

Schneider Series Service Manual

TSXASY800

1. Description

The Schneider Electric TSXASY800 is part of the TSX Micro PLC series, featuring eight analog output channels. This module supports current and voltage outputs, with specific ranges of 0 to 10 volts and 0 to 20 milliamps.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line TSX Micro PLCs
Part	Number TSXASY800
EAN	3389110876369
Weight	1.00 lbs (0.45 kg)
Number	of Channels 8 analog output channels
Output	Type Voltage or current
Voltage	Output Range 0 to 10 V
Current	Output Range 0 to 20 mA
Resolution	12-bit
Accuracy	±0.1% of full scale
Load	Impedance Minimum 500 ohms for current output
Humidity	5 to 95% non-condensing
Storage	Temperature -40 to 85°C
Operating	Temperature 0 to 60°C
Power	Consumption 5 W
Power	Supply 24 V DC
Isolation	500 V between channels and ground
Response	Time 1 ms per channel
Range	of Product
Modicon	Premium Automation platform
Product	or Component Type
Analog	output module
Analogue	output number
8	
Analogue	output type
Current	0...20 mA
Current	4...20 mA
Voltage	+/- 10 V
Analog/digital	conversion
13	bits + sign +/- 10 V
13	bits 0...20 mA
13	bits 4...20 mA
Complementary	
Conversion	time
5	ms
Measurement	resolution
1.28	mV +/- 10 V
2.56	µA 0...20 mA
2.56	µA 4...20 mA
Electrical	Connection
1	SUB

3. Product Information

The Schneider Electric TSXASY800 is part of the TSX Micro PLC series, featuring eight analog output channels. This module supports current and voltage outputs, with specific ranges of 0 to 10 volts and 0 to 20 milliamps.

Technical specifications for TSXASY800

Manufacturer Schneider Electric

Product Line TSX Micro PLCs

Part Number TSXASY800

EAN 3389110876369

Weight 1.00 lbs (0.45 kg)

Number of Channels 8 analog output channels

Output Type Voltage or current

Voltage Output Range 0 to 10 V

Current Output Range 0 to 20 mA

Resolution 12-bit

Accuracy $\pm 0.1\%$ of full scale

Load Impedance Minimum 500 ohms for current output

Humidity 5 to 95% non-condensing

Storage Temperature -40 to 85°C

Operating Temperature 0 to 60°C

Power Consumption 5 W

Power Supply 24 V DC

Isolation 500 V between channels and ground

Response Time 1 ms per channel

Range of Product

Modicon Premium Automation platform

Product or Component Type

Analog output module

Analogue output number

8

Analogue output type

Current 0...20 mA

Current 4...20 mA

Voltage +/- 10 V

Analog/digital conversion

13 bits + sign +/- 10 V

13 bits 0...20 mA

13 bits 4...20 mA

Complementary

Conversion time

5 ms

Measurement resolution

1.28 mV +/- 10 V

2.56 μ A 0...20 mA

2.56 μ A 4...20 mA

Electrical Connection

1 SUB-D 25 connector

Measurement error

0.14 % of full scale +/- 10 V 25 °C

0.21 % of full scale 0...20 mA 25 °C

0.21 % of full scale 4...20 mA 25 °C

0.28 % of full scale +/- 10 V 0...60 °C

0.52 % of full scale 0...20 mA 0...60 °C

0.52 % of full scale 4...20 mA 0...60 °C

Isolation between channels

Common point

Isolation between channels and bus

1000 Vrms

Isolation between channels and ground

1000 Vrms

Protection Type

Short-circuit protection

Overload protection

Output voltage limits

$\leq 30\text{ V}$

Load impedance ohmic

$< 600\text{ Ohm } 0...20\text{ mA}$

$< 600\text{ Ohm } 4...20\text{ mA}$

$> 1000\text{ Ohm } \pm 10\text{ V}$

Maximum load inductance

$300\text{ }\mu\text{H}$

Maximum load capacitance

$0.1\text{ }\mu\text{F}$

Marking

CE

Current consumption

$200\text{ mA } 5\text{ V DC}$

$300\text{ mA } 24\text{ V DC}$

Module format

Standard

Terminals description PLC n°1

(16)OUT_ANA_CUR#1

(13)IN_ANA_STD#

(24)OUT_ANA_VOLT#7

(8)OUT_ANA_CUR#4

(20)OUT_ANA_COM#4

(1)OUT_ANA_VOLT#0

(17)OUT_ANA_COM#2

(4)OUT_ANA_VOLT#2

(9)OUT_ANA_COM#5

(11)OUT_ANA_CUR#6

(19)OUT_ANA_CUR#3

PW_NEG#

(25)OUT_ANA_CUR#7

(3)OUT_ANA_COM#1

(12)OUT_ANA_COM#7

(5)OUT_ANA_CUR#2

(6)OUT_ANA_COM#3

(15)OUT_ANA_VOLT#1

(18)OUT_ANA_VOLT#3

(22)OUT_ANA_CUR#5

(10)OUT_ANA_VOLT#6

PW_POS#

(14)OUT_ANA_COM#0

(23)OUT_ANA_COM#6

(2)OUT_ANA_CUR#0

(7)OUT_ANA_VOLT#4

(21)OUT_ANA_VOLT#5

Net Weight

$1.01\text{ lb(US) } (0.46\text{ kg})$

Environment

Standards

93/68/EEC

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

CSA C22.2 No 142

73/23/EEC

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

89/336/EEC

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

UL 508

IEC 61131-2
92/31/EEC
CSA C22.2 No 213 Class I Division 2 Group C
Product Certifications
BV
RINA
DNV
LR
ABS
RMRS
GL
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
3389110876369
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)
16.4 oz (465.0 g)
Description
The TSXASY800, manufactured by Schneider Electric, is a component from the TSX Micro PLCs line designed for intricate process control. This module accommodates eight analog output channels, which can output either voltage or current signals. Its output voltage range extends from 0 to 10 volts, and the range for current output is established from 0 to 20 milliamps. Resolution for the signals generated by this module is set at a precise 12 bits, ensuring an accurate representation of the desired output variables. Additionally, it boasts an impressive accuracy of $\pm 0.1\%$ of full scale, effectively minimizing deviations from expected performance. For current outputs, a minimum load impedance of 500 ohms is recommended. This requirement guarantees that the system operates optimally without unwanted signal degradation. The module's compact dimensions of 125 x 100 x 40 mm make it suitable for space-constrained installations. When considering environmental tolerances, the TSXASY800 performs within a 5 to 95% humidity range without condensation. In terms of temperature, it operates efficiently between

0 and 60°C and can withstand storage temperatures as low as -40°C and as high as 85°C.

The TSXASY800 requires a 24 V DC supply and consumes 5 watts during operation. For enhanced safety, this module features an isolation rating of 500 volts between channels and ground, reducing the risk of electrical interference.

The response time per channel is quick, clocking in at a mere 1 millisecond, thus ensuring timely output changes in most control applications.