Remotus

Robust radio remote control for safety critical industrial applications

NAME: Remotus Jupiter Era 8B.
SPECIALITY: Radio remote contr
for overhead crane
READY FOR MISSION: 2014

NAME: Remotus Jupiter Era 100J.
SPECIALITY: Radio remote control
for industrial crane
READY FOR MISSION: 2014

ÅKERSTRÖMS

ROBUST SWEDISH DESIGN SINCE 1918

Remotus Mercury is our robust, customized remote control product line for industrial cranes and overhead cranes, for use in industries such as manufacturing, steel works, mines, and processing.

The Remotus Mercury line is constructed to provide the safety and reliability required for wireless remote control in demanding industrial environments. The products in the Mercury line are tailored to the customer's wishes, with customized functions and layout. A variety of actuators are available.

Remotus Mercury Era
Remotus Mercury Era is the name of the latest member of the Remotus family. The Mercury Era 100 waist transmitter has a modern, rugged design. It has rubberized handles for a good grip and stands firmly on its protective metal feet when not in use. The Mercury Era 8B handheld transmitter has eight buttons, a modern, ergonomic design, clear display, and LEDs near each button that indicate the selected function. The Mercury Era 8 can be equipped with customized symbols and is lightweight and easy to carry.

Dual CPUs for superior safety
The Mercury 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 Mercury Era 100 has a built-in tilt function, which means that it stops if you fall. Mercury uses the frequency bands 418-419 MHz, 433-434 MHz, 863-870 MHz, and 902-928 MHz, and also licensed bands or 2.4 GHz on request. There are several functions for automatically connecting transmitter and receiver on an available frequency and for

sharing the same frequency band. A user can maneuver several objects from the same transmitter (multi-crane operation), and several users can maneuver one object from several transmitters (multi-operator operation). A duplex function enables data transmission back to the transmitter.

Configurable display with alarm function and a unique battery solution
The Mercury Era 100 has a large, clear display that is easy to read even 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. The waist transmitter 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.

Portable configuration and RFID
A configuration information module (CIM) card stores the transmitter's configuration, so it can be easily moved to another transmitter. The CIM card is secured during operation but is easily accessible for service. The Mercury Era 100 has optional RFID capabilities.

The safety stop function in the Remotus Mercury line is approved according to PL d, Cat 3, EN ISO 13849-1.

REMOTUS Mercury 500

REMOTUS MERCURY

Remotus Mercury is our customized
remote-control product line for industrial
cranes and overhead cranes.

REMOTUS

Mercury — Waist transmitters

Remotus Mercury waist transmitters are built to handle everything from standard solutions to highly sophisticated machine control. They are available in three basic designs that can be customized to fit the needs of the customer. The transmitters are built to tolerate tough conditions, including impacts, drastic temperature fluctuations, dust, oil, and humidity. The waist transmitters can be equipped with up to four joysticks that can control up to eight movements. They can also be equipped with indicators and a display for showing different types of information from the crane via the duplex function. The article numbers for Mercury waist transmitters are customer specific.

REMOTUS Era Mercury 100

No. of functions:
Up to six movements, 2-position, 4-position, or stepless joystick (max two joysticks)

Type of transmission:
FM FSK/FM GMSK

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

Ambient temperature:
-25 to +55°C

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-870 MHz, 902-928 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 Mercury 100

No. of functions:
Up to six movements, 2-position, 4-position, or stepless joystick (max two joysticks)

Type of transmission:
FM FSK/FM GMSK

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

Ambient temperature:
-25 to +55°C

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-870 MHz, 902-928 MHz, 2.4 GHz

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

Range:
Up to 1,000 m

Antenna:
Internal

Battery:
7.2 V / 1.0 Ah

Operating time:
ca 10 hours

Dimensions:
230 x 155 x 135 mm

Weight:
1.2 kg

Display type:
LCD, 1 row 8 characters, 1-3 rows 16 characters/row

REMOTUS Mercury 300

No. of functions:
Up to six movements, 2-position,
4-position, or stepless joystick
(max three joysticks)

Type of transmission:
FM FSK/FM GMSK

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

Ambient temperature:
-25 to +55°C

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-
870 MHz, 902-928 MHz, 2.4 GHz

