Module and
Application Description

# PROCONTROL P

Modules of the Turbine Control System

# Binary Signal Distributor

8−fold

Publication No.
D KWL 6303 95 E, Edition 01/95

# 89BS30/R0100/R0200

## Application

This module distributes binary input signals to three outputs which are decoupled from each other. It is available in two versions:

- Version R0100 for connecting single contacts or changeover contacts, wire−break monitoring included
- Version R0200 for connecting 24 V binary signals

The module uses eight channels.

## Features

**Version R0100: inputs for connecting contacts**

Eight single contacts or four changeover contacts can be connected. The contacts are voltage−supplied from the input section of the module. The contact voltage is approx. 50 V when the contact is open. With the contact closed, 24 V are available. The current flowing is 5 mA. Interference voltages on the transmitter lines are suppressed by protective circuits inside the module.

The module is provided with transmitter monitoring for short-circuit and interruption. For this purpose, a resistor of 47 (47.5) kOhm has to be mounted in parallel with the switching contact. Each one of the eight channels is assigned a red LED which will be on in the case of a transmitter fault. The three outputs of a disturbed channel will change to '**0**'. For each module a general disturbance signal **transmitter fault** is available.

The supply voltages of the transmitters are protected against short−circuit and earth short−circuit by current limiting. In the case of disturbances in the supply section of the module, a disturbance signal is put out and the green ready lamp (LED) goes off.

Each function unit has three short−circuit−proof outputs which can be loaded with 100 mA each. Since the module is protected by means of a fuse for 2 A, the sum of all output currents must not exceed this value.

**Version R0200: inputs for binary signals**

The eight input stages are designed for 24 V binary signals. When a **1** signal is present, an input current of approx. 1.6 mA will flow.

It is also possible to connect external contacts. For this purpose, a decoupled voltage of 24 V is available per input. The input signals are not monitored.

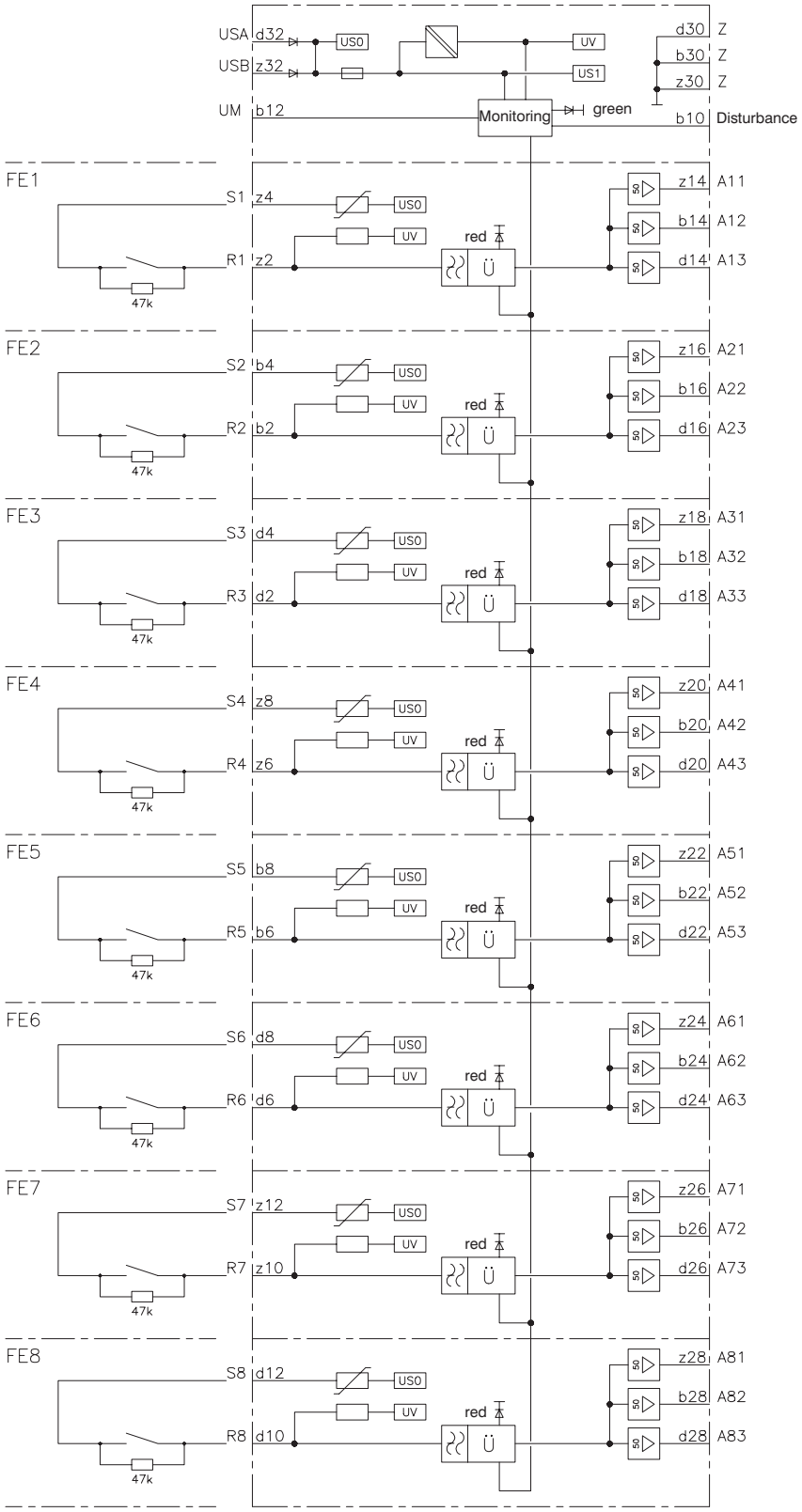
The monitoring of the supply section and the design of the output stages are identical with version R0100.

