

Remotus

Robust radio remote control for safety critical mobile applications



NAME: Remotus T-Rx Era 8B.
SPECIALITY: Radio remote control
for suction vehicle.
READY FOR MISSION: 2015



NAME: Remotus T-Rx Era 100.
SPECIALITY: Radio remote control
for hydraulic crane.
READY FOR MISSION: 2016

ÅKERSTRÖMS



ROBUST SWEDISH DESIGN SINCE 1918





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WELCOME TO THE REAL WORLD.

Our products are right at home in extreme environments. When other products give up, ours just keep on going without complaint. Rugged, reliable remote control for industrial and mobile applications, designed for constant use. Whenever. Wherever. In the real world.

Today we are an international company that develops, manufactures, markets, and services robust wireless products for demanding industrial environments and mobile applications. Our entire range is distinguished by excellent ergonomics and design. We are scattered far and wide geographically, but we value personal contact with our customers above all. This brochure contains information on our radio remote control for safety-critical mobile applications: **Remotus**



Remotus T-Rx is our robust remote-control product line for mobile applications such as side loaders, suction vehicles, tow trucks, concrete pumps, concrete trucks and various different machines. The products within the T-Rx line provides the necessary safety, and reliability required for wireless control in challenging industrial environments.

The Remotus T-Rx line includes a complete receiver and transmitter line and comes in different standard and customized models suited for different usage areas.

Remotus T-Rx Era

Remotus T-Rx Era is the name of the latest member of the Remotus family. The T-Rx Era 100 waist transmitter has a modern, robust design. It has rubberized handles for a good grip and stands firmly on its protective metal feet when not in use. The T-Rx Era handheld transmitters have a modern, ergonomic design, clear display, and LEDs near each button that indicate the selected function. The T-Rx Era models are lightweight and easy to carry.

Dual CPUs for superior safety

The T-Rx Era 100 has dual CPUs, which means superior safety, even with movements/functions. It has an active stop function, which means the receiver will stop in less than 100 ms. The T-Rx Era 100 has a built-in tilt function, which means that it stops if you fall. T-Rx uses the frequency bands 433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz and 2,4 GHz. The radio module 2.4 GHz can be used worldwide and has a range of about 200 m in a clear view. If necessary, you can adjust the range by lowering the output.

Distance restriction function

The T-Rx systems can be programmed with a distance restriction function for operating the object within a predefined distance.

Configurable display with alarm function

T-Rx Era 100 has a large, clear display, readable in bright sunlight. It also has a vibrator and buzzer, which can be individually configured to different alarm events via the display menu. The display's backlighting can also shift to red with different alarms that can be chosen from the menu.

High IP rating and unique battery solution

The T-Rx Era 100 is of protection class IP65-67. It has a unique battery solution where the battery is well protected from water and dust in a replaceable module whose opening is located directly below the transmitter. The transmitter can be placed in deep water without affecting the battery.

Easily configured and functional

Personal settings or appropriate operating characteristics such as initial and maximum speed or sensitivity in the control lever can easily be adjusted and set with a software program running on an ordinary PC.

The safety stop function is approved according to **PL d, Cat 3, EN ISO 13849-1**.



REMOTUS T-RX

Remotus T-Rx is our robust remote-control product line for mobile applications.

REMOTUS

T-Rx — Waist transmitters

Remotus T-Rx waist transmitter line is used for everything from standard solutions to highly sophisticated machine control. The transmitters are available in three models—depending on required functions and environments in which they'll be used. Their features are fully customizable to customer requirements. They can be equipped with indicators and display for displaying different types of information from the machine via two-way communication. The transmitters are adapted for tolerating tough conditions, such as drastic temperature differences, dust, vibrations, oil, and dampness.

REMOTUS T-Rx Era 100

No. of functions:

Up to six movements, 2-position, 4-position or stepless joystick (total max two joysticks)
alt. six paddles

Type of transmission:

FM FSK/FM GMSK

Transmission speed:

4,800-19,200 baud depending on choice of radio

Operating temperature range:

-25 to +55°C

Radio frequencies:

433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2,4 GHz

Output power:

Varies depending on application and licensing limitations. Usually 10 to 400 mW.