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

Range:
Up to 1,000 m

Antenna:
Internal

Battery:
6 V / 2.4 Ah

Operating time:
ca 10 hours

Dimensions:
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 Mercury 500

No. of functions:
Up to eight movements, 2-position,
4-position or stepless joystick
(max four joysticks)

Type of transmission:
FM FSK/FM GMSK

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

Ambient temperature:
-25 to +55°C

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-
870 MHz, 902-928 MHz, 2.4 GHz

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

Range:
Up to 1,000 m

Antenna:
Internal

Battery:
6 V / 2.4 Ah

Operating time:
ca 10 hours

Dimensions:
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

Mercury — Actuators

The Mercury systems are tailored to customers' requirements. Functions, frequencies, design, and layout are all customized. Text and symbols are adapted and a large number of actuators are available. Remotus Mercury waist transmitters are equipped with two to four joysticks for controlling up to eight movements. They can also be equipped with indicators and a display for showing different types of information from the crane via the duplex function. Such information could be the weight of the load, wind conditions, etc.

REMOTUS Mercury — Actuators

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, LOCKING
RED   Art. no. 930894-000
YELLOW   Art. no. 930894-001
GREEN   Art. no. 930894-002

PUSHBUTTON WITH LED, NON-LOCKING
RED   Art. no. 933112-000
YELLOW   Art. no. 933112-001
GREEN   Art. no. 933112-002

Joysticks

ÅKERSTRÖMS' STANDARD JOYSTICK
Available as stepless or with various steps and directions

JOYSTICK, STEPLESS
3-AXIS   Art. no. 944608-000
2-AXIS   Art. no. 944608-100

JOYSTICK, STEPLESS
2-AXIS + BUTTON
Art. no. 944608-200
1-AXIS + BUTTON
Art. no. 944608-300

Toggle switches

1-0 LOCKING
Art. no. 710734-000
1-0-1 NON-LOCKING
Art. no. 918794-000
1-0-1 LOCKING
Art. no. 918935-000
1-0-1 LOCKING + NON-LOCKING
Art. no. 918938-000

Toggle switches
(Mercury Era 100)

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 LOCKING
Art. no. 918936-000
1-0 NON-LOCKING
Art. no. 921887-000
1-0-1 LOCKING
Art. no. 918937-000
1-0-1 LOCKING + NON-LOCKING
Art. no. 940855-000
1-0-1 NON-LOCKING
Art. no. 941403-000

Key switch

Key switch for M-300, 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-xxx

REMOTUS

Mercury — Receivers

Remotus Mercury receivers are modular and flexible so they can be customized to each customer's specific needs. The line consists of three basic models that can be expanded using several specially designed expansion cards for various applications, a model with 16 outputs, and a receiver for controlling existing PLCs. The receivers have dual safety relays for controlling the line circuit breaker and very secure radio transmissions. Article numbers for Mercury receivers are customer specific.

REMOTUS Mercury RX82

No. of outputs:
8 independent relays; of which 5 changeover and 3 open contacts, and line circuit breaker hold with monitoring safety relay.
1 serial COM port.

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-870 MHz, 902-928 MHz

Relay data:
250 V AC, 8 A

Expansion slots:
2

Ambient temperature:
-25°C to +55°C

Casing:
Powder coated sheet metal

Dimensions:
300 x 200 x 122 mm excluding attachments and connectors

Weight:
5 kg

Connection voltage:
24/48 or 115/230 + 15-20 %
V AC or 15-35 V DC

REMOTUS Mercury RX182

No. of outputs:
18 independent relays with changeover
contacts and line circuit breaker start and hold with monitoring safety relays. 2 serial
COM ports.

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-870 MHz, 902-928 MHz

Relay data:
250 V AC, 8 A

Expansion slots:
2

Ambient temperature:
-25°C to +55°C

Casing:
Powder coated sheet metal

Dimensions:
335 x 250 x 160 mm excluding attachments and connectors

Weight:
8 kg

Connection voltage:
24/48 or 115/230 + 15-20 %
V AC or 15-35 V DC

REMOTUS Mercury RX160

No. of outputs:
16 outputs; 4 changeover and
12 open contacts
of which 6 safety relays

Outputs for emergency stop:
2 safety relays; 2 changeover
contacts

No. of inputs:
1 analogue input
0(4)-20 mA or 0/2-10 V
1 serial input: RS422/RS485
2 opto isolated digital inputs for
24/48 V AC/DC, 115 V AC or
230 V AC 50/60 Hz

