

Monitoring System VSR2-SB/CMB2-SB



PINTSCH BUBENZER
is certified according to
DIN EN ISO 9001:2008

Visual indication of

<p>thruster stroke < 5 mm > 20 mm < 55 mm</p>	<p>maximum brake pad temperature</p>	<p>air gap difference between disc and pad surface by measuring the temperature difference between pads caused by unilateral pad rubbing</p>	<p>pad thickness < 5 mm</p>
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Description VSR2-SB/CMB2-SB



In response to requirements to simplify the maintenance of industrial brakes and at the same time to increase their operational safety, PINTSCH BUBENZER offers a retrofitable, compact electronic status indication system to be integrated into the brake as an additional safety device

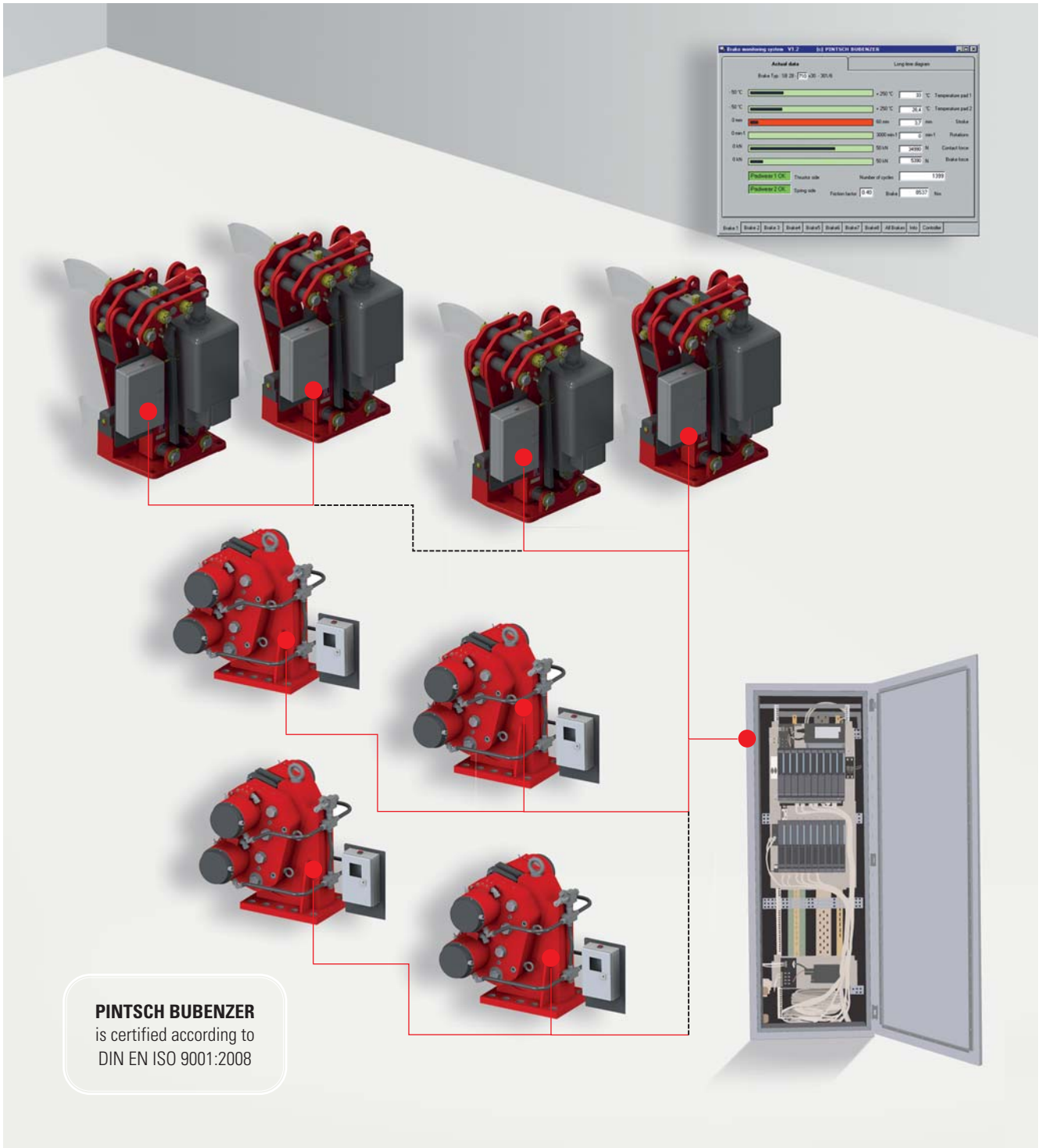
Main Features

- Industrial display with 4 rows of 20 characters for indication of measurement data and error messages
- High ambient temperature range – 20°C.....+70°C
- Protection class IP66
- Internal keypad for parameter change
- Up to 5 m cable length from sensor to electronic box. (Option)
- Brake operation cycle counter (up to 100 Mio. Cycles)
- Supply voltage selection switch 115/230 V AC
- One common error relay contact (VSR2-SB only)
- Profibus (CMB2-SB only). All scaled measures signals and error bits are transferred by bus system to the main control PLC. No analogue inputs in control PLC are required
- Option RPM speed sensor available
- Option: Stainless steel electronic box IP66 for outdoor use

Common parts for VSR2-SB and CMB2-SB

- Supply voltage: The electronic unit can be connected directly to 110-240 VAC supply voltage. The internal voltage selector switch must be set by the user to the corresponding position 115 or 230 V
- Temperature sensor: A pair of Pt100 sensors (B) measures the temperature of the each brake pad. If the temperature is too high or if the temperature is unequal from left to right side the unit generates a signal that is displayed in the panel. This reflected to the main control plc if the CMB2-SB unit is added
- Pad wear sensor: If the minimum brake pad thickness is reached, the sensors (A) send a signal to the electronic box
- Display: All measured analogue and digital signals and error messages are shown on the display in English language. Other languages are available on request. The display is readable under direct sunshine and has a LED backlight for use in a dark environment, such as steel mills.