## Annunciation functions

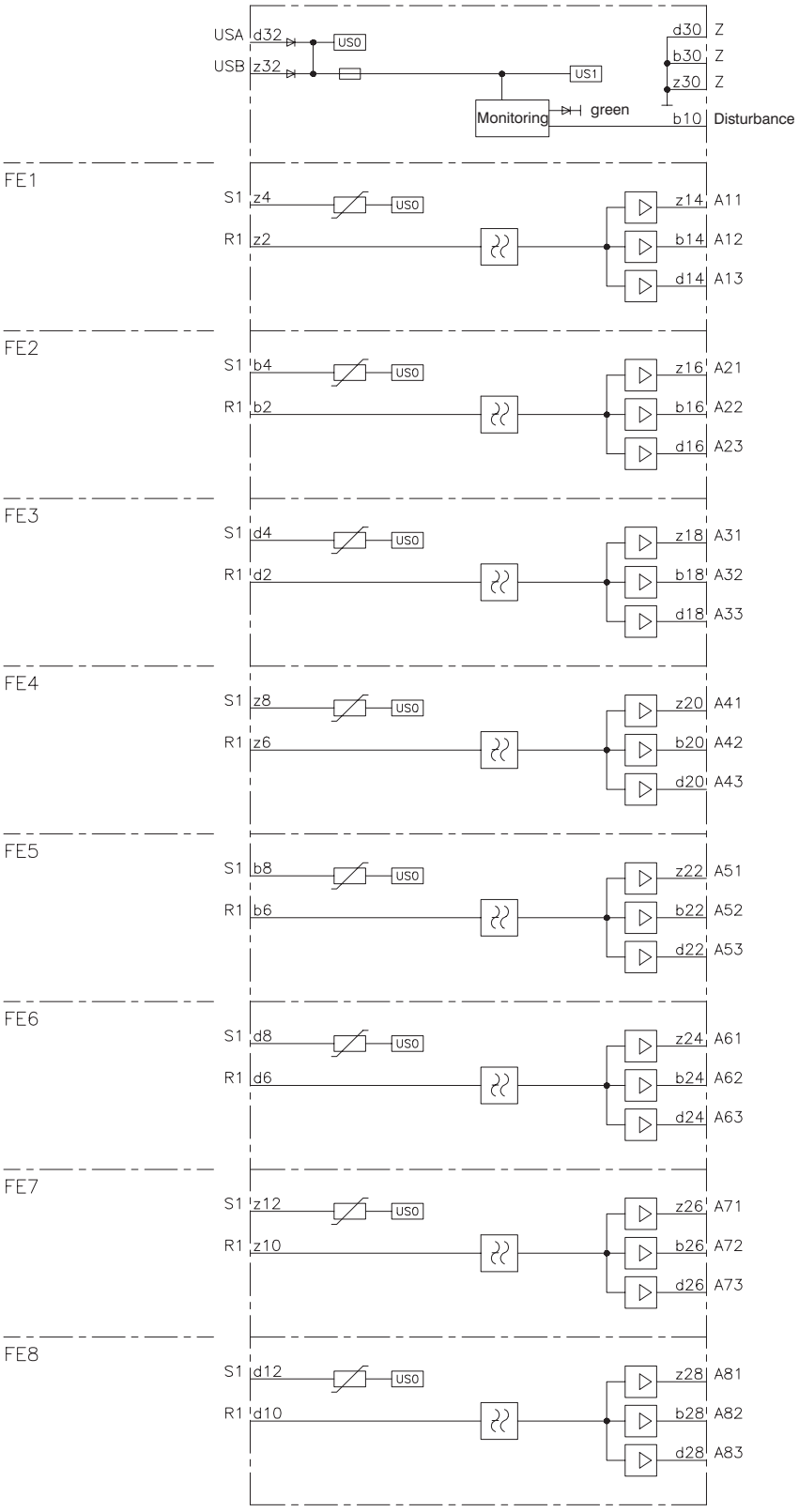
**LED on the front panel**

| | | |
|---|---|---|
| V104 ... V804 | = | red LED (only with R0100)<br>are on when respective transmitter monitoring responds |
| V6 | = | green LED<br>are on when supply voltages are available and internal power supply sections are operating |
| Binary signal **Disturbance**: | | present when the supply is disturbed and in the case of a transmitter fault (only with R0100)<br>supply through UM (terminal b12) |

