

# ATTINGIMUS

## NACHRICHTENTECHNIK

### Users guide of Collision Avoidance Radar CRAT81

#### Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada licens-exempt RSS standard(s) and part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must except any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### Features

- meets FCC 100 MHz bandwidth
- detection range: 1m...40m (configurable on all outputs only by the manufacture)
- 3 open collectors, 1 current output 4...20mA
- antenna beam: 11° x 11° (+/-5,5° x +/-5,5°)

#### General description

This Radar is a collision avoidance Radar installed at cranes or other big machines. 3 open collectors (PNP) and one current output 4...20mA can be used to detect obstacles in a special distance from the Radar. The thresholds are configurable and are configured by the manufacture. Also the polarity of the open collector outputs (detection = on or off) can be configured. The distance values for the current output at 4mA and 20mA can be adjusted. Then there is a linear curve between it. The signal level threshold for the detection is also adjustable. By doing this a flexible safety area around machine of all kinds can be constructed. The power supply, the open collector outputs and the current output are given at a male M12x1,5 industry standard connector. One of the open collectors and the current output are connected on one pin. The manufacture can configure which of the outputs shall be used on this pin.

#### Attention

Human shall not stay closer than 20cm for a 100% duty cycle when the Radar is switched on.

## **Absolute Maximum Ratings**

Supply voltage:	0V...+30V (security against polarity change)
Output current at CAN output:	short circuit proofed
Operating temperature:	-40...+85°C
Storage temperature:	-40...+100°C

## **Electrical Characteristics:**

Supply voltage:	10...30V
Supply current:	typ. 130mA
max. provided current:	500mA
transmit frequency:	24.075...24.175GHz
transmit power:	20dBm (EIRP)
antenna pattern:	11° x 11° (+/-5,5° x +/-5,5°)

## **Mechanical Data:**

size of the single Radar housings: 100 x 100 x 42

waterproofed and vibration proofed

## **Interface:**

The interface of the Radar is a industriell male M12x1,5 connector with 5 pins. In the standard of this connector the pins are normed by colours.

blue: GND

brown: +U

gray: open collector 3 and current output connected together

black: open collector 1

white: open collector 2

## **Attention:**

The interface behind the rubber bottom is only for use of the manufacture.