- Keypad: With the internal key pad, the user can adjust parameters such as changing the temperature display from Celsius (°C) to Fahrenheit (°F) or setting of the Profibus address
- Reset button: The LED pushbutton on top of the electronic box indicates a wrong brake adjustment by a flashing red light. After the problem on the brake is solved, the status of the VSR2-SB / CMB2-SB can be reset to normal operation by pushing the button.
- Proximity switch release control: This switch and the optional manual release switch are independent from the VSR2-SB/ CMB2-SB and have to be connected to the control plc

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Permanent monitoring of



Thruster Stroke



Contact Force
Brake Force



Lining
Temperature



Lining Wear



Disc Speed
(optional)

Description VSR2-SB/CMB2-SB



VSR2-SB parts

Stroke sensor: A digital stroke sensor detects an Eldro reserve stroke <5mm or larger than 15 mm

Relay contact: A dry contact (max 250 V 2 A) is connected to terminals 21/22. It is closed in normal status of the VSR2-SB and open, if the system is in error mode, or switched off

CMB2-SB parts

Stroke sensor: The digital stroke sensor of the VSR-SB is replaced by an analogue sensor that measures the position of the thruster piston rod. The reserve stroke is measured and checked that it is at the perfect position of 10 mm with the brake is completely released. The maximum measurement range is 100 mm. The digital sensor is still available as an option

Force sensor: One load cell pin, located in the brake shoe, measures the contact force in the closed condition of the brake. This signal is used to detect an incorrect or broken spring setting. The signal "contact force" (max. 70 kN) is converted in software to the equivalent torque value in Nm. So the displayed value in Nm can be easily compared with the torque value shown on the spring scale

Disc speed RPM sensor: For this option, a special brake disc with marks is needed. A proximity sensor counts the impulses per time period and the RPM value is calculated

Profibus: All measured data (scaled) and warning signals are transferred by the Profibus-DP port to the main control PLC. No expensive analogue inputs (6 pc per brake) are required in the main PLC. The address of the DP slave can be easily set in the electronic box by a parameter change in the software . Up to 126 brakes can be connected to one Profibus master on the main PLC