Radio frequencies:
418-419 MHz, 433-434 MHz, 863-
870 MHz, 902-928 MHz, 2.4 GHz

Ambient temperature:
-25°C to +55°C

Casing:
Flameproof plastic (UL 94 5VA)

Protection class:
IP67

Dimensions:
277 x 217 x 115 mm

Weight:
1.5 kg

Connection voltage:
24/48/115/230 V AC or 24 V DC

REMOTUS Mercury RXS96

Radio frequencies:
433-434 MHz bands or licensed
frequency bands on request

MC relay data:
250 V AC, 2 A

PROFIBUS DP slave:
16 bytes out/in (consistent data)

PROFINET I/O slave :
16 bytes out/in (consistent data)

Ambient temperature:
-25°C to +55°C

Casing:
Aluminium profile for screw mount-
ing or mounting on DIN rail

Dimensions:
165 x 105 x 150 mm excluding at-
tachments and connectors

Weight:
1.8 kg

REMOTUS

Mercury — Expansion options

Remotus Mercury receivers RX82 and RX182 can be expanded using several specially designed expansion cards for various applications. The receivers have a standard 8-18 relay outputs that can easily be expanded for up to 50 functions.

REMOTUS Mercury RX82

INPUT BOARD 3 DIGITAL 230 V AC	Art. no. 927169-000
INPUT BOARD 3 DIGITAL 24 V AC	Art. no. 927169-024
INPUT BOARD 8 DIGITAL 230 V AC	Art. no. 935525-000
INPUT BOARD 8 DIGITAL 24 V AC	Art. no. 935525-024
INPUT BOARD 3 ANALOGUE	Art. no. 930527-000
OUTPUT BOARD 3 ANALOGUE	Art. no. 925276-000
OUTPUT BOARD 3 RELAYS	Art. no. 926293-000
OUTPUT BOARD 8 RELAYS	Art. no. 934122-000

REMOTUS Mercury RX182

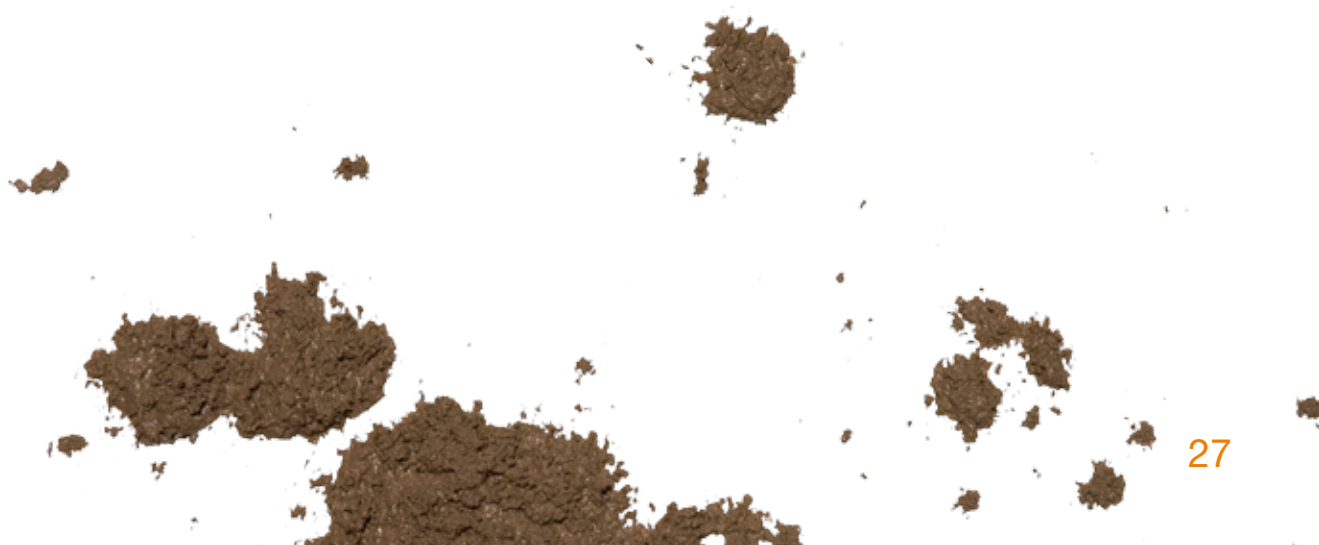|	
INPUT BOARD 3 DIGITAL 230 V AC	Art. no. 927169-000
INPUT BOARD 3 DIGITAL 24 V AC	Art. no. 927169-024
INPUT BOARD 8 DIGITAL 230 V AC	Art. no. 935525-000
INPUT BOARD 8 DIGITAL 24 V AC	Art. no. 935525-024
INPUT BOARD 3 ANALOGUE	Art. no. 930527-000
OUTPUT BOARD 3 ANALOGUE	Art. no. 925276-000
OUTPUT BOARD 3 RELAYS	Art. no. 926293-000
OUTPUT BOARD 8 RELAYS	Art. no. 934122-000
OUTPUT BOARD 16 RELAYS	Art. no. 935025-000

