Module and Application Description

PROCONTROL P
Modules of the Turbine Control System

Binary Signal Distributor
8–fold

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) are on when respective transmitter monitoring responds

V6 = green LED 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) 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
Technical data

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

**Power supply**

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>+24 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td>approx. 100 mA + output currents</td>
</tr>
</tbody>
</table>

**Input values**

*Version R0100*

<table>
<thead>
<tr>
<th>Contact voltage with contact open</th>
<th>approx. 50 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact voltage with contact closed</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Input current with contact closed</td>
<td>5 mA</td>
</tr>
</tbody>
</table>

*Version R0200*

<table>
<thead>
<tr>
<th>Input value for logic 0</th>
<th>−33 ... +4.5 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input value for logic 1</td>
<td>9.5 ... 60 V DC</td>
</tr>
<tr>
<td>Max. input current at logic 1</td>
<td>1.6 mA</td>
</tr>
</tbody>
</table>

**Output values**

<table>
<thead>
<tr>
<th>Binary signal outputs A11 ... A83, disturbance logic 0</th>
<th>&lt; 1.5 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>logic 1</td>
<td>US − 3.3 V</td>
</tr>
<tr>
<td>Max. output current at logic 1</td>
<td>≤ 100 mA</td>
</tr>
</tbody>
</table>

**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 89BS30/R0200 | Order number: GKWN000331R0100 GKWN000331R0200 |

Technical data are subject to change without notice!