Schneider □□□ Series Service Manual

TSXP57203M

1. Description

The TSXP57203M from Schneider Electric is part of the TSX Micro PLC series. It features advanced processing capabilities, including a fast task overhead of 0.3 milliseconds and a master task overhead of 1 millisecond. This unit is designed for efficient program execution with a memory capacity of 224 KB when using a PCMCIA card.

2. Specifications

Specification	Value
Manufacturer	**Schneider Electric**
Product	**Line TSX Micro PLCs**
Part	**Number TSXP57203M**
EAN	**3595862023849**
Weight	**1.00 lbs (0.45 kg)**
System	**Overhead 0.3 ms fast task, 1 ms master task**
Memory	**Description Internal RAM: 224 KB program and 96 KB data with PCMCIA card; 96 KB program and data without PCMCIA card**
PCMCIA	**Card 256 KB additional data storage**
Execution	**Time per Instruction 0.19 µs Boolean without PCMCIA card, 0.25 µs Boolean with PCMCIA card**
Number	**of Instructions per ms 2.1 Kinst/ms (with PCMCIA card: 65% Boolean + 35% fixed arithmetic), 3.71 Kinst/ms (without PCMCIA card: 65% Boolean + 35% fixed arithmetic)**
Current	**Consumption 1650 mA, 5 V DC**
Module	**Format Standard**
Communication	**Module Processor Capacity 2 modules**
Integrated	**Connection Type Ethernet TCP/IP RJ45, Serial link 2 female mini DIN RS485 19.2 kbit/s**
Analogue	**I/O Processor Capacity 24 I/O**
Discrete	**I/O Processor Capacity 512 I/O**
Number	**of Racks 2 (12 slots), 4 (4/6/8 slots)**
Internal	**RAM 96 KB data**
Application	**Structure 1 mast**

3. Product Information

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Technical specifications for TSXP57203M

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Product Line TSX Micro PLCs

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PCMCIA Card 256 KB additional data storage

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Current Consumption 1650 mA, 5 V DC

Module Format Standard

Communication Module Processor Capacity 2 modules

Integrated Connection Type Ethernet TCP/IP RJ45, Serial link 2 female mini DIN RS485 19.2 kbit/s

Analogue I/O Processor Capacity 24 I/O

Discrete I/O Processor Capacity 512 I/O

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

Internal RAM 96 KB data

Application Structure 1 master task, 1 fast task, 32 event tasks

Description

The Schneider Electric TSXP57203M is a compact programmable logic controller designed for high-speed processing and control. It features a system overhead with a fast task execution time of 0.3 milliseconds and a master task time of 1 millisecond, facilitating quick responses in automation applications. The internal RAM allows for 224 KB of program storage and 96 KB of data while utilizing a PCMCIA card. Users can also utilize an additional 256 KB of storage with the card installed.

For instruction efficiency, this PLC achieves execution times per instruction of 0.19 microseconds for Boolean operations when not using a PCMCIA card, increasing to 0.25 microseconds when engaged. The processing capability peaks at 3.71 Kinst/ms without the PCMCIA and 2.1 Kinst/ms with it, ensuring robust performance for complex tasks.

With a standard module format, the TSXP57203M weighs approximately 0.84 lbs. (0.38 kg) and supports up to two communication modules. It is equipped with integrated connection types such as Ethernet TCP/IP via an RJ45 interface and a serial link utilizing female mini-DIN RS485 at 19.2 kbit/s for flexible networking options. Additionally, the PLC facilitates 512 discrete I/O and 24 analog I/O points, enhancing its applicability in diverse control systems.

Its structure includes 1 master task, a fast task, and up to 32 event tasks. The TSXP57203M thus stands as a competent solution for advanced automation requirements, fulfilling the need for efficiency and adaptability in various operational frameworks.

Range of Product

Modicon Premium Automation platform

Product or Component Type

Double-format PL7 processor

Software Designation

PL7 Junior/Pro

Complementary

Number of racks

16 4/6/8 slots

8 12 slots

Number of slots

96

64

128

Discrete I/O processor capacity

1024 I/O

Analogue I/O processor capacity

80 I/O

Number of application specific channel

24

Number of process control channel

10 up to 30 simple loops

Integrated connection type

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

Communication module processor capacity

1 fieldbus module (none if CANopen used)

1 network module

4 AS-Interface bus modules

1 CANopen

Memory description

Internal RAM (with PCMCIA card) 48 Kwords data

Internal RAM (without PCMCIA card) 48 Kwords program and data

PCMCIA card 160 Kwords program

PCMCIA card 2688 Kwords additional data storage

Maximum size of object areas

30.5 %MWi internal words located internal data

32 %KWi constant words located internal data

8132 %Mi located internal bits

Application structure

1 fast task

1 master task

64 event tasks

Execution time per instruction

0.19 µs Boolean without PCMCIA card

0.21 µs Boolean with PCMCIA card

0.25 µs word or fixed-point arithmetic without PCMCIA card

0.42 µs word or fixed-point arithmetic with PCMCIA card

2.6 µs floating points with PCMCIA card

2.6 µs floating points without PCMCIA card

Number of instructions per ms

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

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

3.7 Kinst/ms 100 % Boolean with PCMCIA card

4.76 Kinst/ms 100 % Boolean without PCMCIA card

System overhead

0.35 ms fast task

1 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

750 mA 5 V DC

Module format

Double

Net Weight

1.15 lb(US) (0.52 kg)

Environment

Standards

CSA C22.2 No 142

UL 508

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

IEC 61131-2

89/336/EEC

73/23/EEC

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

92/31/EEC

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

93/68/EEC

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

Product Certifications

LR

DNV

RMRS

GL

RINA

BV

ABS

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

3595862023849

Returnability

No

Country of origin

FR

Packing Units

Unit Type of Package 1

PCE

Nbr. of units in pkg.

1

Package 1 Height

3.7 in (9.5 cm)

Package 1 Width

7.09 in (18.0 cm)

Package 1 Length

10.2 in (26.0 cm)

Package weight(Lbs)

22.8 oz (646.0 g)