REMOTUS

System examples

Remotus systems are very user-friendly and customizable. It is possible to maneuver several objects from the same transmitter **(multi-crane operation)**, which makes it easier when for example you need to lift multiple objects simultaneously. It is also possible to maneuver the same object from several transmitters **(multi-operator operation)**. An advantage if you want to control, for example, an object where you have no oversight over the driving distance. You can therefore hand over the control between two transmitters. Remotus systems are secure and reliable, so you can always ensure by active choice that only one transmitter is in control of each object at a time.

MULTI-CRANE OPERATION

MULTI-OPERATOR OPERATION

REMOTUS

Mercury — Link systems

We offer different link systems for wireless data transmission between two or more units within a large area or when direct connections are not possible. With Mercury link systems, you avoid expensive cable installations.

REMOTUS Mercury DP-Link

The Remotus Mercury DP-Link is a system for wireless data transmission between two Profibus DP busses. The system enables data communication between two busses within a large area or when direct bus connections are not possible. The units are connected as DP slaves to the Profibus DP field bus. Transmission time for 16 bytes-in and 16 bytes-out in both directions over the radio link is less than 100 ms. The units must be connected to both nodes in a Profibus DP master to enable data communication. There is a serial asynchronous communication channel for communication, for example, with scales and position sensors. The Remotus Mercury DP-Link has a powerful, built-in programmable logic controller (PLC) system that handles sophisticated data processing. The system has a 14-bit address that allows for 16,384 different addresses, a serial, asynchronous communication channel for communicating with scales, position sensors, and the like, and a built-in monitor for test and parameter settings. There are also indicators for different system functions (status, outputs).

One- or two-way communication

REMOTUS Mercury RX-Link

Remotus Mercury RX-Link is a system for wireless I/O data communication between two or several units within a large area or when direct connections are not possible. The data can also be serial, such as wave value. An RX-Link system includes two Mercury receivers, RX82, RX182 or RXS96. Connection to the system is via a standard 48 pole Harting connector. Other connectors can be offered. The Remotus Mercury RX-Link has a powerful, built-in programmable logic controller (PLC) system that handles sophisticated data processing. It also has a 14-bit address allowing for 16,384 addresses; serial, an asynchronous communication channel for communicating, for example, with scales and position sensors; a built-in monitor for test and parameter settings, and indicators of different functions in the system (e.g. status and outputs).

One- or two-way communication

REMOTUS

Mercury — Special systems

The Remotus Mini controller is our control system for crane cabs and fixed control points. The Remotus Mercury Mini controller is mounted on the backside of an adapted ergonomic seat and the operating unit is mounted on the armrest. The receiver is adapted to a number of functions. Using this equipment, the operator can easily control the crane while sitting comfortably. It is an ergonomically correct alternative that provides a comfortable, individual driving position. The seat and control unit are available in different versions and can be adapted to individual requirements. The signals are transmitted by cable or radio. The system can easily be combined with Åkerströms' portable transmitters. The article numbers for Remotus Mercury Mini controllers are customer specific.

REMOTUS Mercury Mini controllers

No. of functions:
Up to four movements, 2-position, 4-position or stepless joystick

Type of transmission:
FM FSK

Transmission speed:
Standard 4,800 baud

Ambient temperature:
-25 to +55°C

Radio frequencies:
433-434 MHz bands or licensed frequency bands on request

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

Range:
Up to 1,000 m

Antenna:
Internal

REMOTUS

Carrying devices and accessories

Our carrying devices help provide a comfortable, ergonomic working position and reduce strain on the body when working long hours. We have several different carrying devices to choose from that can easily be adjusted for 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 web shop at akerstroms.com for more information, pictures, and article numbers.

