

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وما أوتيتم من العلم إلا قليلا

ولا يحيطون بشئ من علمه إلا بما شاء


وقل رب زدني علما

وَاللَّهُ يَسْتَعِذُّ بِكَ



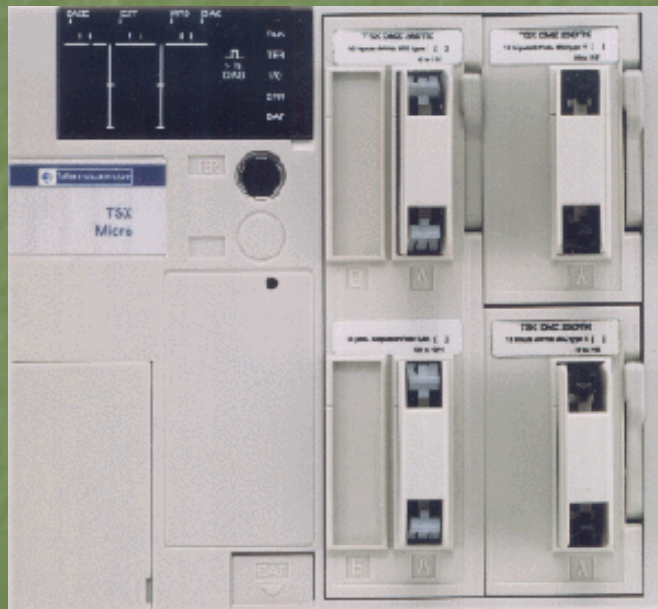
PL7 Micro PLC

TSX 37-10 / 22

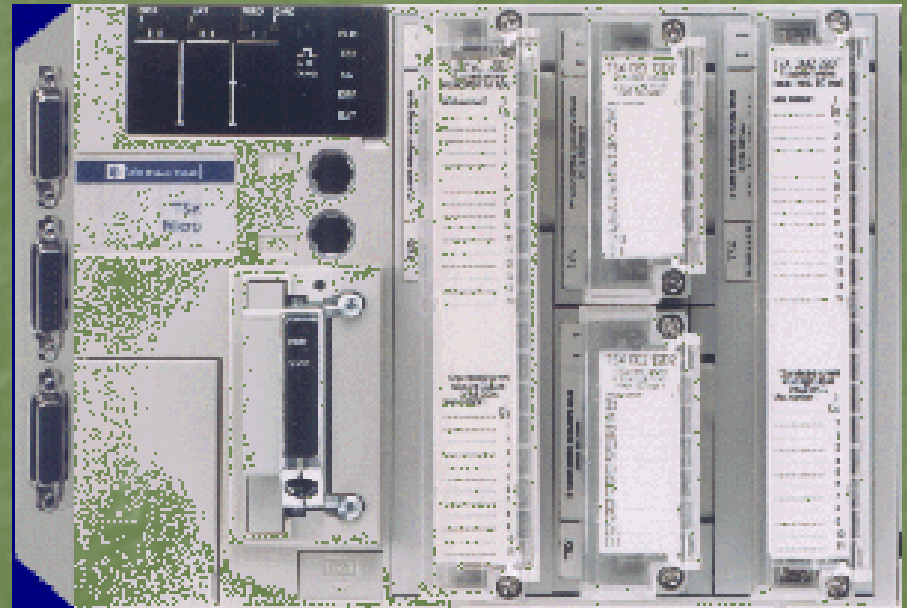


Modular Micro PLC

TSX 37-10



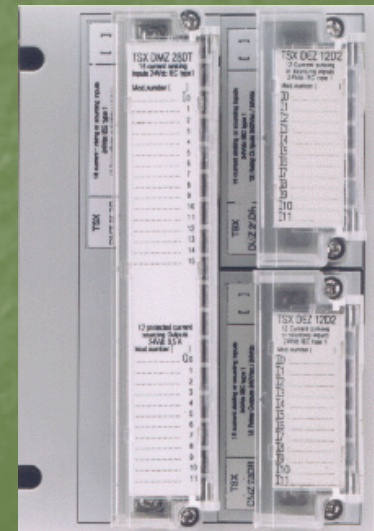
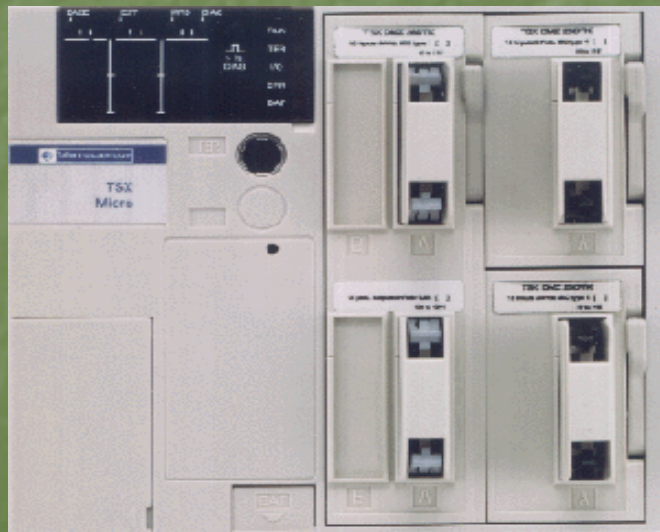
TSX 37-22



