**48 x 96 mm**

## Features:

▶ **Compact PLC with built-in HMI**

▶ **Configurable LED display**

▶ **1 Channel high-speed input (up to 5 kHz)**

▶ **RS485 Communication – MODBUS RTU Protocol**

▶ **Windows-Based Software for Ladder Programming and HMI Configuration**
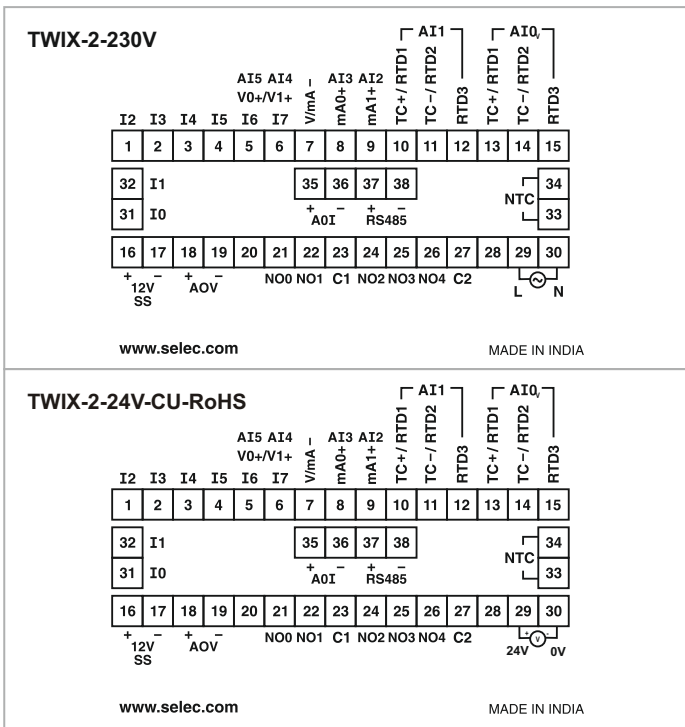
## Technical Specifications

| Display Specifications | TWIX-2-230V | TWIX-2-24VDC |
|---|---|---|
| Display Type | 7 segment LED | |
| Digits | (4 Red + 4 Red) + 6 Green Digits | |
| LED bank | 4 Red LEDs, 4 Green LEDs | |
| No. of Keys | 5 keys (4 user configurable) | |
| **Digital Input Specifications** | | |
| No. of Inputs | 6 + 2* (Includes 1 Fast Input Channel) | |
| Input Type | PNP | |
| Voltage Range | 5 - 30V DC | |
| Input Current | 2 mA @ 12V | |
| Debounce Time | Programmable 1 - 255 ms (Default: 10 ms) | |
| Isolation (Power ↔ Input) | Yes | |
| Isolation (CPU ↔ Input) | NO | |
| Protection against Polarity Inversion | Yes | |
| Timer Accuracy | 0.1% or 1 ms (Whichever Greater) | |
| Response Time | Typical 1mSec (Based on ladder scan time) & 100 µSec for fast Input | |
| **Fast Input** | | |
| No. of Channels | 1 (DI0 & DI1) | |
| Max Speed | 5 kHz | |
| Operating Mode | Unidirectional / Bidirectional / Quadrature / Dual Uni (5kHz for all) / None | |

*\* = 1 Digital input can be configured as analog input (0-10V)*

| Analog Input specifications | | |
|---|---|---|
| No. of Channels | 6 [2 (TC/RTD), 2 (0-10V DC), 2 (0-20mA DC)] | |
| Input Type | J, K, T, R, S, C, E, B, N, L, U, W, PLTNL, mVolt (-5 to 65mV), 0-10V, 0-20mA | |
| Accuracy | 0.25% ± 1°C (TC), 0.1% ±1°C (RTD) at 25°C, ±0.25% of FS. ±1 count for AI's | |
| Resolution | 12 Bit | |
| Conversion Time | 100 mSec | |
| Linearity | 0.10% | |
| Max Non-Destructive Input | AIV= 17V, AII= 31mA | |
| Channel-to-Channel Isolation | NO | |
| Reverse Polarity Protection | Yes | |
| Input Impedance | 0-10V - 330KΩ, 0-20mA - 100Ω | |
| **Digital Output Specifications** | | |
| No. of Outputs | 5 (NO) type Relay, 2 Common Lines | |
| Contact Rating | 5A @ 250V AC (resistive load), 5A @ 30V DC (resistive load) | |
| Relay Type | SPST | |

| | |
|---|---|
| Isolation (CPU ↔ Output) | Yes |
| Isolation (Output ↔ Output) | NO |
| Polarity Inversion Protection | Yes |
| Response Time | 10 ms |
| Mechanical Life | 5 Million Operations |

