

Schneider Series Service Manual

TSXCTY2A

1. Description

The TSXCTY2A component from Schneider Electric is an auxiliary output module designed for TSX Micro PLCs. This unit supports up to two channels with a counting frequency of 40 kHz and operates under the EN/IEC 61131 standards.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line TSX Micro PLCs
Part	Number TSXCTY2A
EAN	3389110756975
Weight	1.00 lbs (0.45 kg)
Electrical	Circuit Type Auxiliary output conforming to EN/IEC 61131
Response	Time < 2.5 ms sensor voltage at loss of 24 V auxiliary input (preset, enable, read)
Channels	2
Counting	Frequency 40 kHz
Power	Dissipation 4.5 to 6 W
Cycle	Time 5 ms
Input	Logic Current sink auxiliary input (preset, enable, read)
Input	Compatibility 2/3-wire proximity sensors (PNP/NPN), incremental encoder (10-30 V totem pole, 5 V DC RS422)
Input	Voltage 24 V (18 mA for sensors, 7 mA for auxiliary input, 18 mA for encoder)
Voltage	Limits <= 5.5 V for encoder, 19-30 V for sensors and auxiliary input
Voltage	State 1 >= 11 V for sensors and auxiliary input, >= 2.4 V for encoder
Current	State 1 >= 3.7 mA for encoder, >= 6 mA for sensors and auxiliary input
Voltage	State 0 <= 1.2 V for encoder, <= 5 V for sensors and auxiliary input
Current	State 0 <= 1 mA for encoder, <= 2 mA for sensors and

3. Product Information

The TSXCTY2A component from Schneider Electric is an auxiliary output module designed for TSX Micro PLCs. This unit supports up to two channels with a counting frequency of 40 kHz and operates under the EN/IEC 61131 standards.

Technical specifications for TSXCTY2A

Manufacturer Schneider Electric

Product Line TSX Micro PLCs

Part Number TSXCTY2A

EAN 3389110756975

Weight 1.00 lbs (0.45 kg)

Electrical Circuit Type Auxiliary output conforming to EN/IEC 61131

Response Time < 2.5 ms sensor voltage at loss of 24 V auxiliary input (preset, enable, read)

Channels 2

Counting Frequency 40 kHz

Power Dissipation 4.5 to 6 W

Cycle Time 5 ms

Input Logic Current sink auxiliary input (preset, enable, read)

Input Compatibility 2/3-wire proximity sensors (PNP/NPN), incremental encoder (10-30 V totem pole, 5 V DC RS422)

Input Voltage 24 V (18 mA for sensors, 7 mA for auxiliary input, 18 mA for encoder)

Voltage Limits <= 5.5 V for encoder, 19-30 V for sensors and auxiliary input

Voltage State 1 >= 11 V for sensors and auxiliary input, >= 2.4 V for encoder

Current State 1 >= 3.7 mA for encoder, >= 6 mA for sensors and auxiliary input

Voltage State 0 <= 1.2 V for encoder, <= 5 V for sensors and auxiliary input

Current State 0 <= 1 mA for encoder, <= 2 mA for sensors and auxiliary input

Output Voltage 24 V DC

Range of Product

Modicon Premium Automation platform

Product or Component Type

Counter modules

I/O modularity

2 channels

Electrical circuit type

Auxiliary output EN/IEC 61131

Complementary

Counting frequency

40 kHz

Power dissipation in W

4.5...6 W

Cycle time

5 ms

Discrete input logic

Current sink auxiliary input (preset, enable and read) IEC 1131 Type 2

Resistive 2/3-wire proximity sensors PNP/NPN input IEC 1131 Type 2

Resistive encoder input

Input logic

Positive

Input compatibility

2/3-wire proximity sensors PNP/NPN

Incremental encoder 10...30 V totem pole

Incremental encoder 5 V DC RS422

Input voltage

24 V 18 mA 2/3-wire proximity sensors PNP/NPN

24 V 7 mA auxiliary input (preset, enable and read)

5 V 18 mA encoder input

Input voltage limits

<= 5.5 V encoder input

19...30 V 2/3-wire proximity sensors PNP/NPN

19...30 V auxiliary input (preset, enable and read)

