Chapter 1: Introduction of OTAZ ATA2 Series PLC

The OTAZ ATA2 series plc is a new generation of plc equipped with excellent function comparable to large plc's worldwide. The compact design, flexible configuration, and powerful instruction set combine to make the OTAZ plc a perfect solution for controlling various applications. OTAZ PLC can support 32 modules and communication ports with Rs485 and Rs232. It is also possible to communicate with a Wi-Fi module. All digital inputs and outputs are high-speed.

Appearance of Main Unit

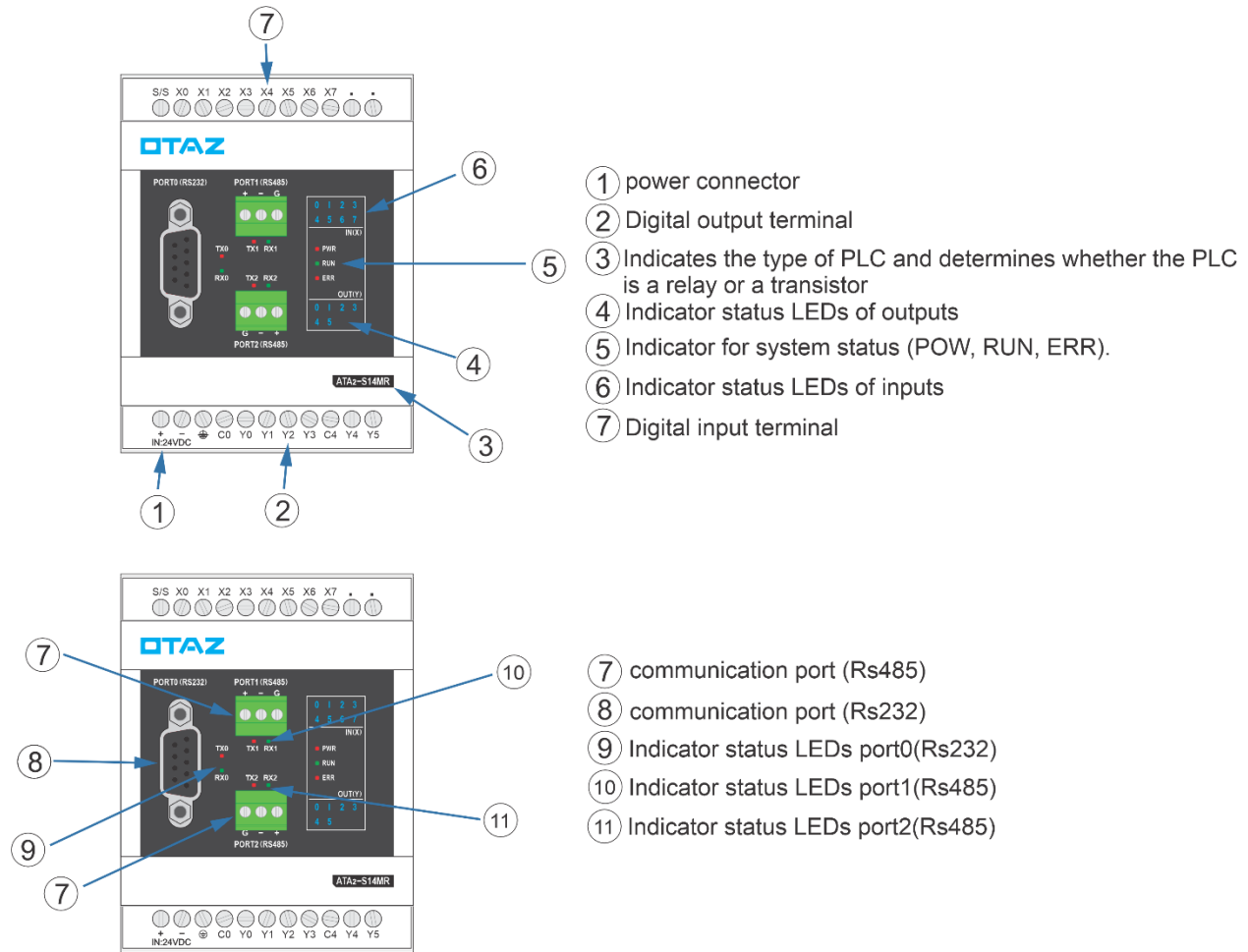All the OTAZ PLC units have the same physical structure.

