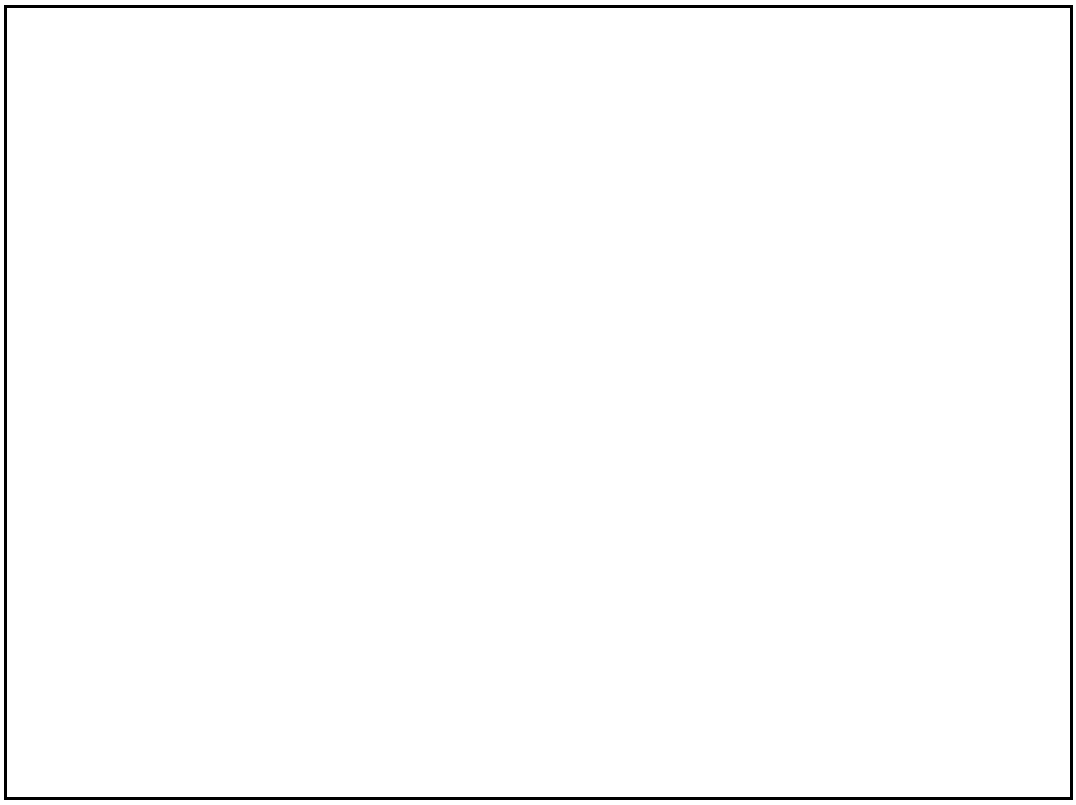
WOODWARD

# ***ED2*** - Extension Module for the Motor Supervision Unit DU2



**Contents**

# 1 General Information

The SEG - motor supervision unit DU2 can be extended with the additional module *ED2*. It is possible to connect up to 7 *ED2*-extension modules to the DU2-unit with each module providing 8 fault signal inputs. Consequently, when completely extended, the system supplies 56 additional fault signal inputs.

# 2 Mode of Function

## 2.1 Indication of Fault Signals

On the front panel, the extension module *ED2* has 8 light emitting diodes for the optical indication of the incoming fault signals and sufficient space to attach labels. Through the DU2 motor supervision unit, a contact is given to the acoustic signal transmitter.

## 2.2 Coding of Fault Signals

Fig. 1 shows the structure of the *ED2* extension module. At the upper edge of the first printed circuit there are 8 coding strips for the determination of the supervision circuit functions. By inserting one of the coding plugs the following functions are selected:

a: shut down
b: only generator c.b. off
c: warning
d: open circuit operation
e: closed circuit operation
F: direct supervision

(For details, see explanations and examples)

Explanations:

Shut down: The gen.-set is immediately stopped.

Only generator c.b. off: A stop signal is not given.

Warning: Optical and acoustic indication.