TSX 37-10

The PLCs TSX 37-10, offer five database configurations. They differ in their supply voltage and the discrete module type installed in the first slot.

These PLCs can receive a mini extension rack, which allows the number of local inputs/outputs to be extended to 192 I/O.

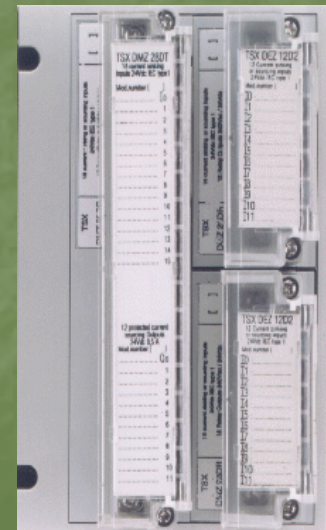
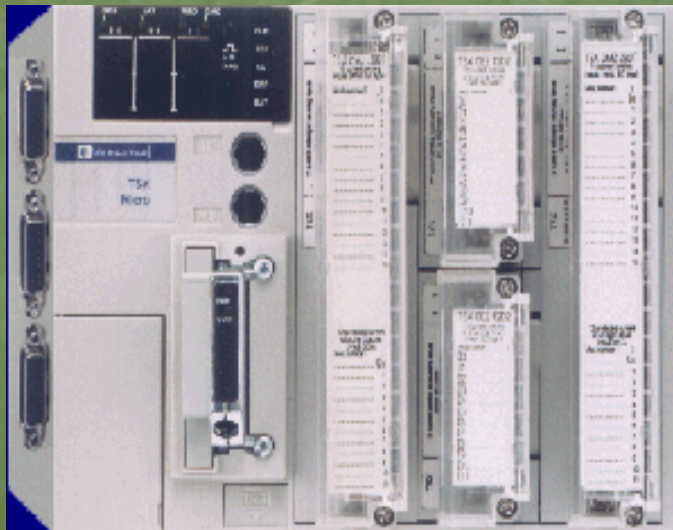


TSX 37-22

The PLCs TSX 37-22, incorporate a real-time clock, which enables the application memory volume to be extended and a communication module to be received.

They do not incorporate discrete I/O modules in the database, but they can receive a mini extension rack, which enables the number of inputs/outputs to be extended to 256 I/O.

