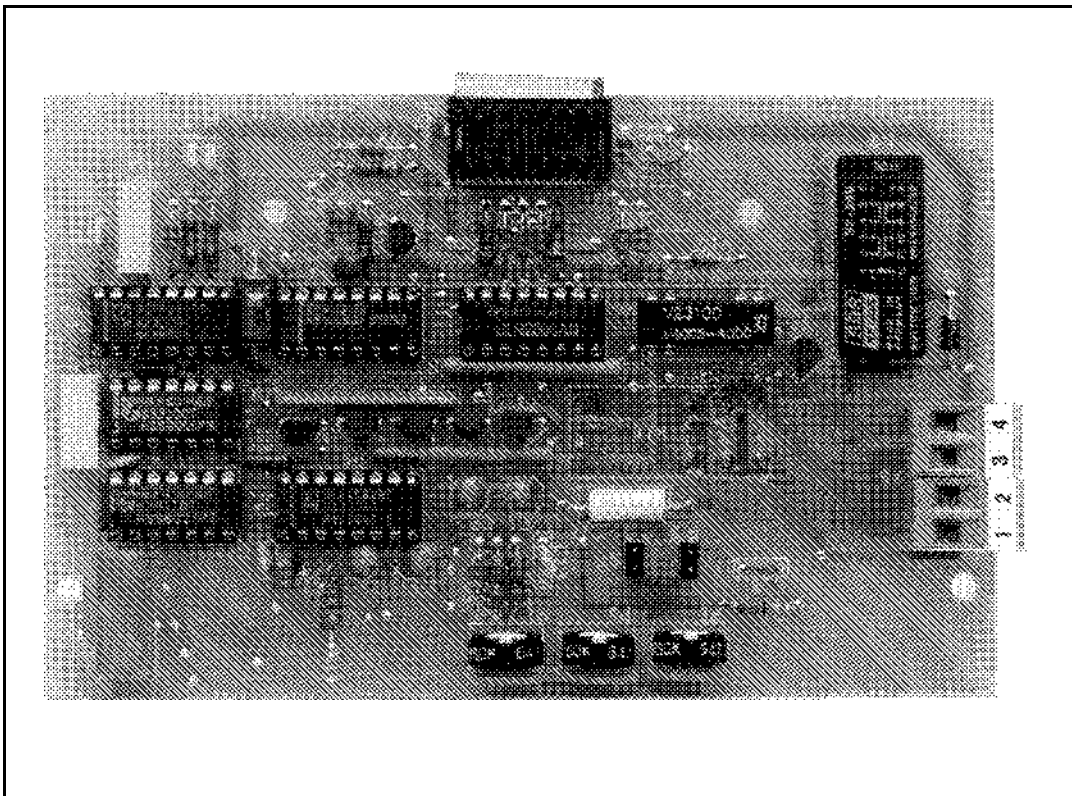




DX - Start Module for the Engine Supervision Unit DU2



Contents

- 1 General
- 2 Mode of Operation
- 3 Putting into Operation
- 4 Technical Data
- 5 Order form

1 General

When using unit **DU2** with the additional module **DX** automatic starts and stops of engines are possible.

Module **DX** receives, for instance, the external start signal from a voltage supervision unit that notices an undervoltage. After reaching the rated voltage again, the engine is stopped automatically.

At any time, module **DX** can easily be retrofitted for such automatic starts.

On the rear cover of supervision unit **DU** are explanations for adjusting and coding of the additional module.

2 Mode of Operation

If terminals B1 and B2 (see fig. 2) are closed by an external contact (e.g. from a voltage supervision unit) an automatic start is initiated: The relay between terminals B3 and B4 operates, the engine is preheated, the supervision unit **DU2** is activated.

Depending on the coding of module **DX** up to 6 starts are possible. Preglowing time, starting time and start interval can be set by spindle potentiometers between 3 s and 30 s.

Relay "preglowing" (see fig. 2) remains activated during the whole starting process.

When module **DX** is used, signal "start failure" is always signal no. 3 at the supervision unit **DU2**.

If the engine is started automatically by module **DX** the LED at push button "I" of unit **DU** lights during the starting process until the signal "engine running" is received. During this time the function of push button "I" is blocked. Cranking into a running engine is not possible.

The engine is stopped automatically by opening the external contact between terminals B1 and B2 or manually by pressing push button "O" of supervision unit **DU**.