Open circuit operation: The supervision circuit is activated, if there is a "minus" potential at the input terminal (NO contact).

Closed circuit operation: The supervision circuit is activated, if the input terminal is released from the "minus" potential (NC contact).

Direct supervision: The supervision circuit is activated without delay.

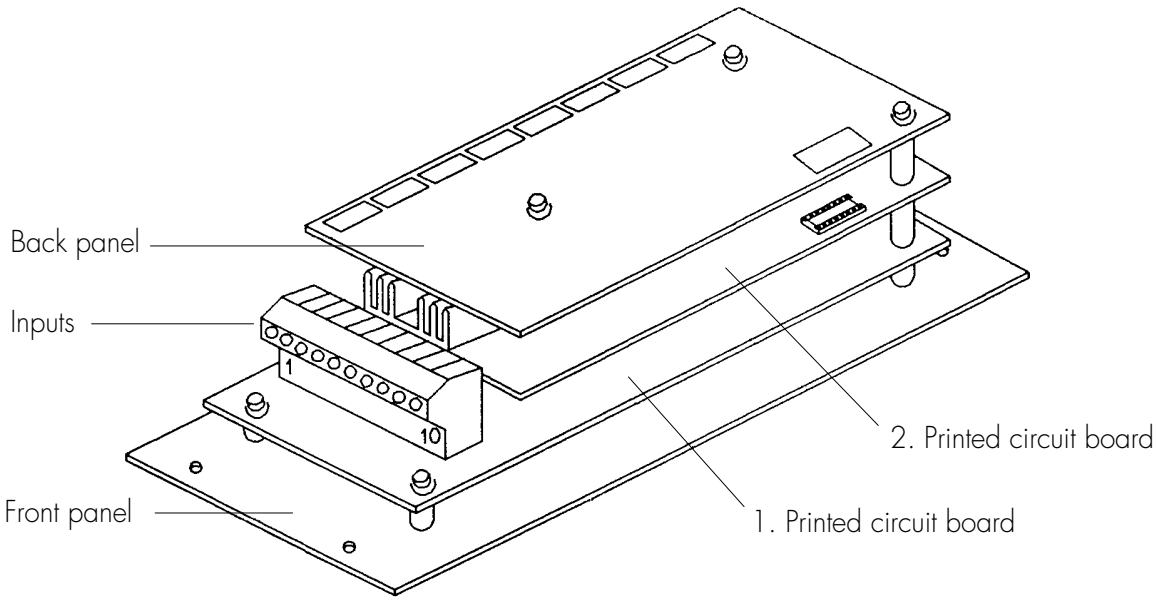
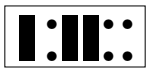



*Fig. 1: Structure of the ED2 - extension module*

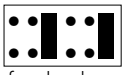
First example
Fault signal no. 4 is to give an alarm if the battery voltage is too low. If the fault occurs, a minus potential is connected to the input terminals (open circuit operation and direct supervision).

Coding:
Insert plug(s) into 4 c (warning), 4 d (open circuit operation) and 4 f (direct supervision).




Second example
Fault signal no. 7 is to shut down if there is a "lack of cooling water". The fault signal is to be activated by open circuit and the supervision circuit is to be activated with a delay after on "motor running" signal.

Coding:
Insert plug(s) into 7 a (shut down) and 7 d (open circuit operation).




# 3 Installation and Connection of the Extension Module ED2

The *ED2* extension modules were designed for through-panel mounting. Connection to the DU2 is achieved by means of a ribbon cable. In order to keep this cable as short as possible, the *ED2* extension modules should be mounted close to the DU2 motor supervision unit (examples on the order form).

Fig. 2 shows the connection of the *ED2* module. Terminals 1 to 8 are the inputs for the fault signals. The alarm contacts connected must have a MINUS potential.

The supply voltage UV has to be connected to the inputs 9 (+) and 10 (-).

