Rotational speed monitoring and standstill detection

Speed monitor family with extended functions

- Monitoring of two limit values with separate output relays
- High input frequency of up to 60,000 pulses / minute
- Configurable functions, speed-proportional analogue output
- Clearly readable, luminous OLED display
- Extended operating temperature range down to -40 °C

Versatile speed monitoring
The speed monitors calculate the rotational speed by evaluating pulses. The transistor and relay outputs switch when adjustable limit values are exceeded or not reached. This allows, for example, reliable overspeed and standstill detection.

Versions
The speed monitors DD2503 and DD2603 monitor the rotational speed of one channel with two separately adjustable limit values. A separate output is assigned to each limit value.

The speed monitors DD2505 and DD2605 monitor two separate input channels, each having one switch point.

Convenient
The high-contrast luminous OLED display and the menu-guided parameter setting are designed for maximum user-friendliness.

Speed monitors switch when critical rotational speeds are exceeded or not reached.
Overspeed monitoring:
Centrifuges, carousels or wind turbines are monitored for exceeded maximum rotational speed. The speed monitor gives a switch-off signal as soon as the speed is too high. This makes sure that the resulting centrifugal forces will not destroy the system.

Standstill monitoring
Standstill monitoring is used to detect torn conveyor belts, to monitor the V-belts of ventilators or to detect blocked screw conveyors.
The speed monitor signals a dysfunction in case of unexpected standstills of the non-driven side of the machine.

Versions including wire monitoring
The monitors DD2603 and DD2605 offer sensor cable monitoring. In this case, NAMUR sensors must be applied.

Configurable output functions
The relay outputs are switched on or off in case the limit values are exceeded or not reached. They may also remain switched until they are manually reset. Optionally, the reset can take place automatically after an adjustable period of time.
The transistor outputs that can be used alternatively are switched to the relays simultaneously. These can, for example, be connected directly to a PLC in order to transmit status messages.

Further technical data

<p>| Application: Single pulse evaluation system with microprocessor for frequency; rotational speed; speed; pulses and machine cycles |</p>
<table>
<thead>
<tr>
<th>Switching function</th>
<th>Nominal voltage [V]</th>
<th>Analogue outputs</th>
<th>Pulse inputs</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 input with 2 switch points to monitor</td>
<td>110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)</td>
<td>0/4...20 mA</td>
<td>PNP / NPN; NAMUR (24 V)</td>
<td>DD2503</td>
</tr>
<tr>
<td>2 inputs having 1 switch point each to monitor</td>
<td>110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)</td>
<td>–</td>
<td>PNP / NPN; NAMUR (24 V)</td>
<td>DD2605</td>
</tr>
<tr>
<td>1 input with 2 switch points to monitor</td>
<td>110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)</td>
<td>0/4...20 mA</td>
<td>NAMUR (EN 50227)</td>
<td>DD2603</td>
</tr>
<tr>
<td>2 inputs having 1 switch point each to monitor</td>
<td>110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)</td>
<td>–</td>
<td>NAMUR (EN 50227)</td>
<td>DD2605</td>
</tr>
</tbody>
</table>

Relay outputs
2 changeover contacts
6 A (250 V AC); B300, R300

Transistor outputs
2 x PNP; externally supplied 24 V DC / max. 15 mA; short-circuit protection

Setting range [Imp/min] 1...60000 (0.1...1000 Hz)
Ambient temperature [°C] -40...60
Storage temperature [°C] -40...85
Housing protection rating IP 50
Terminal protection rating IP 20

Function display
OLED display; 128 x 64 pixels luminous

Input signal indication LED yellow
Switching status indication LED green

Dimensions

![Diagram showing dimensions](image-url)