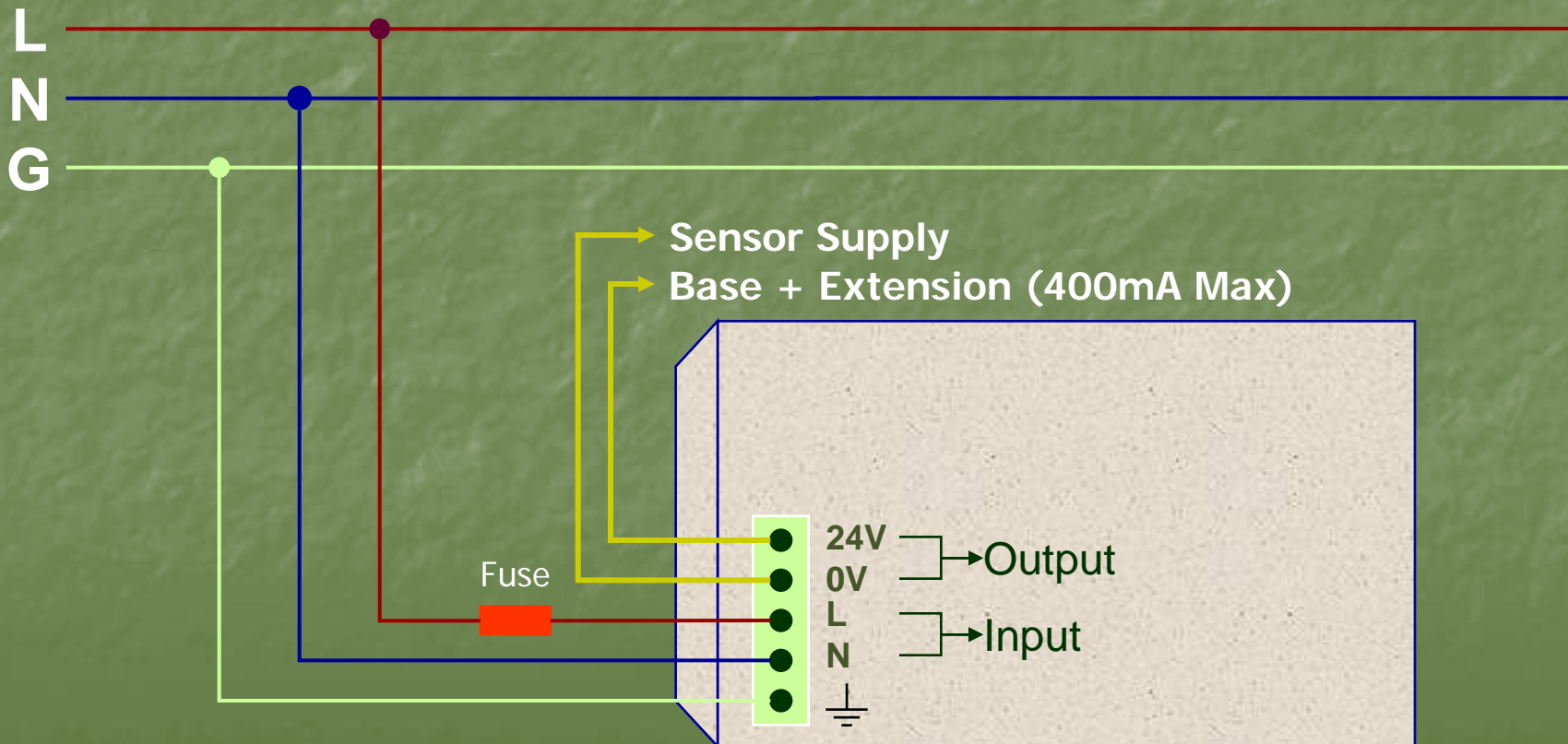
It also has rapid counting and analog input / output functions built in.



