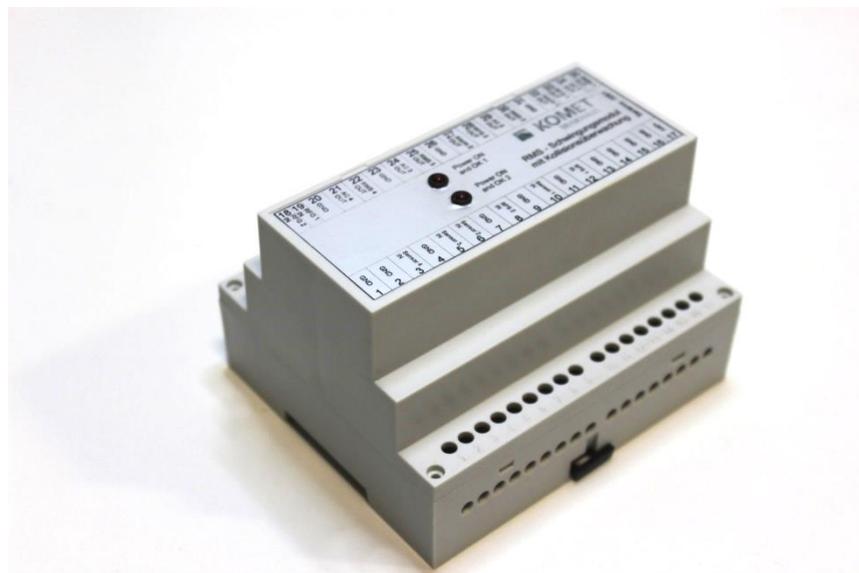


# CD202

## MEASURING ADAPTER

HARDWARE REVISION 4.XX



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## CD202 – Measuring adapter

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### How the CD202 works

The CD202 compares the vibration value read by the vibration sensor with a fixed (voltage) limit.

The fixed limit depends on the sensor connected and the way in which it is connected.

The following table provides the maximum voltage values that are to be set. If the voltage limit is set higher than these values, the system will no longer be able to detect collisions:

Sensor and sensor type	Connection	Maximum voltage value to be set	The maximum voltage limit corresponds approximately to the g-force
ICP sensor (voltage-based, e.g. the <b>AE100_942</b> from <b>Ibis</b> )	Direct connection to CD202	9 V	Approx. $\pm 45$ g
Current-based sensor (e.g. the <b>VSA004</b> from <b>IFM</b> )	Via the current (10 mA) to voltage (10 V) converter box, e.g. from <b>Phoenix</b>	9 V	Approx. $\pm 20$ g
Current-based sensor (e.g. the <b>VSA004</b> from <b>IFM</b> )	Via the shunt resistor (internal) directly to the CD202	5.5 V	Approx. $\pm 20$ g

The voltage values are set individually for each channel using a 25-turn potentiometer. The value changes by 0.72 V with each rotation.

## CD202 – Measuring adapter

The measuring adapter shown in fig. 2 is required for setting the threshold for the collision monitor (module: CD202, fig. 1).

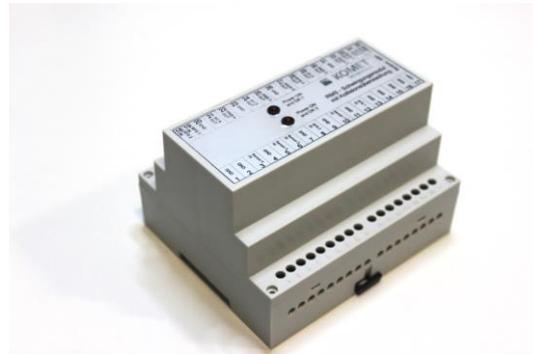


Figure 1 – CD202

This consists of an 8-pin connector for connecting to the side of a circuit board and three safety connectors for connecting to a multimeter.

Black: GND  
Red: Threshold channel 1  
Yellow: Threshold channel 2



Figure 2 – Measuring adapter

It is necessary to open the housing of the CD202 module in order to connect the measuring adapter. To do so, the screws need to be removed at the points shown in fig. 3.

