

Schneider Series Service Manual

TSXP57103M

1. Description

The Schneider Electric TSXP57103M is a micro PLC that incorporates an internal RAM of 32 Kwords specifically designated for data processing. This module offers efficient inrush current capabilities, handling 38 A at both 240 V and 100 V. Designed with flexibility in mind, it can accommodate up to two racks supporting 12 slots or four racks with up to eight slots, making it suitable for various configurations.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line TSX Micro PLCs
Part	Number TSXP57103M
EAN	3595862023825
Weight	1.00 lbs (0.45 kg)
Internal	RAM 32 Kwords data
Inrush	Current 38 A at 240 V / 38 A at 100 V
Number	of Racks 2 (12 slots), 4 (4/6/8 slots)
Discrete	I/O Processor Capacity 512 I/O
Analogue	I/O Processor Capacity 24 I/O
Integrated	Connection Type Non-isolated serial link, 2 female mini DIN, 19.2 kbit/s
Communication	Module Processor Capacity 1 network module, 2 AS-Interface bus modules, 1 CANopen
Memory	Description Internal RAM (with PCMCIA card) 32 Kwords data, Internal RAM (without PCMCIA card) 32 Kwords program and data
PCMCIA	Card 128 Kwords additional data storage, 64 Kwords program
Execution	Time per Instruction 0.5 µs Boolean without PCMCIA card, 0.6 µs Boolean with PCMCIA card
Number	of Instructions per ms 0.85 Kinst/ms (65% Boolean + 35% fixed arithmetic with PCMCIA card), 1.05 Kinst/ms (65% Boolean + 35% fixed arithmetic without PCMCIA card)
Local	Signalling 1 LED (green)

3. Product Information

The Schneider Electric TSXP57103M is a micro PLC that incorporates an internal RAM of 32 Kwords specifically designated for data processing. This module offers efficient inrush current capabilities, handling 38 A at both 240 V and 100 V. Designed with flexibility in mind, it can accommodate up to two racks supporting 12 slots or four racks with up to eight slots, making it suitable for various configurations.

Technical specifications for TSXP57103M

Manufacturer Schneider Electric

Product Line TSX Micro PLCs

Part Number TSXP57103M

EAN 3595862023825

Weight 1.00 lbs (0.45 kg)

Internal RAM 32 Kwords data

Inrush Current 38 A at 240 V / 38 A at 100 V

Number of Racks 2 (12 slots), 4 (4/6/8 slots)

Discrete I/O Processor Capacity 512 I/O

Analogue I/O Processor Capacity 24 I/O

Integrated Connection Type Non-isolated serial link, 2 female mini DIN, 19.2 kbit/s

Communication Module Processor Capacity 1 network module, 2 AS-Interface bus modules, 1 CANopen

Memory Description Internal RAM (with PCMCIA card) 32 Kwords data, Internal RAM (without PCMCIA card) 32 Kwords program and data

PCMCIA Card 128 Kwords additional data storage, 64 Kwords program

Execution Time per Instruction 0.5 µs Boolean without PCMCIA card, 0.6 µs Boolean with PCMCIA card

Number of Instructions per ms 0.85 Kinst/ms (65% Boolean + 35% fixed arithmetic with PCMCIA card), 1.05 Kinst/ms (65% Boolean + 35% fixed arithmetic without PCMCIA card)

Local Signalling 1 LED (green) for processor running (RUN), 1 LED (red) for I/O module or configuration fault (I/O), 1 LED (red) for processor or system fault (ERR), 1 LED (yellow) for activity on the terminal port (TER)