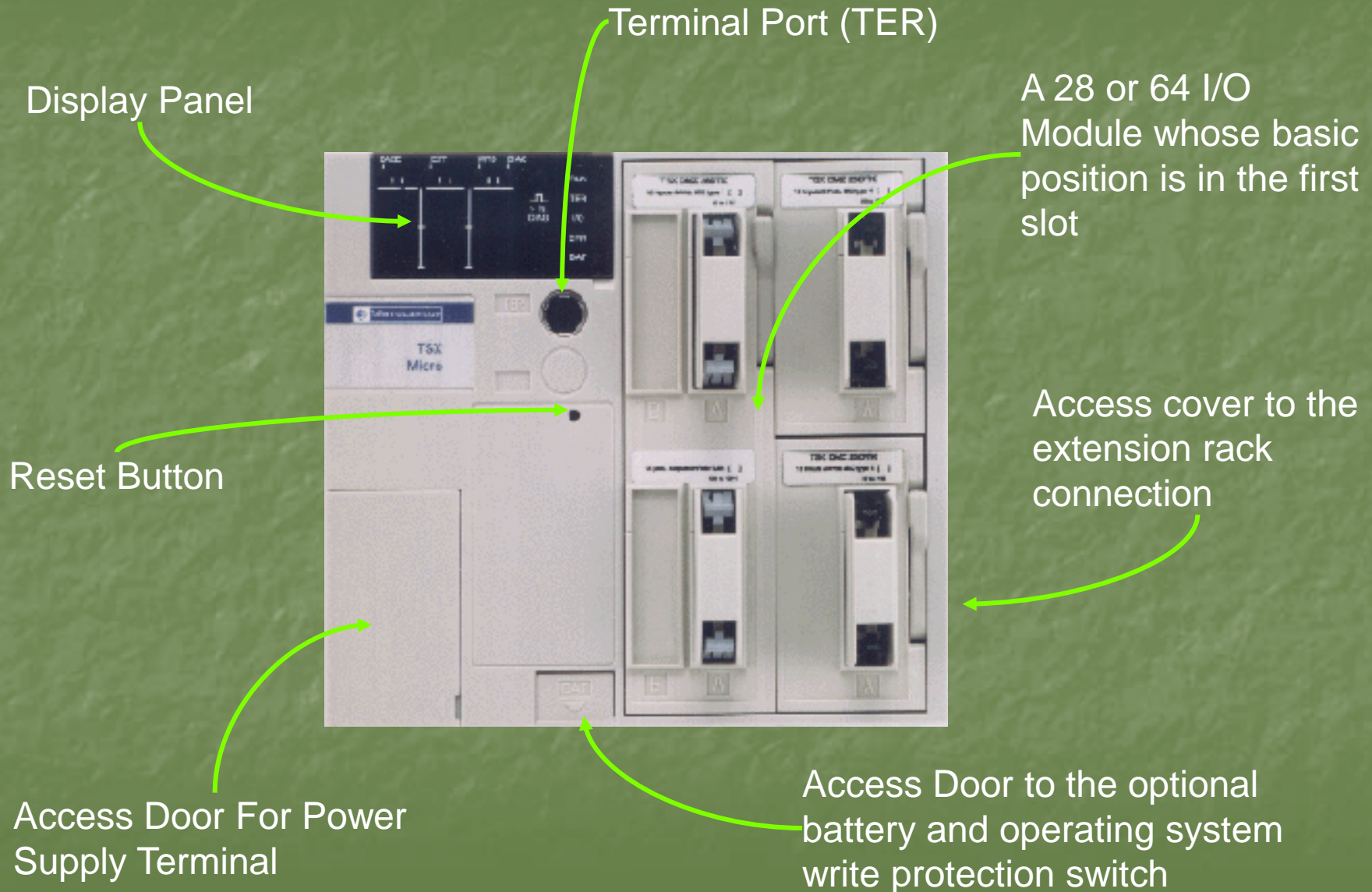
Power Supply

The TSX 3710 & TSX 37 22 PLCs is AC Supplied

- Nominal Voltage 100 ... 240V AC
- Voltage Limits 90 ... 264VAC
- Nominal Frequency 50 ... 60Hz
- Frequency Limits 47 ... 63Hz



TSX 37-10 Description



Characteristics of the TSX 37-10

Maximum number of discrete I/Os	in the base 128 in the base and extension 192
Maximum number of modules	28 or 32 discrete I/Os 4 64 discrete I/Os (high density) 2
No. of connections Built-in UNI-TELWAY	1
Internal memory	
Internal safeguardable RAM	14 Kwords
• program (100% Boolean)	4.7/2.7 Kinst
• data (in internal RAM)	1Kwords
• Constants	128 words
• Built-in Flash Eprom	16 Kwords
Execution time RAM (100% Boolean)	0.3 ms
Pre-defined function blocks	Timers 64 Counters 32

TSX 37-22 Description

Reset Button

Built in AS-i display

8 Analog Inputs
1 Analog Output

Programming Terminal
PC Connection

10kHz Up/Down
Fast Counter

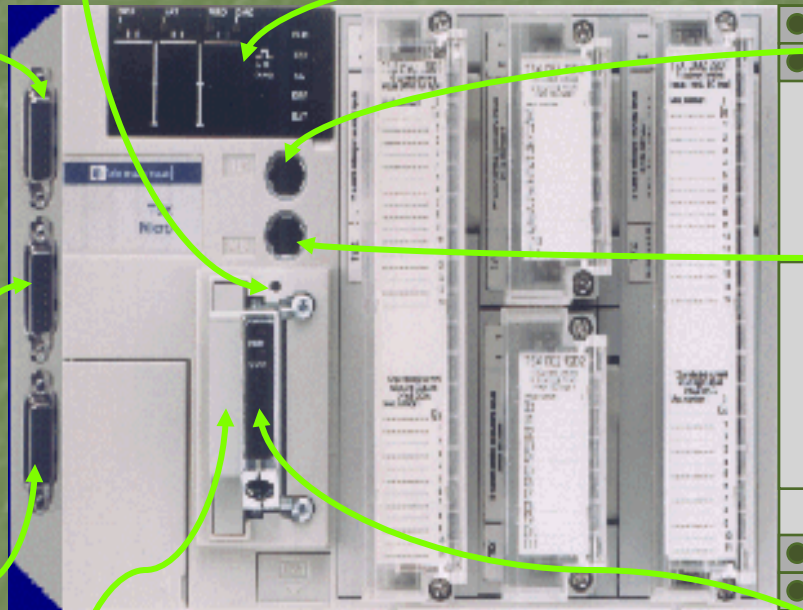
Unitelway Port for
connection of up to 5
Slaves

10kHz Up Counter

Mini extension rack
connector, fully
protected by an
immobile cover.