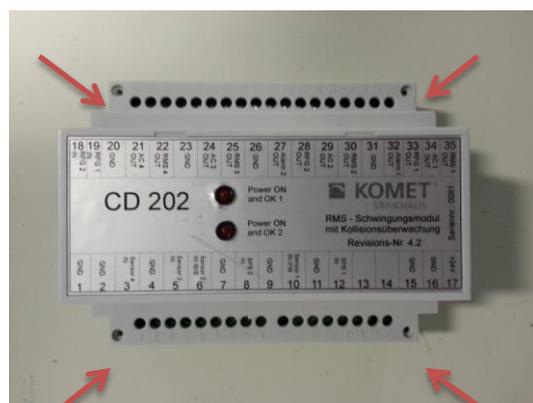


Figure 3 – Loosening the screws

## CD202 – Measuring adapter

Then carefully lift the cover. The cover is clipped in at four points in total. Push it in carefully to undo these clips (do not push it in too far, as doing so would create a risk of breakage). See fig. 4 for this process.

**Caution!** The cover must not be lifted too far, as doing so may cause the connection cable between the housing cover and the circuit board to be pulled out of place.



Figure 4 – Position of the clips

Fig. 5: This is how the module appears when its cover is open. The adapter is connected at the point indicated by the circle.

The connector is modified to ensure that the adapter can only be connected in a single position. This makes it impossible to accidentally connect the adapter in the wrong position. See fig. 6 and fig. 7.



Figure 5 – Module with open housing



Figure 6 – Connection on the circuit board for the measuring adapter

## CD202 – Measuring adapter

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The mechanical lock, which prevents the connector from being connected incorrectly, is shown in fig. 7. This ensures that the connector only fits in a single, clearly identifiable position on the pin header.

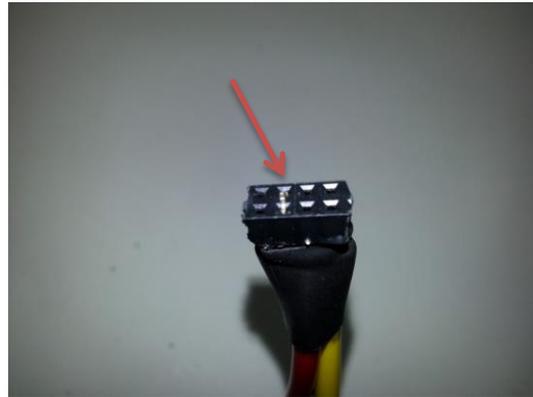


Figure 7 – Connector of the adapter

This is how the module should now appear with the adapter connected.



Figure 8 – Module with connected adapter

## CD202 – Measuring adapter

The respective connections for connecting the adapter to a multimeter are shown in fig. 9 and fig. 10. The black and red cables are needed for channel 1 and the yellow and black cables are needed for channel 2. The measuring instrument should be set to DC voltage (V DC), and the required threshold should be set using the adjusting controller (see fig. 11).



Figure 9 – Connection for channel 1



Figure 10 – Connection for channel 2

Position of the adjusting controller for the thresholds for channels 1 and 2.

The module must be connected to the supply voltage in order to set the threshold.

The adjusting controllers are 25-turn potentiometers.

This means that the voltage increases by 0.72 V with each rotation.

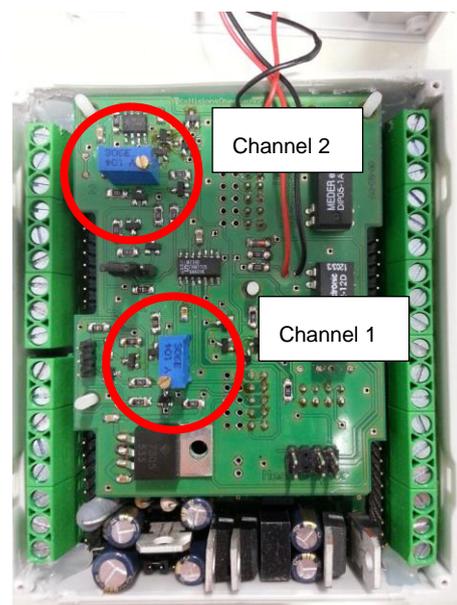


Figure 11 – Position of the adjusting controller for the threshold