

Schneider Series Service Manual

TSXP57453M

1. Description

The Schneider Electric TSXP57453M features a double-format PL7 processor tailored for quick and efficient automation tasks. It supports a maximum of 16 racks with different slot arrangements and has significant I/O capabilities for diverse applications.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line TSX Micro PLCs
Part	Number TSXP57453M
Weight	1.00 lbs (0.45 kg)
Processor	Type Double-format PL7 processor
Number	of Racks Supports up to 16 racks with varying slot configurations
Discrete	I/O Capacity Up to 2040 I/O points
Analog	I/O Capacity Up to 256 I/O points
Communication	Options Fipio manager, non-isolated serial links, CANopen, network modules, Fieldbus modules, and AS-Interface bus modules
Memory	Description Internal RAM (with PCMCIA card) 176 Kwords data; Internal RAM (without PCMCIA card) 96 Kwords program and data; PCMCIA card 2048 Kwords additional data storage; PCMCIA card 992 Kwords program
Execution	Time per Instruction 0.06 μs Boolean (with and without PCMCIA card), 0.08 μs word or fixed-point arithmetic (with and without PCMCIA card), 1.7 μs floating-point (with and without PCMCIA card)
Number	of Instructions per ms 13.82 Kinst/ms 100% Boolean (with and without PCMCIA card), 8.8 Kinst/ms 65% Boolean + 35% fixed arithmetic (

3. Product Information

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Technical specifications for TSXP57453M

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Protective Treatment TC (ensures durability and reliability in various industrial environments)

System Overhead 0.22 ms fast task, 1.15 ms master task

Local Signalling Green LED for processor running (RUN), red LED for activity on Fipio bus (FIP), red LED for I/O module or configuration fault (I/O), red LED for processor or system fault (ERR), yellow LED for activity on the terminal port (TER)

Current Consumption 1080 mA

Module Format Double

Environmental Standards RoHS compliance

Description

The TSX Micro PLCs series from Schneider Electric includes the TSXP57453M, which is designed as a double-format PL7 processor. This module boasts an impressive configuration capability, allowing for the support of up to 16 racks with customizable slot arrangements to suit varied system requirements. It is engineered to handle substantial I/O operations, accommodating as many as 2040 discrete I/O points, along with additional analog inputs totaling up to 256 points.

The communication versatility of this module is noteworthy, featuring options such as Fipio manager, non-isolated serial links, CANopen, and various Fieldbus modules, which ensures compatibility with a broad range of industrial networks. Within its memory structure, the TSXP57453M presents a configuration that includes 176 Kwords of data in its internal RAM when utilizing a PCMCIA card, with reduced memory capacity otherwise. Additionally, it allows for substantial data and program storage via integrated RAM and cards, enhancing the flexibility of programming.

Execution speed is a critical aspect, with a rapid instruction processing speed: 0.06 μ s for Boolean operations in both configurations. More complex operations such as fixed-point arithmetic take 0.08 μ s, with 1.7 μ s required for floating-point calculations. The performance is quantified further, achieving 13.82 Kinst/ms in 100% Boolean operations and 8.8 Kinst/ms for mixed arithmetic scenarios.

With current consumption rated at 1080 mA, the TSXP57453M module is built to maintain robust performance. For reliability, it features a protective treatment classified as TC, supporting effective operation in challenging industrial settings, typically maintained between 0 to 50 degrees Celsius as its operating temperature range.

Local signaling aids troubleshooting through multiple LEDs, indicating processor status, I/O faults, and communication activity. This module measures in at 1.23 lbs. (0.56 kg) and meets RoHS environmental standards, reinforcing its suitability for modern system installations.