

Connect ControlLogix PLC to SQL Database

Overview

tManager® Enterprise Appliance Transaction Modules (eATM®) enable bi-directional data exchange between enterprise systems like SQL databases and ControlLogix PLCs. tManager is the preferred PLC in-chassis hardware connectivity solution as compared to PC software-based connectivity solutions such as VB scripting and FactoryTalk Transaction Manager.

tManager modules enable bi-directional data exchange for downloading recipes and manufacturing instructions or uploading production parameters for track and trace or monitoring. SQL databases are commonly used between MES applications and the production line.

Options are available for a variety of databases such as MS SQL, Oracle, MySQL, and connection methods such as IBM WAS JMS (Java Message Service), Red Hat JBOSS JMS.

Drivers are available to connect tManager in the ControlLogix rack via the front Ethernet port to 16 additional Allen-Bradley PLCs, Siemens, and Schneider PAC/PLCs.



Easy Configuration

First, choose from the many messaging or database adapters available and select your PLC drivers.

Next, install tManager in a ControlLogix chassis. Then, use tManager configuration software to drag and drop configurations – done.

Secure Connectivity

tManager's configuration can only be changed by authorized personnel using tManager configuration software.

As an industrial device, tManager has better security and reduced vulnerability to virus attacks than PC-based options.

Getting Started

Configuration Software Provides:

- Setup via graphical user interface
 - Define path to PLC -- tags in PLC are auto enumerated
 - Define path to database or message queue -- database items are auto enumerated
 - Drag and drop PLC tags onto database items
 - Setup triggers to initiate data transfer
 - Place into run mode
- All configurations are stored in tManager onboard memory:
 - Enables configurations to be imported, exported, backed up and restored, should the module require replacement

Robust Data Handling and Auditing

- Once configured, all data transfers are handled by the module itself; no other software is required
- Logs and Notifications
 - Diagnostics, status and transaction monitoring can be enabled via user configurable logging
 - E-mail alerts can notify you if a transaction fails
- Data Buffering and Destination Failover
 - Store & Forward: If network communication is lost, data can be stored on the module and then forwarded upon network being restored
 - Failover: On loss of communication, messages can be transferred to/from an alternate destination



Database Connectivity

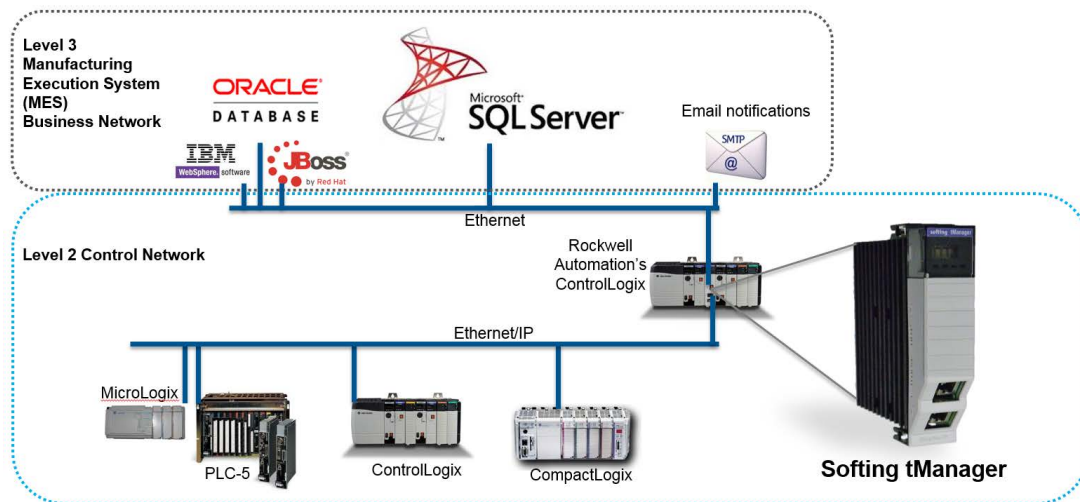
- Microsoft SQL
- Oracle
- MySQL
- AS/400 IBM DB2
- FTP Adapter
- JMS JBOSS

Database Functions

- Insert, Update, Select
- Call database custom written programs
- Supports arrays, UDT, complex arrays, XML
- 2 GB onboard memory for store and forward if database connectivity is lost
- Automatic database failover connectivity
- Status tag for monitoring tManager health, store and forward state, successful transaction
- Transaction logging, alarms/alerts, performance
- Admin credentials for database access and network firewall

tManager Connects ControlLogix to:

- ControlLogix backplane
- Up to 16 controllers
- ControlLogix bridge modules and then to Ethernet/IP, DH+, DH485, ControlNet
- Via the tManager front Ethernet port to other PLC's:
 - CompactLogix PLC's
 - PLC-5
 - SLC500
 - MicroLogix 1100 and Micrologix 1500
 - Siemens S7-300, S7-400, S7-1200, S7-1500
 - Schneider Electric Quantum Modbus TCP/IP
 - other Modbus TCP/IP devices
 - via TCP and UDP



System and Environmental

- | | |
|--|------------------------------|
| • Two independent 10M/100M/1G Ethernet ports | • Vibration: 2g @ 10 - 500Hz |
| • ControlLogix single-slot module | • Shock: Non-operating: 50g |
| • Windows 10 configuration software | Operating: 30g |
| • Temperature: Non-operating: 0°C to +80°C | • Power Ratings: 5 VDC |
| Operating: 0°C to +60°C | • Power dissipation: 7 W |
| • Humidity: 5 - 95% non-condensing | |

US Headquarters: Softing Inc.

7209 Chapman Highway • Knoxville, TN 37920 USA • <https://industrial.softing.com/us>
Phone: +1.865.251.5252 • Fax: +1.865.579.4740

Europe Operations: Softing Inc.

Via Augusta, 147, 3a • 08021 Barcelona, Spain • Phone: +34 93 241 47 05 • Fax: +34 93 439 8927