Signals from brake to main PLC



Please Note

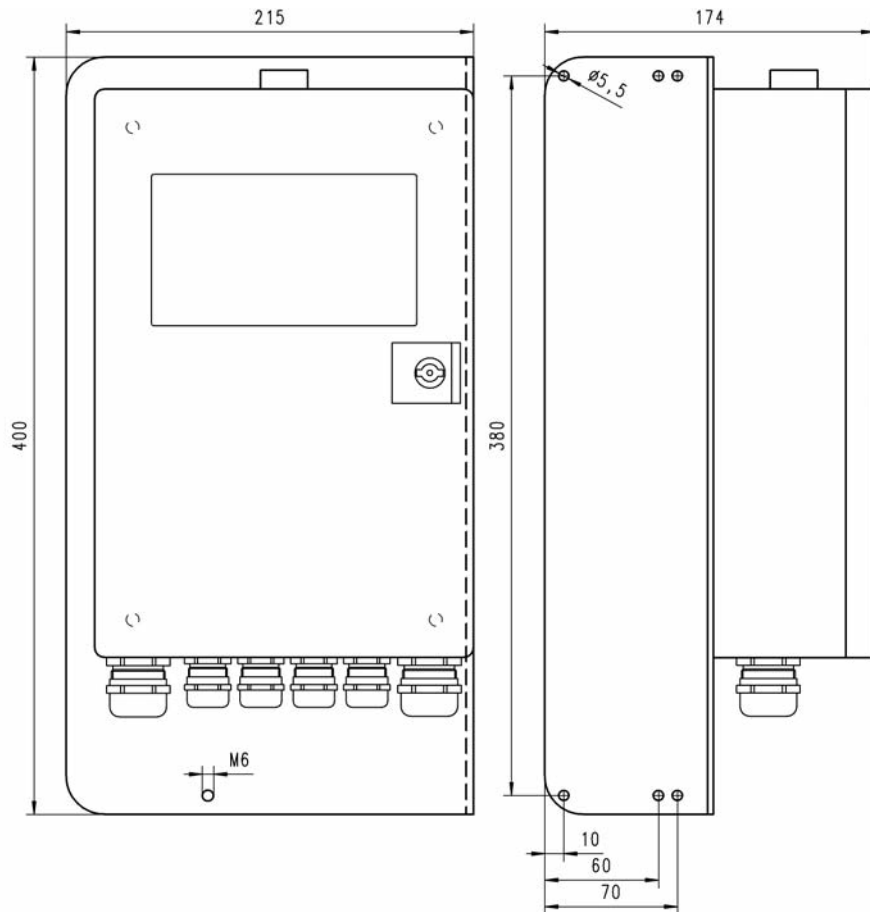
All these readings are logged by the CMB unit and transmitted for visualization. Visualization of sensor output can be provided by a stand-alone PC system or by combining the CMB with an existing crane operating / visualization system (e.g. via Profibus).

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data

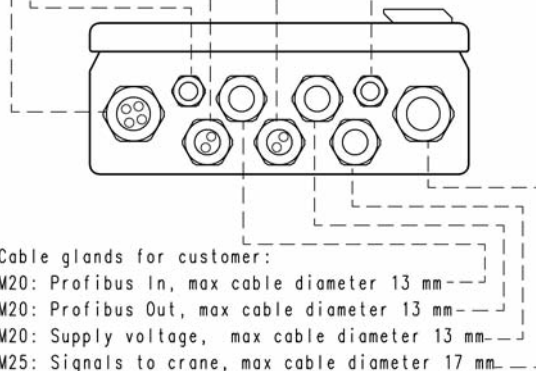


Rev. 12-06



Cable glands wired by PB:

- M25: Padwear1, Padwear2, Stroke, Force
- M12: Temperature 1
- M20: Release, Manual Release
- M20: Speed, Temperature 2
- M12: spare



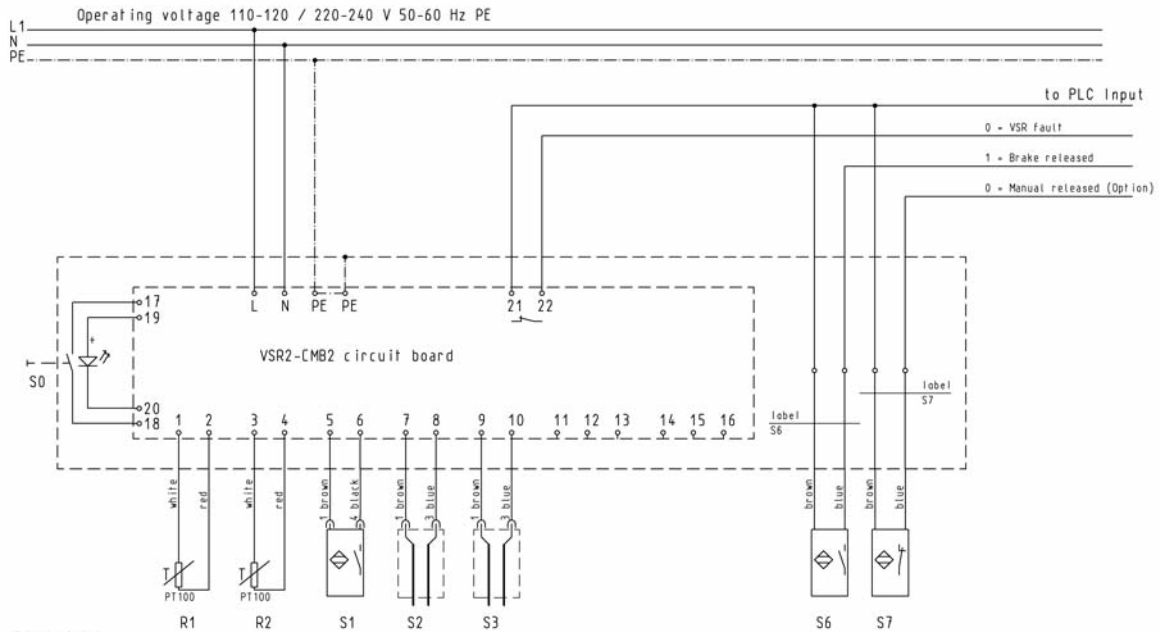
Remark: Force, Profibus In and Out only for CMB2