Shoulder strap

SHOULDER STRAP
J-100, M-100
Art. no. 944204-000

SHOULDER STRAP
M-300, M-500
Art. no. 944204-001

Harness

HARNESS
J-100, M-100
Art. no. 947108-000

Belt holder

BELT HOLDER KIT
J-8B/10B,
M-8B/10B/9B RS/12B
Art. no. 934158-000

Vehicle bracket

VEHICLE BRACKET
J-8B/10B,
M-8B/10B/9RS/12B
Art. no. 935408-001

Vest

VEST
J-100, M-100
Sizes S-XXL
Art. no. 913928-000

VEST
M-300, M-500
Sizes S-XXL
Art. no. 913928-000

Protective bag

PROTECTIVE BAG
J-8B/10B,
M-8B/10B/12B
Art. no. 934157-001

ÅKERSTRÖMS' VEST
Our vest has many ergonomic benefits. It distributes weight over your back and shoulders.

Visit our webshop for
accessories and spare parts at
akerstroms.com

Belt

BELT
J-100, M-100
700-1,100 mm
Art. no: 917985-000
850-1,250 mm
Art. no. 916423-000
1250-1500 mm
Art. no. 925862-000

Belt

BELT
M-300, M-500
700-1,100 mm
Art. no: 917984-000
850-1,250 mm
Art. no. 917603-000
1,250-1,500 mm
Art. no. 925863-000

Belt

BELT WITH RAIL
J-100, M-100
700-1,100 mm
Art. no: 935537-000

Belt

BELT WITH FLIP-UP
J-8B/10B,
M-8B/10B/9RS/12B
Art. no. 935537-004

Hook

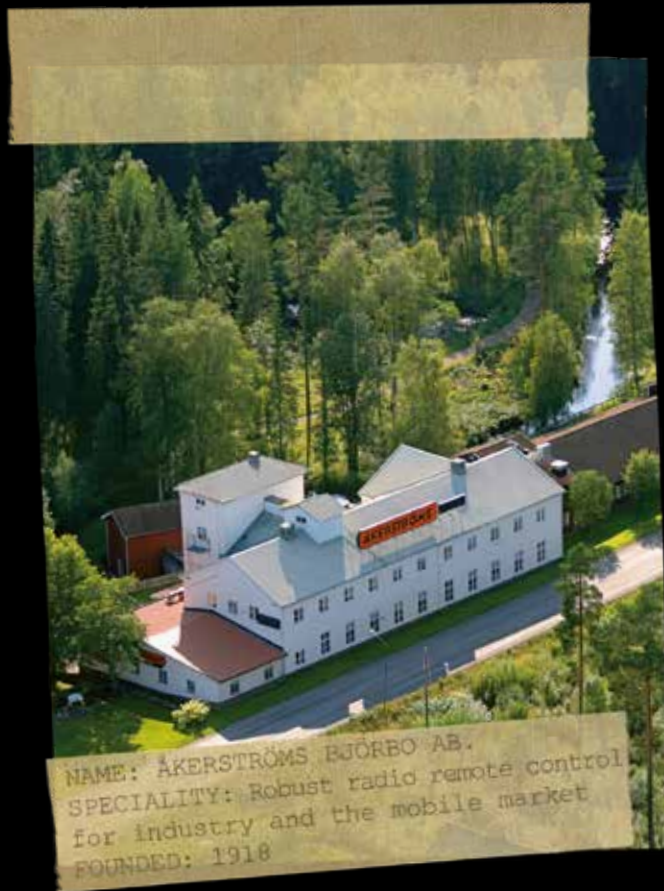**HOOK**
M-300, M-500
Art. no. 926708-000

Hook

HOOK
J-100, M-100
Art. no. 925563-000

FREQUENCYCLOUD

Åkerströms' cloud service FrequencyCloud is a piece of software that runs via the internet. FrequencyCloud helps you administer your frequencies simply and effectively. FrequencyCloud is extremely easy to use and enables you to obtain a practical and clear overview of all your devices and their frequencies.
www.frequencycloud.com

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