Rotational Speed Monitor MC25-41B
4 channels

The MC25-41B is a 4-channel rotational speed monitor with intrinsically safe input circuits. The inputs circuit are galvanically isolated from each other and from the power supply and may be connected to NAMUR sensors (EN 50227) or mechanical contacts. Wire-break and short-circuit monitoring can be activated separately for each channel using the requisite software or the module’s DIP-switches. When using the DIP-switches, the settings apply to all channels. Input circuit errors are transferred to the control system via the diagnosis telegram. This module requires 8 input bytes of the master’s memory.

Each input circuit is monitored by a dual colour LED for signal/error indications:
- yellow: input circuit activated
- off: input circuit de-activated
- red: wire-break or short-circuit

The dual colour “Status” LED indicates the module status:
- green: supply voltage is present, the module is operating
- green flashing: initialisation of link to the master; constant green flashing: connection cannot be established
- red flashing: wrongly inserted module; hardware error, the module is not operating

- Four channel rotational speed monitor
- 2 measuring ranges per counter
- Intrinsically safe input circuits [Ex ia] IIC
- Input circuits galvanically isolated from the power supply and from the bus
- Separate input circuit monitoring for short-circuit and wire-break of each channel
- Dual colour LED for signal/fault display of each channel
Fieldbus Components

Function programming
The module's parameterisation mode is determined by the master. Either the switching amplifier is parameterised using the front switches, or via the master station using the requisite software.

Switch parameterisation
The two switches (S) on the module serve to set the following parameters for all channels.

<table>
<thead>
<tr>
<th>S</th>
<th>Position</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OFF</td>
<td>meas. range 1: 0.01-40 Hz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>resolution: 0.01 Hz</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>meas. range 2: 0.1-400 Hz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>resolution: 0.1 Hz</td>
</tr>
<tr>
<td>2</td>
<td>OFF</td>
<td>line monitoring active</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>line monitoring disabled</td>
</tr>
</tbody>
</table>

Software parameterisation
If using software for programming, the parameter byte is as follows:

<table>
<thead>
<tr>
<th>Bit</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fct.</td>
<td>D4</td>
<td>D3</td>
<td>D2</td>
<td>D1</td>
<td>M4</td>
<td>M3</td>
<td>M2</td>
<td>M1</td>
</tr>
</tbody>
</table>

Ex-Approvals acc. to Certificate of Conformity
TÜV 98 ATEX 1286 X

Maximum values
- No-load voltage $U_0$     8.7 V
- Short-circuit current $I_0$ 9.7 mA

External inductances/capacitances
- [Ex ia] IIC: 330 mH/5.9 µF
- [Ex ia] IIIB: 1000 mH/50 µF

LED indications
- Power *on*/bus error: green/red (dual-colour LED)
- Switching status/error: yellow/red (4 dual-colour LEDs)

Eurocard module
100 x 160 mm (DIN 41494)
Epoxy resin, glass fibre reinforced, quality class FR4
Front panel
plastic, 4TE = 20.32 mm, for individual interlocking
Connection
sensoplex® MC rack assembly
Operating temperature
0...50 °C

Coding (No. 814)