PCMCIA memory expansion port

PCMCIA communications port



Characteristics of TSX 37-22

Maximum number of discrete I/Os	in the base 192 in the base + extension 256
Maximum number of modules	28 or 32 discrete I/Os 5 64 discrete I/Os (high density) 3
Maximum number of analog I/O modules	4
Internal memory	
Internal safeguardable RAM	20 Kwords
• program (100% Boolean)	7.9/4.5 Kinst
• data (in internal RAM)	2Kwords
• Constants	128 words
• Built-in Flash EPROM	16 Kwords

Characteristics of the TSX 37-22

Memory Extension

32 K16 PCMCIA card

- program (100% Boolean)
- data (in internal RAM)
- Constants

32 Kwords

18,5/10,5 Kinst.

17.5 Kwords

128 words

64 K 16 PCMCIA card

- program (100% Boolean)
- data (in internal RAM)
- Constants

64 Kwords

40/22 Kinst.

17.5 Kwords

128 words

Execution time by Kinst.

RAM (100% Boolean) 0.15ms

PCMCIA (100% Boolean) 0.225ms

Pre-defined function blocks

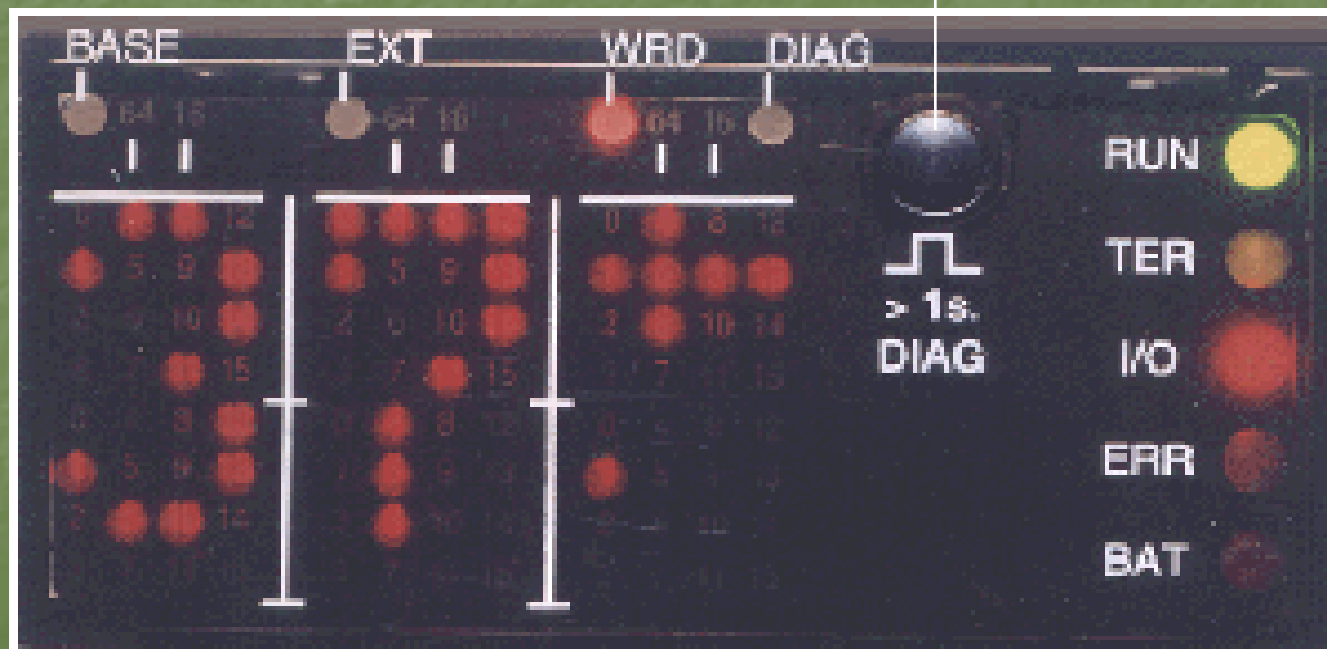
Timers 64

Counters 32


Display Panel

The status display indicates the status of the PLC and its I/O. it provides access to channel and module diagnostics.

Pushbutton



Display of PLC Status

	On	PLC Running
	Flashing	PLC in Stop mode
	Off	No Valid Application in the PLC or PLC Faulty
	On	Exchange of data via the terminal port
	Off	No Exchange via terminal port
I/O	ON	I/O supply fault, tripping of channel or switched off or not confirmed configuration
	Off	Operation OK
ERR	On	CPU Fault
	Flashing	No valid application in the PLC or Blocking Fault
	Off	Operation OK
BAT	On	Battery Fault or missing
	Off	Battery Ok

Display of I/O state

The display comes from the 2 panels of 32 LEDs on TSX 37-10 and 3 panels of 32 LEDs on TSX 37-22, which displays the input/output status of 2 or 3 modules. These modules are positioned in the 2 or 3 base slots or in the two slots in the mini extension rack. A short press of the push button selects the group displayed: base (the BASE LED is lit) or the mini extension rack (the EXT LED is lit).