1. power connector
2. Digital output terminal
3. Indicates the type of PLC and determines whether the PLC is a relay or a transistor
4. Indicator status LEDs of outputs
5. Indicator for system status (POW, RUN, ERR).
6. Indicator status LEDs of inputs
7. Digital input terminal

7. communication port (Rs485)
8. communication port (Rs232)
9. Indicator status LEDs port0(Rs232)
10. Indicator status LEDs port1(Rs485)
11. Indicator status LEDs port2(Rs485)

Figure 1.1 shows a front view of OTAZ PLC

12. Indicator expansion slot
13. The label provides information about the type of PLC (transistor/relay) and its serial number.

Figure 1.2 Show OTAZ PLC from the side

Appearance of module

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                                    ┌─────────────────────────┐
                                    │ Expansion unit/module   │
                                    │ with 90mm width case    │
                                    └─────────────────────────┘

                                                                         ┌──────────────┐
                                                                         │  S14M(T/R)   │
                                                                         └──────────────┘
                                    ┌─────────────────────────┐  ┌─────────┐  ┌──────────────┐
                                    │ Expansion unit/module   │──│ Digital │──│  16XY(T/R)   │
                                    │ with 70mm width case    │  └─────────┘  └──────────────┘
                                    └─────────────────────────┘             ┌──────────────┐
                                                                            │  16Y(T/R)    │
                                                                            └──────────────┘
                                                                            ┌──────────────┐
                                                                            │  16X         │
                                                                            └──────────────┘

