



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-1-230V  | TWIX-1-24VDC |
|---------------------------------------|--|--------------|
| 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)   |              |
| <b>Digital Input Specifications</b>   |  |              |
| No. of Inputs                         | 6 (Includes 1 Fast Input Channel)  |              |
| Input Type                            | PNP  |              |
| Voltage Range                         | 6 - 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 1 mSec (Based on ladder scan time) & 100 µSec for fast Input         |              |
| <b>Fast Input</b>                     |  |              |
| No. of Channels                       | 1 (DI0 & DI1)  |              |
| Max Speed                             | 5 kHz  |              |
| Operating Mode                        | Unidirectional / Bidirectional / Quadrature / Dual Uni (5kHz for all) / None |              |
| <b>Analog input specifications</b>    |  |              |
| No. of Channels                       | 1 (TC/RTD)   |              |
| Input Type                            | J, K, T, R, S, C, E, B, N, L, U, W, PLTNL, mVolt (-5 to 65mV), PT100         |              |
| Accuracy                              | TC: ±0.25% ±1°C, RTD: ±0.1% ±1°C @ 25°C                                      |              |
| 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                       | TC - 560KΩ, RTD - 750KΩ  |              |
| <b>Digital Output Specifications</b>  |  |              |
| No. of Outputs                        | 4 (NO) type Relay, 1 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 |

### Programming & Memory

|                      |   |
|----------------------|---|
| Programming Software | Windows-Based Ladder & HMI Configuration  |
| Program Memory       | 112 KB                                    |
| Data memory          | 16 KB                                     |
| EEPROM               | 2 KB                                      |
| 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              | RJ25 Port   |
| 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)                    |

### Mechanical Specifications

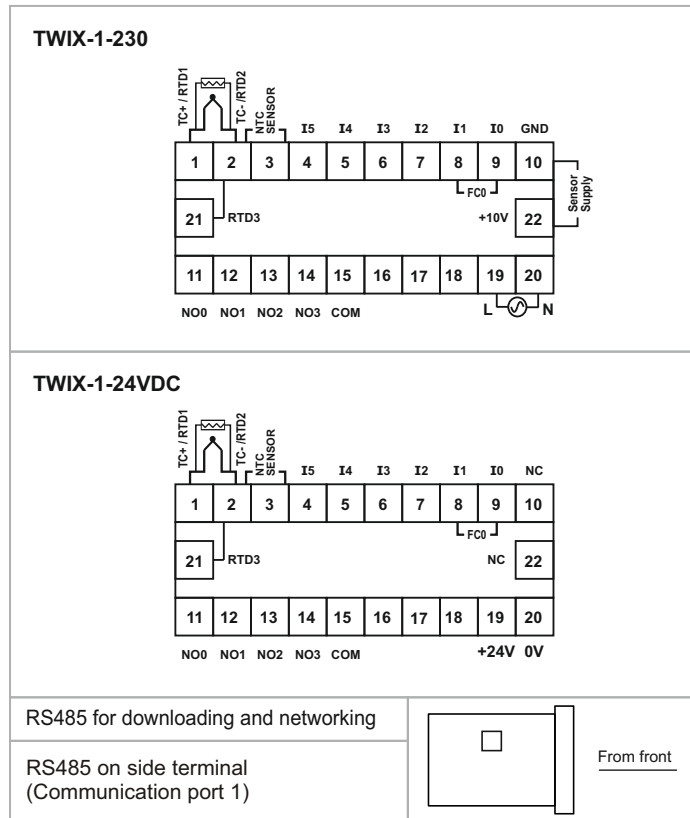
|            |                 |           |
|------------|-----------------|-----------|
| Weight     | 240 grams       | 200 grams |
| Mounting   | Panel Mountable |           |
| Dimensions | 50 x 98 x 79    |           |

### Auxiliary Supply Specifications

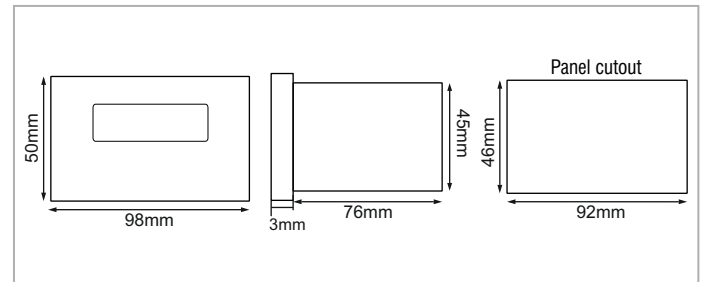
|                                   |  |                              |
|-----------------------------------|--|------------------------------|
| Supply Voltage                    | With Retention: 180-270V AC @50/60 Hz<br>Without Retention: 90-270V AC @50/60 Hz | DC Input Option: 18 - 30 VDC |
| Inrush Current                    | 5A   | 5A                           |
| Power Consumption                 | 6 VA   | 6 W                          |
| Polarity Inversion Protection     | Yes  |                              |
| Isolation (Power ↔ Communication) | Yes  |                              |
| Source Supply Output              | 10 VDC, 50 mA  | NA                           |

**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)



## Port description

| Port 1 (6 Pin Jack) |                 |
|---------------------|-----------------|
| Pin                 | Description     |
| 1                   | RS485 Slave +ve |
| 2                   | -               |
| 3                   | -               |
| 4                   | -               |
| 5                   | -               |
| 6                   | RS485 Slave -ve |

## Ordering information

| Product code | Description                           |
|--------------|---------------------------------------|
| TWIX-1-230V  | PLC – 6DI, 4RO, 1AI (TC/RTD) & 230VAC |
| TWIX-1-24VDC | PLC – 6DI, 4RO, 1AI (TC/RTD) & 24VDC  |

## Accessories (To Be Ordered Separately)

| Product Code                                  | Description   |
|---|---|
| <b>Power Supplies</b>                         |   |
| RPS60-24-CE                                   | 60W, 24V/2.5A DIN rail mounted power supply in plastic housing - CE Certified |
| <b>Cables &amp; Communication Accessories</b> |   |
| AC-USB-RS485-03                               | Protocol Converter Cable – USB to RS485 (RJ25)                                |
| <b>For MODBUS Networking</b>                  |   |
| AC-USB-RS485-02                               | Protocol Converter Cable – USB to RS485 (2 wire)                              |
| ACH-004-CE-RoHS                               | Expansion Cable – RJ25 to RJ25 (6Pin)   |
| AC-IOEXP-03-CE-RoHS                           | Communication Adapter   |