BASE				EXT	R	I/O	WRD	DIAG
<input checked="" type="radio"/> 64 16				<input type="radio"/> 64 16	<input type="radio"/>		<input type="radio"/> 64 16	<input type="radio"/>
0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12
1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13
2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14
3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15
0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12
1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13
2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14
3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15

BASE				EXT	R	I/O	WRD	DIAG
<input type="radio"/> 64 16				<input checked="" type="radio"/> 64 16	<input type="radio"/>		<input type="radio"/> 64 16	<input type="radio"/>
0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12
1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13
2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14
3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15
0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12	0 4 8 12
1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13	1 5 9 13
2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14	2 6 10 14
3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15	3 7 11 15

I/O Modules



Half Height



Full Height Single Density



Full Format Double Density

- 12 Inputs (24Vdc)
- 8 Inputs (115Vac)
- 8 Inputs (230Vac)
- 6 Relay Outputs
- 8 Transistor Outputs (0.5A)
- 4 Transistor Outputs (2A)
- 12 Triac Outputs (115Vac)
- 8 Neg log Transistor Output

- 16 Inputs (24Vdc) & 12 Relay Outputs
- 10 Inputs (115Vac) & 6 Triac Outputs
- 16 Inputs (115Vac) & 12 Relay Outputs
- 16 Inputs (24Vdc) & 12 Transistor Outputs
- 16 Inputs (24Vdc Neg log) & 12 Neg log Transistor outputs

- 32 Inputs (24Vdc) & 32 Transistor Outputs (0.1A) (For use with Telefast 2 or cables with flying leads)
- 32 Inputs (24Vdc) IEC 2 screw terminal blocks
- 32 Relay Outputs 50VA screw terminal blocks
- 32 Transistor Outputs (0.5A) screw terminal blocks

TSX DMZ 28DT MODULE

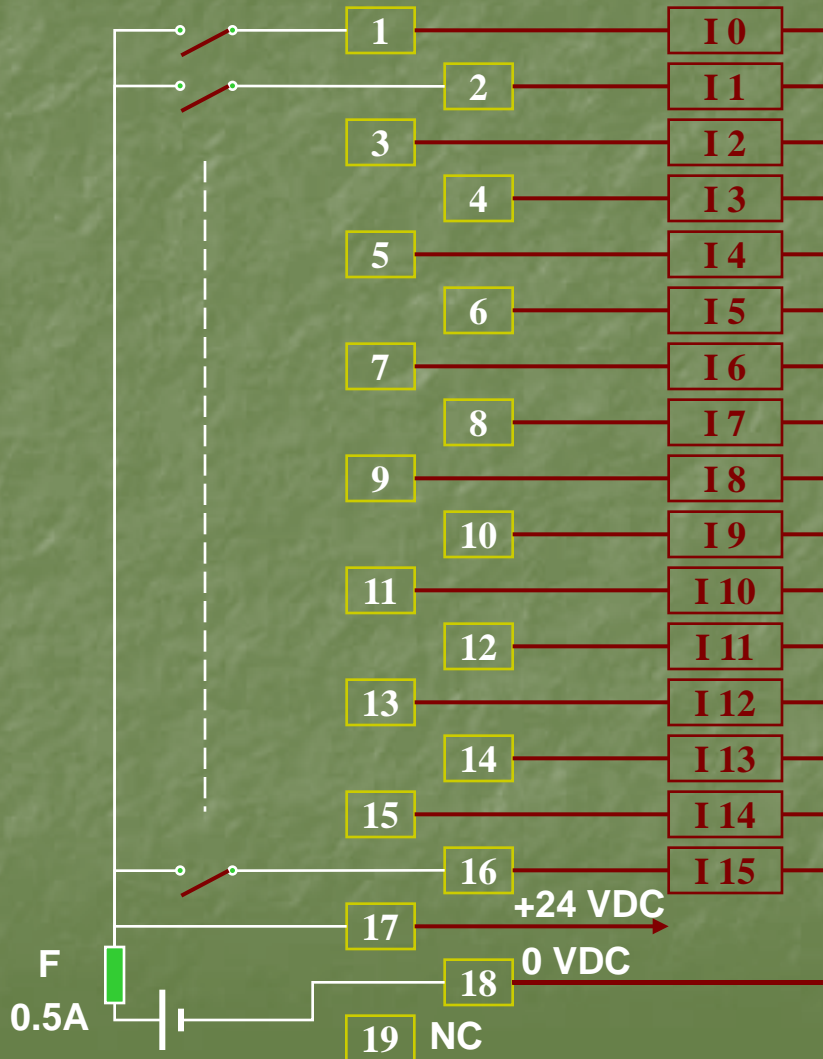
Module **TSX DMZ 28DT** comprises 28 inputs/outputs distributed as follows:

- ◆ 16 24VDC(7mA) inputs, positive logic.
- ◆ 12 static outputs 24VDC/0,5A.