Range:

Up to 1000 m

Antenna:

Internal

Battery:

3.7 V/1.9 Ah

Operating time:

ca 14 hours

Protection class:

IP65-67

Dimensions:

260 x 165 x 150 mm

Weight:

1.3 kg

Display type:

Graphic LCD, 128x64 pixels



REMOTUS T-Rx 300

No. of functions:

Up to six movements, 2-position, 4-position or stepless joystick (total max three joysticks) alt. six paddles

Type of transmission:

FM FSK

Transmission speed:

Standard 4 800 baud

Operating temperature range:

-25°C to +55°C

Radio frequency:

433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2.4 GHz

Output power:

Varies depending on application and licensing limitations; Normally 10 to 400 mW

Range:

Up to 1000 m

Antenna:

Internal

Battery:

6 V / 2.4 Ah

Size:

250 x 175 x 160 mm

Weight:

1.2 kg

Display type:

LCD, 1 row 8 characters, 1-3 rows 16 characters/row, 8 LEDs



REMOTUS T-Rx 500

No. of functions:

Up to eight movements, 2-position, 4-position or stepless joystick (total max four joysticks) alt. eight paddles

Type of transmission:

FM FSK

Transmission speed:

Standard 4 800 baud

Operating temperature range:

-25°C to +55°C

Radio frequency:

433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2.4 GHz

Output power:

Varies depending on application and licensing limitations; Normally 10 to 400 mW

Range:

Up to 1000 m

Antenna:

Internal

Battery:

6 V / 2.4 Ah

Size:

340 x 175 x 160 mm

Weight:

2.5 kg

Display type:

LCD, 1 row 8 characters, 1-3 rows 16 characters/row, 8 LEDs



REMOTUS

T-Rx Era — Hand held transmitters

T-Rx Era handheld transmitters have a modern, robust design. The transmitters weigh only 265 grams and fit easily in your hand, and are IP67 classified, which means they are completely dust and water-proof. They have large, easy-to-read two-stage buttons that enable double functions on each pushbutton. Era 8B is available incl or excl LCD. A separate LED indicates storage battery status and operation and all models except Era 8B (excl LCD) have LEDs at each button that indicate the selected function. The output of the transmitters is adaptive, i.e. if the signal strength is strong, then both transmitter and receiver “downshift” to a lower output to disturb others as little as possible.

REMOTUS T-Rx Era 8B

No. of buttons: 8 two-stage buttons	Battery: 3.7 V/1.9 Ah
Type of transmission: FM GMSK	Operating time: 40 hours
Transmission speed: 9,600 baud	Protection class: IP67
Operating temperature range: -25 to +55°C	Dimensions: 183 x 67 x 45 mm
Radio frequencies: 433-434 MHz, 863-870 MHz	Weight: 265 g
Output power: 10 mW (433-434 MHz) 5 mW (863-870 MHz)	Display type: Graphic, 128x64 pixels. Up to four numerical values with unit can be displayed simultaneously. The values can be displayed numerically or as bars.
Antenna: Internal	



REMOTUS T-Rx Era 8B (excl LCD)

No. of buttons: 8 two-stage buttons	Battery: 3.7 V/1.9 Ah
Type of transmission: FM GMSK	Operating time: 40 hours
Transmission speed: 9,600 baud	Protection class: IP67
Operating temperature range: -25 to +55°C	Dimensions: 183 x 67 x 45 mm
Radio frequencies: 433-434 MHz	Weight: 265 g
Output power: 10 mW	
Antenna: Internal	



REMOTUS T-Rx Era 6B

No. of buttons:
6 two-stage buttons

Type of transmission:
FM GMSK

Transmission speed:
9,600 baud

Operating temperature range:
-25 to +55°C

Radio frequencies:
433-434 MHz

Output power:
10 mW

Antenna:
Internal

Battery:
3.7 V/1.9 Ah

Operating time:
40 hours

Protection class:
IP67

Dimensions:
183 x 67 x 45 mm

Weight:
265 g

Display type:
Graphic, 128x64 pixels. Up to four numerical values with unit can be displayed simultaneously. The values can be displayed numerically or as bars.