### Analog Output Specifications

| | |
|---|---|
| No. of Channels | 1 |
| Output Range | 0-10 V DC / 0-20 mA DC |
| Resolution | 12 Bits |
| Load Limit | >=1 kΩ / <=500Ω |
| Digital Resolution | 0.0-100.0% = 0-10.000 V DC, 0.0-100.0% = 0-20.000 mA |
| Conversion Time | 10ms |
| Isolation (CPU ↔ Output) | NO |
| Isolation (Output ↔ Output) | NO |
| Output Error @ 25 °C | ±0.25% of Full Scale |
| Linearity | 0.10% |

### Programming & Memory

| | |
|---|---|
| Programming Software | Windows-Based Ladder & HMI Configuration |
| Program Memory | 240 KB |
| Data memory | 32 KB |
| EEPROM | 2KB |
| Upload Memory | Not Available |
| Max Objects | 2000 (Subject to Memory Availability) |
| Min Scan Time | 200 µs |
| Typical Scan Time | 1 ms (Depends on Ladder Logic Complexity) |

### Functional Features

| | |
|---|---|
| Timer Operational Modes | On Delay, Off Delay, Special Timer (Up / Down), Pulse Timer, 1ms Timer* |
| Counter Modes | Up Counter, Down Counter, Up/Down Counter, Special [Up/Down] Counter |
| Other Functional Blocks | Totalizer, Rate Totalizer, Analog Input, Scaling, FTC, Hysteresis, PIDT, Rampsoak |
| Memory Retention | 10 years (2 KB) |
| Real-Time Clock (RTC) | NA |
| Clock drift | NA |

*Limited to 4 Nos*

### Communication specifications

| | |
|---|---|
| Communication Port | RS485 [Slave] |
| Communication Protocol | MODBUS RTU |
| Connector | Screw Terminal |
| Transmission Mode | Half Duplex |
| Transmission Speed | 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps |
| Data Bits | 7 or 8 |
| Parity | None, Odd, Even, Space, Mark |
| Stop Bits | 1 or 2 |

### Environmental Specifications

| | |
|---|---|
| Operating Temp. | 0°C to 55°C |
| Storage Temp. | -20°C to 60°C |
| Humidity | 10% to 95% RH (Non-condensing) |
| Atmosphere | Must be free from Corrosive Gases |
| IP rating | IP 50 (Front), 1P 20 (Terminal) |

### Mechanical Specifications

| | |
|---|---|
| Weight | 240 grams |
| Mounting | Panel Mountable |
| Dimensions | 50 x 98 x 79 |

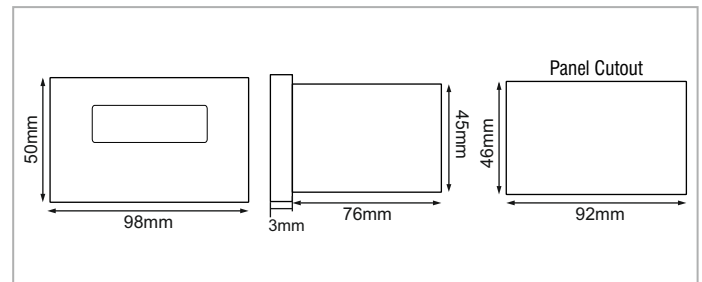| Auxiliary Supply Specifications | | |
|---|---|---|
| Supply Voltage | With Retention: 180-270V AC @50/60 Hz<br>Without Retention: 90-270V AC @50/60 Hz | 18 - 30 VDC |
| Inrush Current | 5A | 2.3A |
| Power Consumption | 8VA | 8W |
| Polarity Inversion Protection | Yes | |
| Isolation<br>(Power ↔ Communication) | Yes | |
| Source Supply Output | 12 VDC, 50 mA | |

*Note: A maximum of 25 variables of type VAR_IN_OUT and VAR_OUTPUT (each 32-bit) can be retained when operating at 110V.*

## Terminal Connection



## Dimensions (in mm)



## Ordering information

| Product code | Description | Certification |
|---|---|---|
| **TWIX-2-230V** | PLC – 6DI, 5RO, 6AI (2TC/RTD, 2I, 2V/2DI), 1AO(V/I) & 230VAC | CE RoHS |

## Accessories (To Be Ordered Separately)

| Product Code | Description |
|---|---|
| **Power Supplies** | |
| RPS60-24-CE | 60W, 24V/2.5A DIN rail mounted power supply in plastic housing - CE Certified |
| **Cables & Communication Accessories** | |
| AC-USB-RS485-02 | Protocol Converter Cable – USB to RS485 (2 wire) |
| **For MODBUS Networking** | |
| AC-USB-RS485-03 | Protocol Converter Cable – USB to RS485 (RJ25) |
| ACH-004-CE-RoHS | Expansion Cable – RJ25 to RJ25 (6Pin) |
| AC-IOEXP-03-CE-RoHS | Communication Adapter |
| **Software - www.selec.com/software** | |
| Selpro | Windows-based software for ladder logic and built-in HMI programming |
| USB to Serial Driver | USB to Serial cable drivers |