# Function diagram for version R0100



# Function diagram for version R0200



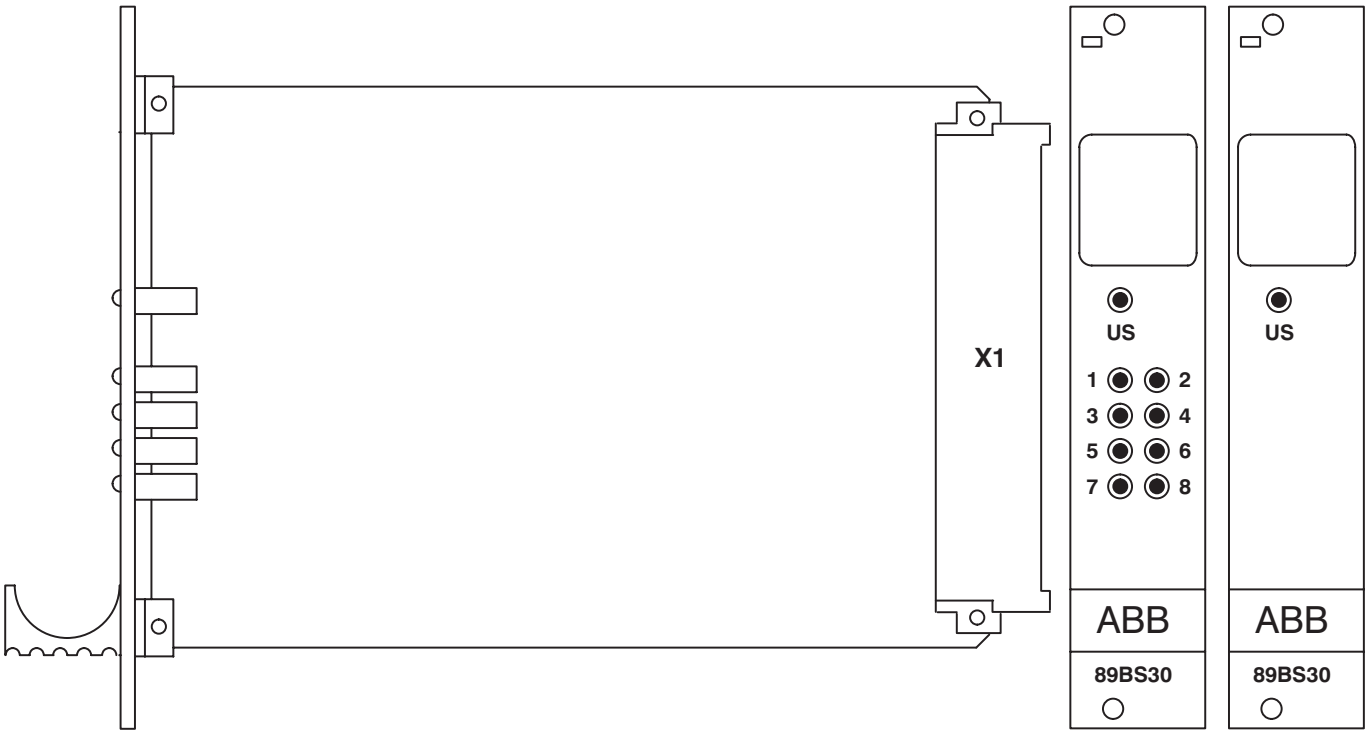
## Mechanical design

| | |
|---|---|
| Board size: | 3 units, 4 divisions, 160 mm deep |
| Connector: | to DIN 41 612 |
| | 1 x 48−pole edge connector, type F |
| Weight: | approx. 0.25 kg |

**Terminal assignments**

see function diagrams

**View of module front and module side**




version R0100 version R0200

# Technical data

In addition to the system data, the following values apply:

**Power supply**

| | |
|---|---|
| Supply voltage | +24 V DC |
| Current consumption | approx. 100 mA + output currents |

**Input values**

*Version R0100*

| | |
|---|---|
| Contact voltage with contact open | approx. 50 V DC |
| Contact voltage with contact closed | 24 V DC |
| Input current with contact closed | 5 mA |

*version R0200*

| | |
|---|---|
| Input value for logic 0 | −33 ... +4.5 V DC |
| Input value for logic 1 | 9.5 ... 60 V DC |
| Max. input current at logic 1 | 1.6 mA |

**Output values**

| | |
|---|---|
| Binary signal outputs A11 ... A83, disturbance | |
| logic 0 | < 1.5 V DC |
| logic 1 | US − 3.3 V |
| Max. output current at logic 1 | ≤ 100 mA |

**Transmission values**

| | |
|---|---|
| Typical delay input/output | approx. 1 msec |
| General disturbance signal | after approx. 500 msec |
| Inhibition of outputs in case of transmitter fault | after approx. 10 msec (only with R0100) |

**ORDERING DATA**

| | | | |
|---|---|---|---|
| Type designation: | 89BS30/R0100 | Order number: | GKWN000331R0100 |
| | 89BS30/R0200 | | GKWN000331R0200 |

Technical data are subject to change without notice!

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