REMOTUS T-Rx Era 4B

No. of buttons:
4 two-stage buttons

Type of transmission:
FM GMSK

Transmission speed:
9,600 baud

Operating temperature range:
-25 to +55°C

Radio frequencies:
433-434 MHz

Output power:
10 mW

Antenna:
Internal

Battery:
3.7 V/1.9 Ah

Operating time:
40 hours

Protection class:
IP67

Dimensions:
183 x 67 x 45 mm

Weight:
265 g

Display type:
Graphic, 128x64 pixels. Up to four numerical values with unit can be displayed simultaneously. The values can be displayed numerically or as bars.



REMOTUS

T-Rx — Hand held transmitters

The T-Rx hand held transmitters are available in two robust models; T-Rx 12B and T-Rx 28J B. Both are available with or without graphic display. Remotus T-Rx 28J B has eight two-stage buttons and two joysticks. The transmitter is easily maneuvered with one hand, making it easier to use in situations that might otherwise require the functions of a traditional waist style transmitter. The transmitter can control 4 analog and 8 digital functions in 2 steps. You can also extend the functions with the help of a selection button. T-Rx 12B has 12, two-stage buttons that enable double function for each button. LEDs on each button indicate selected function and a separate LED indicates storage battery status and operation.

REMOTUS T-Rx 12B

No. of buttons: 12 two-stage buttons	Battery: 3.7 V / 1.8 Ah
Type of transmission: FM FSK	Protection class: IP65
Operating temperature range: -25°C to +55°C	Size: 243 x 77 x 41 mm
Radio frequency: 433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2.4 GHz	Weight: 490 g
Output power: 10 to 400 mW	Display type: Graphic, 102*64 pixles. Up to 4 values with unit can be displayed simultaneously, such as numerical or bar.
Antenna: Internal	



REMOTUS T-Rx 28J B

Antal knappar: 8 two-stage buttons and 2 joysticks	Battery: 3.7 V / 1.8 Ah
Type of transmission: FM FSK	Protection class: IP65
Operating temperature range: -25°C to +55°C	Size: 243 x 77 x 41 mm
Radio frequency: 433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2.4 GHz	Weight: 490 g
Output power: 10 to 400 mW	Display type: Graphic, 102*64 pixles. Up to 4 values with unit can be displayed simultaneously, such as numerical or bar.
Antenna: Internal	





REMOTUS

T-Rx — Control devices

Rotary switches



ROTARY SWITCH

4-POS Art. No. 830385-000
8-POS Art. No. 903359-000
10-POS Art. No. 903875-000
12-POS Art. No. 946332-000
16-POS Art. No. 946333-000



POTENTIOMETER

1kΩ Art. No. 946209-000

Pushbuttons



PUSHBUTTON 12 MM

111 BLACK Art. No. 917959-000
112 RED Art. No. 917959-001
113 GREEN Art. No. 917959-002



PUSHBUTTON 16 MM

BLACK Art. No. 939115-000
BLUE Art. No. 939115-001
RED Art. No. 939115-002
GREEN Art. No. 939115-003
YELLOW Art. No. 939115-004
WHITE Art. No. 939115-005
ORANGE Art. No. 939115-006



PUSHBUTTON 12 MM

Art. No. 939124-000



PUSHBUTTON WITH LED, REMAINING

RED Art. No. 930894-000
YELLOW Art. No. 930894-001
GREEN Art. No. 930894-002



PUSHBUTTON WITH LED, MOMENTARY

RED Art. No. 933112-000
YELLOW Art. No. 933112-001
GREEN Art. No. 933112-002

Joysticks



ÅKERSTRÖMS' STANDARD JOYSTICK

Available as stepless or with different numbers of steps and directions



JOYSTICK, STEPLESS

3-AXIS Art. No. 944608-000
2-AXIS Art. No. 944608-100



JOYSTICK, STEPLESS

2-AXIS + BUTTON Art. No. 944608-000
1-AXIS + BUTTON Art. No. 944608-300



JOYSTICK, DOUBLE OUTPUTS, 2 BUTTONS

Art. No. 945366-000



JOYSTICK, PADDLE

Art. No. 943411-000

Toggle switches

(T-Rx Era 100)