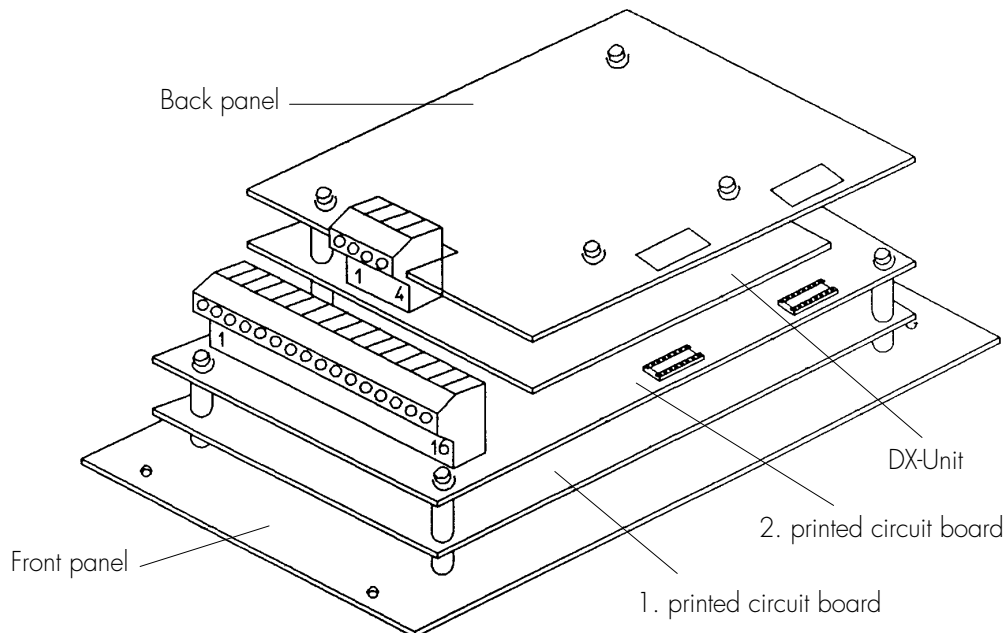


Fig. 1: Mechanical design of supervision unit **DU** with module **DX**

3 Putting into Operation

Mounting and Connecting Module *DX* to the Supervision Unit *DU*

The module *DX* can either be supplied mounted on the supervision unit *DU* or supplied for retrofitting, which is quite simple (see fig. 1). A ribbon cable connects the *DU* supervision unit to the *DX* module.

Adjusting the *DX* Module

Preglowing time, starting time and start interval can be adjusted between 3 s and 30 s by three potentiometers.

Coding the Supervision Unit *DU* when Using the Module *DX*

If a *DX* module is used the first free available error signal of the supervision unit *DU* (signal no. 3) must be the signal "start failure". Therefore a code plug must be inserted on position 3a of the code strip of function unit *DU*. This signal no. 3 must be programmed as "shut down". Further code plugs for the 3rd error signal are not necessary.

Coding the *DX* Module

At the code plug in the middle of the *DX* PCB the number of start repetitions can be coded.

1 start	plug at position B
2 starts	plug at position A
3 starts	plug at B and C
4 starts	plug at A and C
5 starts	plug at B and D
6 starts	plug at A and D

