

## Controlsystem

The remote control system can be mounted onto all hydraulic valve types available on the market. Remote control makes it possible to pre-set speeds individually for each function. All desired programming-/calibration of the manoeuvre characteristics can be made during operation ( on-line ). Programming is easy and requires neither tools/instruments nor any special knowledge. The powerful PLC in the control system is supplied with and prepared for 2-way direction communications, signal handling of for example ramp, blocking, hold, overload functions and the field bus CAN-BUS e.t.c.



## Aprovals

Scanreco's remote control system fulfils EC's Machine and EMC directive, is fully approved and complies with the European special demands and standards for "Remote controlled lifting devices" and for Occupational Safety and Health direction in accordance with:

EN954, prEN280, 89/392/EEC, 89/336/EEC, EN50081-2, EN50082-2, I-ETS 300 683, I-ETS 300 220, prEN12077-1 and prEN12999 e.t.c

The system is developed and manufactured entirely by us.

**Scanreco Industri Elektronik AB**  
Box 47144 / Arsta Skolgränd 22  
S-100 74 Stockholm  
Tel : +46 8 744 02 20  
Fax : +46 8 744 01 95  
E-mail : scanreco@scanreco.se



# SCANREC

## RC 400



**SCANRECO**  
INDUSTRIELEKTRONIK AB  
SWEDEN

## SCANRECO

**SCANRECO RC 400** is a complete remote control system for the proportional control of truck/loader cranes. Thousands of loader cranes with Scanreco's remote control system are in use each day almost all over the world. They have many uses among which are to help bury heating pipes in Sweden to lifting oil pipelines in Russia and concrete elements in Saudi Arabia. Customers are some of the leading crane and machine manufacturers. Most of the products are exported.

The Scanreco RC 400 offers the driver a remote control system which is extremely easy to use with speed, precision and control under maximum safety. The remote control can be operated with a thin and flexible 3-core cable, an opto fibre cable or via radio control. Scanreco's RC 400 remote control system is based on extremely advanced microprocessor technology and has a radio

which enables a channel changing during operation. Years of hard and exacting tests have shown that the RC 400 remote control system can cope with the most demanding and roughest environments. The remote control system is tested so that it can be used with workmans basket for lifting personnel, in power stations, mines, on oil platforms e.t.c. The remote control system is protected against electro-magnetic and radio frequency radiation (this applies both to cable and radio operation).



## Safety

Each radio system operates under all operations with its own unique identity code (ID-code). This means that only the correct portable control unit can activate and control its matching receiver (crane). For maximum safety the receiver has double processors to enable comparison and checking of the data signals from the control unit.

The receiver on the crane operates with a so called automatic emergency stop, which means that the dumpvalve and all crane movements are only activated as long as verified data signals are received from the control unit. The receiver also operates with so called automatic dumping of the oil flow, i.e. the oil is dumped directly to the tank and makes the whole crane without hydraulic pressure if no lever activations have been made. The pump flow is returned as soon as a lever is activated.

## Radiochannel changing

Concurrently with the increased number of radio control systems it has become more common that frequency collisions occur or radio interference (interruptions in crane operation). In order to minimise these frequency collisions the control unit has, as standard, a button, with which the driver can directly change the radio channel. Radio communications take place within the 405 - 490 Mhz band which enables a problem free and interference free operation. Radio channel change can be made at any time during operation.

## Control Unit

The portable control unit, which is design registered, can be provided with up to eight (8) manoeuvre levers and is impact resistant and weather resistant with low weight and ergonomic design. The manoeuvre levers can give fully variable operation and are sprung loaded to return to the neutral position, i.e. "dead-man's-handle".

The speed of the crane is directly in proportion to the manoeuvre lever displacement. For maximum safety there is a neutral position control on the manoeuvre levers, and they have also been given a separate neutral position circuit which disconnects the manoeuvre lever within an area of approx.  $\pm 3^\circ$  from the manoeuvre lever's neutral position.

All manoeuvre levers are protected by a protective frame against unintentional manoeuvring and against mechanical damage. The control unit has an emergency stop which immediately stops all crane movement.

The control unit has micro operation as standard, i.e. the speed can be reduced temporarily in five steps to 60%, 50%, 40%, 30% and 20% of normal crane speed. Full movement of the levers is still used for the reduced speed control.

The battery is located in the control unit and can be very easily changed. The radio transmitter and its antenna are built in. A LED and sound signal indicate operational and battery status and are used for easy diagnostic fault finding. The control unit can be equipped with a large number of toggle switches for ON/OFF functions such as : starting and stopping of the vehicle motor, throttle control (RPM+/-, fast, automatic) \* automatic throttle control, i.e. throttle opening takes place at the same time that a manoeuvre is started with any of the levers. Closing of the throttle is delayed, i.e. it remains open for approx. 6 seconds after the last lever movement, a switch which enables the number of functions in the control unit to be doubled etc. The control unit is supplied with a strap to enable it to be hung around the neck (a waist belt is available as an option).



## Option

Indication on the portable control unit. The control unit can easily be provided with a display and LEDs for indication and reading of values from the crane:

the actual weight being lifted, indications of 60% to 90% loading (warns the driver in good time when the limit for the crane's lift limit is close), 100% loading (indicates that the limit for the crane has been exceeded),

indication of instability in the vehicle (warns the driver when the crane is getting close to the drivers cab where stability often is not sufficient), indication of so called increased lifting power.