System Description

ABB Procontic T300

Functional Description PLC
35 ZE 94
Version 8

Order No.: GATS 1315 11 R2001

ABB Schalt- und Steuerungstechnik GmbH

ASEA BROWN BOVERI

3 Hardware and commissioning

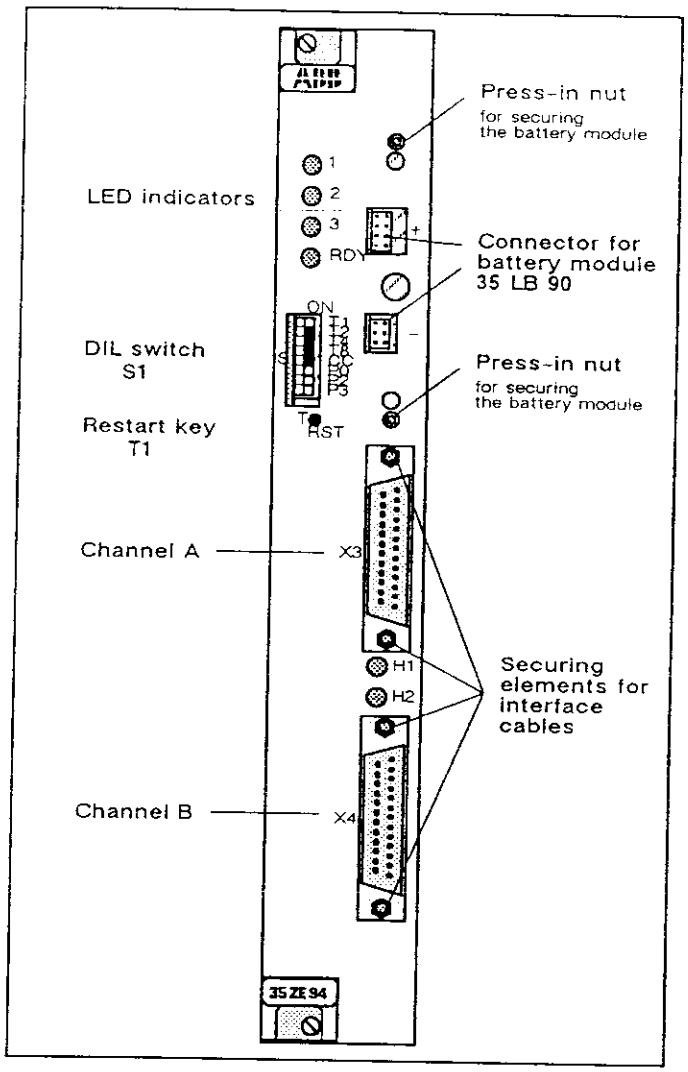

Figure: Front view of the 35 ZE 94 R101

3.1 As-delivered condition and notes on operation

The 35 ZE 94 consists of two pc boards, the interface board (35 DS 91) and the processor board (35 ZP 93).

The **baud rates** of the operator interface (connector X3) and of interface 1 (connector X4) are set to 9600 baud. The serial interface on the ABB Procontic programming and test unit or the VT100 compatible terminal must also be set to 9600 baud. (See chapter entitled "Serial interfaces".)

The **station address** on the MPST bus is set to "01_H" with S1 (see section 3.7).

☞ Check whether a different central control unit already has the set station address. If this is the case, a different, unassigned station address must be set with the switches of T1, T2, T4, T8 by means of the 8 bit DIL switch.

The **MPST bus clock** is output to the MPST bus from *one* module.

☞ Every subrack must be supplied exactly *once* with the MPST bus clock. The CC bus clock is activated by means of the S1 DIL switch, switch 5 = ON. Under no circumstances must the bus clock be output to the MPST bus for two or more modules.

The S1 DIL switch is set to:

☞ the station address	T1, T2, T4, T8
☞ the bus clock	CC
☞ unused	P0, P2, P3

Sockets XA12, XA13 of the module are equipped with 64k * 8 EPROM for the large program memory.

☞ Before changing the components, e.g., configuration of the small program memory, the jumper settings must be changed as shown in the following tables.

☞ Always back up your programs when you have to remove the module from the subrack in order to change the settings on the 35 ZE 94, for example.

☞ As a prerequisite for commissioning the 35 ZE 94, the electrical and mechanical installation guidelines given in section 5, "Planning", must be observed.

☞ If possible, the interface connectors must not be removed while the power supply is activated.

3.2 Initialization by cold start

In all cases, a **cold start** must be executed:

☞ before using the 35 ZE 94 for the first time

☞ after the 35 ZE 94 has been plugged into the subrack, e.g., after replacing the programming memory

☞ after memory components on the 35 DS 91 have been touched.

3.3 Commissioning with 35 LB 90 battery module

In the "as-delivered" state the included 35 LB 90 battery module is not fitted. This avoids placing a burden on the lithium battery before commissioning.

The module must be fitted in a T300 subrack before plugging in the battery module. Then activate the power supply for the subrack.

The gold capacitor on the module is charged up after approximately 5 to 10 minutes.
The 35 LB 90 must be fitted with the included screws.

☞ Execute a **cold start** to establish a defined operating state (see the chapter entitled "Starting response").

3.4 Battery replacement

The battery or the battery module can be replaced while the subrack supply voltage is on.

If the subrack supply voltage is off when replacing the battery, the connection of X36:1-2 must be established by a jumper on the interface board ("as-delivered" state). A gold capacitor then covers the missing battery voltage for a period of more than 15 minutes. The 35 ZE 94 must be fitted in the subrack to ensure that no data destruction will occur.

3.5 Functions of the LEDs on the front panel

The LEDs of 1, 2, 3, RDY, H1 and H2 are located on the front panel of the PLC.

Functions of the LEDs:

1: Run indication for PLC programs

LED 1 is activated at the start of each program cycle and is deactivated again at the end of it. This is why, if PLC programs are short, LED 1 only lights up for a short period during each program cycle.

2: POWER FAIL

LED 2 indicates that the POWER FAIL signal has responded. LED 3 is additionally activated.

3: Error indication

LED 3 basically indicates that an error has occurred (see also the chapter entitled "Self-diagnosis and reactions to errors").

RDY: READY

The RDY LED is connected directly to the READY pin of the processor. This LED must always light up after the voltage has been switched on.

"Running" light of LED 1 ... LED 3

If the PLC discovers defective memory cells during a cold start, the PLC initialization is aborted and the error is additionally signalled by a running light on the LEDs of 1 ... 3.

H1 not used

H2 not used

3.6 Restart key

The restart key is recessed in the front panel. The 35 ZE 94 can be restarted using a switching pin (or also a screwdriver).

☞ Only the 35 ZE 94 is restarted when using the Restart key. All other modules are not influenced.
It must be guaranteed by planning, that outputs, preprocessors and other modules are not set to undefined states.

☞ In multi-processor mode, the Restart key must not be used on the 35 ZE 94 configured as the master PLC because this interrupts all communication.