Voltage state 1 guaranteed

>= 11 V 2/3-wire proximity sensors PNP/NPN

>= 11 V auxiliary input (preset, enable and read)

>= 2.4 V encoder input
 Current state 1 guaranteed
 >= 3.7 mA encoder input)
 >= 6 mA 2/3-wire proximity sensors PNP/NPN)
 >= 6 mA auxiliary input (preset, enable and read))
 Voltage state 0 guaranteed
 <= 1.2 V encoder input
 <= 5 V 2/3-wire proximity sensors PNP/NPN
 <= 5 V auxiliary input (preset, enable and read)
 Current state 0 guaranteed
 <= 1 mA encoder input)
 <= 2 mA 2/3-wire proximity sensors PNP/NPN)
 <= 2 mA auxiliary input (preset, enable and read))
 Response time
 < 2.5 ms sensor voltage at loss of 24 V auxiliary input (preset, enable and read)
 Input impedance
 Encoder input > 270 Ohm at U = 2.4 V
 2/3-wire proximity sensors PNP/NPN 1400 Ohm at Un
 Auxiliary input (preset, enable and read) 3400 Ohm at Un
 Encoder input 400 Ohm at Un
 Output voltage
 24 V DC
 nominal output current
 0.5 A
 Output voltage limits
 19...30 V
 Maximum voltage drop
 <0.5 V at state 1
 Output compatibility
 Positive logic DC inputs (resistance <= 15 kOhm) auxiliary output
 Maximum leakage current
 0.1 mA
 Switching frequency
 < 0.6/LI² Hz on inductive load
 Output overload protection
 Thermal tripping via program or automatically
 Current limiter
 Output short-circuit protection
 Thermal tripping via program or automatically
 Current limiter
 Output overvoltage protection
 Zener diode
 Reverse polarity protection
 Reverse diode on supply
 Checks
 Sensor power supply
 Current consumption
 280 mA 5 V DC
 30 mA 24 V DC
 Module format
 Standard
 Local signalling
 1 LED (green) for module operating (RUN)
 1 LED (red) for external fault (I/O)
 1 LED (red) for internal fault, module failure (ERR)
 2 LEDs (green) for axis diagnostics available (CH.)
 Electrical connection
 1 connector HE-10, 20 pins
 2 connectors SUB-D 15

Net Weight

0.71 lb(US) (0.32 kg)

Environment

Protective treatment

TC

Ambient Air Temperature for Operation

32...140 °F (0...60 °C)

Ambient Air Temperature for Storage

-13...158 °F (-25...70 °C)

Relative Humidity

5...95 % without condensation

Operating altitude

<= 6561.68 ft (2000 m)

Ordering and shipping details

Category

US1PC2222558

Discount Schedule

PC22

GTIN

3389110756975

Returnability

No

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)

17.2 oz (489.0 g)

Description

The Schneider Electric TSXCTY2A is an auxiliary output module intended for use with TSX Micro PLCs. It adheres to the EN/IEC 61131 standards, making it suitable for various industrial applications. This module operates on two channels and can handle a counting frequency of 40 kHz.

When the 24 V auxiliary power is interrupted, the response time is measured at under 2.5 ms, which impacts systems requiring prompt reactions. It features a cycle time of 5 ms, ensuring that it processes tasks efficiently.

The module's input logic functions as a current sink auxiliary input. It is compatible with both 2 and 3-wire proximity sensors, such as PNP/NPN types, as well as incremental encoders running at a voltage of 10-30 V totem pole or 5 V DC RS422.

Operating with a nominal input voltage of 24 V, current requirements include 18 mA for sensors, 7 mA for the auxiliary input, and 18 mA for the encoder. The input voltage limits are set at 19-30 V for sensors and auxiliary inputs, while the encoder operates at a limit of 5.5 V.

For voltage state detection, it establishes a voltage state of 1 at greater than or equal to 11 V for sensors and auxiliary input and a minimum of 2.4 V for the encoder. Current states of 3.7 mA for the encoder, and 6 mA for the sensors and auxiliary inputs, signify active conditions. In contrast, voltage states of zero are recognized at 1.2 V for encoders or 5 V for sensors, with respective current states below 1 mA and 2 mA.

This advanced module also provides an output voltage of 24 V DC to control connected devices effectively.