Current Consumption 440 mA, 5 V DC

Module Format Standard

Range of Product

Modicon Premium Automation platform

Product or Component Type

Single-format PL7 processor

Software Designation

PL7 Junior/Pro

Complementary

Number of racks

2 12 slots

4 4/6/8 slots

Number of slots

16

32

24

Discrete I/O processor capacity

512 I/O

Analogue I/O processor capacity

24 I/O

Number of application specific channel

8

Integrated connection type

Non isolated serial link 2 female mini DIN19.2 kbit/s

Communication module processor capacity

1 network module

2 AS-Interface bus modules

1 CANopen

Memory description

Internal RAM (with PCMCIA card) 32 Kwords data

Internal RAM (without PCMCIA card) 32 Kwords program and data

PCMCIA card 128 Kwords additional data storage

PCMCIA card 64 Kwords program

Maximum size of object areas

30.5 %MWi internal words located internal data

32 %KWi constant words located internal data

4096 %Mi located internal bits

Application structure

1 master task

1 fast task

32 event tasks

Execution time per instruction

0.5 µs Boolean without PCMCIA card

0.6 µs Boolean with PCMCIA card

0.62 µs word or fixed-point arithmetic without PCMCIA card

0.87 µs word or fixed-point arithmetic with PCMCIA card

44 µs floating points with PCMCIA card

44 µs floating points without PCMCIA card

Number of instructions per ms

0.85 Kinst/ms 65 % Boolean + 35 % fixed arithmetic with PCMCIA card

1.05 Kinst/ms 65 % Boolean + 35 % fixed arithmetic without PCMCIA card

1.18 Kinst/ms 100 % Boolean with PCMCIA card

1.52 Kinst/ms 100 % Boolean without PCMCIA card

System overhead

0.8 ms fast task

1.5 ms master task

Marking

CE

Local signalling

1 LED (green) for processor running (RUN)

1 LED (red) for I/O module or configuration fault (I/O)

1 LED (red) for processor or system fault (ERR)

1 LED (yellow) for activity on the terminal port (TER)

Current consumption

440 mA 5 V DC

Module format

Standard

Net Weight

0.84 lb(US) (0.38 kg)

Environment

Standards

CSA C22.2 No 213 Class I Division 2 Group A

CSA C22.2 No 142

89/336/EEC

UL 508

73/23/EEC

CSA C22.2 No 213 Class I Division 2 Group C

92/31/EEC

93/68/EEC

CSA C22.2 No 213 Class I Division 2 Group B

IEC 61131-2

CSA C22.2 No 213 Class I Division 2 Group D

Product Certifications

DNV

GL

RMRS

BV

ABS

LR

RINA

Ambient Air Temperature for Operation

32...140 °F (0...60 °C)

Ambient Air Temperature for Storage

-13...158 °F (-25...70 °C)

Relative Humidity

10...95 % without condensation for operation

5...95 % without condensation for storage

Operating altitude

0...6561.68 ft (0...2000 m)

Protective treatment

TC

IP Degree of Protection

IP20

Pollution degree

2

Ordering and shipping details

Category

22558-TSX PREMIUM, ATRIUM & PL7 PRO

Discount Schedule

PC22

GTIN

3595862023825

Returnability

No

Country of origin

FR

Packing Units

Unit Type of Package 1

PCE

Nbr. of units in pkg.

1

Package 1 Height

2.2 in (5.5 cm)

Package 1 Width

7.09 in (18.0 cm)

Package 1 Length

10.2 in (26.0 cm)

Package weight(Lbs)

17.9 oz (508.0 g)

Description

The TSXP57103M from Schneider Electric is an advanced micro PLC designed for efficient automation. This module possesses an internal RAM of 32 Kwords for data storage and processing. It supports high inrush currents of 38 A at 240 V and 100 V, ensuring robust performance under various electrical conditions.

Users can take advantage of the flexible rack option, which allows them to use either 12 slots across two racks or up to eight slots over four racks. For processing, it features 512 I/O for discrete inputs/outputs and an additional 24 I/O for analog applications. The module communicates using a non-isolated serial link supported by two female mini-DIN connectors, reaching speeds of 19.2 kbit/s.

The communication capabilities extend to managing one network module, two AS-Interface bus modules, and a single CANopen, making it adaptable for multiple networking requirements. Memory management supports up to 32 Kwords of program and data without a PCMCIA card. However, with a PCMCIA card, it can expand to an additional 128 Kwords for data storage and 64 Kwords for programming.

Instructions are executed promptly, with times of 0.5 μ s per Boolean instruction without the PCMCIA card and 0.6 μ s with it. This allows for efficient processing rates of 0.85 Kinst/ms and 1.05 Kinst/ms, respectively. LEDs provide a local indication, signaling processor activity, I/O status, error states, and terminal activity.

The TSXP57103M consumes 440 mA at 5 V DC. It is housed in a standard module format that weighs approximately 0.84 lbs. (0.38 kg), making it a robust choice for compact installations within control systems.