Example: Plugs inserted for 4 starts

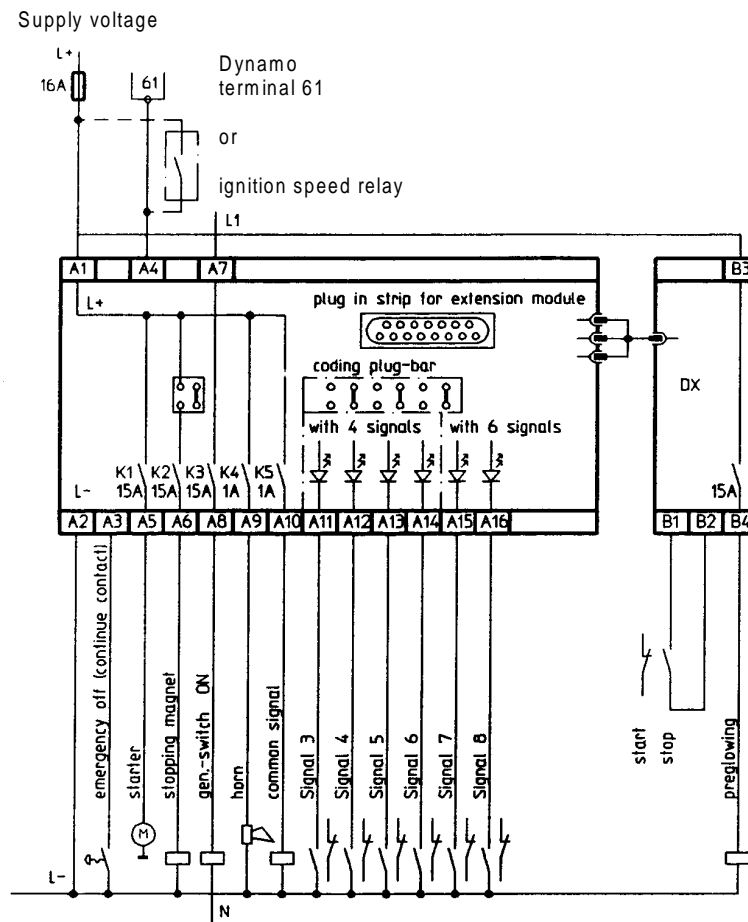


Fig. 2: Connection diagram

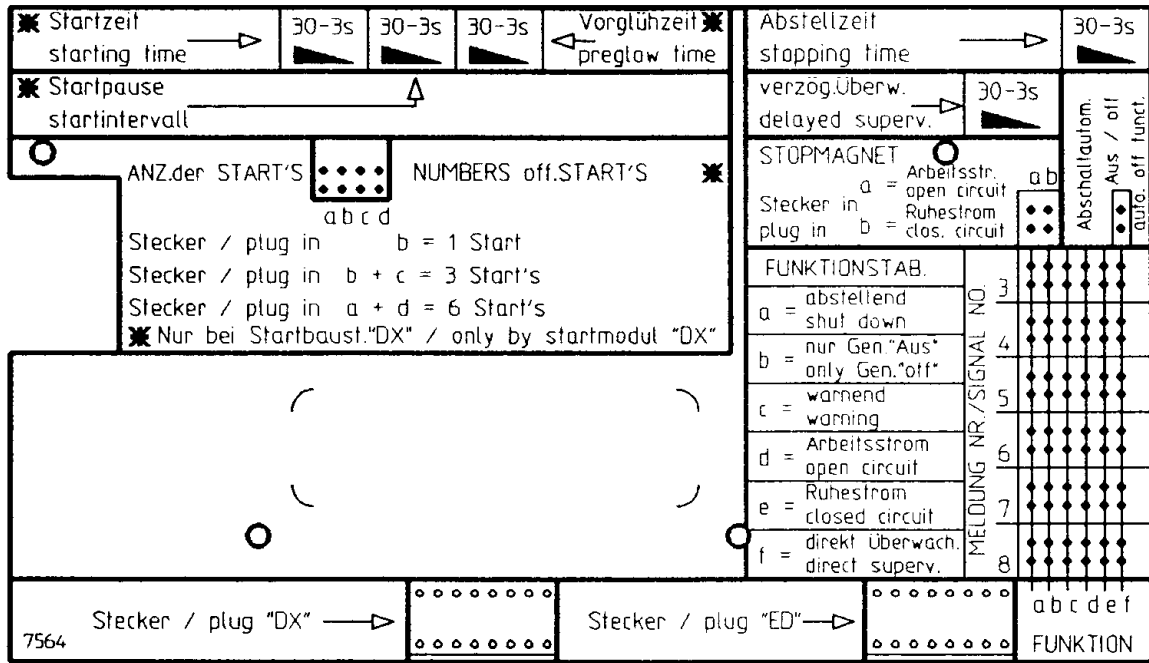


Fig. 3: Back panel

4 Technical Data

General Data

Construction:	extension printed circuit board for the DU2
Maintenance:	maintenance-free
Mounting position:	fixed by mounting on DU supervision unit
Attachment:	by screws, fixing materials are supplied
Codes:	1 code strip to select start repetitions
Adjustments:	1 potentiometer each for adjusting preglowing time, starting time and start interval between 3 s and 30 s
Dimensions of DU2 -Supervision Unit after mounting of the DX Module:	height x width x depth = 96 x 214 x 80 mm
Notes:	Since the DX Start Module is an additional board for the DU2 , all other specifications, e.g. tests, protection classes, etc. are identical to the DU2 (see description of DU2 , Technical Data).

5 Order form

Please use the form on this page to order preadjusted/coded start modules.
If modules are ordered without giving details of coding, they will be supplied with standard settings.

Start module		DX	
Number	<input type="text"/>		
Coding:			
Required number of starts			
Standard		3	
Adjustments			
Time	Range	standard	required time
Preglowing time	3s - 30s	5s	
Starting time	3s - 30s	10s	
Start interval	3s - 30s	5s	



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