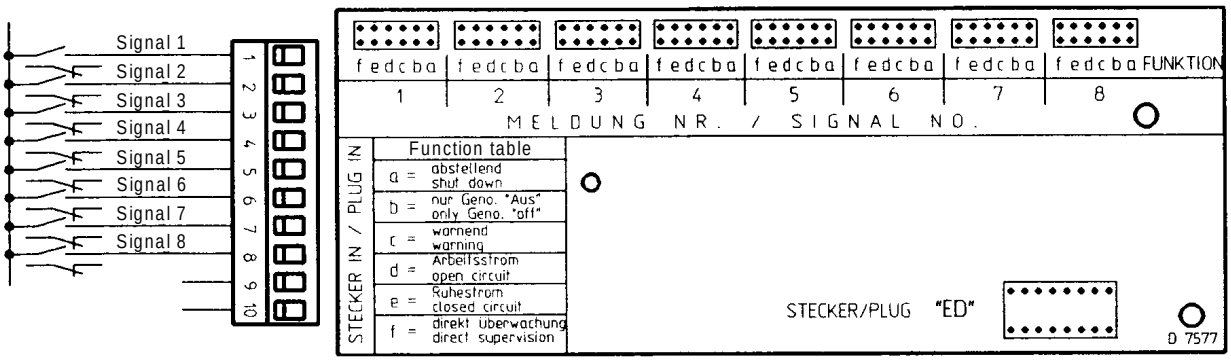



*Fig. 2: Connection diagram of the **ED2** - module*

# 4 Technical Data

## General data

| | |
|---|---|
| Maintenance: | maintenance free |
| Duty: | continuous |
| Mounting position: | optional (close to the DU2) |

## Input circuits

| | | |
|---|---|---|
| Supply voltage: | 7 - 17 V/DC | 15 - 34 V/DC |
| Nominal voltage: | 12 V/DC | 24 V/DC |
| Rated power consumption: | 0.7 W | 2.9 W |
| Max. power consumption: | 2.5 W | 7 W |

## Possibility of coding

Coding: function setting of the *ED2* module by means of coding plugs:
- shut down
- only generator c.b. off / no stop
- warning
- open circuit
- closed circuit
- direct supervision

## Tests

Interference voltage test: insensitive to interference voltages acc. to IEC 225 class III, VDE 0874 and 433

## Ambient conditions

Limits of the ambient temperature:
- for storage: - 40°C to + 75°C
- for operation: - 25°C to + 70°C

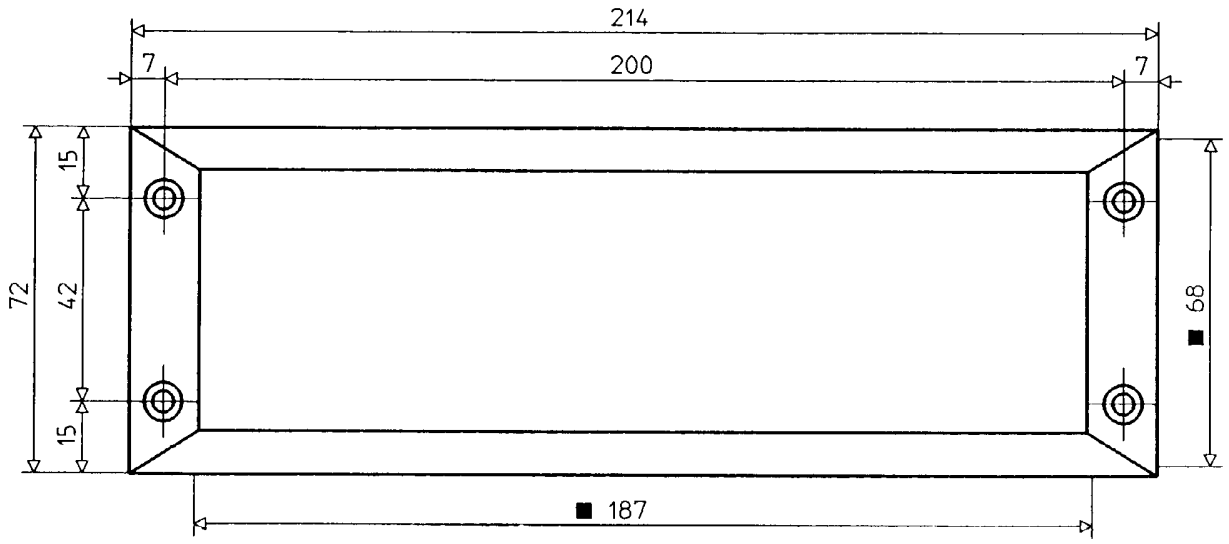
Humidity resistance: class F accord. to DIN 40040, tested acc. to DIN IEC 68 part 2 - 3 (56 days, 40°C and 93% R.H.)