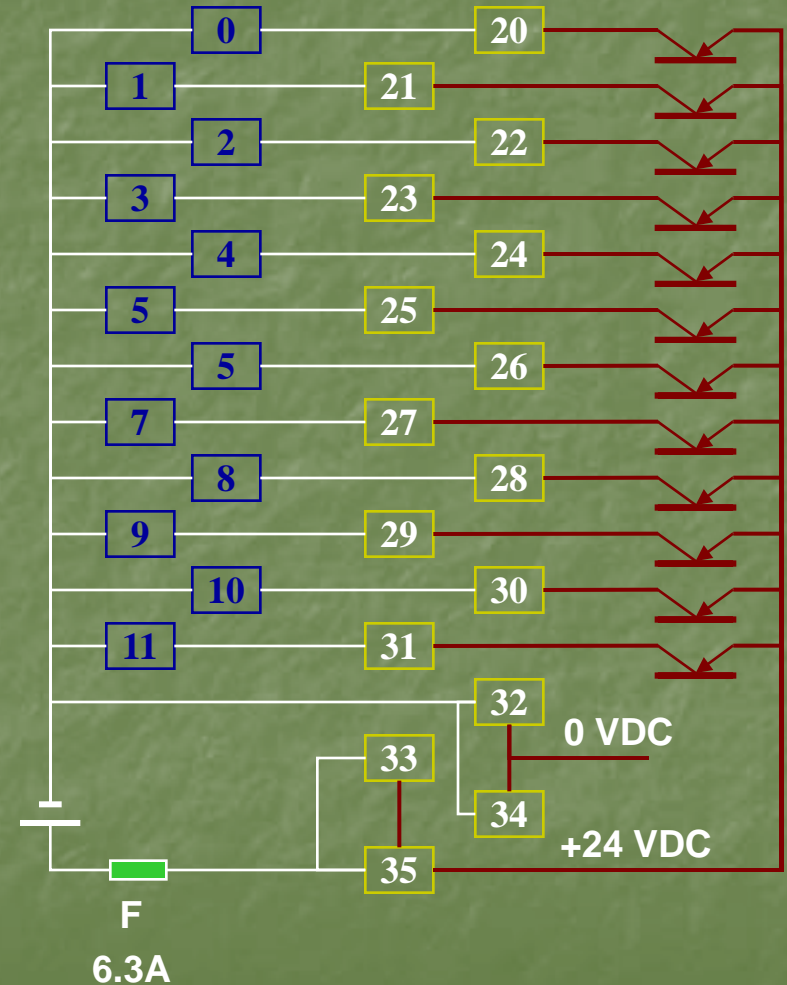
The module is equipped with a 35 post screwed connection terminal block, a carriage allowing inputs and outputs to be linked

TSX DMZ 28DT MODULE

16 current sinking inputs 24VDC



12 protected current sourcing outputs



TSX DMZ 28DR MODULE

Module TSX DMZ 28DR comprises 28 inputs/outputs distributed as follows:

- ✳ 16 24VDC inputs, (9mA) positive logic type 1, or (-6mA) negative logic.
- ✳ Relay outputs. (10 to 34VDC or 19 to 264VAC 3A)

The module is equipped with a detachable 35 post screwed connection terminal block.

