

Schneider Series Service Manual

TSXAEY1600

1. Description

The TSXAEY1600 from Schneider Electric is a standard TSX Micro PLCs series module. This model can operate efficiently across a temperature range from 0 to 60°C and handle storage temperatures from -25 to 70°C. Relative humidity for optimal operation lies between 10% and 95% without condensation.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line TSX Micro PLCs
Part	Number TSXAEY1600
EAN	3389110726114
Weight	1.00 lbs (0.45 kg)
Relative	Humidity 10 to 95% without condensation for operation
Storage	Temperature -25 to 70°C
Operating	Temperature 0 to 60°C
Module	Format Standard
Current	Consumption 270 mA at 5 V DC
Electrical	Connection 2 connectors SUB-D 25
Input	Overvoltage Protection -15 to 15 V at state 0, -30 to 30 V at state 1
Isolation	1000 Vrms between channels and bus, 1000 Vrms between channels and ground
Measurement	Error 0.1% of full scale at 25°C for various voltage ranges
Fast	Read Cycle Time 3 ms + 3 ms per channel used
Nominal	Read Cycle Time 51 ms
Input	Types Current (0-20 mA, 4-20 mA), Voltage (+/- 10 V, 0-10 V, 0-5 V, 1-5 V)
Analog/Digital	Conversion 12 bits
Analog	Input Channels 16 high-level inputs
Range	of Product
Modicon	Premium Automation platform
Product	or Component Type
Analog	input module
Input	level
High	level
Analogue	input number
16	
Analogue	input type
Curre	

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Technical specifications for TSXAEY1600

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EAN 3389110726114

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Analog Input Channels 16 high-level inputs

Range of Product

Modicon Premium Automation platform

Product or Component Type

Analog input module

Input level

High level

Analogue input number

16

Analogue input type

Current 0...20 mA

Current 4...20 mA

Voltage +/- 10 V

Voltage 0...10 V

Voltage 0...5 V

Voltage 1...5 V

Analog/digital conversion

12 bits

Complementary

Nominal read cycle time

51 ms

Fast read cycle time

3 ms + 3 ms x number of channels used

Measurement error

0.1 % of full scale +/- 10 V 25 °C

0.1 % of full scale 0...10 V 25 °C

0.1 % of full scale 0...5 V 25 °C

0.1 % of full scale 1...5 V 25 °C

0.13 % of full scale +/- 10 V 0...60 °C

0.13 % of full scale 0...10 V 0...60 °C

0.13 % of full scale 0...5 V 0...60 °C

0.13 % of full scale 1...5 V 0...60 °C

0.16 % of full scale 0...20 mA 25 °C

0.16 % of full scale 4...20 mA 25 °C

0.32 % of full scale 0...20 mA 0...60 °C

0.32 % of full scale 4...20 mA 0...60 °C

Isolation between channels and bus

1000 Vrms

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Isolation between channels and ground
1000 Vrms
Isolation between channels
Common point
Common mode between channels
None
Input overvoltage protection
-15...15 V at state 0 250 kOhm
-30...30 V at state 1 250 kOhm
Electrical connection
2 connectors SUB-D 25
Overcurrent
-30...30 mA at state 1 250 kOhm
Marking
CE
Current consumption
270 mA 5 V DC
Module format
Standard
Net Weight
0.75 lb(US) (0.34 kg)
Environment
Standards
IEC 1131
Product Certifications
BV
GL
LR
DNV
RINA
ABS
RMRS
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
3389110726114
Returnability
No
Country of origin
FR
Packing Units

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Unit Type of Package 1

PCE

Nbr. of units in pkg.

1

Package 1 Height

2.165 in (5.500 cm)

Package 1 Width

7.087 in (18.000 cm)

Package 1 Length

10.236 in (26.000 cm)

Package weight(Lbs)

15.767 oz (447.000 g)

Unit Type of Package 2

S03

Number of Units in Package 2

10

Package 2 Height

11.8 in (30 cm)

Package 2 Width

11.8 in (30 cm)

Package 2 Length

15.7 in (40 cm)

Package 2 Weight

13.935 lb(US) (6.321 kg)

Description

The Schneider Electric TSXAEY1600 is designed as a robust standard module suited for various industrial applications. Its operating environment can range between 0 and 60°C, while it remains capable of withstanding storage temperatures down to -25°C and up to 70°C. The device efficiently operates within a relative humidity range of 10% to 95%, guaranteeing stable performance without condensation.

Weighing 0.34 kg, the module requires a current supply of 270 mA at a voltage of 5 V DC. Two SUB-D 25 connectors facilitate the necessary electrical connections. Input overvoltage protection enhances its functionality with limits of 15 to 15 volts at state 0 and 30 to 20 volts at state 1. This provides additional security against potential surges.

Isolation measures safeguard operations, as the TSXAEY1600 maintains 1000 Vrms isolation between channels and both the bus and the ground. The device ensures high accuracy for various voltage ranges, featuring a measurement error of merely 0.1% of full scale when operating at 25°C. The fast read cycle time is recorded at 3 milliseconds plus 3 ms for each additional channel in use, while its nominal read cycle time is 51 milliseconds. Among its processing capabilities, this module supports 16 high-level analog input channels utilizing 12-bit analog/digital conversion. It accommodates multiple input types, including current inputs (0-20 mA, or 4-20 mA) and voltage inputs (± 10 V, 0-10 V, 0-5 V, and 1-5 V). Overall, the TSXAEY1600 effectively meets the demands of complex automation tasks while ensuring high performance and reliability.