Technical data subject to change without notice

## Case, dimensions, weight and installation

| | |
|---|---|
| Construction: | for through-panel mounting |
| Material front cover: | foil front panel |
| Material rear cover: | Makrolon/sheet steel |
| Width x Height x Depth: | 214 x 72 x 45 mm |
| Switchboard cut-out (H x W): | 187 x 68 mm |
| Fixing method: | screwed |
| Weight: | approx. 290 g |
| Protection, front cover: | IP 54 |

## Dimensional drawing (all values in mm)




| | |
|---|---|
| Depth (behind panel): | 45 mm |
| ■ switchboard cut-out (W x H): | 187 mm x 68 mm |

# 5 Order Form

Please use the order form below, marking the required options (a separate form must be completed for each extension module.

Extension Module *ED2*

| | | |
|---|---|---|
| Voltage | ☐ 12 V/DC | ☐ 24 V/DC |
| Coding | ☐ yes | ☐ no |
| Labels | ☐ yes | ☐ no |

Coding of the signals

| Signal number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| a = shut down | | | | | | | | |
| b = generator C.B. off (without stop) | | | | | | | | |
| c = warning | | | | | | | | |
| d = open circuit operation | | | | | | | | |
| e = closed circuit operation | | | | | | | | |
| f = direct supervision | | | | | | | | |

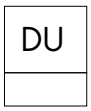
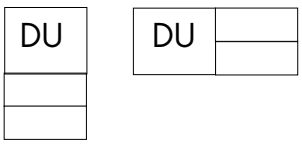
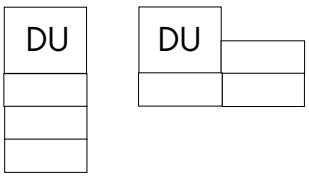
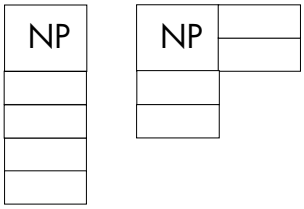
Labels:
Please enter the required inscription. Please remember that the size of the labels is 35 mm x 15 mm. Therefore, three text lines with max. 15 letters each are possible.
Furthermore, please mark the required colour of inscription (R = red; G = yellow, Gr = grey). The numbers indicate the number of the signal.

| | | | | | |
|---|---|---|---|---|---|
| 1 | | R<br>G<br>Gr | 5 | | R<br>G<br>Gr |
| 2 | | R<br>G<br>Gr | 6 | | R<br>G<br>Gr |
| 3 | | R<br>G<br>Gr | 7 | | R<br>G<br>Gr |
| 4 | | R<br>G<br>Gr | 8 | | R<br>G<br>Gr |

Languages:

☐ German ☐ English ☐ French ☐ Spanish ☐ .....

**Possible arrangements for the mounting of the DU2 unit and the appropriate *ED2* modules. Please mark the required arrangement.**

| | |
|---|---|
| *DU* + 1 extension module<br>  <br><br>1a) ☐ | *DU* + 2 extension modules<br>  <br><br>2a) ☐ 2b) ☐ |
| *DU* + 3 extension modules<br>  <br><br>3a) ☐ 3b) ☐ | *DU* + 4 extension modules<br>  <br><br>4a) ☐ 4b) ☐ |
| Other arrangements<br><br>Special requirements | |
| For further details please contact: | |

| Order date: | Company: | Competent per.: | Telephone: |
|---|---|---|---|
| | | | |

The length of the flat ribbon cable supplied is determined by the arrangement of DU2 and *ED2* extension modules. Therefore, please mark the desired arrangment for mounting. If it is not indicated, use the field for "Special requirements" (sketch only).

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