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data



Rev. 09-02

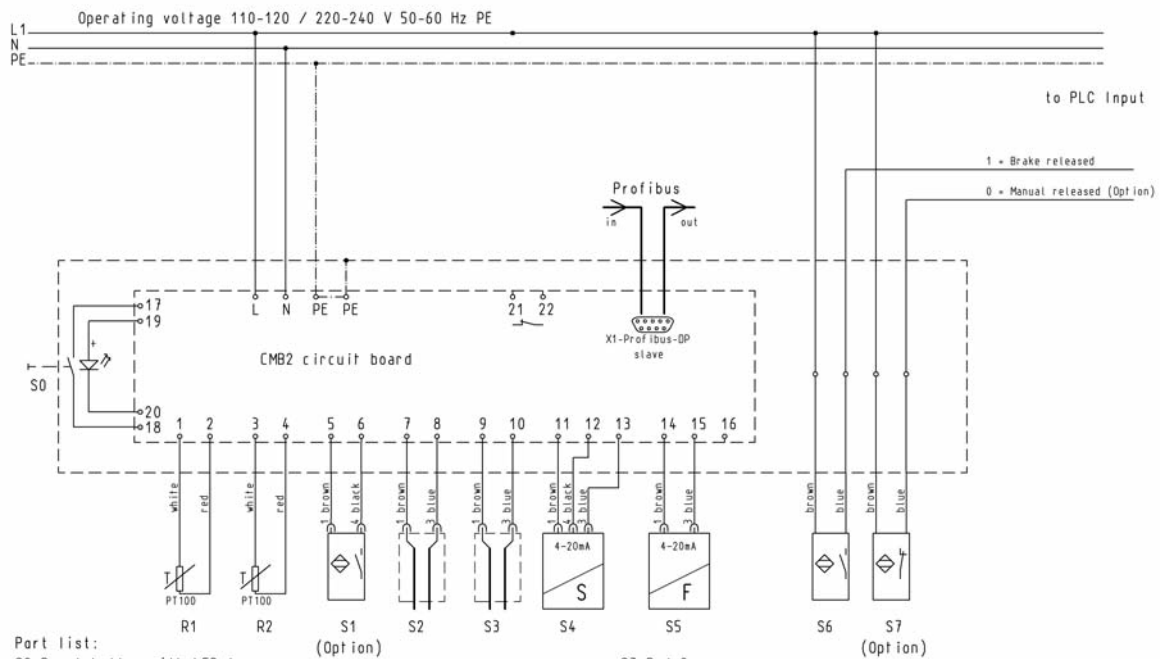


Part list:

- S0 Reset button with LED lamp
- R1 Brake pad 1 temperature sensor
- R2 Brake pad 2 temperature sensor
- S1 Stroke sensor
- S2 Pad 1 wear sensor

- S3 Pad 2 wear sensor
- S6 Proximity switch brake release control 20-240 V AC/DC
- S7 Proximity switch hand release control 20-240 V AC/DC (Option)

VSR2-SB Version



Part list:

- S0 Reset button with LED lamp
- R1 Brake pad 1 temperature sensor
- R2 Brake pad 2 temperature sensor
- S1 Speed sensor (Option)
- S2 Pad 1 wear sensor

- S3 Pad 2 wear sensor
- S4 Analog stroke sensor
- S5 Contact force sensor
- S6 Proximity switch brake release control 20-240 V AC/DC
- S7 Proximity switch hand release control 20-240 V AC/DC

CMB2-SB Version