1-0 MAINTAINED Art. No. 710734-000
1-0-1 NON-MAINTAINED Art. No. 918794-000
1-0-1 MAINTAINED Art. No. 918935-000
1-0-1 MAINTAINED + NON-MAINTAINED Art. No. 918938-000

1-0 LOCKING Art. no. 949973-000
1-0-1 LOCKING Art. no. 949973-001
1-0-1 LOCKING + NON-LOCKING Art. no. 949973-007
1-0-1 NON-LOCKING Art. no. 949973-006



Safety toggle switches

1-0 MAINTAINED Art. No. 918936-000
1-0 NON-MAINTAINED Art. No. 921887-000
1-0-1 MAINTAINED Art. No. 918937-000
1-0-1 MAINTAINED + NON-MAINTAINED Art. No. 940855-000
1-0-1 NON-MAINTAINED Art. No. 941403-000

Key switches



Key switch for T-Rx 300, T-Rx 500 Art. No. 901884-000



Key switch Art. No. 915022-000

LEDs



RED Art. No. 946358-000
GREEN Art. No. 946358-001
YELLOW Art. No. 946358-002
BLUE Art. No. 946358-003
HIGH POWER Art. No. 946359-xx



When other products give up.
Ours just keep on going.
Day after day.
In the real world.
Your world.

REMOTUS

T-Rx — Receivers

The Remotus T-Rx receivers are available in three models. T-Rx 500 is a receiver controlling up to 24 on/off functions, T-Rx 1500 up to 8 analogue functions, PWM (0-3A) or analogue outputs (0-10V or 0-20 mA) and T-Rx 100 is a CANopen based receiver for control via existing PLCs.

The receivers have a shock- and water resistant aluminum housing (IP67). They have double security outputs and transmitted radio messages are very secure. Double microprocessors monitor each other and each message is checked before it is accepted. Command errors don't occur and security is increased. Two-way communication as standard.

REMOTUS T-Rx 100

No. of outputs:

RCSS: 2 outputs. 2 Amp source

CANopen

Baud rate: 50 kbits/s...1 Mbits/s
(default 125 kbits/s)

CANopen Node-ID:

1..126 (default 32)

CANopen Com-profile: CiA DS 301
Version 4

CANopen Dev-profile: CiA 401

Generic I/O module

LSS support: Remote node-ID and
baud rate

CAN termination: On/Off

Radio frequency:

433-434 MHz, 438-445 MHz, 863-
870 MHz, 915-928 MHz, 2.4 GHz

Operating temperature:

-25°C to +55°C

Housing:

Aluminum

Protection class:

IP67

Size:

152 x 141 x 36 mm

Weight:

0.65 kg

Operating voltage:

12 V DC, negative grounded system

Current consumption:

100 mA (without external load at 12 V)



REMOTUS T-Rx 500

No. of outputs:

RCSS: 2 outputs, 3 Amp source

Digital: Maximum 24 outputs 3 Amp
on/off source

1 serial input: RS422/RS485

Connections:

External antenna: 1xSMA

Outputs, power supply:

Screw terminals

Radio frequency:

433-434 MHz, 438-445 MHz, 863-
870 MHz, 915-928 MHz, 2.4 GHz

Security:

Double processors, 2 "solid state"
security outputs (RCSS)

Operating temperature:

-25°C to +55°C

Housing:

Aluminum

Protection class:

IP67

Size:

275 x 174 x 64 mm

Weight:

1.6 kg

Operating voltage:

12/24 V DC,
negative grounded system

Current consumption:

100 mA (without external load at 12 V)



REMOTUS T-Rx 1500

No. of outputs:

RCSS: 2 outputs, 3 Amp source
Digital: Maximum 24 outputs 3 Amp source. 8 are always outputs. 16 shares function with PWM outputs.