 ┌──────────────────────┐          ┌─────────────────────────┐
 │ ATA2 Standard Series │──────────│ Expansion unit/module   │
 └──────────────────────┘          │ with 52mm width case    │
                                    └─────────────────────────┘
                                                                            ┌──────────────┐
                                                                            │  8X          │
                                                               ┌─────────┐  └──────────────┘
                                                               │ Digital │  ┌──────────────┐
                                                               └─────────┘  │  8XY(T/R)    │
                                                                            └──────────────┘
                                                                            ┌──────────────┐
                                                                            │  8Y(T/R)     │
                                                                            └──────────────┘
                                                                            ┌──────────────┐
                                                               ┌─────────┐  │  2A2D        │
                                    ┌─────────────────────────┐│ Analog  │  └──────────────┘
                                    │ Expansion unit/module   ││         │  ┌──────────────┐
                                    │ with 35mm width case    │└─────────┘  │  4AD         │
                                    └─────────────────────────┘             └──────────────┘
                                                                            ┌──────────────┐
                                                               ┌─────────┐  │  1LC         │
                                                               │ Loadcell│  └──────────────┘
                                                               └─────────┘  ┌──────────────┐
                                                                            │  2LC         │
                                                                            └──────────────┘
                                                                            ┌──────────────┐
                                                               ┌──────────┐ │  2TC         │
                                                               │Tempurature│ └──────────────┘
                                                               └──────────┘ ┌──────────────┐
                                                                            │  1RTDTC      │
                                                                            └──────────────┘
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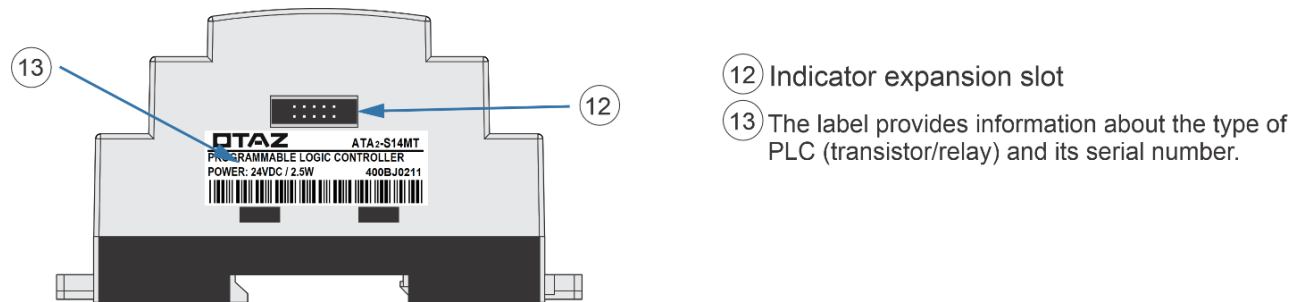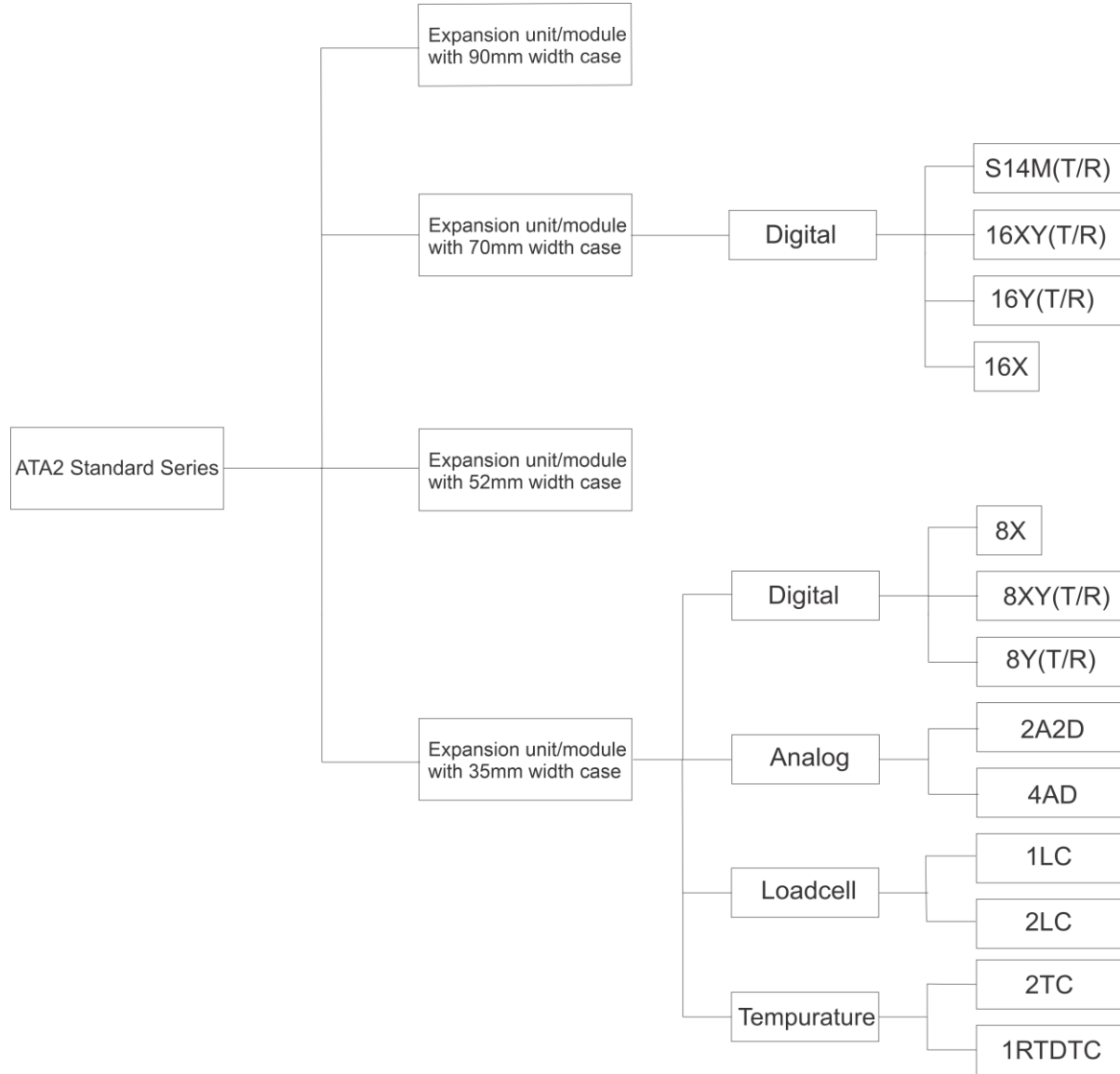
The table in Figure 1.3 displays the different types of cases compatible with the ATA2 Standard series.

There are 4 types of cases for expansion units/modules. One type uses the same case as the main unit of the 70mm. All expansion cables (left) of expansion units/modules are flat ribbon cables. which were soldered directly on the PCB, and the expansion header (right) is a 10 10-pin header, with this to connect the right adjacent expansion units/modules.

