc.
- **Embedded HMI functions** such as graphic monitoring, datalogging, alarm or report notification via email/SMS, etc.

Gateway and Communication Functions

The module includes the following gateway and communication functions:

- Gateway functions:
 - between Ethernet network and serial link using Modbus/TCP and Modbus/RTU protocols.
 - between PPP link (internal or external PSTN / GSM modem) and Ethernet or serial devices using Modbus/TCP and Modbus/RTU protocols.
- RAS between devices over a modem network (TCP/IP - PPP) and devices over an Ethernet network.
- Modbus Master function for device data acquisition by polling up to 31 Modbus slaves.

Additional protocols and functions supported:

- HTTP server for TSX ETG 30•• module setup, diagnostic and application monitoring.
 - FTP server for module firmware update and application upload / download.
 - SNMP agent for network management and administration.
 - NTP client for clock synchronization of TSX ETG 30•• modules, devices and computer systems over Ethernet.
 - SMTP client for Email notification.
 - DNS client for IP address resolution of SMTP and database servers.
 - DHCP client for automatic reconfiguration on replacement of TSX ETG 30•• modules (FDR function).
 - IP filtering to limit connection to a list of authorized client IP addresses.
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**Embedded Web
Server Functions**

An integrated HTTP server provides Web portal features to your remote installations and RTU applications. The memory of the TSX ETG 30•• consists of 32 MB of internal flash with memory extension such as Compact flash card or USB memory key up to 1 GB.

It includes:

- Predefined Web pages for:
 - module setup and control,
 - module and application diagnostic,
 - application monitoring and control.
 - User customizable Web pages for:
 - graphic monitoring,
 - HTML reporting / Dashboard,
 - storage of any user defined files such as pdf, docs, schematics, etc for maintenance purpose,
 - real time access to devices and application data from custom Web pages using a library of graphical Java applet.
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Embedded HMI Functions

In addition to the gateway and the embedded Web server functions, the **TSX ETG 30** module can perform internal processing.

This processing includes the following HMI services (FactoryCast HMI active services):

- **Device service:** to configure data acquisition from devices (device variables polling).
 - **Calculation service:** to perform calculation scripts for custom data processing (scaling, threshold, etc).
 - **Email service:** for alarm or report notification via email or SMS on events, alarm trigger or threshold exceeded, etc.
 - **Datalogging service:** for automatic archiving of application information such as measures, events, alarms, device status, etc. The log files are saved as CSV files into module memory (Flash memory, CF card, USB memory key).
 - **Database connection:** for automatic archiving of application information into an external relational database (SQL Server, Oracle, MSQL).
 - **Active pages:** creation of custom dynamic HTML pages.
 - **Recipe service:** automatic recipe data files management to initialize a group of variables set at predetermined values when a specified event occurs.
 - **Data Editor:** to create data tables associated with variables, so as to be able to determine their value when the table is animated.
 - **Pocket Editor:** a version of the Data Editor that operates in a Pocket PC environment.
 - **Graphic Viewer:** to visualize custom animated graphics for application monitoring.
 - **Graphic Editor:** to create custom animated graphics for application monitoring.
 - **Custom Web page:** to create a fully customized Web interface perfectly matching customer needs.
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