PWM: Maximum 16 outputs 3 Amp source, 50-400 Hz, 12 bits resolution

External indication: 1 output 0,5 A

Analogue: 8 outputs 0-10V or 0-20mA, 12 bits resolution

10V ref: 10V, 100 mA reference output to sensors, potentiometers etc.

CANopen

Baud rate: 50 kbits/s...1 Mbits/s (default 125 kbits/s)

CANopen Node-ID:

1..126 (default 32)

CANopen Com-profile: CiA DS 301 Version 4

CANopen Dev-profil: CiA 401

Generic I/O module

LSS support: Remote node-ID and baud rate

CAN termination: On/Off

No. of inputs:

Digital: Maximum 16 inputs

Analogue: 2 inputs 0-10V or 0-20mA, 10 bits resolution

Connections:

External antenna:

1xSMA (2xSMA option)

In-/Outputs, power supply:

AMP MCP 62-pole

Cable control: M12 8-pin female

Radio frequency:

433-434 MHz, 438-445 MHz, 863-870 MHz, 915-928 MHz, 2.4 GHz

Security:

Double processors, 2 "solid state" security outputs (RCSS)

Operating temperature:

-25°C to +55°C

Housing:

Aluminum

Protection class:

IP67

Size:

218 x 174 x 64 mm

Weight:

1.6 kg

Operating voltage:

12/24 V DC, negative grounded system

Current consumption:

100 mA (without external load at 12 V)



REMOTUS

Carrying devices and accessories

Our carrying devices provides a comfortable and ergonomically working position and reduces the body burden of long hours. We have several different carrying devices to choose from that easily can be adapted to each user. A custom belt is included with each transmitter. We also offer a wide range of accessories and spare parts such as batteries, chargers, storage cabinets, signs etc. Visit our webshop at akerstroms.com for more information, pictures and article numbers!



Shoulder strap

SHOULDER STRAP
Era 100, T-Rx 100
Art. No. 944204-000

SHOULDER STRAP
T-Rx 300/500
Art. No. 944204-001



Harness

HARNES
Era 100, T-Rx 100,
Art. No. 947108-000



Belt holder

BELT HOLDER KIT
T-Rx 12B/T-Rx 28J B
Art. No. 934158-000



Belt holder

BELT HOLDER CLIP ON
Era 4/6/8B
Art. No. 952147-000



Protective bag

PROTECTIVE BAG
T-Rx 12B
Art. No. 951900-001



Protective bag

PROTECTIVE BAG
Era 4/6/8B,
Art. No. 951900-000



Vehicle bracket

VEHICLE BRACKET
T-Rx 12B
Art. No. 935408-001



Vehicle bracket

VEHICLE BRACKET
Era 4/6/8B
Art. No. 952521-000



Wall bracket

WALL BRACKET
Era 4/6/8B
Art. No. 952148-000

Visit our webshop for
accessories and spareparts at
akerstroms.com



Vest

VEST
Era 100, T-Tx 100,
T-Rx 300/500
Adjustable size
Art. No. 951854-000



Belt

BELT
Era 100, T-Rx 100
Adjustable size
Art. No. 952704-000



Belt

BELT
T-Rx 300/500
Adjustable size
Art. No. 952705-000



Belt

BELT WITH RAIL
T-Rx 100
700-1100 mm
Art. No. 935537-000



Belt

BELT WITH FLIP-UP
T-Rx 12B/T-Rx 28J B
Art. No. 935537-004



Hook

HOOK
T-Rx 300/500
Art. No. 926708-000



Hook

HOOK
T-Rx 100
Art. No. 925563-000



FREQUENCYCLOUD

Åkerströms' cloud service FrequencyCloud is a piece of software that runs via the internet. FrequencyCloud manages your frequencies simply and effectively.

www.frequencycloud.com



NAME: ÅKERSTRÖMS BJÖRBO AB.
SPECIALITY: Robust radio remote control
for industry and the mobile market
FOUNDED: 1918



NAME: Åkerströms' production
SPECIALITY: Production of robust
radio remote control for industry and
the mobile market

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