

**TR05**

The radio module is designed for use in Scanreco industrial remote controls only that are permanently installed to provide a separation distance of at least 20 cm from the user and in hand-held / hand-operated remote control devices. This module is not for resale to the general public, installers, OEM integrators. This module is designed for use in Scanreco products only and is installed by or under the control of Scanreco.

Developed for demanding environments

Scanreco's TR05 is built and designed for the toughest and most demanding of environments. Scanreco can hereby offer the market of crane and machine operators an extremely easy to use radio remote control retaining speed, precision, and control with the maximum of safety.

Behind the development of the radio transceivers lies the idea of providing a product with a high degree of reliability, user-friendliness, and easy upgrade for cable systems or other data radio applications.

The product family includes different transceivers and receivers offering a variety of choice depending on the area of use. These products are based on a modular architecture, which makes them extremely flexible to customize and adapt according to the customer's needs.

The products – which are in high demand – are mainly mounted on cranes and mobile machines. Our customers are some of the world's largest and most challenging crane and machinery manufacturers. Thousands of cranes and machines containing Scanreco's radio products are in use worldwide.

Our products are deployed everywhere, from truck cranes laying heating pipes in Stockholm to lifting oil pipelines in Russia and setting in place concrete sections in Singapore.

Scanreco – freedom in a box

Our customers development is our own development. This enables us to offer:

- **Customer-specific solutions**
- **Industrial know-how**
- **Expertise and experience**
- **Innovative capacity**
- **Nimble organisation**
- **Quality**
- **Delivery precision**
- **Service**

www.scanreco.se

Technical information

The control and power connector is a standard 2.54mm, 16 way pin row.

The functions of the pins are as follows:

Pin 1: Power supply and signal ground.

Pin 2: Power supply positive terminal. Accepts 5 to 8VDC. 7,2VDC nominal.

Pin 3: Data input / output / ISO.

Pin 4: Data input / output / MOSI

Pin 5: Data input / output / SCLK

Pin 6: Data input / output

Pin 7: Data input / output

Pin 8: Data input / output

Pin 9: Data input / output / I2C Data

Pin 10: Data input / output / I2C Clock

Pin 11: Data input / output

Pin 12: Data input / output

Pin 13: Data input / output / UART TX

Pin 14: Data input / output / UART RX

Pin 15: Data input / output

Pin 16: Power supply and signal ground

There are two antenna outputs, which cannot be used simultaneously. It may be used the integral antenna(s) or different types of antennas with an impedance of 50 Ohm nominally connected to SMA contact.

Radio Specification

Attribute	Information
Frequency	2400 - 2480 MHz
Channels	16
Channels management	FHSS DSSS THSS
Channel order	Pseudorandom
Channel capacity	Duplex
Channel bandwidth	2,7 MHz
RF Power	+18 dBm typical
Modulation	QPSK
System address/ID	<16777216 unique system addresses available
Redundancy	CRC-16
Range	100 meter
Duty cycle	Maximum duty cycle set by the factory: <ul style="list-style-type: none">- for permanently installed equipment with 20 cm separation distance from users 72,36%;- for hand-held / hand operated remote controls 10%.

FCC information

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 equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning

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

Industry Canada Information

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

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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (A)/NMB-3(A)

For permanently installed equipment:

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

L'antenne (s) utilisée pour cet émetteur doit être installée pour fournir une distance de séparation d'au moins 20 cm de toute personne et ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou émetteur.