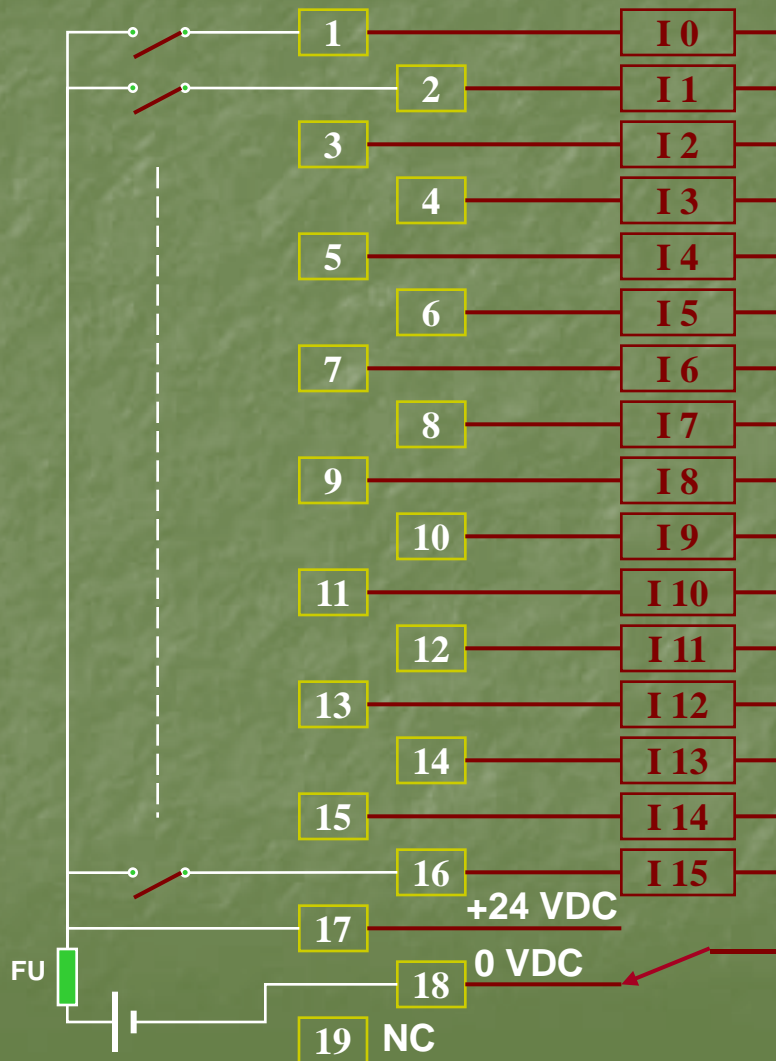
The inputs can be:

- ✳ Either positive logic (position sink), in which case all the sensors are connected to and from the positive 1'supply,
- ✳ Or negative logic (source), in which case all the sensors are connected to and from the negative 1'supply.

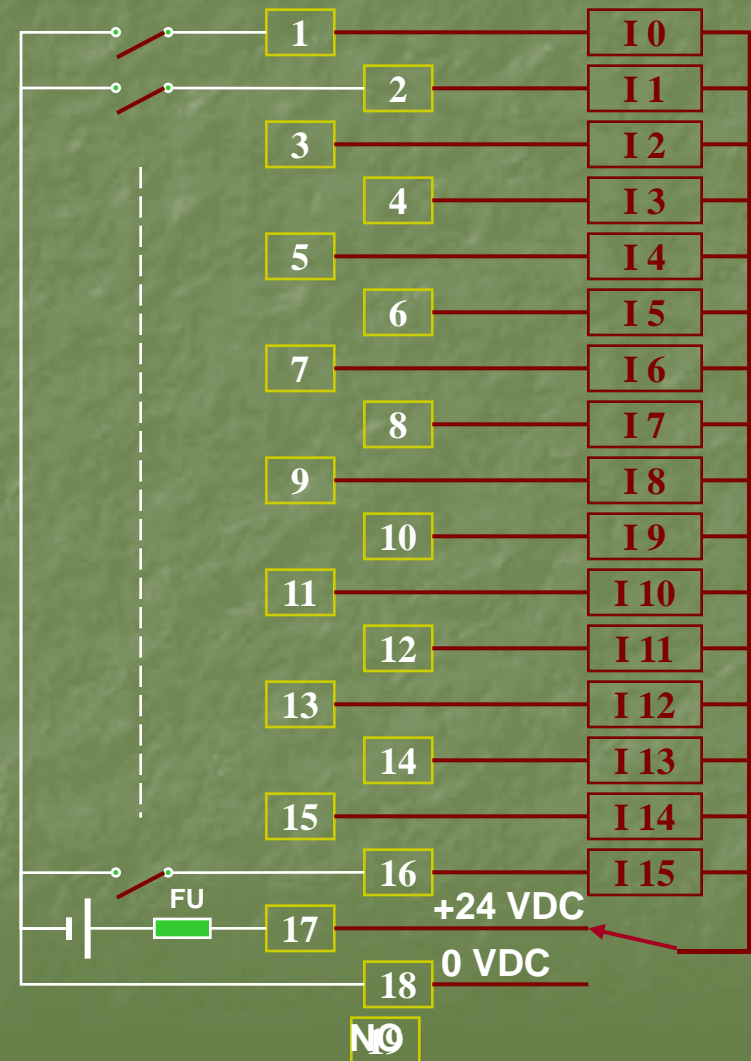
This selection is made by adjusting the selector switch on the module

Input Terminals Connection

Positive Logic Sinking Input



Negative Logic Sourcing Input



Fu = 0.5A

Output Terminals Connection