In the following, each of the four types of expansion units/modules is described as an example:

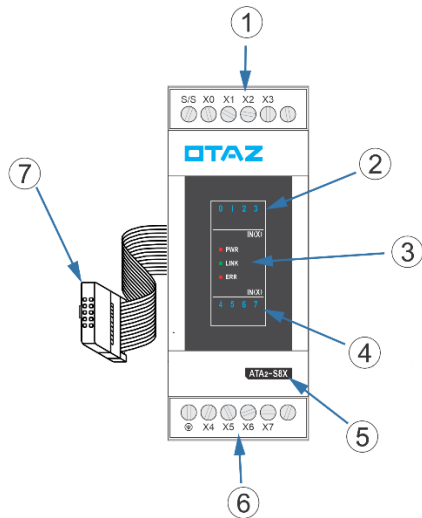- Expansion unit/module with 70mm case:
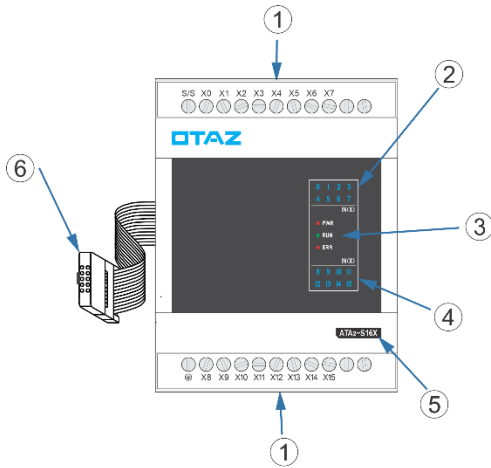
1. Digital input terminals
2. Indicator status LEDs of inputs
3. Indicator for system status (POW, RUN, ERR).
4. Indicator status LEDs of inputs
5. Indicator type of module and Determines whether the Module is a relay or a transistor
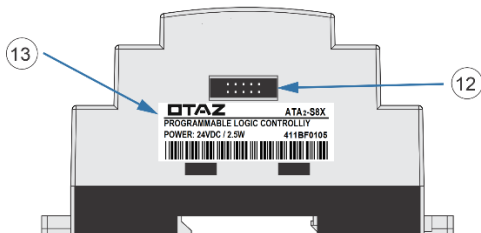6. Expansion cable connector
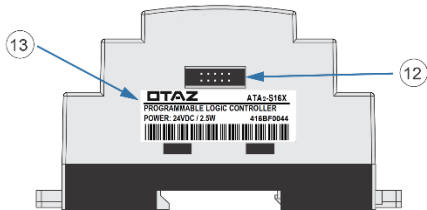
12. Indicator expansion slot
13. The label provides information about the type of module and its serial number.

- Expansion unit/module with 35mm case:

1. Digital input terminals
2. Indicator status LEDs of Outputs
3. Indicator for system status (POW, RUN, ERR).
4. Indicator status LEDs of Outputs
5. Indicator type of module and Determines whether the Module is a relay or a transistor
6. Digital input terminals
7. Expansion cable connector

12. Indicator expansion slot
13. The label provides information about the type of module and its serial number.

ATA2 Series technical data

Specification		ATA2-SM
Memory	program(LADDER)	30kb
	Element comment	64kb
	type	Flash(don't need for battery to save the program
Maximum digital I/O points	input contact X	X0-X255(256)
	Output contact Y	Y0-Y255(256)
Maximum expansion module	Analog/Digital	32
Maximum Analog I/O points	V,mA,TC,RTD,loadcell	32 number of analog points on expansion module
Internal relay (M)	adjustable	M0-M4095(4096)
step relay	system bit	S0-S1023(1024)
Timer	32bit configurable as retentive or Non-retentive	T0-T511(512)
	Timer mode	On DLY, Of DLY, On-Of DLY, PWM
	Rate	0.1ms-1s
High-speed timer(HST)	32bit configurable as retentive or Non-retentive	HST0-HST15(16)
Counter	32bit configurable as retentive or Non-retentive	C0-C511(512)
High-speed counter(HSC)	Built-in(32bit)	CH0-CH63(64)
	support via expansions(16bit)	
	counter mode	UP*2, PLS/DIR*2 , UP/DN*2 , A/B*2
	counting frequency	50KHZ
High-speed output HSO (Transistor type only)	Built-in	CH0-CH127(128)
	support via expansions	
	Pulse mode	PLS generator , PWM generator (0-1000) , PLS only , PLS/DIR , UP/DN , A/B
	Pulse frequency	50KHZ
Register	W0-W8191 (8192)	Integer 16 bit: -32768~32767
	D0-D2047 (2048)	Integer 32 bit: 2147483648_2147483647
	F0-F2047 (2048)	Float: Float pointer
Interrupt		All digital inputs (Rising,Falling,Both) , HST , HSC , Power off Modbus/Wi-Fi/Ethernet/Can/OTAZ bus ; (Send Receive)
Serial communication port	Built-in Modbus: RTU , ASCII	Port0&3: 2*RS232 (DB9F) Port1: 1*RS485 (3pin plugin Triblock) Port2: 1*RS485 (3pin plugin Triblock)
RTC		Yes (Gregorian and solar calendar)